

Developer Ecosystem Survey 2024

All open-ended survey questions were removed from the raw data to prevent potential leaks of personal data and identification of individuals.

If there's anything you'd like to discuss with us concerning this survey, please email us at surveys@jetbrains.com.

*** Indicates a required question**

General Research Terms and Conditions*

[ ] I have read and I accept these Terms and Conditions

First Questions

Page exit logic: Not involved in anything - disqualify**IF:** (#4 Question "Do you work professionally in the field of software development, including the use of programming languages or related activities?" is one of the following answers ("No, I'm not involved in any programming-related activities") OR (#7 Question "Which of the following do you regularly work on? Select all that apply." is one of the following answers ("I'm not involved in programming") AND #5 Question "Which of the following best describe your job role?" is one of the following answers ("Developer / Programmer / Software Engineer","DevOps Engineer / Infrastructure Developer","DBA","Architect","Systems Analyst"))) **THEN:** Disqualify and display: "We apologize, but we are specifically looking for participants who are currently involved in software development or any related activities. Your responses will not be applicable for this survey. Thank you for your understanding."

Note: Here and further, the phrase "Show/hide trigger exists" indicates that the questions below will be displayed based on the answers to this question.

Logic: Show/hide trigger exists.

3) What is your employment status?*

( ) Fully employed by a company or organization

( ) Partially employed by a company or organization

( ) Self-employed *(a person earning income directly from their own business, trade, or profession)*

( ) Freelancer *(a person pursuing a profession without a long-term commitment to any one employer)*

( ) Working student

( ) Student

( ) Retired

( ) Currently unemployed

( ) Other, please specify:: _____

Logic: Show/hide trigger exists.

4) Do you work professionally in the field of software development, including the use of programming languages or related activities?*

( ) Yes (full-time, part-time, self-employed, etc.)

( ) No, but I have past experience in software development

( ) No, software development is a hobby for me

( ) No, I'm only learning software development

( ) No, I'm not involved in any programming-related activities

Logic: Show/hide trigger exists. Hidden unless: #3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization","Self-employed *(a person earning income directly from their own business, trade, or profession)*","Freelancer *(a person pursuing a profession without a long-term commitment to any one employer)*","Working student")

5) Which of the following best describe your job role?*

[ ] Developer / Programmer / Software Engineer

[ ] DevOps Engineer / Infrastructure Developer

[ ] DBA

[ ] Architect

[ ] Tester / QA Engineer

[ ] Technical Support

[ ] Data Analyst / Data Engineer/ Data Scientist

[ ] Business Analyst

[ ] Technical Writer

[ ] Team Lead

[ ] Systems Analyst

[ ] Product Manager / Marketing Manager

[ ] UX / UI Designer

[ ] CIO / CEO / CTO

[ ] Developer Advocate

[ ] Developer Productivity / Developer Experience Engineer

[ ] Instructor / Teacher / Tutor

[ ] Other, please specify:: _____

Logic: Hidden unless: #5 Question "Which of the following best describe your job role?" is one of the following answers ("Developer / Programmer / Software Engineer","DevOps Engineer / Infrastructure Developer","DBA","Tester / QA Engineer","Technical Support","Data Analyst / Data Engineer/ Data Scientist","Business Analyst","Technical Writer","Systems Analyst","UX / UI Designer")

6) Which of the following best describe the level of your current position?*

( ) Trainee

( ) Junior

( ) Middle

( ) Senior

( ) Other, please specify:: _____

Logic: Show/hide trigger exists. Hidden unless: #4 Question "Do you work professionally in the field of software development, including the use of programming languages or related activities?" is one of the following answers ("Yes (full-time, part-time, self-employed, etc.)","No, but I have past experience in software development","No, software development is a hobby for me","No, I'm only learning software development")

7) Which of the following do you regularly work on? Select all that apply.*

[ ] Software / Application Code:
Software applications, services, and embedded systems, including user interfaces and business logic

[ ] System / Infrastructure Code:
Code that supports the underlying system or infrastructure, such as operating systems, network management, and hardware interactions

[ ] Scripting / Automation Code:
Short scripts or programs written to automate repetitive tasks, including build scripts, deployment automation, and testing and system configuration

[ ] One-off / Ad hoc Code:
Code written for a single use or to address a specific issue, introduce a quick fix, or serve experimental purposes

[ ] Data analysis Code:
Code written with the goal of generating specific information, insights, or knowledge used for consecutive decision-making

[ ] Library / Framework Code
Code that contributes to libraries or frameworks used by other developers to build applications, providing reusable components or extending existing functionalities

[ ] I'm not involved in programming

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

8) In which kinds of activities are you involved?*

[ ] None

[ ] Academic Research

[ ] Coding / Programming

[ ] Code Reviewing

[ ] Testing

[ ] System Design

[ ] Graphic Design / Art

[ ] Infrastructure Development / DevOps

[ ] System Administration

[ ] Deployment

[ ] Business Intelligence

[ ] Data Analysis

[ ] Data Engineering

[ ] Machine Learning

[ ] Teaching Programming

[ ] People Management

[ ] Product Management

[ ] Technical Writing

[ ] UX/UI Design / Research

[ ] Other, please specify:: _____

Logic: Hidden unless: (#5 Question "Which of the following best describe your job role?" is one of the following answers ("Data Analyst / Data Engineer/ Data Scientist","Business Analyst") OR #8 Question "In which kinds of activities are you involved?" is one of the following answers ("Data Analysis","Data Engineering","Machine Learning"))

9) Which of the following best describe your job role?*

[ ] Developer

[ ] Data Analyst

[ ] Data Engineer

[ ] Data Scientist

[ ] Machine Learning Engineer

[ ] Business Analyst

[ ] Other, please specify:: _____

First Demographics

13) How many full years of professional coding experience do you have?*

( ) Less than 1 year

( ) 1–2 years

( ) 3–5 years

( ) 6–10 years

( ) 11–16 years

( ) 16+ years

( ) I don't have any professional coding experience

14) What is your age range?*

( ) 17 or younger

( ) 18–20

( ) 21–24

( ) 25–29

( ) 30–34

( ) 35–39

( ) 40–49

( ) 50–59

( ) 60 or older

15) In which country or region do you currently reside?*

( ) Afghanistan

( ) Albania

( ) Algeria

( ) American Samoa

( ) Andorra

( ) Angola

( ) Anguilla

( ) Antarctica

( ) Antigua and Barbuda

( ) Argentina

( ) Armenia
( ) Aruba
( ) Australia
( ) Austria
( ) Azerbaijan
( ) Bahamas
( ) Bahrain
( ) Bangladesh
( ) Barbados
( ) Belarus
( ) Belgium
( ) Belize
( ) Benin
( ) Bermuda
( ) Bhutan
( ) Bolivia
( ) Bosnia and Herzegovina
( ) Botswana
( ) Brazil
( ) British Indian Ocean Territory
( ) Brunei
( ) Bulgaria
( ) Burkina Faso
( ) Burundi
( ) Cambodia
( ) Cameroon
( ) Canada
( ) Cape Verde
( ) Caribbean Netherlands (Bonaire, Sint Eustatius and Saba)
( ) Cayman Islands
( ) Central African Republic
( ) Chad
( ) Chile

( ) China Mainland
( ) Christmas Island
( ) Cocos (Keeling) Islands
( ) Colombia
( ) Comoros
( ) Congo, Democratic Republic of the
( ) Congo, Republic of the
( ) Cook Islands
( ) Costa Rica
( ) Côte d'Ivoire
( ) Croatia
( ) Cuba
( ) Curaçao
( ) Cyprus
( ) Czech Republic
( ) Denmark
( ) Djibouti
( ) Dominica
( ) Dominican Republic
( ) Ecuador
( ) Egypt
( ) El Salvador
( ) Equatorial Guinea
( ) Eritrea
( ) Estonia
( ) Eswatini
( ) Ethiopia
( ) Falkland Islands (Malvinas)
( ) Faroe Islands
( ) Fiji
( ) Finland
( ) Finland: Åland Islands
( ) France

( ) French Guiana
( ) French Polynesia
( ) French Southern and Antarctic Lands
( ) Gabon
( ) Gambia
( ) Georgia
( ) Germany
( ) Ghana
( ) Gibraltar
( ) Greece
( ) Greenland
( ) Grenada
( ) Guadeloupe
( ) Guam
( ) Guatemala
( ) Guernsey
( ) Guinea
( ) Guinea-Bissau
( ) Guyana
( ) Haiti
( ) Holy See (Vatican City State)
( ) Honduras
( ) Hong Kong
( ) Hungary
( ) Iceland
( ) India
( ) Indonesia
( ) Iran
( ) Iraq
( ) Ireland
( ) Isle of Man
( ) Israel
( ) Italy

( ) Jamaica
( ) Japan
( ) Jersey
( ) Jordan
( ) Kazakhstan
( ) Kenya
( ) Kiribati
( ) Korea, Democratic People's Republic of (North Korea)
( ) Korea, Republic of (South Korea)
( ) Kosovo
( ) Kuwait
( ) Kyrgyzstan
( ) Laos
( ) Latvia
( ) Lebanon
( ) Lesotho
( ) Liberia
( ) Libya
( ) Liechtenstein
( ) Lithuania
( ) Luxembourg
( ) Macao
( ) Madagascar
( ) Malawi
( ) Malaysia
( ) Maldives
( ) Mali
( ) Malta
( ) Marshall Islands
( ) Martinique
( ) Mauritania
( ) Mauritius
( ) Mayotte

( ) Mexico
( ) Micronesia, Federated States of
( ) Moldova
( ) Monaco
( ) Mongolia
( ) Montenegro
( ) Montserrat
( ) Morocco
( ) Mozambique
( ) Myanmar
( ) Namibia
( ) Nauru
( ) Nepal
( ) Netherlands
( ) New Caledonia
( ) New Zealand
( ) Nicaragua
( ) Niger
( ) Nigeria
( ) Niue
( ) Norfolk Island
( ) North Macedonia
( ) Northern Mariana Islands
( ) Norway
( ) Oman
( ) Pakistan
( ) Palau
( ) Palestinian Territories
( ) Panama
( ) Papua New Guinea
( ) Paraguay
( ) Peru
( ) Philippines

( ) Pitcairn
( ) Poland
( ) Portugal
( ) Puerto Rico
( ) Qatar
( ) Réunion
( ) Romania
( ) Russian Federation
( ) Rwanda
( ) Saint Helena
( ) Saint Kitts and Nevis
( ) Saint Lucia
( ) Saint Pierre and Miquelon
( ) Saint Vincent and the Grenadines
( ) Samoa
( ) San Marino
( ) São Tomé and Príncipe
( ) Saudi Arabia
( ) Senegal
( ) Serbia
( ) Seychelles
( ) Sierra Leone
( ) Singapore
( ) Slovakia
( ) Slovenia
( ) Solomon Islands
( ) Somalia
( ) South Africa
( ) South Georgia and the South Sandwich Islands
( ) South Sudan
( ) Spain
( ) Spain: Canary Islands
( ) Sri Lanka

( ) Sudan
( ) Suriname
( ) Svalbard and Jan Mayen
( ) Sweden
( ) Switzerland
( ) Syria
( ) Taiwan
( ) Tajikistan
( ) Tanzania
( ) Thailand
( ) Timor-Leste
( ) Togo
( ) Tokelau
( ) Tonga
( ) Trinidad and Tobago
( ) Tunisia
( ) Türkiye
( ) Turkmenistan
( ) Turks and Caicos Islands
( ) Tuvalu
( ) Uganda
( ) Ukraine
( ) United Arab Emirates
( ) United Kingdom
( ) United States
( ) Uruguay
( ) Uzbekistan
( ) Vanuatu
( ) Venezuela
( ) Vietnam
( ) Virgin Islands, British
( ) Virgin Islands, U.S.
( ) Wallis and Futuna

( ) Western Sahara

( ) Yemen

( ) Zambia

( ) Zimbabwe

16) What is your gender?

( ) Male

( ) Female

( ) Non-binary, genderqueer, or gender non-conforming

( ) Prefer not to say

( ) Other, please specify:: _____

Page entry logic: This page will show when: (#3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization","Self-employed *(a person earning income directly from their own business, trade, or profession)*","Working student") AND #4 Question "Do you work professionally in the field of software development, including the use of programming languages or related activities?" is one of the following answers ("Yes (full-time, part-time, self-employed, etc.)"))

Company

Logic: Show/hide trigger exists.

How many people work for your company or organization?*

( ) Just me

( ) 2–10

( ) 11–50

( ) 51–500

( ) 501–1,000

( ) 1,001–5,000

( ) More than 5,000

( ) I'm not sure

17) What percentage of people in your company or organization write code (approximately)?*

( ) 0–20%

( ) 21–40%

( ) 41–60%

( ) 61–80%

( ) 81–100%

( ) I'm not sure

18) Which of the following sectors is your company or organization primarily active in?*

[ ] Telecommunication, networking, and wireless infrastructure

[ ] Consumer electronics: smart home appliances and systems

[ ] Consumer electronics: handheld devices

[ ] Consumer electronics: games and entertainment

[ ] Home automation

[ ] Industrial control/automation (industrial IoT, M2M)

[ ] Computers and peripherals

[ ] Semiconductors (microprocessors, etc.)

[ ] Healthcare industry devices

[ ] Electronic instruments

[ ] Other hardware / Embedded / IoT

[ ] VR / AR devices

[ ] Game development (including mobile games)

[ ] Mobile development

[ ] Cloud computing / Platform / Data center

[ ] Big data / Data analysis

[ ] Outsourced software development

[ ] Software development tools

[ ] Internet / Search engines

[ ] AI services

[ ] E-commerce

[ ] Cybersecurity

[ ] Cryptocurrencies

[ ] Blockchain technologies

[ ] Other fintech: money transfer, digital banking, etc.

[ ] Other IT services

[ ] Other software (all other types of software)

[ ] Banking

[ ] Real estate / Mortgage financing / Accounting / Insurance

[ ] Business / Strategic management

[ ] BPO services

[ ] Marketing

[ ] Administration / Management / Business development

[ ] Customer support

[ ] Design

[ ] Human resources

[ ] Logistics / Transportation

[ ] Law

[ ] Service / Maintenance

[ ] Other business or professional services

[ ] Agriculture / Food

[ ] Consumer electronics

[ ] Aerospace

[ ] Automotive and boating

[ ] Construction / Architecture

[ ] Military / Defense

[ ] Power generation and utilities

[ ] Machinery

[ ] Other manufacturing

[ ] Restaurants / Hospitality / Tourism

[ ] Medicine / Health

[ ] Sales / Distribution / Retail

[ ] Entertainment / Mass media and information / Publishing

[ ] Other consumer service

[ ] Education / Training

[ ] E-learning

[ ] Science

[ ] Government and municipal services

[ ] Non-profit

[ ] Security

[ ] Other, please specify:: _____

19) Which kinds of development is your company or organization involved in?*

[ ] Product development

[ ] Outsourcing

[ ] Custom-tailored software / websites / applications

[ ] In-house development

[ ] Internal deployment and maintenance of third-party tools

[ ] Customer services development (websites, mobile apps, etc.)

[ ] Open-source projects

[ ] Other, please specify:: _____

20) Which of the following best describe the company or organization you work for? Select all that apply.*

[ ] Startup

[ ] Governmental

[ ] Non-profit

[ ] Privately owned

[ ] Publicly traded

[ ] Family-owned

[ ] Multinational corporation

[ ] B2B

[ ] B2C

[ ] None of the above

Logic: Show/hide trigger exists.

22) How many people work in your project team?*

( ) I work on my projects independently

( ) 2–7 people

( ) 8–12 people

( ) 13–20 people

( ) 21–40 people

( ) More than 40 people

23) What level of influence do you, personally, have over new technology purchases within your company or organization?*

( ) I have a great deal of influence

( ) I have some influence

( ) I have little or no influence

24) Do you advocate for development tools you like within your company or organization?*

( ) Yes

( ) No

( ) Not applicable

Types of software and activities

Logic: Show/hide trigger exists.

25) On which operating systems are your development environments?*

[ ] Windows

[ ] Linux

[ ] macOS

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

26) On which platforms is your code executed?*

[ ] Desktop

[ ] Browser

[ ] WebAssembly

[ ] Mobile

[ ] Console (Xbox, PlayStation, Nintendo, etc.)

[ ] Server / Infrastructure / Cloud

[ ] IoT / Embedded

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists. Hidden unless: #7 Question "Which of the following do you regularly work on? Select all that apply." is one of the following answers ("Software / Application Code:
Software applications, services, and embedded systems, including user interfaces and business logic")

27) Do you develop any applications? If so, where is the end-user application executed?*

[ ] No, I don't develop applications

[ ] Desktop (GUI)

[ ] Desktop (CLI)

[ ] IoT / Embedded

[ ] Browser

[ ] Mobile

[ ] Console (Xbox, PlayStation, Nintendo, etc.)

[ ] Server / Cloud

[ ] Other, please specify:: _____

Logic: Hidden unless: #27 Question "Do you develop any applications? If so, where is the end-user application executed?" is one of the following answers ("Desktop (GUI)","Desktop (CLI)")

28) Which platforms do you target with your projects?*

[ ] Windows

[ ] Linux

[ ] macOS

[ ] Other, please specify:: _____

29) Which specific functionality does your code implement?*

[ ] Libraries / Frameworks

[ ] Blockchain technology

[ ] User interface (handling user inputs and interactive elements)

[ ] Data processing and analytics

[ ] System tools and components

[ ] Security, encryption, and cryptographic protocols

[ ] Ad hoc scripts

[ ] Integrating with APIs and services

[ ] Providing APIs and services

[ ] Network communication protocols

[ ] Artificial intelligence and machine learning

[ ] Audio or video processing

[ ] Automating software testing and quality assurance

[ ] Hardware interfacing and control systems

[ ] Rendering and processing graphics (2D/3D)

[ ] Conducting simulations and predictive modeling

[ ] Integration with AI

[ ] Data science / Data analytics

[ ] Application logic and workflows

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

30) Which kinds of software, products, or services do you develop?*

[ ] I don’t develop a specific product or service

[ ] Augmented reality / Virtual reality

[ ] Cloud services

[ ] Entertainment

[ ] Finance

[ ] Games

[ ] Mini-apps (within WeChat, Alipay, etc.)

[ ] Development tools (IDEs, databases, frameworks, programming languages, etc.)

[ ] Hardware

[ ] Home automation

[ ] IT infrastructure

[ ] Security

[ ] System software

[ ] Websites

[ ] Web services (without a GUI)

[ ] Business applications

[ ] Analytical software

[ ] Other, please specify:: _____

Logic: Hidden unless: #30 Question "Which kinds of software, products, or services do you develop?" is one of the following answers ("Websites")

31) Which kinds of websites do you develop?*

[ ] Business website

[ ] Personal or portfolio websites

[ ] Informational website (Wiki, etc.)

[ ] E-commerce website

[ ] Intranet portal

[ ] Multifunctional web portal (like Amazon, Google, government services, etc.)

[ ] Blog / Social media / Forum platform

[ ] News or entertainment content

[ ] Educational / MOOC platform

[ ] Web interface for a product (such as a game, a banking service, a home automation solution, etc.)

[ ] Other, please specify::

Languages used regularly

Logic: Show/hide trigger exists.

32) Which programming languages have you used in the last 12 months?*

[ ] I don't use programming languages

[ ] Ada

[ ] Assembly

[ ] C

[ ] C#

[ ] C++

[ ] Clojure / ClojureScript

[ ] COBOL

[ ] CoffeeScript

[ ] Dart

[ ] Delphi

[ ] Elixir

[ ] F#

[ ] Go

[ ] Groovy

[ ] Haskell

[ ] HTML / CSS

[ ] Java

[ ] JavaScript

[ ] Julia

[ ] Kotlin

[ ] LabVIEW (G dataflow)

[ ] Lua

[ ] MATLAB

[ ] Objective-C

[ ] Perl

[ ] PHP

[ ] Platform-specific language (Apex, ABAP, 1C, etc.)

[ ] Python

[ ] R

[ ] Ruby

[ ] Rust

[ ] Scala

[ ] Shell scripting languages (Bash, Shell, PowerShell, etc.)

[ ] SQL (PL/SQL, T-SQL, or other programming extensions of SQL)

[ ] Swift

[ ] TypeScript

[ ] Visual Basic

[ ] Other, please specify:: _____

Primary language

Validation: Max. answers = 3 *(if answered)*

Logic: Show/hide trigger exists.

35) What are your primary programming languages? *

[ ] Ada

[ ] Assembly

[ ] C

[ ] C#

[ ] C++

[ ] Clojure / ClojureScript

[ ] COBOL

[ ] CoffeeScript

[ ] Dart

[ ] Delphi

[ ] Elixir

[ ] F#

[ ] Go

[ ] Groovy

[ ] Haskell

[ ] HTML / CSS

[ ] Java

[ ] JavaScript

[ ] Julia

[ ] Kotlin

[ ] LabVIEW (G dataflow)

[ ] Lua

[ ] MATLAB

[ ] Objective-C

[ ] Perl

[ ] PHP

[ ] Platform-specific language (Apex, ABAP, 1C, etc.)

[ ] Python

[ ] R

[ ] Ruby

[ ] Rust

[ ] Scala

[ ] Shell scripting languages (Bash, Shell, PowerShell, etc.)

[ ] SQL (PL/SQL, T-SQL, or other programming extensions of SQL)

[ ] Swift

[ ] TypeScript

[ ] Visual Basic

[ ] Other, please specify:: _____

Intention to adopt languages

Page exit logic: Skip / Disqualify Logic**IF:** #32 Question "Which programming languages have you used in the last 12 months?" is one of the following answers ("I don't use programming languages") **THEN:** Jump to page 64 - Data Science - intro (logic)

36) Do you plan to adopt or migrate to other languages in the next 12 months? If so, which ones?*

[ ] No, I'm not planning to adopt or migrate to any other languages

[ ] Ada

[ ] Assembly

[ ] C

[ ] C#

[ ] C++

[ ] Clojure / ClojureScript

[ ] COBOL

[ ] CoffeeScript

[ ] Dart

[ ] Delphi

[ ] Elixir

[ ] F#

[ ] Go

[ ] Groovy

[ ] Haskell

[ ] HTML / CSS

[ ] Java

[ ] JavaScript

[ ] Julia

[ ] Kotlin

[ ] LabVIEW (G dataflow)

[ ] Lua

[ ] MATLAB

[ ] Objective-C

[ ] Perl

[ ] PHP

[ ] Platform-specific language (Apex, ABAP, 1C, etc.)

[ ] Python

[ ] R

[ ] Ruby

[ ] Rust

[ ] Scala

[ ] Shell scripting languages (Bash, Shell, PowerShell, etc.)

[ ] SQL (PL/SQL, T-SQL, or other programming extensions of SQL)

[ ] Swift

[ ] TypeScript

[ ] Visual Basic

[ ] Planning to adopt / migrate to other language(s), please specify::

_____

Languages ranking: new

Validation: Max. answers = 3 *(if answered)*

37) Please rank your primary programming languages by frequency of use.*

[question("title"), id="507"]

_____Ada

_____Assembly

_____C

_____C#

_____C++

_____Clojure / ClojureScript

_____COBOL

_____CoffeeScript

_____Dart

_____Delphi

_____Elixir

_____F#

_____Go

_____GraphQL

_____Groovy

_____Haskell

_____HTML / CSS

_____Java

_____JavaScript

_____Julia

_____Kotlin

_____LabVIEW (G dataflow)

_____Lua

_____MATLAB

_____Objective-C

_____Perl

_____PHP

_____Platform-specific language (Apex, ABAP, 1C, etc.)

_____Python

_____R

_____Ruby

_____Rust

_____Scala

_____Shell scripting languages (Bash, Shell, PowerShell, etc.)

_____SQL (PL/SQL, T-SQL, or other programming extensions of SQL)

_____Swift

_____TypeScript

_____Visual Basic

Primary languages by platforms

Piping: Piped Values From Question 35. (What are your primary programming languages? [question("title"), id="506"])

38) For which platforms do you use your main languages?

Desktop
Browser
WebAssembly
Mobile
Console (Xbox, PlayStation, Nintendo, etc.)
Server / Infrastructure / Cloud
IoT / Embedded

Primary language by software functionality

Piping: Piped Values From Question 35. (What are your primary programming languages? [question("title"), id="506"])

39) With what functionality do you write code in your main languages?

Libraries / Frameworks
Blockchain technology
User interface (handling user inputs and interactive elements)
Data processing and analytics
System tools and components
Security, encryption, and cryptographic protocols
Ad hoc scripts
Integrating with APIs and services
Providing APIs and services
Network communication protocols
Artificial intelligence and machine learning
Audio or video processing
Automating software testing and quality assurance
Hardware interfacing and control systems

Rendering and processing graphics (2D/3D)
Conducting simulations and predictive modeling
Integration with AI
Data science / Data analytics
Application logic and workflows

Primary language by software type

Piping: Piped Values From Question 35. (What are your primary programming languages? [question("title"), id="506"])

40) Which languages do you use to develop each of the following kinds of software, products, and services?

Augmented reality / Virtual reality
Cloud services
Entertainment
Finance
Games
Mini-apps (such as within WeChat, Alipay, etc.)
Development tools (IDEs, databases, frameworks, programming languages, etc.)
Hardware

Home automation
IT infrastructure
Security
System software
Websites
Web services (without a GUI)
Business applications
Analytical software

Testing: common questions for all +DB

Logic: Show/hide trigger exists. Hidden unless: #8 Question "In which kinds of activities are you involved?" is one of the following answers ("Testing")

41) Which types of tests do you use in your projects?*

[ ] None

[ ] Unit

[ ] Integration

[ ] End-to-end

[ ] Performance

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists. Hidden unless: #41 Question "Which types of tests do you use in your projects?" is one of the following answers ("Unit")

42) How do you do unit testing in your projects?*

( ) I write unit tests

( ) I use unit tests, but I don't write them

Logic: Hidden unless: #41 Question "Which types of tests do you use in your projects?" is one of the following answers ("Unit","Integration","End-to-end","Performance","Other, please specify:")

43) Do you use artificial intelligence or machine learning in testing software?*

[ ] No

[ ] Yes, in analysis of user behavior data

[ ] Yes, in analysis of system logs

[ ] Yes, in predictions, please specify::
_____

[ ] Yes, in generation, please specify::
_____

[ ] I'm not sure

[ ] Other, please specify:: _____

44) In your project, how many testers or QA engineers are there for every 10 software developers?*

( ) 1 QA engineer or less

( ) 1–3 QA engineers

( ) 4–6 QA engineers

( ) 7–8 QA engineers

( ) 9–10 QA engineers

( ) More QA engineers than developers

( ) I'm not sure

45) Which frameworks or protocols do you use for API development, if any?*

[ ] None

[ ] REST

[ ] GraphQL

[ ] SOAP

[ ] gRPC

[ ] Falcor

[ ] JSON:API

[ ] OData

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

46) How much experience do you have with low-code/no-code platforms?*

Low-code and no-code development platforms are software development tools and environments that enable the creation of software through graphical interfaces and configuration using ready-made components, rather than traditional programming methods. Examples of such platforms are Microsoft Power Apps, Mendix, OutSystems, and Google AppSheet.

( ) I develop applications using low-code/no-code platforms

( ) I develop systems to support other users of low-code/no-code platforms

( ) I've used or evaluated some low-code/no-code solutions but don't use them right now

( ) I haven't used any low-code/no-code platforms, but they are used in my company

( ) I've heard of low-code/no-code platforms, but I've never tried any

( ) I've never heard of the low-code/no-code concept

47) Which databases have you used in the last 12 months, if any?*

[ ] None

[ ] Amazon Athena

[ ] Amazon DynamoDB

[ ] Amazon Redshift

[ ] BigQuery

[ ] Cassandra

[ ] ClickHouse

[ ] Cloud Firestore

[ ] CockroachDB

[ ] Couchbase

[ ] Db2

[ ] Elasticsearch

[ ] Exasol

[ ] H2

[ ] HBase

[ ] MariaDB

[ ] MongoDB

[ ] Microsoft SQL Server

[ ] MySQL

[ ] Neo4j

[ ] Oracle Database

[ ] PostgreSQL

[ ] Presto

[ ] Redis

[ ] Snowflake

[ ] SQLite

[ ] Teradata

[ ] Other, please specify:: _____

JetBrains products use

Page exit logic: Skip / Disqualify Logic**IF:** #7 Question "Which of the following do you regularly work on? Select all that apply." is one of the following answers ("I'm not involved in programming") **THEN:** Jump to page 64 - Data Science - intro (logic)

Logic: Show/hide trigger exists.

48) What do you know about JetBrains?*

( ) I currently use JetBrains products

( ) I have used JetBrains products, but stopped

( ) I have evaluated some JetBrains products, but haven’t adopted any

( ) I have heard of JetBrains, but I’ve never tried any of its products

( ) I have never heard of JetBrains or its products

Logic: Show/hide trigger exists. Hidden unless: #48 Question "What do you know about JetBrains?" is one of the following answers ("I currently use JetBrains products")

49) Which of the following JetBrains products do you currently use?*

[ ] None

[ ] IntelliJ IDEA Ultimate

[ ] IntelliJ IDEA Community Edition

[ ] PyCharm Professional Edition

[ ] PyCharm Community Edition

[ ] PhpStorm

[ ] CLion

[ ] DataGrip

[ ] WebStorm

[ ] GoLand

[ ] DataSpell

[ ] RubyMine

[ ] JetBrains Rider

[ ] AppCode

[ ] Aqua

[ ] Fleet

[ ] RustRover

[ ] ReSharper

[ ] ReSharper C++

[ ] dotCover

[ ] dotTrace

[ ] dotMemory

[ ] dotPeek

[ ] RiderFlow

[ ] Space

[ ] TeamCity

[ ] YouTrack

[ ] Datalore

[ ] Upsource

[ ] Qodana

[ ] JetBrains Academy

[ ] Toolbox App

[ ] Code With Me

[ ] JetBrains Gateway

[ ] MPS

[ ] Writerside

Logic: Hidden unless: #48 Question "What do you know about JetBrains?" is one of the following answers ("I have used JetBrains products, but stopped","I have evaluated some JetBrains products, but haven’t adopted any")

50) Which of the following JetBrains products have you tried before?*

[ ] None

[ ] IntelliJ IDEA Ultimate

[ ] IntelliJ IDEA Community Edition

[ ] RubyMine

[ ] PyCharm Professional Edition

[ ] PyCharm Community Edition

[ ] AppCode

[ ] CLion

[ ] PhpStorm

[ ] WebStorm

[ ] GoLand

[ ] DataGrip

[ ] DataSpell
[ ] Rider
[ ] Aqua
[ ] Fleet
[ ] RustRover
[ ] ReSharper
[ ] ReSharper C++
[ ] dotCover
[ ] dotTrace
[ ] dotMemory
[ ] dotPeek
[ ] RiderFlow
[ ] Datalore
[ ] Space
[ ] TeamCity
[ ] YouTrack
[ ] Upsource
[ ] Qodana
[ ] PyCharm Edu
[ ] IntelliJ IDEA Edu
[ ] JetBrains Academy
[ ] Code With Me
[ ] Gateway
[ ] Toolbox App
[ ] MPS
[ ] Writerside

51) Which type of license do you have for each JetBrains product that you use?

	Individual	**Commercial (provided**	**Student**	**EAP / Trial**	**I'm not sure**

		by employer)		**/ Other**	
IntelliJ IDEA Ultimate	( )	( )	( )	( )	( )
PyCharm Professional Edition	( )	( )	( )	( )	( )
RubyMine	( )	( )	( )	( )	( )
AppCode	( )	( )	( )	( )	( )
CLion	( )	( )	( )	( )	( )
PhpStorm	( )	( )	( )	( )	( )
WebStorm	( )	( )	( )	( )	( )
GoLand	( )	( )	( )	( )	( )
DataGrip	( )	( )	( )	( )	( )
Rider	( )	( )	( )	( )	( )
ReSharper	( )	( )	( )	( )	( )
ReSharper C++	( )	( )	( )	( )	( )
RustRover	( )	( )	( )	( )	( )

IDE

52) Which IDEs or editors do you regularly use?*

[ ] Arduino IDE

[ ] IntelliJ IDEA

[ ] Android Studio

[ ] Visual Studio

[ ] Xcode

[ ] PhpStorm

[ ] WebStorm

[ ] RubyMine

[ ] PyCharm

[ ] Vim / Neovim

[ ] Sublime Text

[ ] Atom

[ ] Visual Studio Code

[ ] Notepad++

[ ] AppCode

[ ] CLion

[ ] Eclipse or an Eclipse-based IDE

[ ] NetBeans

[ ] Qt Creator

[ ] Emacs

[ ] DataSpell

[ ] GoLand

[ ] DataGrip

[ ] Fleet

[ ] JetBrains Rider

[ ] gedit

[ ] Keil µVision

[ ] IAR Embedded Workbench

[ ] IPython/Jupyter Notebook

[ ] STM32CubeIDE

[ ] RStudio

[ ] Cursor

[ ] Aide

[ ] Zed

[ ] Project IDX

[ ] Other, please specify:: _____

Main IDE

Logic: Hidden unless: IDE count is greater than "1"

Piping: Piped Values From Question 52. (Which IDEs or editors do you regularly use?)

53) Which IDE or editor do you use the most?*

( ) Other, please specify:: _____

Page entry logic: This page will show when: (((#35 Question "What are your primary programming languages? [question("title"), id="506"]" is one of the following answers ("SQL (PL/SQL, T-SQL, or other programming extensions of SQL)") OR #32 Question "Which programming languages have you used in the last 12 months?" is exactly equal to ("SQL (PL/SQL, T-SQL, or other programming extensions of SQL)")) OR (#47 Question "Which databases have you used in the last 12 months, if any?" AND #47 Question "Which databases have you used in the last 12 months, if any?" is not one of the following answers ("None"))) OR #5 Question "Which of the following best describe your job role?" is one of the following answers ("DBA"))

SQL and Databases

The following questions are about databases

56) Which tools do you regularly use for working with databases?*

[ ] None
[ ] MySQL Workbench
[ ] pgAdmin
[ ] Oracle SQL Developer
[ ] SQL Server Management Studio
[ ] DataGrip
[ ] phpMyAdmin
[ ] Navicat
[ ] Toad
[ ] HeidiSQL
[ ] DBeaver
[ ] Sequel Pro
[ ] Command line
[ ] JetBrains IDEs (IntelliJ IDEA, PyCharm, etc.) with the Database Tools and SQL plugin
[ ] Sequel Ace
[ ] Studio 3T Free
[ ] PL/SQL Developer
[ ] TablePlus
[ ] Adminer
[ ] Azure Data Studio
[ ] MongoDB Compass
[ ] Visual Studio Code
[ ] Android Studio
[ ] PopSQL
[ ] Other, please specify:: _____

57) How long have you worked with databases?*

( ) Less than 1 year
( ) From 1 year to less than 3 years
( ) From 3 years to less than 7 years

( ) From 7 years to less than 10 years

( ) 10 years or more

58) Which of the following have you done in the past month?*

[ ] Establish a connection to a database

[ ] Observe the database or schema objects through the visual interface

[ ] Write SQL queries

[ ] Run SQL queries to get data

[ ] Store SQL scripts in the VCS

[ ] Run tests inside a database

[ ] Debug stored procedures or functions

[ ] Write or edit source code for stored procedures and functions

[ ] Modify the table structure through the visual interface

[ ] Edit data through the visual interface

[ ] Export data to files

[ ] Import data from files

[ ] Analyze the performance of SQL queries

[ ] Work with data visualization, such as plots and graphs

[ ] See or edit diagrams and schema visualizations

[ ] Design database schema with the help of diagrams

[ ] Use the command-line interface to work with databases

[ ] Create a new database

[ ] None of the above

59) Approximately how many rows does your largest table have?*

( ) I don't know

( ) Hundreds or fewer

( ) Thousands

( ) Millions

( ) Billions

( ) Trillions or more

Page entry logic: This page will show when: ((#35 Question "What are your primary programming languages? [question("title"), id="506"]" is one of the following answers ("Java") OR #32 Question "Which programming languages have you used in the last 12 months?" is exactly equal to ("HTML / CSS")) OR URL Variable "short" is exactly equal to "java")

Java - (main lang, 50% chance, 8 q of 10 shown)

main lang – this section was shown only to respondents, who have chosen Java as a primary language

50% chance – this section was shown randomly to 50% of respondents who qualify

8 q of 10 shown – a random set of 8 questions out of 10 were shown on this page

The following questions are about Java development.

60) Which versions of Java do you regularly use?*

[ ] Java 22

[ ] Java 21

[ ] Java 20

[ ] Java 19

[ ] Java 18

[ ] Java 17

[ ] Java 16

[ ] Java 15

[ ] Java 14

[ ] Java 13

[ ] Java 12

[ ] Java 11

[ ] Java 10

[ ] Java 9

[ ] Java 8

[ ] Java 7

[ ] Java 6

[ ] I'm not sure

[ ] Other, please specify:: _____

61) Which build systems do you regularly use?*

[ ] None

[ ] Maven

[ ] sbt

[ ] Gradle

[ ] Ant

[ ] Bazel

[ ] Other, please specify:: _____

Logic: Hidden unless: #41 Question "Which types of tests do you use in your projects?" is one of the following answers ("Unit")

62) Which unit testing frameworks do you use?*

[ ] I don’t write unit tests for Java

[ ] I write unit tests but don’t use any frameworks

[ ] JUnit

[ ] TestNG

[ ] Mockito

[ ] PowerMock

[ ] Spock

[ ] EasyMock

[ ] JMockit

[ ] Other, please specify:: _____

Logic: Hidden unless: #41 Question "Which types of tests do you use in your projects?" is one of the following answers ("Integration")

63) Which integration testing frameworks do you use?*

[ ] I don’t write integration tests for Java

[ ] I write integration tests but don’t use any frameworks

[ ] JUnit

[ ] TestNG

[ ] WireMock

[ ] Testcontainers

[ ] MockServer

[ ] REST Assured

[ ] Selenium

[ ] Other, please specify:: _____

64) Which web frameworks do you use?*

[ ] None

[ ] Spring MVC

[ ] Grails

[ ] Vaadin

[ ] Spring Boot

[ ] JSF

[ ] Micronaut

[ ] Quarkus

[ ] Helidon

[ ] Ktor

[ ] Other, please specify:: _____

65) Which Java Enterprise specification versions do you regularly use, if any?*

[ ] None

[ ] Jakarta EE 10

[ ] Jakarta EE 9

[ ] Java EE 8 / Jakarta EE 8

[ ] Java EE 7

[ ] Java EE 6

[ ] Java EE 5

[ ] J2EE

[ ] I'm not sure

[ ] Other, please specify:: _____

66) Which JVM profilers have you regularly used in the last 12 months, if any?*

[ ] None

[ ] IntelliJ IDEA’s built-in profiler

[ ] JProfiler

[ ] Java Mission Control

[ ] YourKit

[ ] NetBeans Profiler

[ ] async-profiler

[ ] VisualVM

[ ] My own custom tool

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

67) Which application servers do you regularly use, if any?*

[ ] None

[ ] Apache Tomcat

[ ] Eclipse Jetty

[ ] WildFly

[ ] JBoss EAP

[ ] WebLogic Server

[ ] WebSphere Application Server

[ ] WebSphere Liberty

[ ] GlassFish

[ ] Payara

[ ] Other, please specify:: _____

Logic: Hidden unless: #67 Question "Which application servers do you regularly use, if any?" is one of the following answers ("Apache Tomcat","Eclipse Jetty","WildFly","JBoss EAP","WebLogic Server","WebSphere Application Server","WebSphere Liberty","GlassFish","Payara","Other, please specify:")

68) How do you package your web applications?*

[ ] As artifacts (e.g. WAR)

[ ] I use an embedded server (e.g. JAR)

[ ] I use Docker

[ ] I use GraalVM Native Images

[ ] I use jlink custom Java runtime images

[ ] I'm not sure

69) Which IDE or editor do you use the most for Java development?*

( ) Eclipse or an Eclipse-based IDE (Spring Tool Suite, JBoss Tools, Scala IDE, etc.)

( ) IntelliJ IDEA

( ) Fleet

( ) NetBeans

( ) Vim

( ) Sublime Text

( ) Visual Studio Code

( ) Android Studio

( ) Other, please specify:: _____

Page entry logic: This page will show when: (((#35 Question "What are your primary programming languages? [question("title"), id="506"]" is one of the following answers ("JavaScript","TypeScript") OR #32 Question "Which programming languages have you used in the last 12 months?" is exactly equal to ("Java")) OR #32 Question "Which programming languages have you used in the last 12 months?" is exactly equal to ("TypeScript")) OR URL Variable "short" is exactly equal to "JS")

JavaScript (main lang, 50% chance, 9 of 17 q shown)

main lang – this section was shown only to respondents, who have chosen JavaScript as a primary language

50% chance – this section was shown randomly to 50% of respondents who qualify

8 q of 10 shown – a random set of 9 questions out of 17 were shown on this page

The following questions are about JavaScript development

70) Which mobile frameworks do you regularly use?*

[ ] None

[ ] React Native

[ ] Ionic

[ ] Cordova

[ ] Capacitor

[ ] Expo

[ ] Quasar

[ ] uni-app

[ ] Other, please specify:: _____

71) Which desktop frameworks do you regularly use?*

[ ] None

[ ] Electron

[ ] Quasar

[ ] Tauri

[ ] NW.js

[ ] uni-app

[ ] Other, please specify:: _____

72) Which JavaScript frontend frameworks do you regularly use?*

[ ] None

[ ] React

[ ] Vue.js

[ ] Angular

[ ] htmx

[ ] Svelte

[ ] Lit

[ ] Solid

[ ] Qwik

[ ] Other, please specify:: _____

73) Which JavaScript backend frameworks and libraries do you regularly use?*

[ ] None

[ ] Express

[ ] Nest

[ ] Fastify

[ ] Koa

[ ] AdonisJS

[ ] Other, please specify:: _____

74) Which meta-frameworks do you regularly use?*

[ ] None

[ ] Next.js

[ ] Nuxt

[ ] Gatsby

[ ] Remix

[ ] Astro

[ ] SvelteKit

[ ] SolidStart

[ ] Other, please specify:: _____

75) Which JavaScript runtimes do you regularly use?*

[ ] None

[ ] Browser

[ ] Node.js

[ ] Deno

[ ] Bun

[ ] Other, please specify:: _____

76) Which IDE or editor do you use the most for JavaScript and/or TypeScript development?*

( ) Visual Studio Code

( ) WebStorm

( ) Another JetBrains IDE (PyCharm, IntelliJ IDEA, PhpStorm, etc.)

( ) Sublime Text

( ) Vi / Vim / Neovim

( ) Emacs

( ) Nova

( ) Visual Studio

( ) Notepad++

( ) Cursor

( ) Zed

( ) Other, please specify:: _____

Logic: Hidden unless: ((#42 Question "How do you do unit testing in your projects?" is one of the following answers ("I write unit tests","I use unit tests, but I don't write them") OR URL Variable "short" is exactly equal to "JS")

77) Which JavaScript testing tools do you regularly use?*

[ ] I don’t write unit tests for JavaScript

[ ] I write unit tests but don’t use any frameworks or tools

[ ] Jest

[ ] Mocha

[ ] Karma

[ ] Vitest

[ ] Jasmine

[ ] Cypress

[ ] Storybook

[ ] Playwright

[ ] Node.js test runner

[ ] Other, please specify:: _____

78) Which module bundlers or module loaders do you regularly use?*

[ ] None

[ ] Browserify

[ ] webpack

[ ] RequireJS

[ ] Rollup

[ ] Parcel

[ ] esbuild

[ ] Vite

[ ] Turbopack

[ ] Biome

[ ] Other, please specify:: _____

79) Which design systems or CSS frameworks do you regularly use?*

[ ] None

[ ] Tailwind CSS

[ ] daisyUI

[ ] Bootstrap

[ ] shadcn/ui

[ ] Ant Design

[ ] Material UI

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists. Hidden unless: (#3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization","Self-employed *(a person earning income directly from their own business, trade, or profession)*","Freelancer *(a person pursuing a profession without a long-term commitment to any one employer)*","Working student")

80) What do you use JavaScript and/or TypeScript for at work?*

[ ] I use JavaScript and TypeScript only for personal projects

[ ] Frontend development

[ ] Backend development

[ ] Data analysis

[ ] Machine learning

[ ] Desktop application development

[ ] Mobile application development

[ ] Mini-app development

[ ] Embedded application development

[ ] Game development

[ ] Data visualization

[ ] Graphics and animation

[ ] Progressive web applications (PWAs)

[ ] Other, please specify:: _____

Logic: Hidden unless: #3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization","Self-employed *(a person earning income directly from their own business, trade, or profession)*","Freelancer *(a person pursuing a profession without a long-term commitment to any one employer)*","Working student")

81) What is the ratio of your frontend to backend work tasks in JavaScript and/or TypeScript?*

( ) The vast majority of my tasks are on the frontend

( ) More than half of my tasks are on the frontend

( ) My tasks are split evenly between the frontend and backend

( ) More than half of my tasks are on the backend

( ) The vast majority of my tasks are on the backend

82) Which package manager do you primarily use?*

[ ] None

[ ] npm

[ ] Yarn

[ ] Yarn PnP

[ ] pnpm

[ ] Deno

[ ] Bun

[ ] Other, please specify:: _____

83) Which monorepo tools do you regularly use?*

[ ] None

[ ] Turborepo

[ ] npm workspaces

[ ] Yarn workspaces

[ ] pnpm

[ ] Nx

[ ] Lerna

[ ] Other, please specify:: _____

Logic: Hidden unless: #80 Question "What do you use JavaScript and/or TypeScript for at work?" is one of the following answers ("Frontend development","Backend development","Data analysis","Machine learning","Desktop application development","Mobile application development","Mini-app development","Embedded application development","Game development","Data visualization","Graphics and animation","Progressive web applications (PWAs)","Other, please specify:")

84) How many TypeScript or JavaScript projects are you currently contributing to at work?*

( ) 1

( ) 2

( ) 3

( ) 4

( ) 5 or more

Logic: Hidden unless: #80 Question "What do you use JavaScript and/or TypeScript for at work?" is one of the following answers ("Frontend development","Backend development","Data analysis","Machine learning","Desktop application development","Mobile application development","Mini-app development","Embedded application development","Game development","Data visualization","Graphics and animation","Progressive web applications (PWAs)","Other, please specify:")

85) What is the size of your largest TypeScript or JavaScript project at work?*

( ) Small

( ) Medium

( ) Large

( ) Other, please specify:: _____

Logic: Hidden unless: #80 Question "What do you use JavaScript and/or TypeScript for at work?" is one of the following answers ("Frontend development","Backend development","Data analysis","Machine learning","Desktop application development","Mobile application development","Mini-app development","Embedded application development","Game development","Data visualization","Graphics and animation","Progressive web applications (PWAs)","Other, please specify:")

86) How many developers are currently contributing to your largest TypeScript or JavaScript project at work?*

( ) 1

( ) 2–10

( ) 11–50

( ) 51–200

( ) 201–500

( ) 501–1,000

( ) More than 1,000

( ) I'm not sure

Page entry logic: This page will show when: (#45 Question "Which frameworks or protocols do you use for API development, if any?" is one of the following answers ("GraphQL")

GraphQL (50% chance)

50% chance – this section was shown randomly to 50% of respondents who qualify

The following questions are about GraphQL development.

87) Do you use graphql.config in your projects?*

( ) Yes

( ) No

Logic: Show/hide trigger exists.

88) Do you use GraphQL in monorepo projects?*

( ) Yes

( ) No

Logic: Hidden unless: #88 Question "Do you use GraphQL in monorepo projects?" is one of the following answers ("Yes")

89) Which approach do you use in your monorepo projects?*

( ) I define all projects in one config in the root

( ) I define a config for each subproject

( ) Other, please specify:: _____

90) Which approach to GraphQL development does your current project follow?*

( ) Code/resolver-first: The schema is implemented programmatically

( ) Schema-first: The schema is described using Schema Definition Language (SDL)

( ) The schema is generated based on the existing database

( ) I don’t know

( ) Other, please specify:: _____

91) Which tasks do you personally use GraphQL for?*

[ ] Define the schema

[ ] Implement the schema and the resolvers

[ ] Write GraphQL queries in the client-side code

[ ] Write GraphQL queries in the mobile app code

[ ] Other, please specify:: _____

92) Which GraphQL-related technologies does your current project use?*

[ ] None

[ ] Relay

[ ] Apollo Client

[ ] Apollo Server

[ ] Prisma

[ ] Hasura

[ ] AWS AppSync

[ ] Graphene

[ ] Other, please specify:: _____

Page entry logic: This page will show when: ((#35 Question "What are your primary programming languages? [question("title"), id="506"]" is one of the following answers ("Kotlin") OR #32 Question "Which programming languages have you used in the last 12 months?" is exactly equal to ("Julia")) OR URL Variable "short" is exactly equal to "Kotlin")

Kotlin (primary)

The following questions are about Kotlin development.

93) How long have you been using Kotlin?*

( ) Less than 1 month

( ) From 1 to less than 3 months

( ) From 3 to less than 6 months

( ) From 6 to less than 12 months

( ) From 1 to less than 2 years

( ) From 2 to less than 4 years

( ) 4 years or more

Logic: Show/hide trigger exists.

94) How do you mainly use Kotlin?*

( ) In production code

( ) In not-yet-released projects

( ) In pet projects

( ) To test production code

( ) I am still learning Kotlin

( ) I teach Kotlin

( ) Other, please specify:: _____

Logic: Hidden unless: #94 Question "How do you mainly use Kotlin?" is one of the following answers ("In production code","In not-yet-released projects","In pet projects","To test production code","Other, please specify:")

95) Which types of Kotlin projects are you currently working on?*

[ ] Android

[ ] iOS

[ ] Desktop (JVM-based)

[ ] Backend (JVM-based)

[ ] Web (JS-based)

[ ] Web (Wasm-based)

[ ] Script

[ ] Multiplatform

[ ] Data science

[ ] Other, please specify:: _____

96) What was your primary programming language before you switched to Kotlin?*

( ) Kotlin is my first programming language
( ) Java
( ) JavaScript / TypeScript
( ) C / C++
( ) C#
( ) PHP
( ) Ruby
( ) Scala
( ) Go
( ) Groovy
( ) Python
( ) Swift
( ) Other, please specify:: _____

97) Which IDE do you use the most for Kotlin development?*

( ) IntelliJ IDEA Community Edition
( ) IntelliJ IDEA Ultimate
( ) Android Studio
( ) Fleet
( ) Eclipse
( ) Visual Studio Code
( ) Other, please specify:: _____

98) Which build system do you use the most for Kotlin development?*

[ ] None
[ ] Gradle (with Kotlin script)
[ ] Gradle (with Groovy)
[ ] JPS
[ ] Maven

[ ] Bazel

[ ] Ant

[ ] Amper

[ ] Other, please specify:: _____

99) Which JetBrains Kotlin libraries and tools do you currently use?*

[ ] None

[ ] kotlin-test

[ ] kotlinx.coroutines

[ ] kotlinx.serialization

[ ] kotlinx.collections.immutable

[ ] kotlinx-datetime

[ ] kotlinx-Lincheck

[ ] kotlinx-io

[ ] kotlinx-benchmark

[ ] kotlinx-kover

[ ] kotlinx-atomicfu

[ ] kotlinx-browser

[ ] kotlin-wrappers

[ ] kotlinx.html

[ ] Compose Multiplatform

[ ] Dokka

[ ] Dukat

[ ] Exposed

[ ] Ktor

[ ] Kotless

[ ] Other, please specify:: _____

100) Which Kotlin compiler plugins do you currently use, if any?*

[ ] None

[ ] kapt

[ ] KSP

[ ] Lombok

[ ] Parcelize

[ ] All-open

[ ] No-arg

[ ] SAM-with-receiver

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

101) Do you use Kotlin Multiplatform (KMP) in any of your projects?*

( ) Yes

( ) No

Logic: Show/hide trigger exists. Hidden unless: #101 Question "Do you use Kotlin Multiplatform (KMP) in any of your projects?" is one of the following answers ("Yes")

102) Do you use Compose Multiplatform?*

( ) Yes

( ) No

Logic: Hidden unless: #102 Question "Do you use Compose Multiplatform?" is one of the following answers ("Yes")

103) For which platforms do you use Compose Multiplatform?*

[ ] Android

[ ] iOS

[ ] Desktop (JVM-based)

[ ] Backend (JVM-based)

[ ] Web (JavaScript-based)

[ ] Web (Wasm-based)

[ ] Wearable devices

[ ] Other, please specify:: _____

Page entry logic: This page will show when: ((#35 Question "What are your primary programming languages? [question("title"), id="506"]" is one of the following answers ("Go") OR #32 Question "Which programming languages have you used in the last 12 months?" is exactly equal to ("F#")) OR URL Variable "short" is exactly equal to "GO")

Go (primary, 12 of 20 q shown)

primary – this section was shown only to respondents, who have chosen Go as a primary language

12 q of 20 shown – a random set of 12 questions out of 20 were shown on this page

The following questions are about Go development.

104) How long have you been using Go?*

( ) Less than 1 year

( ) From 1 year to less than 2 years

( ) From 2 years to less than 4 years

( ) From 4 years to less than 10 years

( ) 10 years or more

105) Which types of projects do you use Go for?*

[ ] Work

[ ] Personal / Side projects

[ ] Hobby

[ ] Other, please specify:: _____

106) Which operating systems do you primarily use for Go development?*

[ ] Linux

[ ] macOS

[ ] Windows

[ ] WSL

[ ] Other, please specify:: _____

107) Which types of software do you develop with Go?*

[ ] I don’t develop anything

[ ] Augmented reality / Virtual reality

[ ] Business intelligence / Data science / Machine learning

[ ] Blockchain

[ ] Database / Data storage

[ ] Entertainment

[ ] Finance

[ ] Games

[ ] Hardware

[ ] Home automation

[ ] IT infrastructure

[ ] Libraries / Frameworks

[ ] Programming tools

[ ] Security

[ ] System software

[ ] Utilities (small apps for small tasks)

[ ] Websites

[ ] Other, please specify:: _____

108) Which version(s) of Go do you use?*

[ ] 1.22
[ ] 1.21
[ ] 1.20
[ ] 1.19
[ ] 1.18
[ ] 1.17
[ ] 1.16
[ ] 1.15
[ ] Other, please specify:: _____

109) Which template engines do you use for Go development?*

[ ] None
[ ] text / template
[ ] html / template
[ ] Plush
[ ] pongo2
[ ] Other, please specify:: _____

110) Do you use workspaces (go.work)?*

( ) Yes
( ) No

Logic: Show/hide trigger exists.

111) Which IDE or editor do you use the most for Go development?*

( ) Visual Studio Code
( ) Vim
( ) Neovim

( ) GoLand

( ) IntelliJ IDEA

( ) Atom

( ) Sublime Text

( ) Visual Studio

( ) Emacs

( ) Other, please specify:: _____

Logic: Show/hide trigger exists. Hidden unless: #111 Question "Which IDE or editor do you use the most for Go development?" is one of the following answers ("Visual Studio Code","Vim","Neovim","Sublime Text")

112) Do you use gopls?*

( ) Yes

( ) No

( ) I’m not sure

Logic: Hidden unless: #112 Question "Do you use gopls?" is one of the following answers ("Yes")

113) How do you feel about your overall gopls experience?*

( ) Very satisfied

( ) Satisfied

( ) Neutral

( ) Unsatisfied

( ) Very unsatisfied

114) Which languages do you use along with Go in a single project?*

[ ] None

[ ] C

[ ] C++

[ ] Python

[ ] Rust

[ ] JavaScript

[ ] TypeScript

[ ] Other, please specify:: _____

115) Do you use generics?*

( ) Yes, regularly

( ) Yes, sometimes

( ) No, but I've tried them

( ) No, and I haven't tried them

116) Which Go web frameworks do you regularly use?*

[ ] None

[ ] Buffalo

[ ] Gin

[ ] Echo

[ ] Beego

[ ] Net/HTTP

[ ] Other, please specify:: _____

117) Which Go module proxies do you use?*

[ ] I don't use a proxy

[ ] I don't know

[ ] Public proxy.golang.org

[ ] Public goproxy.io / goproxy.cn

[ ] Private Athens

[ ] Private goproxy

[ ] Private THUMBAI

[ ] Private JFrog Artifactory

[ ] Other, please specify:: _____

118) Do you use vendoring in your project?*

( ) Yes, in projects with Go modules

( ) Yes, in other projects

( ) No

119) Which Go router do you regularly use?*

[ ] None

[ ] Standard library

[ ] gorilla / mux

[ ] go-chi / chi

[ ] julienschmidt / httproute

[ ] go-zoo / bone

[ ] gocraft / web

[ ] bmizerany / pat

[ ] Other, please specify:: _____

120) Which testing frameworks do you regularly use?*

[ ] I don’t write unit tests for Go

[ ] I write unit tests but don’t use any frameworks

[ ] Godog

[ ] Testify

[ ] Ginkgo

[ ] Gomega

[ ] GoConvey

[ ] GoMock

[ ] go-sqlmock

[ ] Other, please specify:: _____

121) How many external dependencies do you have in your projects?*

( ) Fewer than 5

( ) 5–20

( ) 21 or more

( ) I’m not sure

122) What is the size of the codebase you are working with in the IDE or editor?*

( ) Fewer than 50 files

( ) 51–100 files

( ) 101–300 files

( ) 301–1,000 files

( ) 1,001–5,000 files

( ) 5,001–10,000 files

( ) More than 10,000 files

( ) I’m not sure

123) Which build systems do you regularly use?*

[ ] Go build

[ ] Bazel

[ ] Makefile

[ ] Gradle

[ ] Other, please specify:: _____

[ ] None

Page entry logic: This page will show when: ((#35 Question "What are your primary programming languages? [question("title"), id="506"]" is one of the following answers ("PHP") OR #32 Question "Which programming languages have you used in the last 12 months?" is exactly equal to ("Objective-C")) OR URL Variable "short" is exactly equal to "PHP")

PHP (primary, 9 of 12 q shown)

Primary – this section was shown only to respondents, who have chosen PHP as a primary language

9 of 12 q shown – a random set of 9 questions out of 12 were shown on this page

The following questions are about PHP development.

124) How long have you been using PHP?*

( ) Less than 6 months

( ) From 6 months to less than 1 year

( ) From 1 year to less than 2 years

( ) From 2 years to less than 4 years

( ) More than 4 years

125) Which versions of PHP do you regularly use? *

[ ] I'm not sure

[ ] PHP 8.3

[ ] PHP 8.2

[ ] PHP 8.1

[ ] PHP 8.0

[ ] PHP 7.4

[ ] PHP 7.3

[ ] PHP 7.2

[ ] PHP 7.1

[ ] PHP 7.0

[ ] PHP 5.6 or older

[ ] Other, please specify:: _____

126) Which PHP development environments do you regularly use?*

[ ] Local

[ ] Remote (SFTP, SSH, remote desktop, etc.)

[ ] Virtualized (Vagrant, Otto, etc.)

[ ] Containerized (Docker, Rocket, etc.)

[ ] Other, please specify:: _____

127) How do you usually debug PHP code?*

( ) Using a debugger (e.g. Xdebug)

( ) By dumping values (var_dump(), die(), dd(), dump(), ray(), etc.)

( ) Other, please specify:: _____

128) Which PHP frameworks and CMSs do you regularly use, if any?*

[ ] None

[ ] Symfony

[ ] Drupal

[ ] WordPress

[ ] Laminas (formerly Zend Framework or ZF)

[ ] Zend

[ ] Magento

[ ] Laravel

[ ] Joomla!

[ ] Yii

[ ] CakePHP

[ ] CodeIgniter

[ ] Slim

[ ] Spiral

[ ] Other, please specify:: _____

129) How do you run your PHP applications in production?*

[ ] Server or virtual machine (DigitalOcean, Linode, etc.)

[ ] Shared hosting

[ ] Platform as a service (Heroku, Platform.sh, DigitalOcean App Platform, etc.)

[ ] Serverless (AWS Lambda, DigitalOcean Functions, Azure Functions, GCP Cloud Functions, etc.)

[ ] I'm not sure

[ ] Other, please specify:: _____

130) Which editor or IDE do you use the most for PHP development?*

( ) NetBeans

( ) Notepad++

( ) PhpStorm

( ) Sublime Text

( ) Vim

( ) Visual Studio Code

( ) IntelliJ IDEA Ultimate with the PHP plugin

( ) Other, please specify:: _____

131) Which testing frameworks do you regularly use, if any?*

[ ] I don't write tests for PHP

[ ] I write tests but don't use any frameworks

[ ] PHPUnit

[ ] Behat

[ ] phpspec

[ ] Codeception

[ ] Pest

[ ] SimpleTest

[ ] Infection

[ ] Other, please specify:: _____

132) Which additional code quality tools do you regularly use, if any?*

[ ] None

[ ] Php Inspections (EA Extended)

[ ] PHP_CodeSniffer

[ ] PHP CS Fixer

[ ] PHPMD

[ ] PHPStan

[ ] Psalm

[ ] Phan

[ ] Rector

[ ] PHP Insights

[ ] Other, please specify:: _____

133) Which template engines do you use?*

[ ] None, I use vanilla PHP

[ ] None, I don’t render HTML

[ ] Twig

[ ] Blade

[ ] Smarty

[ ] Mustache

[ ] Latte

[ ] Antlers

[ ] Other, please specify:: _____

134) Which tools do you use for profiling or measuring performance?*

[ ] None

[ ] In-code timers (manual timestamps, PHPBench, toolbars, etc.)

[ ] Xdebug's profiler

[ ] XHProf

[ ] Blackfire

[ ] Application performance monitoring (New Relic, Tideways, etc.)

[ ] HTTP load testing (ab, Siege, etc.)

[ ] Other, please specify:: _____

Validation: Max. answers = 3 *(if answered)*

135) What are your top three PHP feature requests?*

[ ] ADTs (algebraic data types)

[ ] Property accessors (get/set as in C#)

[ ] Generics

[ ] Pattern matching

[ ] Scalar objects

[ ] Typed arrays (int[], string[], etc.)

[ ] Native async support

[ ] Performance

[ ] Short closure improvements

[ ] Immutable objects

[ ] Package declarations

[ ] Standardized core library functions

[ ] Static class initialization

[ ] Other, please specify:: _____

Page entry logic: This page will show when: ((#35 Question "What are your primary programming languages? [question("title"), id="506"]" is one of the following answers ("C") OR

#32 Question "Which programming languages have you used in the last 12 months?" is exactly equal to ("Assembly")) OR URL Variable "short" is exactly equal to "C")

C (primary)

The following questions are about C development.

136) Which C standard(s) do you regularly use?*

[ ] C99

[ ] C11

[ ] C17

[ ] C2x

[ ] Embedded C

[ ] I'm not sure

[ ] Other, please specify:: _____

137) Which IDE or editor do you use the most for C development?*

( ) Visual Studio

( ) Visual Studio Code

( ) Eclipse CDT

( ) IAR Embedded Workbench

( ) Keil µVision

( ) Qt Creator

( ) CLion

( ) Xcode

( ) Atom

( ) Sublime Text

( ) Vi / Vim

( ) Emacs

( ) KDevelop

( ) Code::Blocks

( ) Other, please specify:: _____

138) In the next 12 months, do you plan to migrate any of your existing C code to any of the following languages? *

[ ] No, I don't plan to migrate any of my existing C code

[ ] C++

[ ] Rust

[ ] Python

[ ] Go

[ ] C#

[ ] Java

[ ] Other, please specify:: _____

Logic: Hidden unless: #42 Question "How do you do unit testing in your projects?" is one of the following answers ("I write unit tests","I use unit tests, but I don't write them")

139) Which unit testing frameworks do you regularly use, if any?*

[ ] I don’t write any tests

[ ] I don’t write unit tests, but I do other kinds of testing (performance, regression, etc.)

[ ] I write unit tests but don’t use any frameworks

[ ] Catch2

[ ] Boost.Test

[ ] GoogleTest

[ ] doctest

[ ] CppUnit

[ ] CppUTest

[ ] CUnit

[ ] Other, please specify:: _____

140) Which project models or build systems do you regularly use, if any?*

[ ] None
[ ] Visual Studio projects
[ ] Xcode projects
[ ] Autotools
[ ] Makefiles
[ ] CMake
[ ] qmake
[ ] SCons
[ ] Boost.Build
[ ] Bazel
[ ] Ninja
[ ] Meson
[ ] Custom build system
[ ] Other, please specify:: _____

141) Which dependency manager(s) do you use in your projects?*

[ ] None
[ ] build2
[ ] Conan
[ ] Hunter
[ ] NuGet
[ ] vcpkg
[ ] I use a system package manager
[ ] Other, please specify:: _____

142) Which compilers do you regularly use?*

[ ] GCC
[ ] Clang
[ ] clang-cl (from Visual Studio)

[ ] Keil

[ ] IAR

[ ] TASKING

[ ] Green Hills

[ ] Wind River Diab Compiler

[ ] MSVC

[ ] Intel C++ Compiler Classic

[ ] Intel LLVM (oneAPI DPC++/C++ Compiler)

[ ] Custom

[ ] Other, please specify:: _____

143) Which standards or guidelines, if any, do you follow when coding in C?*

[ ] None

[ ] AUTOSAR

[ ] SEI CERT C

[ ] Clang-Tidy

[ ] ClangFormat

[ ] ISO/IEC 27001

[ ] MISRA C

[ ] Other, please specify:: _____

Page entry logic: This page will show when: ((#35 Question "What are your primary programming languages? [question("title"), id="506"]" is one of the following answers ("C++") OR #32 Question "Which programming languages have you used in the last 12 months?" is exactly equal to ("C#"))

C++ (primary, 15 of 23)

primary – this section was shown only to respondents, who have chosen Java as a primary language

15 q of 23 shown – a random set of 15 questions out of 23 were shown on this page

The following questions are about C++ development.

Logic: Show/hide trigger exists.

144) Which C++ standard(s) do you regularly use?*

[ ] C++98 / C++03

[ ] C++11

[ ] C++14

[ ] C++17

[ ] C++20

[ ] C++23

[ ] I'm not sure

Logic: Hidden unless: #144 Question "Which C++ standard(s) do you regularly use?" is one of the following answers ("C++98 / C++03")

145) Do you plan to move from C++98 or C++03 to another C++ standard in the next 12 months? If so, to which one?*

( ) No, I don't plan to move to another C++ standard

( ) C++11

( ) C++14

( ) C++17

( ) C++20

( ) C++23

Logic: Hidden unless: #144 Question "Which C++ standard(s) do you regularly use?" is one of the following answers ("C++11")

146) Do you plan to move from C++11 to another C++ standard in the next 12 months? If so, to which one?*

( ) No, I don't plan to move to another C++ standard

( ) C++98 / C++03

( ) C++14

( ) C++17

( ) C++20

( ) C++23

Logic: Hidden unless: #144 Question "Which C++ standard(s) do you regularly use?" is one of the following answers ("C++14")

147) Do you plan to move from C++14 to another C++ standard in the next 12 months? If so, to which one?*

( ) No, I don't plan to move to another C++ standard

( ) C++98 / C++03

( ) C++11

( ) C++17

( ) C++20

( ) C++23

Logic: Hidden unless: #144 Question "Which C++ standard(s) do you regularly use?" is one of the following answers ("C++17")

148) Do you plan to move from C++17 to another C++ standard in the next 12 months? If so, to which one?*

( ) No, I don't plan to move to another C++ standard

( ) C++98 / C++03

( ) C++11

( ) C++14

( ) C++20

( ) C++23

Logic: Hidden unless: (((#145 Question "Do you plan to move from C++98 or C++03 to another C++ standard in the next 12 months? If so, to which one?" is one of the following answers ("No, I don't plan to move to another C++ standard") OR #146 Question "Do you plan to move from C++11 to another C++ standard in the next 12 months? If so, to which one?" is one of the following answers ("No, I don't plan to move to another C++ standard")) OR #147 Question "Do you plan to move from C++14 to another C++ standard in the next 12 months? If so, to which one?" is one of the following answers ("No, I don't plan to move to another C++ standard")) OR #148 Question "Do you plan to move from C++17 to another C++ standard in the next 12 months? If so, to which one?" is one of the following answers ("No, I don't plan to move to another C++ standard"))

149) Why are you staying with the C++ standard you're currently using?*

[ ] The C++ standard I'm using is enough for my tasks

[ ] My employer doesn't allow me to use newer standards

[ ] We use compilers or libraries that rely on an older C++ standard, so it's impossible to move to a newer one

[ ] Moving to a newer standard would take time and resources that we currently cannot afford

[ ] Other, please specify:: _____

Logic: Hidden unless: (((#145 Question "Do you plan to move from C++98 or C++03 to another C++ standard in the next 12 months? If so, to which one?" is one of the following answers ("C++20") OR #146 Question "Do you plan to move from C++11 to another C++ standard in the next 12 months? If so, to which one?" is one of the following answers ("C++20")) OR #147 Question "Do you plan to move from C++14 to another C++ standard in the next 12 months? If so, to which one?" is one of the following answers ("C++20")) OR #148 Question "Do you plan to move from C++17 to another C++ standard in the next 12 months? If so, to which one?" is one of the following answers ("C++20"))

150) Is your current project planning to use any of the following features of C++20 in the next 12 months?

[ ] Concepts (template constraints, requires, etc.)

[ ] Coroutines (co_await, etc.)

[ ] Modules (export, import, etc.)

[ ] None of the above

[ ] Other, please specify:: _____

Logic: Hidden unless: #25 Question "On which operating systems are your development environments?" is one of the following answers ("Windows")

151) Do you use C++ / CLI?*

( ) Yes

( ) No

Logic: Show/hide trigger exists.

152) Which IDE or editor do you use the most for C++ development?*

( ) Visual Studio

( ) Visual Studio Code

( ) NetBeans

( ) Eclipse CDT

( ) Qt Creator

( ) CLion

( ) Android Studio

( ) Xcode

( ) Atom

( ) Sublime Text

( ) Rider

( ) Vi / Vim

( ) Emacs

( ) KDevelop

( ) Other, please specify:: _____

Logic: Hidden unless: #152 Question "Which IDE or editor do you use the most for C++ development?" is one of the following answers ("Visual Studio")

153) Which plugins for Visual Studio do you use, if any?

[ ] None

[ ] CodeMaid

[ ] CodeRush

[ ] Roslynator

[ ] ReSharper

[ ] ReSharper C++

[ ] Visual Assist

[ ] AWS Toolkit for Visual Studio

[ ] Other, please specify:: _____

Logic: Hidden unless: #42 Question "How do you do unit testing in your projects?" is one of the following answers ("I write unit tests","I use unit tests, but I don't write them")

154) Which unit testing frameworks do you regularly use, if any?*

[ ] I don’t write unit tests for C++

[ ] I write unit tests but don’t use any frameworks

[ ] Boost.Test

[ ] GoogleTest

[ ] CppUnit

[ ] CppUTest

[ ] Catch2

[ ] doctest

[ ] Other, please specify:: _____

155) Which libraries do you use in your C++ projects, if any?*

[ ] Boost

[ ] Qt

[ ] Asio

[ ] OpenMP

[ ] TensorFlow

[ ] OpenCV

[ ] libcurl

[ ] bzip2

[ ] Folly

[ ] OpenSSL

[ ] {fmt}

[ ] Abseil

[ ] Dlib

[ ] webview

[ ] POCO

[ ] zlib

[ ] Eigen

[ ] Other, please specify:: _____

[ ] None of the above

156) What do you use to manage your first-party and third-party libraries in C++?*

[ ] I use a system package manager (APT, Homebrew, etc.)

[ ] The library source code is part of my build

[ ] I compile the libraries separately using their instructions

[ ] I download prebuilt libraries from the internet

[ ] build2

[ ] Conan

[ ] Hunter

[ ] NuGet

[ ] vcpkg

[ ] I do not have any dependencies

[ ] Other, please specify:: _____

157) Which project models or build systems do you regularly use, if any?*

[ ] None

[ ] Visual Studio projects

[ ] Xcode projects

[ ] Autotools

[ ] Makefiles

[ ] CMake

[ ] Gradle

[ ] qmake

[ ] SCons

[ ] Meson

[ ] Ninja

[ ] Boost.Build

[ ] Bazel

[ ] Custom build system

[ ] Other, please specify:: _____

158) Which compilers do you regularly use?*

[ ] GCC

[ ] Clang

[ ] clang-cl (from Visual Studio)

[ ] Keil

[ ] IAR

[ ] TASKING

[ ] Green Hills

[ ] Wind River Diab Compiler

[ ] MSVC

[ ] Intel C++ Compiler Classic

[ ] Intel LLVM (oneAPI DPC++/C++ Compiler)

[ ] Custom

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

159) Which other programming languages, if any, do you use in your projects along with C++?*

[ ] None

[ ] Python

[ ] C

[ ] JavaScript

[ ] Java

[ ] HTML / CSS

[ ] Shell scripting languages (Bash, Shell, PowerShell, etc.)

[ ] SQL (PL/SQL, T-SQL, or other programming extensions of SQL)

[ ] C#

[ ] PHP

[ ] Rust

[ ] Go

[ ] Assembly

[ ] Kotlin

[ ] TypeScript

[ ] MATLAB

[ ] Swift

[ ] Lua

[ ] R

[ ] Haskell

[ ] Ruby

[ ] Objective-C

[ ] Dart

[ ] Visual Basic

[ ] Perl

[ ] Groovy

[ ] Other, please specify:: _____

Logic: Hidden unless: #159 Question "Which other programming languages, if any, do you use in your projects along with C++?" is one of the following answers ("Rust")

160) Do you plan to migrate any part of your C++ code to Rust in the next 12 months?*

( ) Yes

( ) No

161) Which of the following tools do you or your team use to enforce code guidelines, run code analysis, or ensure code quality in other ways?*

[ ] None

[ ] Clang-analyzer / Clang Static Analyzer

[ ] ClangFormat

[ ] Clang-Tidy

[ ] Cppcheck

[ ] Coverity

[ ] Cpplint

[ ] PVS-Studio

[ ] Klocwork

[ ] PC-lint / FlexeLint

[ ] Parasoft C/C++test

[ ] QA-C++

[ ] Polyspace

[ ] Flawfinder

[ ] Stack

[ ] SonarLint / SonarQube / SonarCloud

[ ] Tools or features provided by my IDE (Visual Studio, ReSharper C++, CLion, etc.)

[ ] Other, please specify:: _____

162) How do you or your team run code analysis?*

[ ] We never run code analysis

[ ] When compiling, by enabling necessary compiler checks

[ ] Via the third-party static code analyzers running on developers' machines

[ ] Code analysis is integrated into our CI/CD pipeline

[ ] We use dynamic analysis (like sanitizers, Valgrind, or other CPU / memory profiling tools)

[ ] Other, please specify:: _____

163) Which tools or techniques do you use to optimize your C++ project build times, if any?*

[ ] None

[ ] Optimizing header includes and dependencies

[ ] Precompiled headers

[ ] Modules

[ ] Incremental linking

[ ] Compiler cache (ccache, sccache)

[ ] Parallelizing the compilation of source files

[ ] Unity builds

[ ] Incredibuild

[ ] Electric Cloud

[ ] Other, please specify:: _____

164) Which of the following C++ conferences did you attend at least twice in the past 5 years, whether in person or online?

[ ] None

[ ] ACCU

[ ] CppCon

[ ] C++Now

[ ] C++ on Sea

[ ] CPPP

[ ] CPP-Summit (China)

[ ] Core C++

[ ] CppNorth

[ ] code::dive

[ ] emBO++

[ ] LLVM Developers’ Meeting

[ ] Meeting C++

[ ] It++ (Italian C++ Conference)

[ ] NDC TechTown

[ ] Other, please specify:: _____

165) Do you attend local C++ meetups often or at least from time to time?*

( ) Yes

( ) No, there are no meetups in my area that I'm aware of

( ) No, I'm not interested in attending such meetups

166) Which standards or guidelines, if any, do you follow when coding in C++?

[ ] None

[ ] AUTOSAR

[ ] SEI CERT C++

[ ] Clang-Tidy

[ ] ClangFormat

[ ] Google C++ Style Guide

[ ] ISO/IEC 27001

[ ] JSF AV C++

[ ] MISRA C++

[ ] Other, please specify:: _____

Page entry logic: This page will show when: (((#35 Question "What are your primary programming languages? [question("title"), id="506"]" is one of the following answers ("C#","F#") OR #32 Question "Which programming languages have you used in the last 12 months?" is exactly equal to ("C")) OR #32 Question "Which programming languages have you used in the last 12 months?" is exactly equal to ("Elixir")) OR URL Variable "short" is exactly equal to "net")

.NET - (C#, F# primary, 9 q of 20 shown)

primary – this section was shown only to respondents, who have chosen C# or F# as a primary language

9 q of 20 shown – a random set of 9 questions out of 20 were shown on this page

The following questions are about .NET development.

Logic: Show/hide trigger exists.

167) Which programming languages do you use in your .NET projects? *

[ ] C#

[ ] F#

[ ] VB.NET

[ ] TypeScript

[ ] JavaScript

[ ] HTML / CSS

[ ] Python

[ ] Other, please specify:: _____

Logic: Hidden unless: #167 Question "Which programming languages do you use in your .NET projects? " is one of the following answers ("C#")

168) Which versions of C# do you regularly use?*

[ ] C# 12 (primary constructors, collection expressions, default lambda parameters, type aliases)

[ ] C# 11 (raw string literals, generic attributes, required members, UTF-8 string literals)

[ ] C# 10 (file-scoped namespaces, global usings, record structs, extended property patterns)

[ ] C# 9 (records, target-typed new expressions, top-level statements)

[ ] C# 8 (static local functions, nullable reference types, default interface methods)

[ ] C# 7 (pattern matching, local functions, ref locals and returns, out variables)

[ ] C# 6 (? and nameof operators, static imports, exception filters, Roslyn)

[ ] C# 5 or older

[ ] I'm not sure

Logic: Show/hide trigger exists. Hidden unless: #167 Question "Which programming languages do you use in your .NET projects? " is one of the following answers ("C#")

169) Which IDE or editor do you use the most for C# development?*

( ) Visual Studio

( ) Visual Studio for macOS

( ) Visual Studio Code

( ) JetBrains Rider

( ) JetBrains Fleet

( ) Other, please specify:: _____

Logic: Show/hide trigger exists.

170) Which types of projects do you work on?*

[ ] Web (ASP.NET, ASP.NET Core)

[ ] Desktop (WPF, WinForms, UWP)

[ ] Game development with Unity

[ ] Game development with Unreal Engine

[ ] Mobile development with MAUI or Xamarin

[ ] Libraries

[ ] Backend services

[ ] APIs

[ ] Other, please specify:: _____

171) What is the size of the codebase you work with in your IDE or editor?*

( ) One .sln file with < 50 projects

( ) One .sln file with > 50 projects

( ) Two or more .sln files with < 30 projects each

( ) Two or more .sln files with > 30 projects each

( ) I don't have any .sln files

( ) Other, please specify:: _____

172) Which runtimes do you regularly use in your C# development?*

[ ] I'm not sure

[ ] .NET Framework

[ ] .NET 5 and older (including .NET Core 3.1 and older)

[ ] .NET 6

[ ] .NET 7

[ ] .NET 8

[ ] Mono

Logic: Hidden unless: #167 Question "Which programming languages do you use in your .NET projects? " is one of the following answers ("F#")

173) Which IDE or editor do you use the most for F# development?*

( ) Visual Studio

( ) Visual Studio Code

( ) Vim

( ) JetBrains Rider

( ) Other, please specify:: _____

Logic: Hidden unless: #167 Question "Which programming languages do you use in your .NET projects? " is one of the following answers ("F#")

174) Which libraries or tools do you use for F# development, if any?*

[ ] None

[ ] Fable

[ ] Giraffe

[ ] Saturn

[ ] FAKE

[ ] Fantomas

[ ] Paket

[ ] FParsec

[ ] Falco

[ ] Other, please specify:: _____

Logic: Hidden unless: #170 Question "Which types of projects do you work on?" is one of the following answers ("Web (ASP.NET, ASP.NET Core)","Libraries","APIs","Other, please specify:")

175) Which technologies or frameworks for web development do you use, if any?*

[ ] I don’t develop for the web

[ ] ASP.NET

[ ] ASP.NET Core

[ ] Blazor

[ ] Blazor WebAssembly

[ ] React

[ ] Vue

[ ] Angular

[ ] Svelte

[ ] gRPC

[ ] Minimal API

[ ] MVC

[ ] Razor Pages

[ ] SignalR

[ ] Web API

[ ] Other, please specify:: _____

176) Which technologies or frameworks do you use, if any?*

[ ] None

[ ] Windows Presentation Foundation (WPF)

[ ] Windows Forms

[ ] Windows Communication Foundation (WCF)

[ ] Entity Framework

[ ] Unity

[ ] Godot

[ ] Xamarin

[ ] Avalonia

[ ] Uno Platform

[ ] UWP

[ ] Azure

[ ] AWS

[ ] Flutter

[ ] Windows Forms (.NET Core)

[ ] .NET Aspire

[ ] Other, please specify:: _____

Logic: Hidden unless: (#169 Question "Which IDE or editor do you use the most for C# development?" is one of the following answers ("Visual Studio") OR #173 Question "Which IDE or editor do you use the most for F# development?" is one of the following answers ("Visual Studio"))

177) Which extensions do you use with Visual Studio?*

[ ] None

[ ] AWS Toolkit for Visual Studio

[ ] CodeMaid

[ ] CodeRush

[ ] GitHub Copilot

[ ] Ionide

[ ] PostSharp

[ ] ReSharper

[ ] ReSharper C++

[ ] Roslynator

[ ] Visual Assist

[ ] SonarLint

[ ] NCrunch

[ ] Other, please specify:: _____

Logic: Hidden unless: #169 Question "Which IDE or editor do you use the most for C# development?"

178) Which operating system does your .NET development environment use?*

[ ] Windows (ARM64 chip)

[ ] Windows (x64 chip)

[ ] Linux

[ ] macOS (Intel processor)

[ ] macOS (Apple silicon chip)

[ ] Other, please specify:: _____

Logic: Hidden unless: (#169 Question "Which IDE or editor do you use the most for C# development?" is one of the following answers ("Visual Studio Code") OR #173 Question "Which IDE or editor do you use the most for F# development?" is one of the following answers ("Visual Studio Code"))

179) Which extensions for Visual Studio Code do you use, if any?*

[ ] None

[ ] .NET Core Tools

[ ] .NET Core Test Explorer

[ ] .NET MAUI

[ ] ASP.NET Helper

[ ] AWS Toolkit for Visual Studio Code

[ ] C# Dev Kit

[ ] C# for Visual Studio Code (powered by OmniSharp)

[ ] C# Extensions

[ ] C# XML Documentation Comments

[ ] Code Runner

[ ] Code Spell Checker

[ ] ESLint

[ ] MSBuild project tools

[ ] NuGet Package Manager

[ ] TODO Highlight

[ ] TSLint

[ ] Unity Tools

[ ] Version Lens

[ ] Ionide

[ ] GitHub Copilot

[ ] Other, please specify:: _____

Logic: Hidden unless: (#169 Question "Which IDE or editor do you use the most for C# development?" is one of the following answers ("Visual Studio") OR #173 Question "Which IDE or editor do you use the most for F# development?" is one of the following answers ("Visual Studio"))

180) Which version of Visual Studio do you primarily use?*

( ) VS 2022 Preview

( ) VS 2022

( ) VS 2019

( ) VS 2017

( ) VS 2015

( ) VS 2013

( ) VS 2012

( ) An older version

Logic: Show/hide trigger exists. Hidden unless: (#169 Question "Which IDE or editor do you use the most for C# development?" is one of the following answers ("Visual Studio") OR #173 Question "Which IDE or editor do you use the most for F# development?" is one of the following answers ("Visual Studio"))

181) Which edition of Visual Studio do you use?*

( ) Community

( ) Professional

( ) Enterprise

( ) Other, please specify:: _____

Logic: Hidden unless: #181 Question "Which edition of Visual Studio do you use?" is one of the following answers ("Professional","Enterprise")

182) Does your employer cover your Visual Studio subscription?

( ) Yes

( ) No, I pay for it myself

( ) No, I have a student license

( ) No, I have a license via a community outreach program (e.g. MVP)

( ) Other, please specify:: _____

Logic: Hidden unless: #42 Question "How do you do unit testing in your projects?" is one of the following answers ("I write unit tests","I use unit tests, but I don't write them")

183) Which unit testing frameworks do you regularly use, if any?*

[ ] I don’t write unit tests for C#

[ ] I write unit tests but don’t use any frameworks

[ ] NUnit

[ ] xUnit.net

[ ] MSTest / Visual Studio unit testing framework

[ ] MSTestV2

[ ] bUnit

[ ] MbUnit

[ ] Playwright

[ ] Unity Test Framework

[ ] Expecto

[ ] Fluent Assertions

[ ] dotMemory Unit

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

184) Which performance or diagnostic tools do you regularly use, if any?*

[ ] None

[ ] ANTS Memory Profiler

[ ] ANTS Performance Profiler

[ ] dotMemory

[ ] dotTrace

[ ] Dynamic Program Analysis (DPA) in ReSharper or Rider

[ ] Intel VTune Profiler

[ ] PerfView

[ ] Superluminal

[ ] Unity Profiler

[ ] Visual Studio's built-in diagnostic tools

[ ] Visual Studio's built-in performance profiler

[ ] Windows Performance Toolkit

[ ] BenchmarkDotNet

[ ] Verify

[ ] WinDbg

[ ] Other, please specify:: _____

Logic: Hidden unless: #184 Question "Which performance or diagnostic tools do you regularly use, if any?" is one of the following answers ("ANTS Memory Profiler","ANTS Performance Profiler","dotMemory","dotTrace","Dynamic Program Analysis (DPA) in ReSharper or Rider","Intel VTune Profiler","PerfView","Superluminal","Unity Profiler","Visual Studio's built-in diagnostic tools","Visual Studio's built-in performance profiler","Windows Performance Toolkit","BenchmarkDotNet","Verify","WinDbg","Other, please specify:")

185) How often do you typically use profiling or diagnostics tools?*

( ) Constantly, it’s an ongoing background process

( ) Regularly, each week or sprint to predict issues

( ) From time to time, whenever issues occur

( ) Other, please specify:: _____

Logic: Hidden unless: #184 Question "Which performance or diagnostic tools do you regularly use, if any?" is one of the following answers ("ANTS Memory Profiler","ANTS Performance Profiler","dotMemory","dotTrace","Dynamic Program Analysis (DPA) in ReSharper or Rider","Intel VTune Profiler","PerfView","Superluminal","Unity Profiler","Visual Studio's built-in diagnostic tools","Visual Studio's built-in performance profiler","Windows Performance Toolkit","BenchmarkDotNet","Verify","WinDbg","Other, please specify:")

186) Who is responsible for profiling or diagnostics in your projects?*

( ) I am solely responsible

( ) A few other developers and I share the responsibility

( ) Every developer in the project is responsible

( ) Nobody in the project or team is responsible

( ) Other, please specify:: _____

Page entry logic: This page will show when: (((#35 Question "What are your primary programming languages? [question("title"), id="506"]" is one of the following answers ("Objective-C","Swift") OR #32 Question "Which programming languages have you used in the last 12 months?" is exactly equal to ("Swift")) OR #32 Question "Which programming

languages have you used in the last 12 months?" is one of the following answers ("Lua")) OR URL Variable "short" is exactly equal to "swift")

Swift & Objective-C (primary, 9 of 16 q shown)

primary – this section was shown only to respondents, who have chosen Swift or Objective-C as a primary language

9 q of 16 shown – a random set of 8 questions out of 10 were shown on this page

The following questions are about Swift development.

187) Which Apple platforms do you develop for?*

[ ] iOS

[ ] tvOS

[ ] watchOS

[ ] macOS

[ ] visionOS

[ ] I don’t develop for Apple platforms

188) Do you use Mac Catalyst to adapt your iOS applications to macOS?*

( ) Yes

( ) No, but I plan to in the next 12 months

( ) No, and I don't plan to in the next 12 months

Logic: Hidden unless: (#32 Question "Which programming languages have you used in the last 12 months?" is one of the following answers ("Swift") AND #32 Question "Which programming languages have you used in the last 12 months?" is one of the following answers ("Lua"))

189) Does your Swift project contain Objective-C code?*

( ) Yes, but most of my codebase is in Swift

( ) Yes, most of my codebase is in Objective-C

( ) No

190) Does your project contain C++ code or C++ libraries?*

( ) Yes

( ) No

Logic: Show/hide trigger exists.

191) Do you write unit tests for your Swift code?*

( ) Yes

( ) No

Logic: Hidden unless: #191 Question "Do you write unit tests for your Swift code?" is one of the following answers ("Yes")

192) Which unit testing frameworks do you regularly use, if any?*

[ ] XCTest

[ ] Quick and Nimble

[ ] Other, please specify:: _____

193) Which mock or matcher frameworks do you use?*

[ ] None

[ ] OCMock

[ ] OCMockito

[ ] OCHamcrest

[ ] Cuckoo

[ ] Swift Hamcrest

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

194) Do you perform UI tests in your project?*

( ) Yes

( ) No

Logic: Hidden unless: #194 Question "Do you perform UI tests in your project?" is one of the following answers ("Yes")

195) Which UI testing frameworks do you regularly use, if any?*

[ ] XCTest

[ ] KIF

[ ] EarlGrey (EarlGrey 2.0)

[ ] iOSSnapshotTestCase (FBSnapshotTestCase)

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

196) Which dependency manager(s) do you use, if any?*

[ ] None

[ ] CocoaPods

[ ] Carthage

[ ] Swift Package Manager (SwiftPM)

[ ] Other, please specify:: _____

Logic: Hidden unless: #196 Question "Which dependency manager(s) do you use, if any?" is one of the following answers ("CocoaPods")

197) Are you actively replacing CocoaPods dependencies with SwiftPM packages?*

( ) Yes

( ) No, but I plan to in the next 12 months

( ) No, and I don’t plan to in the next 12 months

198) Which combination of database engine and framework do you use?*

[ ] None

[ ] SQLite with my own wrapper

[ ] Core Data

[ ] Realm

[ ] Firebase

[ ] YapDatabase

[ ] GRDB.swift

[ ] Other, please specify:: _____

Logic: Hidden unless: #32 Question "Which programming languages have you used in the last 12 months?" is one of the following answers ("Swift")

199) Do you use Swift to develop on Linux?*

( ) Yes

( ) No, but I plan to in the next 12 months

( ) No, and I don’t plan to in the next 12 months

Logic: Hidden unless: #32 Question "Which programming languages have you used in the last 12 months?" is one of the following answers ("Swift")

200) Do you use Swift to develop server-side projects?*

( ) Yes

( ) No

Logic: Hidden unless: #35 Question "What are your primary programming languages? [question("title"), id="506"]" is one of the following answers ("Swift")

201) Which editor or IDE do you primarily use for server-side development with Swift?*

( ) Xcode

( ) JetBrains Fleet

( ) Atom

( ) Visual Studio Code (VS Code)

( ) CLion

( ) AppCode

( ) Other, please specify:: _____

Logic: Hidden unless: #35 Question "What are your primary programming languages? [question("title"), id="506"]" is one of the following answers ("Swift")

202) Which UI technologies do you regularly use for your Swift code?*

[ ] UIKit

[ ] SwiftUI

[ ] UIKit and SwiftUI

[ ] Web technologies or hybrid apps (HTML, CSS)

[ ] Other, please specify:: _____

Page entry logic: This page will show when: ((#35 Question "What are your primary programming languages? [question("title"), id="506"]" is one of the following answers ("Python") OR #32 Question "Which programming languages have you used in the last 12 months?" is exactly equal to ("PHP")) OR URL Variable "short" is exactly equal to "Python")

Python - (primary, 50% chance)

primary – this section was shown only to respondents, who have chosen Python as a primary language

50% chance – this section was shown randomly to 50% of respondents who qualify

The following questions are about Python development.

203) Which version of Python do you use the most?*

( ) I'm not sure
( ) Python 3.12
( ) Python 3.11
( ) Python 3.10
( ) Python 3.9
( ) Python 3.8
( ) Python 3.7
( ) Python 3.6
( ) Python 3.0 – 3.5
( ) Python 2.x

Logic: Show/hide trigger exists.

204) What do you use Python for?*

[ ] Educational purposes (learning, teaching)
[ ] Data analysis
[ ] System administration / Writing automation scripts / Infrastructure configuration (DevOps)
[ ] Software testing / Writing automated tests
[ ] Software prototyping
[ ] Web development
[ ] Programming of web parsers / scrapers / crawlers
[ ] Machine learning
[ ] Network programming
[ ] Desktop development
[ ] Computer graphics
[ ] Game development

[ ] Mobile development

[ ] Embedded development

[ ] Other, please specify:: _____

Logic: Hidden unless: #204 Question "What do you use Python for?" is one of the following answers ("Data analysis","System administration / Writing automation scripts / Infrastructure configuration (DevOps)","Software testing / Writing automated tests","Software prototyping","Web development","Programming of web parsers / scrapers / crawlers","Machine learning","Network programming","Desktop development","Computer graphics","Game development","Mobile development","Embedded development")

205) Please specify the tasks you perform for your job and those that you undertake for your personal or side projects.

	Work	**Personal projects / hobby**
Game development	[ ]	[ ]
Embedded development	[ ]	[ ]
Software testing / Writing automated tests	[ ]	[ ]
Software prototyping	[ ]	[ ]
Web development	[ ]	[ ]
Desktop development	[ ]	[ ]
Network programming	[ ]	[ ]
Computer graphics	[ ]	[ ]
Machine learning	[ ]	[ ]
System administration / Writing automation	[ ]	[ ]

scripts / Infrastructure configuration (DevOps)		
Mobile development	[ ]	[ ]
Programming of web parsers / scrapers / crawlers	[ ]	[ ]
Data analysis	[ ]	[ ]

206) What web frameworks / libraries do you use in addition to Python?*

[ ] None
[ ] FastAPI
[ ] Django
[ ] TurboGears
[ ] web2py
[ ] Bottle
[ ] CherryPy
[ ] Flask
[ ] Hug
[ ] Pyramid
[ ] Tornado
[ ] Falcon
[ ] asyncio
[ ] Other, please specify:: _____

207) What data science frameworks do you use in addition to Python?*

[ ] None
[ ] NumPy
[ ] SciPy
[ ] pandas

[ ] MXNet

[ ] Matplotlib

[ ] Seaborn

[ ] scikit-learn

[ ] Keras

[ ] TensorFlow

[ ] PyTorch

[ ] Theano

[ ] NLTK

[ ] Gensim

[ ] Polars

[ ] OpenCV

[ ] XGBoost

[ ] Other, please specify:: _____

208) Which other frameworks and libraries do you use with Python?*

[ ] None

[ ] Requests

[ ] HTTPX

[ ] aiohttp

[ ] PyQT

[ ] PyGTK

[ ] wxPython

[ ] Pillow

[ ] Tkinter

[ ] Pygame

[ ] Twisted

[ ] asyncio

[ ] Kivy

[ ] Six

[ ] Scrapy

[ ] Other, please specify:: _____

209) Which other technologies do you use with Python?*

[ ] None

[ ] Sphinx

[ ] Buildout

[ ] Django ORM

[ ] SQLAlchemy

[ ] Other, please specify:: _____

210) Which IDE or editor do you use the most for Python development?*

( ) PyCharm Professional Edition

( ) PyCharm Community Edition

( ) Visual Studio Code

( ) Sublime Text

( ) Vim / Neovim

( ) IntelliJ IDEA

( ) Atom

( ) Emacs

( ) Eclipse + PyDev

( ) Jupyter Notebook

( ) Notepad++

( ) Spyder

( ) IDLE

( ) DataSpell

( ) Datalore

( ) Other, please specify:: _____

211) Do you convert Python code to any of the following languages in your current project(s)?*

[ ] No, I don't convert Python code to any other language

[ ] C++

[ ] C#

[ ] C

[ ] Go

[ ] Groovy

[ ] Java

[ ] JavaScript

[ ] Kotlin

[ ] Objective-C

[ ] PHP

[ ] Python

[ ] Ruby

[ ] Rust

[ ] Scala

[ ] Swift

[ ] TypeScript

[ ] Other, please specify:: _____

Page entry logic: This page will show when: ((#35 Question "What are your primary programming languages? [question("title"), id="506"]" is one of the following answers ("Ruby") OR #32 Question "Which programming languages have you used in the last 12 months?" is exactly equal to ("Python")) OR URL Variable "short" is exactly equal to "ruby")

Ruby - (primary, 7 q of 11 shown)

primary – this section was shown only to respondents, who have chosen Ruby as a primary language

7 q of 11 shown – a random set of 7 questions out of 11 were shown on this page

The following questions are about Ruby development.

Logic: Show/hide trigger exists.

212) What is the status of Ruby as a technology in your company or project?*

( ) We’re not planning to rewrite any parts of our Ruby project(s) in another language

( ) We’re planning to rewrite some parts of our Ruby project(s) in another language

( ) We’re planning to completely rewrite our Ruby project(s) in another language

( ) We’re actively rewriting our Ruby project(s) in another language

Logic: Hidden unless: #212 Question "What is the status of Ruby as a technology in your company or project?" is one of the following answers ("We’re planning to rewrite some parts of our Ruby project(s) in another language","We’re planning to completely rewrite our Ruby project(s) in another language","We’re actively rewriting our Ruby project(s) in another language")

213) Which language(s) are you planning to choose as a replacement for Ruby? Please select all that apply.*

[ ] Go

[ ] Java

[ ] JavaScript

[ ] Python

[ ] C/C++

[ ] C#

[ ] PHP

[ ] Ruby

[ ] Rust

[ ] Kotlin

[ ] Swift

[ ] Objective-C

[ ] Scala

[ ] TypeScript

[ ] Groovy

[ ] Other, please specify:: _____

214) Which editor or IDE do you primarily use for Ruby development?*

( ) RubyMine
( ) IntelliJ IDEA with the Ruby plugin
( ) Sublime Text
( ) Vim
( ) Neovim
( ) TextMate
( ) Emacs
( ) Visual Studio Code
( ) Notepad++
( ) gedit
( ) Other, please specify:: _____

215) Which additional editor or IDE do you use for Ruby development the most, if any?*

( ) I don't use additional editors or IDEs for Ruby
( ) RubyMine
( ) IntelliJ IDEA with the Ruby plugin
( ) Sublime Text
( ) Vim
( ) Atom
( ) TextMate
( ) Emacs
( ) Visual Studio Code
( ) Notepad++
( ) gedit
( ) Other, please specify:: _____

Logic: Show/hide trigger exists.

216) Which versions of Ruby do you use the most?*

[ ] I'm not sure

[ ] Ruby 3.2

[ ] Ruby 3.1

[ ] Ruby 3.0

[ ] Ruby 2.7

[ ] Ruby 2.6

[ ] Ruby 2.5

[ ] Ruby 2.4

[ ] Ruby 2.3 or earlier

[ ] Rubinius

[ ] MacRuby

[ ] TruffleRuby

[ ] Other, please specify:: _____

Logic: Hidden unless: #216 Question "Which versions of Ruby do you use the most?" is one of the following answers ("Ruby 3.1","Ruby 3.0","Ruby 2.7","Ruby 2.6","Ruby 2.5","Ruby 2.4","Ruby 2.3 or earlier","Rubinius","MacRuby","TruffleRuby","Other, please specify:")

217) Do you plan to migrate to a newer version of Ruby in the next 12 months? If so, to which one?**

( ) No, I don't plan to move to a newer version of Ruby in the next 12 months

( ) Ruby 3.2

( ) Ruby 3.1

( ) Ruby 3.0

( ) Ruby 2.7

( ) Ruby 2.6

( ) Ruby 2.5

( ) Ruby 2.4

( ) Ruby 2.3 or earlier

( ) JRuby 9.2

( ) JRuby 9.1

( ) JRuby 9.0

( ) JRuby 1.7

( ) JRuby 1.6

( ) TruffleRuby

( ) Other, please specify:: _____

218) Which tools do you use to manage different versions of Ruby?*

[ ] None

[ ] Ruby Version Manager (RVM)

[ ] rbenv

[ ] asdf

[ ] Chruby

[ ] Docker

[ ] mise

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

219) Which gem management tools do you regularly use, if any?*

[ ] None

[ ] Bundler

[ ] asdf

[ ] Chruby

[ ] RVM

[ ] rbenv

[ ] Docker

[ ] Other, please specify:: _____

Logic: Hidden unless: #219 Question "Which gem management tools do you regularly use, if any?" is one of the following answers ("Bundler","asdf","Chruby","RVM","rbenv","Docker","Other, please specify:")

220) How many gems have you personally authored, if any?*

( ) None

( ) 1–5

( ) 6–10

( ) 11–30

( ) More than 30

Logic: Show/hide trigger exists.

221) Which web development tools or frameworks do you regularly use, if any?*

[ ] None

[ ] Ruby on Rails

[ ] Rack

[ ] Sinatra

[ ] Hanami

[ ] Grape

[ ] Padrino

[ ] Cramp

[ ] Cuba

[ ] Roda

[ ] Hyperstack

[ ] Opal

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists. Hidden unless: #221 Question "Which web development tools or frameworks do you regularly use, if any?" is one of the following answers ("Ruby on Rails")

222) Which version of Rails do you use?*

( ) Rails Edge

( ) Rails 7.1

( ) Rails 7.0

( ) Rails 6.1

( ) Rails 6.0

( ) Rails 5.2

( ) Rails 5.1

( ) Rails 5.0

( ) Rails 4.2

( ) Rails 4.1

( ) Rails 4.0

( ) Rails 3.x

( ) Rails 2.x

( ) I'm not sure

Page entry logic: This page will show when: (#32 Question "Which programming languages have you used in the last 12 months?" is exactly equal to ("Python") OR #35 Question "What are your primary programming languages? [question("title"), id="506"]" is one of the following answers ("Ruby"))

Ruby 2 - (primary, 7 q of 13 shown)

primary – this section was shown only to respondents, who have chosen Java as a primary language

7 q of 13 shown – a random set of 7 questions out of 13 were shown on this page

Logic: Hidden unless: #222 Question "Which version of Rails do you use?" is one of the following answers ("Rails 6.1","Rails 6.0","Rails 5.2","Rails 5.1","Rails 5.0","Rails 4.2","Rails 4.1","Rails 4.0","Rails 3.x","Rails 2.x")

223) Do you plan to migrate to a newer version of Rails in the next 12 months? If so, to which one?*

( ) I don't plan to migrate to a newer version of Rails in the next 12 months

( ) Rails Edge

( ) Rails 7.0

( ) Rails 6

( ) Rails 5.2

( ) Rails 5.1

( ) Rails 5.0

( ) Rails 4.2

( ) Rails 4.1

( ) Rails 4.0

( ) Rails 3.2

( ) Rails 3.1

( ) Rails 3.0

( ) Rails 2.3.x

( ) Other, please specify:: _____

224) Which servers do you regularly use in production, if any?*

[ ] None

[ ] Unicorn

[ ] Puma

[ ] Phusion Passenger

[ ] Thin

[ ] WEBrick

[ ] Other, please specify:: _____

Logic: Hidden unless: #42 Question "How do you do unit testing in your projects?" is one of the following answers ("I write unit tests","I use unit tests, but I don't write them")

225) Which unit testing frameworks do you regularly use for Ruby development, if any?*

[ ] I don’t write unit tests for Ruby

[ ] I write unit tests, but don’t use any frameworks

[ ] Shoulda

[ ] RSpec

[ ] Cucumber

[ ] minitest

[ ] Test::Unit

[ ] Other, please specify:: _____

226) Which code quality tools do you use for Ruby development, if any?*

[ ] I don’t use code quality tools for Ruby

[ ] RuboCop

[ ] SimpleCov

[ ] Code Climate

[ ] Standard

[ ] RubyCritic

[ ] Coveralls

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

227) Which type-specification tools do you use for Ruby development, if any?*

[ ] None

[ ] RBS

[ ] Sorbet

[ ] YARD

[ ] Other, please specify:: _____

Logic: Hidden unless: #227 Question "Which type-specification tools do you use for Ruby development, if any?" is one of the following answers ("None")

228) Do you plan to use any type-specification tools for Ruby development in the next 12 months?*

[ ] No

[ ] RBS

[ ] Sorbet

[ ] YARD

[ ] Other, please specify:: _____

229) Which type-checking tools do you use, if any?*

[ ] None

[ ] RubyMine

[ ] Steep

[ ] Sorbet

[ ] Other, please specify:: _____

Logic: Hidden unless: #221 Question "Which web development tools or frameworks do you regularly use, if any?" is one of the following answers ("Ruby on Rails")

230) Do you use any frontend JavaScript framework along with Ruby on Rails or another server-side Ruby framework?*

[ ] I don’t use such frameworks with Ruby on Rails

[ ] React

[ ] Stimulus

[ ] Angular

[ ] AngularJS

[ ] Ember

[ ] Vue.js

[ ] Backbone

[ ] Polymer

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

231) Have you ever used remote interpreters for your Ruby code?*

( ) Yes

( ) No

Logic: Hidden unless: #231 Question "Have you ever used remote interpreters for your Ruby code?" is one of the following answers ("Yes")

232) How often do you use remote interpreters for your Ruby code?*

( ) Every day

( ) Several times a week

( ) Several times a month

( ) Once a month or less often

( ) I used remote interpreters in the past, but have returned to local development

Logic: Hidden unless: (#231 Question "Have you ever used remote interpreters for your Ruby code?" is one of the following answers ("Yes") AND #232 Question "How often do you use remote interpreters for your Ruby code?" is one of the following answers ("Every day","Several times a week","Several times a month","Once a month or less often"))

233) If you prefer remote interpreters over remote development, which interpreters do you use?*

[ ] I don't use remote interpreters

[ ] Docker

[ ] Docker Compose

[ ] Vagrant

[ ] WSL / WSL 2

[ ] Ruby over SSH

[ ] Other, please specify:: _____

234) Have you been to a conference (regional, national, or international) for Ruby and/or Rails in the last year?*

( ) Yes

( ) No

235) Do you participate in local user groups related to Ruby / Rails development (whether in person or online)?*

( ) Yes

( ) No

Page entry logic: This page will show when: (#32 Question "Which programming languages have you used in the last 12 months?" is one of the following answers ("Rust") OR URL Variable "short" is exactly equal to "rust")

Rust

The following questions are about Rust development.

236) What do you use Rust for?*

[ ] Work

[ ] Personal / Side projects

[ ] Hobby

[ ] Other, please specify:: _____

237) How long have you been using Rust?*

( ) Less than a month

( ) From 1 month to less than 6 months

( ) From 6 months to less than 1 year

( ) From 1 year to less than 3 years

( ) 3 years or more

238) Which IDEs or editors do you use for Rust development?*

[ ] Eclipse

[ ] Emacs

[ ] RustRover

[ ] CLion

[ ] IntelliJ IDEA Ultimate

[ ] Sublime Text

[ ] Vim

[ ] Visual Studio

[ ] Visual Studio Code

[ ] Other, please specify:: _____

Page entry logic: This page will show when: (#32 Question "Which programming languages have you used in the last 12 months?" is one of the following answers ("Rust") OR #35 Question "What are your primary programming languages? [question("title"), id="506"]" is one of the following answers ("Rust"))

Rust 2 (5 of 9 q shown)

5 q of 9 shown – a random set of 5 questions out of 9 were shown on this page

Logic: Hidden unless: (Rust IDE counts is greater than "1" AND #238 Question "Which IDEs or editors do you use for Rust development?" is not exactly equal to ("Other, please specify:"))

239) Which IDE or editor do you use the most for Rust development?*

( ) CLion

( ) Eclipse

( ) Emacs

( ) IntelliJ IDEA Ultimate

( ) RustRover

( ) Sublime Text

( ) Vim

( ) Visual Studio

( ) Visual Studio Code

( ) Other, please specify:: _____

240) Support for which Rust features do you miss the most in IDEs, if any?*

[ ] None

[ ] Docker support

[ ] WebAssembly debugging

[ ] REPL

[ ] Database framework support

[ ] AWS Lambda support

[ ] Cross-language navigation and refactorings

[ ] Embedded development support

[ ] Remote development support

[ ] Native debugging

[ ] Web framework support

[ ] Procedural macros debugging

[ ] Lifetime visualization

[ ] Other, please specify:: _____

241) Which build systems do you use to compile Rust, if any?*

[ ] None

[ ] Cargo

[ ] Make

[ ] CMake

[ ] Bazel

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

242) Which programming languages do you use in your projects along with Rust?*

[ ] None

[ ] C

[ ] C++

[ ] C#

[ ] Python

[ ] Java / Kotlin / Scala

[ ] Go

[ ] JavaScript / TypeScript

[ ] Swift

[ ] Objective-C

[ ] Shell scripting languages (Bash, Shell, PowerShell, etc.)

[ ] SQL

[ ] Other, please specify:: _____

243) From which programming language did you migrate to Rust?

[ ] It hasn’t replaced any programming language that I use

[ ] Rust is the first programming language I learned

[ ] C#

[ ] C

[ ] C++

[ ] Go

[ ] Groovy

[ ] Java

[ ] JavaScript

[ ] Kotlin

[ ] Objective-C

[ ] PHP

[ ] Python

[ ] Ruby

[ ] Scala

[ ] Swift

[ ] TypeScript

[ ] Other, please specify:: _____

Logic: Hidden unless: #242 Question "Which programming languages do you use in your projects along with Rust?" is one of the following answers ("C","C++","C#","Python","Java / Kotlin / Scala","Go","JavaScript / TypeScript","Swift","Objective-C","Shell scripting languages (Bash, Shell, PowerShell, etc.)","SQL","Other, please specify:")

244) How does Rust code interact with the other parts of your code?*

[ ] Language interop (foreign functions)

[ ] RPC

[ ] REST API

[ ] WebAssembly / WASI

[ ] Other, please specify:: _____

245) How do you usually debug your Rust code?*

( ) I don’t debug at all

( ) I use `println!` or `dbg!` macros

( ) In the console (gdb, lldb, etc.)

( ) UI debugging in an IDE

( ) Other, please specify:: _____

246) Which profiling tools do you use for Rust, if any?*

[ ] I don’t use profiling tools

[ ] perf

[ ] gprof

[ ] Callgrind / Cachegrind

[ ] DTrace

[ ] The IDE's bundled profiler

[ ] Other, please specify:: _____

247) Which kinds of projects do you develop in Rust?*

[ ] Web development

[ ] Systems programming

[ ] DevOps

[ ] Network programming

[ ] Databases

[ ] Security

[ ] Finance / Commerce

[ ] Data science / Machine learning / AI

[ ] Desktop / GUI applications

[ ] Embedded devices / Internet of Things

[ ] Academic / Scientific / Numeric

[ ] Blockchain

[ ] Games

[ ] CLI tools

[ ] Other, please specify:: _____

248) Which platforms do you target with your Rust projects?*

[ ] Linux

[ ] Windows

[ ] macOS

[ ] Android

[ ] iOS

[ ] WebAssembly

[ ] Embedded

[ ] Other, please specify:: _____

Page entry logic: This page will show when: ((#35 Question "What are your primary programming languages? [question("title"), id="506"]" is one of the following answers ("Scala") OR #32 Question "Which programming languages have you used in the last 12 months?" is exactly equal to ("Scala"))

Scala (primary, 8 of 13 q shown)

primary – this section was shown only to respondents, who have chosen Scala as a primary language

8 q of 13 shown – a random set of 8 questions out of 13 were shown on this page

The following questions are about Scala development.

249) Which versions of Scala do you regularly use?*

[ ] Scala 3

[ ] 2.13

[ ] 2.12

[ ] 2.11

[ ] 2.10 or earlier

[ ] I'm not sure

Logic: Hidden unless: #3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization","Self-employed *(a person earning income directly from their*

own business, trade, or profession)**","Freelancer** ***(a person pursuing a profession without a long-term commitment to any one employer)*****","Working student")**

250) Which version of Scala do you mainly use when working with the language in your work tasks?*

( ) I only use Scala 3

( ) I mainly use Scala 3

( ) I use Scala 3 and Scala 2 equally

( ) I mainly use Scala 2

( ) I only use Scala 2

( ) I don’t use Scala for my work tasks

251) Which version of Scala do you mainly use when working with the language in your hobby projects?*

( ) I only use Scala 3

( ) I mainly use Scala 3

( ) I use Scala 3 and Scala 2 equally

( ) I mainly use Scala 2

( ) I only use Scala 2

( ) I don’t use Scala for my hobby projects

Logic: Hidden unless: ((#249 Question "Which versions of Scala do you regularly use?" is one of the following answers ("Scala 3") OR #250 Question "Which version of Scala do you mainly use when working with the language in your work tasks?" is one of the following answers ("I only use Scala 3","I mainly use Scala 3","I use Scala 3 and Scala 2 equally")) OR #251 Question "Which version of Scala do you mainly use when working with the language in your hobby projects?" is one of the following answers ("I only use Scala 3","I mainly use Scala 3","I use Scala 3 and Scala 2 equally"))

252) Which Scala 3 features do you use?*

[ ] Top-level definitions

[ ] Universal apply methods

[ ] Extension methods

[ ] Enums

[ ] Trait parameters

[ ] Given instances / Using clauses

[ ] Export clauses

[ ] Opaque type aliases

[ ] Union types

[ ] Type lambdas

[ ] Polymorphic function types

[ ] Context functions

[ ] Dependent function types

[ ] Kind polymorphism

[ ] Match types

[ ] Quotes and splices

[ ] Type class derivation

[ ] Indentation-based syntax (optional braces, fewer braces, etc.)

[ ] Other, please specify:: _____

253) What are your compilation targets?*

[ ] JVM

[ ] Scala.js

[ ] Android

[ ] scala-native

Logic: Hidden unless: #42 Question "How do you do unit testing in your projects?" is one of the following answers ("I write unit tests","I use unit tests, but I don't write them")

254) Which unit testing frameworks do you regularly use, if any?*

[ ] I don’t write unit tests for Scala

[ ] I write unit tests, but I don’t use any frameworks

[ ] ScalaTest

[ ] ScalaMock

[ ] TestNG

[ ] JUnit

[ ] ScalaCheck

[ ] specs2

[ ] µTest (micro test)

[ ] MUnit

[ ] ZIO Test

[ ] Other, please specify:: _____

255) Which frameworks and libraries do you regularly use?*

[ ] None

[ ] twitter/util

[ ] Akka

[ ] Apache Pekko

[ ] Apache Spark

[ ] Scalaz

[ ] shapeless

[ ] Finagle

[ ] Cats

[ ] Breeze

[ ] Slick

[ ] FS2

[ ] Monix

[ ] ZIO

[ ] Other, please specify:: _____

256) Which frameworks and libraries do you regularly use for web development?*

[ ] None

[ ] Akka HTTP

[ ] Netty

[ ] Spark

[ ] Play

[ ] spray

[ ] Scalatra

[ ] Finatra

[ ] Unfiltered

[ ] Spring

[ ] sttp

[ ] http4s

[ ] Other, please specify:: _____

257) Which editors or IDEs do you use for Scala development?*

[ ] Eclipse

[ ] IntelliJ IDEA

[ ] Vim

[ ] Sublime Text

[ ] Atom

[ ] Visual Studio Code

[ ] Emacs

[ ] Visual Studio

[ ] Other, please specify:: _____

258) Which build systems do you regularly use?*

[ ] None

[ ] Maven

[ ] Gradle

[ ] Ant

[ ] sbt

[ ] Pants

[ ] Bazel

[ ] Bloop

[ ] Mill

[ ] Other, please specify:: _____

259) Which interactive Scala environments do you regularly use, if any?*

[ ] None

[ ] Scala CLI (previously Scala REPL)

[ ] sbt console

[ ] Ammonite REPL

[ ] Scastie

[ ] IntelliJ IDEA worksheet

[ ] Scala IDE worksheet

[ ] Apache Zeppelin notebook

[ ] Jupyter notebook

[ ] Other, please specify:: _____

260) Which compiler plugins do you regularly use for Scala development?*

[ ] None

[ ] Scalamacros/Scalameta Paradise

[ ] Kind Projector

[ ] Miniboxing

[ ] Other, please specify:: _____

261) Which other tools do you use for Scala development?*

[ ] None

[ ] scoverage

[ ] Scalafmt

[ ] Scalafix

[ ] Scapegoat

[ ] Scalastyle

[ ] Wart Remover

[ ] Other, please specify:: _____

Microservices - Random (2 out of 9 sections)

Random (2 out of 9 sections) – There were 9 sections in total, which were randomized for all respondents. Each respondent answered questions from 2 of these sections.

The following questions are about microservices development.

Logic: Show/hide trigger exists.

262) Do you develop microservices? *

( ) Yes

( ) No

Logic: Hidden unless: #262 Question "Do you develop microservices? " is one of the following answers ("Yes")

263) What approaches do you use in your system design?*

[ ] None

[ ] Actor model

[ ] Command and Query Responsibility Segregation (CQRS)

[ ] Monolithic architecture with web frontend

[ ] Microservices

[ ] Service-oriented architecture (SOA)

[ ] Reactive Streams

[ ] Other, please specify:: _____

Logic: Hidden unless: #262 Question "Do you develop microservices? " is one of the following answers ("Yes")

264) How do the distributed parts of your application communicate?*

[ ] Cross-platform RPC (gRPC, Apache Thrift)

[ ] Custom TCP / UDP communication

[ ] GraphQL

[ ] Message queues

[ ] Remoting (RMI, JMX)

[ ] REST / RPC over HTTP

[ ] SOAP

[ ] Stream processing

[ ] WebSocket

[ ] They do not communicate with each other

[ ] The application is not distributed

[ ] Other, please specify: _____

Logic: Hidden unless: #262 Question "Do you develop microservices? " is one of the following answers ("Yes")

265) When you implement new web service APIs, do you start from the code or the specification?*

( ) I start with the code

( ) I start with the specification

( ) It depends

( ) I don't implement new web service APIs

Logic: Hidden unless: #262 Question "Do you develop microservices? " is one of the following answers ("Yes")

266) How do you declare and document your APIs?*

[ ] I don't document APIs

[ ] GraphQL

[ ] Open API (Swagger)

[ ] RAML

[ ] Wiki system

[ ] WSDL

[ ] Other, please specify:: _____

Logic: Hidden unless: #262 Question "Do you develop microservices? " is one of the following answers ("Yes")

267) Where do you store API specifications?*

( ) I'm not sure

( ) I don't store them

( ) Custom API management system

( ) SwaggerHub

( ) VCS

( ) Wiki system

( ) Other, please specify:: _____*

Logic: Hidden unless: #262 Question "Do you develop microservices? " is one of the following answers ("Yes")

268) Which repository configuration do you use to organize version control for microservices?*

( ) Mono-repository

( ) Multiple VCS repositories

( ) I don't know

Logic: Hidden unless: #262 Question "Do you develop microservices? " is one of the following answers ("Yes")

269) Which languages do you use to develop microservices?*

[ ] Java

[ ] Kotlin

[ ] Groovy

[ ] Scala

[ ] JavaScript

[ ] TypeScript

[ ] C#

[ ] Go

[ ] Python

[ ] PHP

[ ] Ruby

[ ] Swift

[ ] Other, please specify:: _____

Page entry logic: This page will show when: (#30 Question "Which kinds of software, products, or services do you develop?" is one of the following answers ("Mini-apps (within WeChat, Alipay, etc.)") AND #15 Question "In which country or region do you currently reside?" is one of the following answers ("China Mainland","Hong Kong","Macao","Taiwan"))

Mini-apps (if develop mini app and china)

270) Do you develop mini-apps (for WeChat, Alipay, Baidu, etc.)?

[ ] No

[ ] 微信 (WeChat)

[ ] 支付宝 (Alipay)

[ ] 百度 (Baidu)

[ ] 美团 (Meituan)

[ ] 饿了么 (Ele.me)

[ ] 抖音 (TikTok/Douyin)

[ ] 钉钉 (DingTalk)

[ ] Other, please specify:: _____

Logic: Hidden unless: IDE count is greater than "1"

Piping: Piped Values From Question 53. (Which IDE or editor do you use the most?)

271) Which IDE do you use for mini-app development?

[ ] Other, please specify:: _____

272) Which libraries do you use for mini-app development, if any?

[ ] None

[ ] uni-app

[ ] Taro 文档

[ ] Weixin native 微信

[ ] Other, please specify:: _____

273) How satisfied or dissatisfied are you with the development tools that you currently use for mini-app development?

( ) Very Dissatisfied ( ) Dissatisfied ( ) Neutral ( ) Satisfied ( ) Very Satisfied ( ) Not applicable

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Page entry logic: This page will show when: (#26 Question "On which platforms is your code executed?" is one of the following answers ("IoT / Embedded") OR #27 Question "Do you develop any applications? If so, where is the end-user application executed?" is one of the following answers ("IoT / Embedded"))

Embedded - intro

The following questions are about embedded software development.

274) Which types of projects do you typically undertake in embedded development?*

[ ] I do not engage in embedded development

[ ] I work individually on embedded software projects as a hobbyist

[ ] I do embedded development as part of my research project in a scientific or educational organization

[ ] I collaborate with a team of hobbyists on embedded software projects

[ ] I contribute to open-source embedded software projects

[ ] I professionally undertake embedded development as part of my job responsibilities

[ ] Other, please specify:: _____

Page entry logic: This page will show when: #274 Question "Which types of projects do you typically undertake in embedded development?" is one of the following answers ("I work individually on embedded software projects as a hobbyist","I do embedded development as part of my research project in a scientific or educational organization","I collaborate with a team of hobbyists on embedded software projects","I contribute to open-source embedded software projects","I professionally undertake embedded development as part of my job responsibilities","Other, please specify:")

Embedded - main

275) Which ready-made microcontroller kits or single-board computers do you use for any purpose in your main projects?*

[ ] Arduino

[ ] Raspberry Pi Pico

[ ] Single-board computers (Raspberry Pi, Orange Pi, BeagleBoard, etc.)

[ ] ESP32-based series

[ ] STM32 Nucleo/Discovery

[ ] TI LaunchPad

[ ] Modular prototyping boards (micro:bit, Seeed Grove, M5Stack, etc.)

[ ] Ready-to-hack devices (Flipper Zero, PineTime, etc.)

[ ] Other, please specify:: _____

[ ] No, I use custom boards

276) Think of the code you wrote last year. Which vendors' microcontrollers or microprocessors does it run on?*

Note: Atmel was purchased by Microchip Technology, Freescale by NXP, Xilinx by AMD, and Spansion and Cypress are now Infineon.

[ ] I don't know

[ ] I don't use microcontrollers / microprocessors

[ ] AMD

[ ] Analog Devices

[ ] Broadcom (Raspberry Pi)

[ ] Cirrus Logic

[ ] Espressif Systems (ESP32, etc.)

[ ] GigaDevice Semiconductor

[ ] Infineon Technologies (Spansion and Cypress Semiconductor)

[ ] Intel

[ ] Lattice Semiconductor

[ ] Marvell Technology

[ ] MediaTek

[ ] Microchip Technology (PIC, Atmel)

[ ] NVIDIA

[ ] NXP Semiconductors

[ ] Qualcomm

[ ] Renesas Electronics

[ ] Samsung

[ ] Silicon Labs

[ ] STMicroelectronics

[ ] Texas Instruments

[ ] Toshiba

[ ] Zilog

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

278) Which types of embedded systems do you work with?*

[ ] Embedded Android-like operating system (Android Things, AliOS, etc.)

[ ] Embedded operating systems based on Linux (Ubuntu for IoT, Raspberry Pi OS, OpenSTLinux, OpenWRT, etc.)

[ ] QNX

[ ] Other UNIX-like OS, please specify:

[ ] Windows

[ ] FreeRTOS

[ ] LiteOS / OpenHarmony / HarmonyOS-based (Oniro OS, etc.)

[ ] Other real-time operating systems (Zephyr, Azure RTOS, VxWorks, Integrity, etc.)

[ ] Bare metal systems

[ ] Other, please specify: _____

Logic: Hidden unless: #278 Question "Which types of embedded systems do you work with?" is one of the following answers ("Embedded operating systems based on Linux (Ubuntu for IoT, Raspberry Pi OS, OpenSTLinux, OpenWRT, etc.)")

279) Which embedded Linux-based OS do you work with? *

[ ] Alpine Linux

[ ] Armbian

[ ] Automotive Grade Linux (AGL)

[ ] CentOS

[ ] Debian (Debian GNU/Linux)

[ ] ERIKA Enterprise

[ ] Fedora Linux / Fedora IoT

[ ] OpenSTLinux

[ ] openSUSE MicroOS

[ ] OpenWRT (Sabai Open, LEDE, etc.)

[ ] Raspberry Pi OS (formerly Raspbian)

[ ] Red Hat Enterprise Linux

[ ] Tizen

[ ] Ubuntu for IoT / Classic / Server

[ ] Ubuntu Core

[ ] µClinux

[ ] Wind River Linux

[ ] I use a distribution builder (Yocto Project, Buildroot, etc.)

[ ] I use an in-house / custom-developed Linux distribution

[ ] Other, please specify:: _____

Logic: Hidden unless: #278 Question "Which types of embedded systems do you work with?" is one of the following answers ("Other real-time operating systems (Zephyr, Azure RTOS, VxWorks, Integrity, etc.)")

280) Which real-time operating systems do you work with (besides FreeRTOS)?*

[ ] Azure RTOS / Eclipse ThreadX

[ ] ChibiOS/RT

[ ] embOS

[ ] Integrity

[ ] Keil RTX / mbed OS

[ ] MicroC/OS (µC/OS, Micrium OS)

[ ] NuttX

[ ] RIOT

[ ] LynxOS

[ ] RTEMS

[ ] VxWorks

[ ] Zephyr

[ ] Other, please specify:: _____

Logic: Hidden unless: #35 Question "What are your primary programming languages? [question("title"), id="506"]" is one of the following answers ("Assembly")

281) How do you usually use assembly language? *

( ) I read the assembly produced by the compiler

( ) I write inline assembly in C / C++ / other language files

( ) I write dedicated assembly files

( ) Other, please specify:

282) Which of the following embedded development processes do you regularly perform in addition to software development? *

[ ] Software testing

[ ] Simulation

[ ] Emulation

[ ] Graphical system design

[ ] Virtual prototyping

[ ] Modeling in high-level languages

[ ] Cloud integration

[ ] Application security testing

[ ] Other, please specify:: _____

283) Do you use PlatformIO? *

( ) Yes

( ) No

( ) I'm not sure

Page entry logic: This page will show when: (#30 Question "Which kinds of software, products, or services do you develop?" is one of the following answers ("Games") OR #18 Question

"Which of the following sectors is your company or organization primarily active in?" is one of the following answers ("Game development (including mobile games)"))

GameDev

Logic: Show/hide trigger exists.

284) Do you develop games professionally or as a hobby?*

( ) Professionally

( ) As a hobby

( ) I don't develop games

( ) Other, please specify:: _____

Page entry logic: This page will show when: #284 Question "Do you develop games professionally or as a hobby?" is one of the following answers ("Professionally","As a hobby","Other, please specify:")

GameDev (10 q of 20 shown)

10 q of 20 shown – a random set of 10 questions out of 20 were shown on this page

Logic: Hidden unless: #284 Question "Do you develop games professionally or as a hobby?" is one of the following answers ("Professionally")

285) How would you describe the company or organization you work for?*

[ ] Indie studio

[ ] AAA studio

[ ] AA studio

[ ] Art house

[ ] VFX or animation studio

[ ] University or college

[ ] I’m an independent contractor or freelancer

[ ] Other, please specify:: _____

286) Which game engines do you use?*

[ ] None

[ ] Amazon Lumberyard

[ ] Cocos2d-x

[ ] Corona

[ ] CRYENGINE

[ ] Custom C++ engine

[ ] GameMaker / GameMaker Studio 2

[ ] Frostbite

[ ] Godot

[ ] MonoGame / XNA

[ ] Unity

[ ] Unreal Engine

[ ] Source

[ ] Stride

[ ] Other, please specify:: _____

287) Which platforms do you target in your game development?*

[ ] None

[ ] Windows

[ ] macOS

[ ] Linux

[ ] PlayStation

[ ] Nintendo Switch

[ ] Xbox

[ ] iOS

[ ] Android

[ ] Web

[ ] VR / AR

[ ] Media platforms (Netflix, TikTok, etc.)

[ ] UGC platforms (Roblox, Minecraft, etc.)

[ ] Other, please specify:: _____

288) Where do you distribute your games?*

[ ] I do not distribute my games commercially

[ ] Microsoft Store

[ ] Nintendo eShop

[ ] PlayStation Store

[ ] Amazon Appstore

[ ] Google Play

[ ] Apple's App Store

[ ] Epic Games Store

[ ] itch.io

[ ] Newgrounds

[ ] Steam

[ ] GOG

[ ] EA app

[ ] Ubisoft Connect

[ ] Our own website

[ ] Open-source repository

[ ] I don’t know

[ ] Other, please specify:: _____

289) Which genre(s) of games do you develop?*

[ ] Action

[ ] Adventure

[ ] Casual

[ ] Fighting

[ ] Platformer

[ ] Puzzle

[ ] Racing

[ ] Role-playing

[ ] Shooter

[ ] Simulation

[ ] Sports

[ ] Strategy

[ ] Other, please specify:: _____

290) Which type(s) of game development do you work on?

[ ] I don’t develop the game itself

[ ] Game engine development

[ ] Shaders

[ ] Gameplay

[ ] Game logic and mechanics

[ ] Creating game physics

[ ] AI development

[ ] Developing and modifying 3D graphic renders

[ ] Creating the user interface

[ ] Writing code that is specific to the keyboard, mouse, or controller

[ ] Scripting functions, events, and interactions

[ ] Developing tools

[ ] Sound programming

[ ] Netcode development

[ ] Other, please specify:: _____

Piping: Piped Values From Question 32. (Which programming languages have you used in the last 12 months?)

291) Which of the following programming languages have you used for your game projects in the last 12 months?

[ ] Other, please specify:: _____

292) Which tools do you or your team use for version control? *

[ ] Perforce Helix Core

[ ] GitHub

[ ] GitLab

[ ] Apache Subversion (SVN)

[ ] Unity Version Control (formerly Plastic SCM)

[ ] Bitbucket

[ ] Azure Repos / Azure DevOps Services

[ ] Azure DevOps Server

[ ] I don’t know

[ ] Other, please specify:: _____

[ ] None of the above

293) Which tool(s) do you or your team use for storing and sharing files and art assets?*

[ ] Dropbox

[ ] Email

[ ] Network File System (NFS)

[ ] Version control system

[ ] Google Drive

[ ] Microsoft SharePoint

[ ] ShotGrid

[ ] ftrack

[ ] I don’t know

[ ] Other, please specify:: _____

[ ] None of the above

294) Which graphic or DCC (digital content creation) tool(s) do you or your team use, if any?*

[ ] Adobe Photoshop

[ ] Autodesk Maya

[ ] Autodesk 3ds Max

[ ] Houdini

[ ] Blender

[ ] Nuke

[ ] Adobe After Effects

[ ] Cinema 4D

[ ] I don’t know

[ ] Other, please specify:: _____

[ ] None of the above

Logic: Show/hide trigger exists.

295) How often do you profile while developing games?*

( ) Never

( ) Rarely

( ) Often

( ) Regularly

296) Have you ever integrated performance tests or profiler usage into your CI/CD pipeline?*

( ) Yes

( ) No

( ) I don’t know

Logic: Hidden unless: #295 Question "How often do you profile while developing games?" is one of the following answers ("Rarely","Often","Regularly")

297) Why do you usually profile?*

( ) Massive performance issues have been detected, and I need to eliminate them

( ) There aren't any significant known issues, but I use profiling to improve the performance metrics of my code

( ) Other, please specify:: _____

Logic: Show/hide trigger exists. Hidden unless: #295 Question "How often do you profile while developing games?" is one of the following answers ("Rarely","Often","Regularly")

298) Do you use profilers that are not part of the game engine you work with?*

( ) Yes

( ) No

Logic: Hidden unless: #298 Question "Do you use profilers that are not part of the game engine you work with?" is one of the following answers ("Yes")

299) Which CPU profilers do you use that are not part of the game development engine you primarily work with?*

[ ] None

[ ] Visual Studio Performance Profiler (Sampling (VSPerf))

[ ] Visual Studio Performance Profiler (Instrumenting (VSInstr+VSPerf))

[ ] Concurrency Visualizer for Visual Studio (CVTrace)

[ ] Windows Performance Toolkit (WPR / Xperf with WPA)

[ ] PerfView

[ ] Intel VTUne Profiler

[ ] PIX on Windows

[ ] perf tools on Linux

[ ] Platform-provided profilers (PIX for XBox, Razor GPU/CPU for PS4, etc.)

[ ] dotTrace

[ ] Superluminal

[ ] Chrome event tracing

[ ] Other, please specify:: _____

Logic: Hidden unless: #295 Question "How often do you profile while developing games?" is one of the following answers ("Rarely","Often","Regularly")

300) Which libraries do you use for annotating code?*

[ ] None

[ ] ETW

[ ] Intel VTune Event API

[ ] PIX markers

[ ] Profiling API provided by the platform SDK

[ ] Chrome event tracing API

[ ] Other, please specify:: _____

Logic: Hidden unless: #295 Question "How often do you profile while developing games?" is one of the following answers ("Rarely","Often","Regularly")

301) Which profiler mode do you use the most?*

( ) None

( ) Startup

( ) Attach

( ) Other, please specify:: _____

Logic: Hidden unless: #295 Question "How often do you profile while developing games?" is one of the following answers ("Rarely","Often","Regularly")

302) What information are you primarily looking for in call trees when profiling your games?*

[ ] None

[ ] Game or user code

[ ] Engine code

[ ] System calls

[ ] Other, please specify:: _____

303) Which data representations work best for you?*

[ ] Call tree

[ ] Flame graph

[ ] Thread diagram

[ ] Other, please specify:: _____

Page entry logic: This page will show when: ((#26 Question "On which platforms is your code executed?" is one of the following answers ("Mobile") OR #27 Question "Do you develop any applications? If so, where is the end-user application executed?" is one of the following answers ("Mobile"))

Mobile - (50% chance to be shown)

50% chance – this section was shown randomly to 50% of respondents who qualify

The following questions are about mobile development.

304) For which mobile operating systems do you develop?*

[ ] Android

[ ] iOS

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

305) How do you develop for mobile operating systems?*

[ ] I use native tools (Swift for iOS, Kotlin for Android, etc.)

[ ] I use cross-platform technologies and frameworks (Xamarin, Apache Cordova, Ionic, etc.)

Logic: Hidden unless: #305 Question "How do you develop for mobile operating systems?" is one of the following answers ("I use cross-platform technologies and frameworks (Xamarin, Apache Cordova, Ionic, etc.)")

306) Which cross-platform mobile frameworks do you use?*

[ ] Apache Flex

[ ] Corona

[ ] Ionic

[ ] Kivy

[ ] Sencha

[ ] Dojo Mobile

[ ] Titanium

[ ] Kendo UI

[ ] Xamarin

[ ] Cordova (formerly PhoneGap)

[ ] Unity

[ ] React Native

[ ] Flutter

[ ] PhoneGap

[ ] NativeScript

[ ] Kotlin Multiplatform

[ ] Other, please specify:: _____

DevOps -(DevOps always + Random (2 of 9 sections) + (7 questions of 13 shown))

This section was mandatory shown for respondents who have a job role DevOps, for other respondents it was shown randomly.

Random (2 out of 9 sections) – There were 9 sections in total, which were randomized for all respondents. Each respondent answered questions from 2 of these sections

7 q of 13 shown – a random set of 7 questions out of 13 were shown on this page

The following questions are about DevOps.

Logic: Show/hide trigger exists.

307) To what degree are you personally involved in infrastructure development, DevOps, or SRE (site reliability engineering)?*

( ) I'm not personally involved

( ) I'm involved to some extent

( ) It's one of my key responsibilities

( ) It's what I do full time

Logic: Show/hide trigger exists.

308) Do you use virtualization or containers during development?*

[ ] No

[ ] I use Docker locally

[ ] I connect to a hosted Docker container (deploy with Compose)

[ ] I run Kubernetes locally (K3s, Minikube, MicroK8s, etc.)

[ ] I connect to a hosted Kubernetes cluster in the cloud

[ ] I connect to a hosted Kubernetes cluster on-premises (own or corporate infrastructure)

[ ] I use local virtual machines (Vagrant, Parallels, Hyper-V, KVM, etc.)

[ ] I use remote virtual machines in the cloud

[ ] I use remote virtual machines on-premises (own or corporate infrastructure)

[ ] Other, please specify:: _____

Logic: Hidden unless: #308 Question "Do you use virtualization or containers during development?" is one of the following answers ("I use Docker locally","I connect to a hosted Docker container (deploy with Compose)","I use local virtual machines (Vagrant, Parallels, Hyper-V, KVM, etc.)")

309) How do you use containers?*

[ ] I run my application in one container and use backing services (e.g. database, MQ) in each project

[ ] I run multiple application containers (e.g. microservices) in each project

[ ] I debug applications in containers

[ ] I develop applications entirely in containers, running the IDE, all necessary development tools, the applications themselves, and their dependencies in containers (dev containers)

[ ] I run third-party, pre-built containers from the registry

[ ] Other, please specify:: _____

Logic: Hidden unless: #308 Question "Do you use virtualization or containers during development?" is one of the following answers ("I connect to a hosted Kubernetes cluster on-premises (own or corporate infrastructure)","I use remote virtual machines on-premises (own or corporate infrastructure)")

310) Which FaaS (function as a service) do you use on-premises, if any?*

[ ] None

[ ] OpenFaaS

[ ] Kubeless

[ ] Fission

[ ] Fn Project

[ ] Apache OpenWhisk

[ ] Nuclio

[ ] Serverless Framework

[ ] Other, please specify:: _____

Piping: Piped Values From Question 52. (Which IDEs or editors do you regularly use?)

311) Which IDEs or editors do you use to work with IT infrastructure and/or clouds while performing SRE / DevOps tasks on your computer?*****

[ ] Other, please specify:: _____

Logic: Hidden unless: #307 Question "To what degree are you personally involved in infrastructure development, DevOps, or SRE (site reliability engineering)?" is one of the following answers ("I'm involved to some extent","It's one of my key responsibilities","It's what I do full time")

312) Which infrastructure as code or configuration management tools do you or your company or organization use?*

[ ] None

[ ] Terraform

[ ] Pulumi

[ ] Puppet

[ ] Chef

[ ] Ansible

[ ] Salt

[ ] AWS CloudFormation

[ ] Azure Resource Manager / Bicep

[ ] CRDs for Kubernetes

[ ] Custom solution

[ ] Other, please specify:: _____

Logic: Hidden unless: #307 Question "To what degree are you personally involved in infrastructure development, DevOps, or SRE (site reliability engineering)?" is one of the following answers ("I'm involved to some extent","It's one of my key responsibilities","It's what I do full time")

313) Which GitOps tools do you use?*

[ ] None

[ ] Argo CD

[ ] Flux CD

[ ] Jenkins X

[ ] Spinnaker

[ ] GitLab CI/CD

[ ] TeamCity

[ ] Helm

[ ] Tekton

[ ] Rancher Fleet

[ ] Other, please specify:: _____

Logic: Hidden unless: #307 Question "To what degree are you personally involved in infrastructure development, DevOps, or SRE (site reliability engineering)?" is one of the following answers ("I'm involved to some extent","It's one of my key responsibilities")

314) Which tools do you use to create virtual machine or container images?*

[ ] None

[ ] Docker

[ ] Vagrant

[ ] Packer

[ ] Other, please specify:: _____

Logic: Hidden unless: #307 Question "To what degree are you personally involved in infrastructure development, DevOps, or SRE (site reliability engineering)?" is one of the following answers ("I'm involved to some extent","It's one of my key responsibilities")

315) What infrastructure-provisioning tools do you / your organization use?*

[ ] None

[ ] Terraform

[ ] Pulumi

[ ] AWS CloudFormation

[ ] AWS CDK

[ ] OpenStack Heat

[ ] Configuration management tools (Ansible, Puppet, Chef)

[ ] Custom solution

[ ] Other, please specify:: _____

Logic: Hidden unless: #307 Question "To what degree are you personally involved in infrastructure development, DevOps, or SRE (site reliability engineering)?" is one of the following answers ("I'm involved to some extent","It's one of my key responsibilities","It's what I do full time")

316) What container orchestration services do you use in production?*

[ ] None

[ ] Amazon Elastic Container Service (ECS) / Amazon Fargate

[ ] Amazon Elastic Kubernetes Service (EKS)

[ ] Google Kubernetes Engine (GKE)

[ ] Azure Kubernetes Service (AKS)

[ ] IBM Cloud Kubernetes Service

[ ] Oracle Cloud Infrastructure Container Engine for Kubernetes (OKE)

[ ] OpenShift

[ ] OpenStack

[ ] Kubernetes (self-managed)

[ ] Kubernetes (self-managed) with the Cluster API

[ ] HashiCorp Nomad

[ ] Apache Mesos

[ ] Docker Swarm

[ ] Rancher

[ ] VMware Tanzu

[ ] Canonical Kubernetes

[ ] Mirantis Kubernetes Engine

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists. Hidden unless: #308 Question "Do you use virtualization or containers during development?" is one of the following answers ("I run Kubernetes locally (K3s, Minikube, MicroK8s, etc.)","I connect to a hosted Kubernetes cluster in the

cloud","I connect to a hosted Kubernetes cluster on-premises (own or corporate infrastructure)")

317) How familiar are you with Kubernetes?*

( ) I'm not very familiar

( ) I've run some Kubernetes configuration through a CI tool

( ) I've run some pods in Kubernetes

( ) I've contributed to Kubernetes configurations (or Helm, or similar tools)

( ) I've created new Kubernetes configurations (or Helm, or similar tools)

( ) I have a deep understanding of Kubernetes

Logic: Hidden unless: (#307 Question "To what degree are you personally involved in infrastructure development, DevOps, or SRE (site reliability engineering)?" is one of the following answers ("I'm involved to some extent","It's one of my key responsibilities") AND #308 Question "Do you use virtualization or containers during development?" is one of the following answers ("I run Kubernetes locally (K3s, Minikube, MicroK8s, etc.)","I connect to a hosted Kubernetes cluster in the cloud","I connect to a hosted Kubernetes cluster on-premises (own or corporate infrastructure)"))

318) What do you use to run your containerized application during development?*

[ ] Outside containers

[ ] Docker run

[ ] Docker Compose

[ ] Kubernetes (minikube)

[ ] Other, please specify:: _____

319) Where do you keep your artifacts?*

[ ] I don't keep artifacts

[ ] Pulp

[ ] Amazon S3

[ ] Archiva

[ ] NuGet

[ ] Nexus

[ ] JFrog Artifactory

[ ] MyGet

[ ] npm

[ ] Docker Hub (private or public)

[ ] Bintray

[ ] Google Cloud Storage

[ ] Azure Storage

[ ] GitHub Container Registry

[ ] GitLab Container Registry

[ ] Custom tool

[ ] I don’t know

[ ] Other, please specify:: _____

Page entry logic: This page will show when: #308 Question "Do you use virtualization or containers during development?" is one of the following answers ("I run Kubernetes locally (K3s, Minikube, MicroK8s, etc.)","I connect to a hosted Kubernetes cluster in the cloud","I connect to a hosted Kubernetes cluster on-premises (own or corporate infrastructure)")

Kubernetes - (7 of 10 q shown)

7 q of 10 shown – a random set of 7 questions out of 10 were shown on this page

Logic: Hidden unless: #308 Question "Do you use virtualization or containers during development?" is one of the following answers ("I run Kubernetes locally (K3s, Minikube, MicroK8s, etc.)","I connect to a hosted Kubernetes cluster in the cloud","I connect to a hosted Kubernetes cluster on-premises (own or corporate infrastructure)")

320) Which tools do you use to work with K8s clusters?*

[ ] None

[ ] kubectl

[ ] Kubernetes Dashboard

[ ] Cloud provider console or CLI

[ ] Lens

[ ] K9s

[ ] Kubernetes plugin for JetBrains IDEs

[ ] Kubernetes plugin for VS Code

[ ] Portainer

[ ] Rancher

[ ] Other, please specify:: _____

Logic: Hidden unless: #308 Question "Do you use virtualization or containers during development?" is one of the following answers ("I run Kubernetes locally (K3s, Minikube, MicroK8s, etc.)","I connect to a hosted Kubernetes cluster in the cloud","I connect to a hosted Kubernetes cluster on-premises (own or corporate infrastructure)")

321) Do you need to run dev containers on Kubernetes?*

( ) I don’t use dev containers

( ) Yes

( ) No

Logic: Hidden unless: (#307 Question "To what degree are you personally involved in infrastructure development, DevOps, or SRE (site reliability engineering)?" is one of the following answers ("I’m involved to some extent","It’s one of my key responsibilities","It’s what I do full time") AND #308 Question "Do you use virtualization or containers during development?" is one of the following answers ("I connect to a hosted Kubernetes cluster in the cloud","I connect to a hosted Kubernetes cluster on-premises (own or corporate infrastructure)"))

322) What is the highest level of access you have to your company’s development and/or staging Kubernetes?*

( ) Administrator access

( ) Create and delete compute resources (e.g. VMs or containers)

( ) Read-only

( ) My company doesn’t have development and/or staging clusters

( ) I prefer not to say

Logic: Hidden unless: #317 Question "How familiar are you with Kubernetes?" is one of the following answers ("I've run some Kubernetes configuration through a CI tool","I've run some pods in Kubernetes","I've contributed to Kubernetes configurations (or Helm, or similar tools)","I've created new Kubernetes configurations (or Helm, or similar tools)","I have a deep understanding of Kubernetes")

323) Which authentication system(s) do you use for Kubernetes?*

[ ] I'm not sure

[ ] Static token file

[ ] Bootstrap tokens

[ ] X.509 client certificates

[ ] Static password file

[ ] Service account tokens

[ ] OpenID Connect tokens

[ ] Webhook token authentication

[ ] Authentication proxy

[ ] Other, please specify:: _____

324) Which logging and monitoring systems do you use in Kubernetes?*

[ ] None

[ ] Elasticsearch, Logstash, and Kibana (ELK Stack)

[ ] Elasticsearch, Fluentd, and Kibana (EFK Stack)

[ ] Prometheus and Grafana

[ ] Loki

[ ] Fluent Bit

[ ] Vector

[ ] Papertrail

[ ] Other, please specify:: _____

Logic: Hidden unless: #308 Question "Do you use virtualization or containers during development?" is one of the following answers ("I run Kubernetes locally (K3s, Minikube, MicroK8s, etc.)","I connect to a hosted Kubernetes cluster in the cloud","I connect to a hosted Kubernetes cluster on-premises (own or corporate infrastructure)")

325) Which tools do you use to debug applications in Kubernetes?*

[ ] None
[ ] Telepresence
[ ] mirrord
[ ] Skaffold
[ ] Kube Forwarder
[ ] Garden
[ ] Tilt
[ ] Squash
[ ] Octant
[ ] kubectl
[ ] Linkerd
[ ] Istio
[ ] Other, please specify:: _____

326) Which service meshes for Kubernetes do you use?*

[ ] None
[ ] Istio
[ ] Linkerd
[ ] Consul Connect
[ ] Kuma
[ ] Open Service Mesh
[ ] Other, please specify:: _____

327) Which testing systems do you use with Kubernetes?*

[ ] None

[ ] Sonobuoy

[ ] kube-hunter

[ ] Gatling

[ ] JMeter

[ ] Locust

[ ] Litmus

[ ] Testcontainers

[ ] kind

[ ] Crossplane

[ ] Other, please specify:: _____

328) Which observability platforms do you use with Kubernetes?*

[ ] None

[ ] Prometheus

[ ] Grafana

[ ] Elastic Stack

[ ] Jaeger

[ ] Fluentd and Fluent Bit

[ ] Zipkin

[ ] Datadog

[ ] New Relic

[ ] Dynatrace

[ ] Istio

[ ] Linkerd

[ ] OpenTelemetry

[ ] Kubernetes native monitoring

[ ] Loki

[ ] Tempo

[ ] SkyWalking

[ ] Other, please specify:: _____

329) What do you use to update application code in Kubernetes (in development mode)?*

[ ] Not applicable

[ ] Rebuild the Docker image

[ ] Port forwarding / Telepresence

[ ] kubectl cp from local to pod

[ ] Other, please specify:: _____

Host - Random (2 out of 9 sections)

Random (2 out of 9 sections) – There were 9 sections in total, which were randomized for all respondents. Each respondent answered questions from 2 of these sections.

Logic: Show/hide trigger exists.

330) Where do you host the applications, databases, and/or services that you or your company develop?*

[ ] Locally (on a workstation, developer environment, or device)

[ ] On private servers

[ ] In a cloud service (AWS, MS Azure, GCP)

[ ] Other, please specify:: _____

Logic: Hidden unless: #330 Question "Where do you host the applications, databases, and/or services that you or your company develop?" is one of the following answers ("On private servers","In a cloud service (AWS, MS Azure, GCP)")

331) Where do you primarily host?*

( ) On private servers

( ) In cloud services

( ) Both on private servers and in cloud services

( ) I'm not sure

Logic: Show/hide trigger exists. Hidden unless: #330 Question "Where do you host the applications, databases, and/or services that you or your company develop?" is one of the following answers ("In a cloud service (AWS, MS Azure, GCP)")

332) Which cloud services do you use?*

[ ] None

[ ] Amazon Web Services

[ ] Microsoft Azure

[ ] Google Cloud Platform

[ ] Rackspace

[ ] RedHat OpenShift

[ ] IBM Cloud

[ ] Cloud Foundry

[ ] DigitalOcean

[ ] Alibaba Cloud (Aliyun)

[ ] OVHcloud

[ ] Huawei Cloud

[ ] Yandex Cloud

[ ] Oracle Cloud

[ ] Heroku

[ ] Hetzner

[ ] Other, please specify:: _____

Page entry logic: This page will show when: #332 Question "Which cloud services do you use?" is one of the following answers ("Amazon Web Services","Microsoft Azure","Google Cloud Platform","Rackspace","RedHat OpenShift","IBM Cloud","Cloud Foundry","DigitalOcean","Alibaba Cloud (Aliyun)","OVHcloud","Huawei Cloud","Yandex Cloud","Oracle Cloud","Heroku","Hetzner","Other, please specify:")

Main cloud

Logic: Hidden unless: #332 Question "Which cloud services do you use?" is one of the following answers ("Amazon Web Services","Microsoft Azure","Google Cloud Platform","Rackspace","RedHat OpenShift","IBM Cloud","Cloud Foundry","DigitalOcean","Alibaba Cloud (Aliyun)","OVHcloud","Huawei Cloud","Yandex Cloud","Oracle Cloud","Heroku","Hetzner","Other, please specify:")

333) What cloud service do you use the most?*

( ) Amazon Web Services

( ) Microsoft Azure

( ) Google Cloud Platform

( ) Rackspace

( ) Red Hat OpenShift

( ) IBM Cloud

( ) Cloud Foundry

( ) DigitalOcean

( ) Alibaba Cloud (Aliyun)

( ) OVHcloud

( ) Huawei Cloud

( ) Yandex Cloud

( ) Oracle Cloud

( ) Heroku

( ) Hetzner

( ) Other, please specify:: _____

334) Which level of access do you have to the cloud service you use the most?*

( ) Administrator access

( ) Create and delete compute resources (e.g. VMs or containers)

( ) Read-only

( ) I have no access at all

( ) I prefer not to say

335) How familiar are you with the cloud service you use the most?*

( ) I'm not very familiar

( ) I've used the web console or CLI tool from this cloud provider

( ) I've contributed to an application's deployment design

( ) I've designed an application's deployment to this cloud provider

( ) I have a deep understanding of this cloud provider's technologies

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Docker, kafka, VR - Random (2 out of 9 sections)

Random (2 out of 9 sections) – There were 9 sections in total, which were randomized for all respondents. Each respondent answered questions from 2 of these sections.

336) What observability platforms and technologies are you using for your apps?*

[ ] None

[ ] Grafana's observability stack (Prometheus, Loki, and Tempo)

[ ] The ELK stack (Elasticsearch, Logstash, and Kibana)

[ ] New Relic

[ ] Azure Monitor

[ ] Dynatrace

[ ] Datadog

[ ] Splunk

[ ] Seq

[ ] Jaeger

[ ] Honeycomb

[ ] Stackify Retrace

[ ] AppDynamics

[ ] Sentry

[ ] Raygun

[ ] Instana

[ ] Regular logging

[ ] Other, please specify:: _____

337) How familiar are you with Docker?*

( ) I'm not very familiar
( ) I know what Docker is but haven’t used it a lot
( ) I've used Docker to run a container before
( ) I’ve contributed to Dockerfiles
( ) I’ve written new Dockerfiles
( ) I have a deep understanding of Docker

338) How familiar are you with Docker Compose?*

( ) I'm not very familiar
( ) I’ve run containers using Docker Compose
( ) I’ve contributed to Docker Compose YAML files
( ) I’ve written new Docker Compose YAML files
( ) I have a deep understanding of Docker Compose

339) Which build systems do you primarily use for business projects?*

[ ] None / I’m not sure
[ ] IDE configuration only
[ ] Bazel
[ ] Maven
[ ] sbt
[ ] Gradle
[ ] Ant
[ ] JPS
[ ] Go build
[ ] CMake
[ ] Cargo

[ ] Visual Studio project
[ ] Xcode project
[ ] GNU Autotools
[ ] qmake
[ ] SCons
[ ] Boost.Build
[ ] Meson
[ ] JS module bundlers
[ ] Webpack
[ ] Parcel
[ ] Rollup
[ ] gulp
[ ] Browserify
[ ] Grunt
[ ] Setuptools
[ ] distutils
[ ] Buildout
[ ] PyBuilder
[ ] Composer
[ ] Phing
[ ] Custom build system
[ ] Other, please specify:: _____

340) Which cloud-native technologies do you use for development, if any?*

[ ] None
[ ] Wasm
[ ] Function as a Service (Lambda, etc.)
[ ] Serverless (FaaS + databases, Message Queries, etc. as a Service)
[ ] Edge computing
[ ] Other, please specify:: _____

341) Which tasks do you perform using the terminal?*

[ ] I don’t use the terminal

[ ] Open file

[ ] View file

[ ] Run

[ ] Work with a version control system

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

342) Do you use a Virtual Reality (VR) headset for coding, and if so, for how long have you been doing so?*

( ) Yes, I use one regularly and have been doing so for a long time

( ) Yes, I recently started using one regularly

( ) Yes, I use one occasionally and have had a headset for a long time

( ) Yes, I use one occasionally and started recently

( ) Yes, I tried one once or twice, but I don't use it now

( ) No, but I would love to try

( ) No, and I am not planning to use one

Logic: Hidden unless: #342 Question "Do you use a Virtual Reality (VR) headset for coding, and if so, for how long have you been doing so?" is one of the following answers ("Yes, I tried one once or twice, but I don't use it now","No, but I would love to try","No, and I am not planning to use one")

343) What prevents you from using a VR headset for coding?*

[ ] VR headsets are expensive

[ ] I’m not sure about the benefits of using VR for coding

[ ] I experience physical discomfort or have health concerns associated with prolonged VR use

[ ] I lack the appropriate software for VR coding

[ ] The current VR text rendering quality is not good enough for efficient work

[ ] Other, please specify:: _____

Logic: Hidden unless: #342 Question "Do you use a Virtual Reality (VR) headset for coding, and if so, for how long have you been doing so?" is one of the following answers ("Yes, I use one regularly and have been doing so for a long time","Yes, I recently started using one regularly","Yes, I use one occasionally and have had a headset for a long time","Yes, I use one occasionally and started recently")

344) For which of the following reasons do you use a VR headset for coding?*

[ ] It enhances the visualization of complex data (3d data, diagrams, graphs, etc.)

[ ] It simplifies testing VR-specific applications

[ ] It increases my productivity with a multi-screen virtual workspace

[ ] It replaces physical monitors with a virtual workspace

[ ] It supports collaborative work through virtual meetings

[ ] It provides me with a customized virtual environment (background)

[ ] I have a personal interest in VR and other emerging technologies

[ ] The portability of VR headsets enables working from any location

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

345) Do you work with message brokers or message queues (e.g. Kafka, RabbitMQ)?*

( ) Yes

( ) No

Logic: Hidden unless: #345 Question "Do you work with message brokers or message queues (e.g. Kafka, RabbitMQ)?" is one of the following answers ("Yes")

346) Which of the following tools do you use for messaging and delivery?*

[ ] None

[ ] Kafka

[ ] Pulsar

[ ] RabbitMQ

[ ] RocketMQ

[ ] ActiveMQ

[ ] ActiveMQ Artemis

[ ] NATS

[ ] Amazon Kinesis

[ ] Amazon SQS

[ ] Azure Event Hubs

[ ] Dataflow

[ ] Other, please specify:: _____

Logic: Hidden unless: #7 Question "Which of the following do you regularly work on? Select all that apply." is one of the following answers ("Software / Application Code: Software applications, services, and embedded systems, including user interfaces and business logic")

347) During development, where do you run your backing services? Backing services are third-party applications your code connects to, e.g. a database, a queue broker, or a mail server.*

[ ] Installed locally

[ ] In containers on my machine

[ ] On remote servers

[ ] Other, please specify:: _____

348) During development, where do you run and debug your code?*

[ ] Locally

[ ] In containers on my machine

[ ] On remote servers

[ ] I'm not sure

[ ] Other, please specify:: _____

349) How many separately running components does your application have, excluding backing services?*

These are components you develop or that are developed by others at your company.

( ) 1

( ) 2

( ) 3–5

( ) 6–10

( ) 11–20

( ) > 20

( ) I don’t know

350) How many separately running backing services (those you don’t develop, like MySQL, Redis, CloudFront) does your application have?*

( ) We don’t have such backing services

( ) 1

( ) 2

( ) 3–5

( ) 6–10

( ) 11–20

( ) > 20

( ) I don’t know

Remote and Collaboration dev - Random (2 of 9 sections)

Random (2 out of 9 sections) – There were 9 sections in total, which were randomized for all respondents. Each respondent answered questions from 2 of these sections.

The following questions are about remote development and collaborative development.

Logic: Show/hide trigger exists.

351) Do you ever develop on a remote machine?*

( ) Yes

( ) No

Logic: Hidden unless: #351 Question "Do you ever develop on a remote machine?" is one of the following answers ("Yes")

352) How often do you develop on a remote machine (using any programming language)?*

( ) Once a week or more often

( ) 1–3 times a month

( ) Less than once a month

Logic: Hidden unless: #351 Question "Do you ever develop on a remote machine?" is one of the following answers ("Yes")

353) When you develop remotely, what do you use to connect to the remote machine?*

[ ] SSH

[ ] Remote desktop (e.g. VNC)

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists. Hidden unless: #351 Question "Do you ever develop on a remote machine?" is one of the following answers ("Yes")

354) When you develop remotely, do you connect to your own computer / server or do you use cloud development environments (such as Codespaces)?*

( ) My own computer / server

( ) Cloud development environments (e.g. Codespaces)

( ) Both

( ) Other, please specify:: _____

Logic: Hidden unless: #351 Question "Do you ever develop on a remote machine?" is one of the following answers ("Yes")

355) When you develop remotely, do you connect to virtual machines or a physical computer / server?*

( ) Virtual machines

( ) Physical computer / server

( ) Both

( ) Other, please specify:: _____

Logic: Hidden unless: #351 Question "Do you ever develop on a remote machine?" is one of the following answers ("Yes")

356) Which of the following do you use to access your remote machine?*

[ ] None

[ ] JetBrains IDE

[ ] JetBrains Gateway

[ ] JetBrains Fleet

[ ] VS Code

[ ] Visual Studio

[ ] Other, please specify:: _____

Logic: Hidden unless: #354 Question "When you develop remotely, do you connect to your own computer / server or do you use cloud development environments (such as Codespaces)?" is one of the following answers ("Cloud development environments (e.g. Codespaces)")

357) Which cloud development environments do you use?*

[ ] Gitpod

[ ] Coder

[ ] JetBrains Space

[ ] GitHub Codespaces

[ ] CodeCatalyst

[ ] Cloud Workstations

[ ] Other, please specify:: _____

Logic: Hidden unless: #26 Question "On which platforms is your code executed?" is one of the following answers ("Server / Infrastructure / Cloud")

358) Which public cloud service do you use as the main target platform, if any?*

[ ] None

[ ] AWS

[ ] Azure

[ ] Google Cloud

[ ] Hybrid

[ ] Other, please specify:: _____

Logic: Hidden unless: (Question "How many people work for your company or organization?" is one of the following answers ("2–10","11–50","51–500","501–1,000","1,001–5,000","More than 5,000","I'm not sure") AND #351 Question "Do you ever develop on a remote machine?" is one of the following answers ("Yes"))

359) For which of the following reasons or purposes does your company use development on remote machines?*

[ ] Security

[ ] Centralized configuration management

[ ] Easy employee onboarding

[ ] Access to additional computing resources (CPU/memory)

[ ] Fully prepared on-demand environments

[ ] Alternative operating systems (e.g. Linux, macOS)

[ ] Access from any device

[ ] Cost savings

[ ] Other, please specify:: _____

Logic: Hidden unless: #351 Question "Do you ever develop on a remote machine?" is one of the following answers ("Yes")

360) Which virtual desktop infrastructure tools do you use in your development activities, if any?*

[ ] None

[ ] AWS Cloud9

[ ] Citrix

[ ] Azure Virtual Desktop

[ ] Windows 365 Cloud PC

[ ] Microsoft Remote Desktop Services

[ ] Amazon WorkSpaces

[ ] Google Virtual Desktop

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

361) Do you practice collaborative development?*

[ ] Yes, remote collaborative development

[ ] Yes, face-to-face collaborative development

[ ] No

Logic: Show/hide trigger exists. Hidden unless: #361 Question "Do you practice collaborative development?" is one of the following answers ("Yes, remote collaborative development","Yes, face-to-face collaborative development")

362) Which of the following tools do you use for simultaneous remote collaborative development?*

[ ] None

[ ] Remote desktop

[ ] Video calls with screen sharing

[ ] Editor or IDE with collaboration capabilities

[ ] Other, please specify:: _____

Logic: Hidden unless: #362 Question "Which of the following tools do you use for simultaneous remote collaborative development?" is one of the following answers ("Editor or IDE with collaboration capabilities")

363) Which of the following tools do you use for collaborative development?*

[ ] Live Share (with Visual Studio or Visual Studio Code)

[ ] Code With Me

[ ] Atom Teletype

[ ] CodeTogether

[ ] Multihack for Brackets

[ ] RemoteCollab for SublimeText

[ ] GitLive

[ ] Gather

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists. Hidden unless: #361 Question "Do you practice collaborative development?" is one of the following answers ("Yes, remote collaborative development","Yes, face-to-face collaborative development")

364) What do you use collaborative development for?*

[ ] Code review

[ ] Bug fixing

[ ] Pair/mob programming

[ ] To get help when I’m stuck

[ ] To provide help when somebody asks for it

[ ] Teaching students or training colleagues

[ ] Learning from a teacher or colleague

[ ] Conducting job interviews

[ ] Participating in job interviews

[ ] Communicating for fun while coding

[ ] Teaming up and brainstorming together

[ ] Events (such as hackathons or conferences)

[ ] Other, please specify:: _____

Logic: Hidden unless: #364 Question "What do you use collaborative development for?" is one of the following answers ("Pair/mob programming")

365) Is pair programming a commonly used development practice at your company or organization?*

( ) Yes

( ) No

Logic: Hidden unless: #364 Question "What do you use collaborative development for?" is one of the following answers ("Pair/mob programming")

366) How do you usually practice pair programming?*

( ) Both participants work on the same piece of code together

( ) Each participant works on their own piece of code

( ) Both of the above

( ) Other, please specify:: _____

Logic: Hidden unless: #3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization")

367) If your company is adopting remote development, at what stage of the process is it right now?*

( ) My company has **fully adopted** remote development, including technology and training

( ) My company **is building** remote development capabilities

( ) My company **is considering** remote development and exploring options

( ) Remote development is **not a priority** for my company

( ) My company currently has **no plans to adopt** remote development

( ) I don’t know

368) How satisfied are you with the remote development tools currently on the market?

Not satisfied at all

( ) 1 ( ) 2 ( ) 3 ( ) 4 ( ) 5

Extremely satisfied

Static analysis 1 - Random (2 of 9 sections)

Random (2 out of 9 sections) – There were 9 sections in total, which were randomized for all respondents. Each respondent answered questions from 2 of these sections.

Logic: Hidden unless: (#3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization") AND #5 Question "Which of the following best describe your job role?" is one of the following answers ("Developer / Programmer / Software Engineer","Team Lead"))

Think about the various checks that your team used in the past year before delivering code to production.

Logic: Hidden unless: (#3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization") AND #5 Question "Which of the following best describe

your job role?" is one of the following answers ("Developer / Programmer / Software Engineer","Team Lead","CIO / CEO / CTO"))

369) Which of the following checks did your code absolutely have to pass to be considered production-ready?*

[ ] Code passes static code analysis

[ ] All unit tests written for the existing code pass

[ ] All unit tests written for the new or updated code pass

[ ] All integration and/or API tests pass

[ ] Code coverage target has been met

[ ] Feedback from peer code reviews is positive

[ ] The quality assurance team approves the code

[ ] All functional requirements specified in the documentation, user stories, etc. are met

[ ] The number of identified bugs and issues doesn’t exceed a pre-set maximum

[ ] Performance test results are satisfactory

[ ] Security test results are satisfactory

[ ] External libraries’ licenses are compatible with your product’s license

[ ] External libraries are free of vulnerabilities

[ ] Other, please specify:: _____

[ ] None of the above

Static analysis 2

Logic: Hidden unless: (#369 Question "Which of the following checks did your code absolutely have to pass to be considered production-ready?" AND #369 Question "Which of the following checks did your code absolutely have to pass to be considered production-ready?" is not exactly equal to ("Code passes static code analysis","All unit tests written for the existing code pass","All unit tests written for the new or updated code pass","All integration and/or API tests pass","Code coverage target has been met","Feedback from peer code reviews is positive","The quality assurance team approves the code","All functional requirements specified in the documentation, user stories, etc. are met","The number of identified bugs and issues doesn’t exceed a pre-set maximum","Performance test results are satisfactory","Security test results are satisfactory","External libraries’

licenses are compatible with your product’s license","External libraries are free of vulnerabilities"))

370) Which other checks did you use that weren't mandatory for code to pass?*

[ ] Code passes static code analysis

[ ] All unit tests written for the existing code pass

[ ] All unit tests written for the new or updated code pass

[ ] All integration and/or API tests pass

[ ] Code coverage target has been met

[ ] Feedback from peer code reviews is positive

[ ] The quality assurance team approves the code

[ ] All functional requirements specified in the documentation, user stories, etc. are met

[ ] The number of identified bugs and issues doesn’t exceed a pre-set maximum

[ ] Performance test results are satisfactory

[ ] Security test results are satisfactory

[ ] External libraries’ licenses are compatible with your product’s license

[ ] External libraries are free of vulnerabilities

[ ] Other, please specify:: _____

[ ] None of the above

Logic: Hidden unless: (#369 Question "Which of the following checks did your code absolutely have to pass to be considered production-ready?" is one of the following answers ("Code passes static code analysis") OR #370 Question "Which other checks did you use that weren't mandatory for code to pass?" is one of the following answers ("Code passes static code analysis"))

371) Which of the following tools do you use for automated code analysis / static analysis?*

[ ] IDE or editor

[ ] ESLint

[ ] Flake8

[ ] ktlint

[ ] Mypy

[ ] PHPStan

[ ] Pylint

[ ] Qodana

[ ] Snyk

[ ] SonarCloud

[ ] SonarLint

[ ] SonarQube

[ ] PC-lint / FlexeLint

[ ] Coverity

[ ] Cppcheck

[ ] IAR Visual State

[ ] Perforce Klocwork

[ ] Polyspace

[ ] Helix QAC

[ ] Astrée

[ ] Understand

[ ] LDRA

[ ] Axivion

[ ] An in-house developed tool

[ ] Other, please specify:: _____

Logic: Hidden unless: (#369 Question "Which of the following checks did your code absolutely have to pass to be considered production-ready?" is one of the following answers ("Code passes static code analysis") OR #370 Question "Which other checks did you use that weren't mandatory for code to pass?" is one of the following answers ("Code passes static code analysis"))

372) What were your team's primary goals for using static code analysis tools in the past year?*

[ ] To identify and fix syntactical and logical errors

[ ] To ensure adherence to style standards

[ ] To improve readability and maintainability

[ ] To find potential security vulnerabilities in the code and/or external libraries

[ ] To analyze the code for inefficient resource use and potential optimization opportunities

[ ] To ensure license compliance and compatibility

[ ] To ensure that other code quality standards are met

[ ] Other, please specify:: _____

[ ] I’m not sure

Logic: Hidden unless: (#369 Question "Which of the following checks did your code absolutely have to pass to be considered production-ready?" is one of the following answers ("Code passes static code analysis") OR #370 Question "Which other checks did you use that weren't mandatory for code to pass?" is one of the following answers ("Code passes static code analysis"))

373) What are the most significant challenges or frustrations your team faces with the static code analysis tools you currently use?
Select all that apply.*

[ ] False positives (when the tool reports an issue that doesn’t exist)

[ ] False negatives (when the tool doesn’t report an issue that exists)

[ ] Difficulty integrating with development environments

[ ] Rule conflicts between the tool we use and IDEs or other tools

[ ] Being limited to analyzing specific files, not the entire codebase

[ ] The analysis often taking too long

[ ] Inability to customize the checks to enforce our team requirements

[ ] Insufficient guidance on how to address the issues identified

[ ] Lack of clarity about why an identified issue should be addressed or what risks it poses

[ ] High cost of the tool

[ ] Other, please specify:: _____

Logic: Hidden unless: #8 Question "In which kinds of activities are you involved?" is one of the following answers ("Code Reviewing")

374) What do you aim to ensure when conducting manual code reviews?*

[ ] That the code does what it is supposed to do, without introducing new bugs

[ ] That the code adheres to our team’s or organization's coding conventions and style guidelines

[ ] That appropriate design patterns and best practices are adhered to

[ ] That the code is easy to read, understand, and maintain

[ ] That there is no duplicated code, and code is reused properly across the codebase

[ ] That error handling and logging is properly implemented

[ ] That the code is adequately covered by tests

[ ] That there are no security flaws or potential exploits in the code

[ ] That there are no potential inefficiencies or performance issues

[ ] That the code can handle increased loads

[ ] Other, please specify:: _____

Logic: Hidden unless: (#3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization") AND #5 Question "Which of the following best describe your job role?" is one of the following answers ("Developer / Programmer / Software Engineer","Team Lead"))

375) How long does it usually take for your team to resolve an issue once it's been identified in production?*

( ) Less than 1 working day

( ) 1 working day

( ) 2 working days

( ) 3 working days or more

( ) I'm not sure

Logic: Hidden unless: (#3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization") AND #5 Question "Which of the following best describe your job role?" is one of the following answers ("Developer / Programmer / Software Engineer"))

376) How much time do you usually allocate to reviewing and addressing technical debt?*

( ) I don't work with technical debt

( ) 1 working day per month or less

( ) 2–5 working days per month

( ) 6–10 working days per month

( ) 11–15 working days per month

( ) 16 working days per month or more

( ) I'm not sure

Logic: Hidden unless: ((#3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization") AND #5 Question "Which of the following best describe your job role?" is one of the following answers ("Developer / Programmer / Software Engineer")) AND #8 Question "In which kinds of activities are you involved?" is one of the following answers ("Code Reviewing"))

377) How much time do you usually dedicate to manual code reviews each day?*

( ) Less than 1 hour per day

( ) 1–2 hours per day

( ) 2–4 hours per day

( ) More than 4 hours per day

( ) I’m not sure

Cross-platform - Random (2 of 9 sections)

Random (2 out of 9 sections) – There were 9 sections in total, which were randomized for all respondents. Each respondent answered questions from 2 of these sections.

The following questions are about cross-platform development.

Logic: Hidden unless: #25 Question "On which operating systems are your development environments?" is one of the following answers ("Windows")

378) Do you use Windows Subsystem for Linux (WSL) for local development?

[ ] No

[ ] Yes, I work with the project and tools located in WSL

[ ] Yes, I work with tools installed in WSL

[ ] Yes, I run my application in WSL

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

379) Do you develop cross-platform software?*

[ ] Yes, I develop cross-platform mobile applications

[ ] Yes, I develop cross-platform desktop applications

[ ] No

Logic: Hidden unless: #379 Question "Do you develop cross-platform software?" is one of the following answers ("Yes, I develop cross-platform desktop applications")

380) Which platforms do your cross-platform desktop applications target?*

[ ] Windows

[ ] Linux

[ ] macOS

[ ] Other, please specify:: _____

Logic: Hidden unless: #379 Question "Do you develop cross-platform software?" is one of the following answers ("Yes, I develop cross-platform mobile applications")

381) Which platforms do your cross-platform mobile applications target?*

[ ] iOS

[ ] Android

[ ] Web

[ ] Other, please specify:: _____

Page entry logic: This page will show when: (#5 Question "Which of the following best describe your job role?" is one of the following answers ("Data Analyst / Data Engineer/ Data Scientist","Business Analyst") OR #8 Question "In which kinds of activities are you involved?" is one of the following answers ("Business Intelligence","Data Analysis","Data Engineering","Machine Learning"))

Data Science - intro

Page exit logic: Skip / Disqualify Logic**IF:** (((Question "Data science" is one of the following answers ("I'm not involved") AND Question "Data analytics" is one of the following answers ("I'm not involved")) AND Question "Machine learning" is one of the following answers ("I'm not involved")) AND Question "Data engineering" is one of the following answers ("I'm not involved")) **THEN:** Jump to page 69 - Testing (if Tester show by default, Random if activities testing, 2 of 9 sections, on page 9 of 19 q shown)

The following questions are about data science, data analytics, and machine learning

382) What kind of activity is data science, data analytics, data engineering, and machine learning for you?*

	It's my primary professional activity	It's a secondary professional activity	It's just a hobby	It serves educational purposes	I'm not involved
Data science	( )	( )	( )	( )	( )
Data analytics	( )	( )	( )	( )	( )
Machine learning	( )	( )	( )	( )	( )

Data engineering	( )	( )	( )	( )	( )

Logic: Show/hide trigger exists.

383) In which of the following activities are you involved?*

[ ] None
[ ] A/B testing
[ ] Data orchestration
[ ] Data cleaning or preprocessing
[ ] Data pipelines
[ ] Storage architecture
[ ] Machine learning modeling
[ ] Machine learning operations
[ ] Exploratory data analysis
[ ] Statistical analysis
[ ] Data visualization
[ ] Gathering data or data scraping
[ ] Reporting and data storytelling
[ ] Dashboarding
[ ] Predictive analytics
[ ] Other, please specify:: _____

384) Is it part of your job to present the results of your work to colleagues, management, or customers?*

( ) Yes
( ) No

Page entry logic: This page will show when: (((Question "Data science" is one of the following answers ("It’s my primary professional activity","It’s a secondary professional activity","It’s just a hobby","It serves educational purposes") OR Question "Data analytics" is one of the following answers ("It’s my primary professional activity","It’s a secondary professional activity","It’s just a hobby","It serves educational purposes")) OR Question "Machine learning" is one of the following answers ("It’s my primary professional activity","It’s a secondary professional activity","It’s just a hobby","It serves educational purposes")) OR Question "Data engineering" is one of the following answers ("It’s my primary professional activity","It’s a secondary professional activity","It’s just a hobby","It serves educational purposes"))

Data Science (9 q of 20 shown)

9 q of 20 shown – a random set of 8 questions out of 20 were shown on this page

Logic: Hidden unless: Question "How many people work for your company or organization?" is one of the following answers ("2–10","11–50","51–500","501–1,000","1,001–5,000","More than 5,000","I'm not sure")

385) Which of the following data-driven initiatives cause the most difficulty for your company or organization?*

[ ] None

[ ] Data quality

[ ] Data security and governance

[ ] Data integration

[ ] Data analysis

[ ] Data preparation / transformation

[ ] Data access

[ ] Data migration

[ ] Data creation / collection

[ ] Data storage

[ ] Data versioning

[ ] Reporting and communicating data insights

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

386) Which data formats do you work with?*

[ ] None

[ ] Textual data (JSON, XML, TXT, HTML, PDF, etc.)

[ ] Tabular data (CSV, Excel, etc.)

[ ] Databases

[ ] Images

[ ] Audio

[ ] Video

[ ] Other, please specify:: _____

Logic: Hidden unless: #386 Question "Which data formats do you work with?" is one of the following answers ("Textual data (JSON, XML, TXT, HTML, PDF, etc.)","Tabular data (CSV, Excel, etc.)","Databases","Images","Audio","Video","Other, please specify:")

387) Do you analyze any specific types of data? *

[ ] No

[ ] Geospatial

[ ] Time series

[ ] Financial (SEC, Federal Reserve, NEBR, etc.)

[ ] Transactional (sales, returns, payments, credits, etc.)

[ ] Machine-generated (log data, sensor data, telemetry data, network / security / IoT data, etc.)

[ ] Biomedical and healthcare

[ ] Web clickstream data

[ ] Environmental data (weather, climate data, geological surveys, etc.)

[ ] Network and traffic data (web traffic, cybersecurity threats, etc.)

[ ] Blockchain and transaction ledgers

[ ] Social media content

[ ] Website content

[ ] Publicly available datasets (Data.gov, Census Bureau, etc.)

[ ] Customer interactions (emails, chat logs, call recordings, profiles, etc.)

[ ] Internal business documents (reports, internal communications, etc.)

[ ] Surveys (customer satisfaction, market research, etc.)

[ ] Product usage data (log files, user analytics, etc.)

[ ] Data purchased from vendors

[ ] Other, please specify:: _____

388) Which IDEs or editors do you use for data science or data analytics?*

[ ] None

[ ] PyCharm Professional Edition

[ ] PyCharm Community Edition

[ ] DataGrip

[ ] Jupyter notebooks

[ ] JupyterLab

[ ] JupyterHub

[ ] Datalore

[ ] DataSpell

[ ] Zeppelin

[ ] RStudio

[ ] Databricks notebooks

[ ] Google Colab

[ ] Visual Studio Code

[ ] Kaggle notebooks

[ ] Azure notebooks

[ ] Amazon SageMaker

[ ] Deepnote

[ ] Emacs

[ ] DBeaver

[ ] IntelliJ IDEA

[ ] Hex

[ ] Custom solution

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

389) How much of your working time is spent inside notebooks?*

( ) I don’t use notebooks

( ) Less than 10%

( ) 11–20%

( ) 21–40%

( ) More than 40%

Logic: Hidden unless: #389 Question "How much of your working time is spent inside notebooks?" is one of the following answers ("Less than 10%","11–20%","21–40%","More than 40%")

Piping: Piped Values From Question 383. (In which of the following activities are you involved?)

390) What do you use notebooks for?*

[ ] Other, please specify:: _____

Logic: Hidden unless: #389 Question "How much of your working time is spent inside notebooks?" is one of the following answers ("Less than 10%","11–20%","21–40%","More than 40%")

391) How is your work generally distributed between working in notebooks and single code files?*

( ) 100% in files

( ) 75% in files, 25% in notebooks

( ) 50% in files, 50% in notebooks

( ) 25% in files, 75% in notebooks

( ) 100% in notebooks

Logic: Hidden unless: #383 Question "In which of the following activities are you involved?" is one of the following answers ("Data cleaning or preprocessing")

392) Which kinds of tools do you use for data cleaning and preprocessing?*

[ ] I don’t perform data cleaning

[ ] Cloud platforms (Jupyter Notebook, Datalore)

[ ] IDEs (Visual Studio Code, PyCharm, DataGrip)

[ ] Spreadsheets (Excel, Google Sheets)

[ ] Specialized tools like OpenRefine

[ ] Text editors (such as Notepad)

[ ] Other, please specify:: _____

393) What do you use to store the data you work with?*

[ ] I don’t work with data

[ ] I store data locally on my computer

[ ] SQL databases in the cloud

[ ] SQL databases on internal servers

[ ] NoSQL databases (Mongo, NoSQL)

[ ] Amazon S3

[ ] Google file storage

[ ] Azure file storage

[ ] Big data in the cloud (Hadoop, Spark)

[ ] Big data on internal servers (Hadoop, Spark)

[ ] Custom hosted services

[ ] Other, please specify:: _____

Logic: Hidden unless: #383 Question "In which of the following activities are you involved?" is one of the following answers ("Machine learning modeling","Exploratory data analysis","Statistical analysis","Predictive analytics")

394) Which types of methods and algorithms do you use?*

[ ] I don’t use any methods or algorithms in my work

[ ] Linear or logistic regression

[ ] Decision trees or random forests

[ ] Gradient boosting machines (XGBoost, LightGBM)

[ ] Bayesian approaches

[ ] Neural networks

[ ] Transformer networks for LLMs (BERT, GPT, etc.)

[ ] Transformer networks for other applications (Time Series, Computer Vision, etc.)

[ ] Generative adversarial networks

[ ] Evolutionary approaches

[ ] Clustering methods

[ ] Time series algorithms (ARIMA, SARIMA, SARIMAX, or exponential smoothing)

[ ] Natural language processing (NLP)

[ ] Statistical testing (t-tests, correlations, MANOVA / ANOVA, etc.)

[ ] Other, please specify:: _____

Logic: Hidden unless: #3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization","Self-employed *(a person earning income directly from their own business, trade, or profession)*","Working student")

395) Which enterprise data science solutions do you use, if any?*

[ ] None

[ ] Amazon SageMaker

[ ] IBM Watson Studio

[ ] H2O

[ ] Alteryx

[ ] Vertex AI (Google Cloud AI Platform)

[ ] Azure Machine Learning Studio

[ ] Azure Databricks

[ ] DataRobot

[ ] Gradient

[ ] Domino Data Lab

[ ] Cloudera Data Science Workbench (CDSW)

[ ] Datalore Enterprise

[ ] Other, please specify:: _____

Logic: Hidden unless: (#3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization","Self-employed *(a person earning income directly from their own business, trade, or profession)*","Working student") AND (((Question "Data science" is one of the following answers ("It's my primary professional activity") OR Question "Data analytics" is one of the following answers ("It's my primary professional activity")) OR Question "Machine learning" is one of the following answers ("It's my primary professional activity")) OR Question "Data engineering" is one of the following answers ("It's my primary professional activity")))

396) Which enterprise cloud solutions do you use?*

[ ] None

[ ] Amazon EC2

[ ] Google Compute Engine

[ ] AWS Lambda

[ ] Azure Cloud Services

[ ] Amazon Elastic Container Service (Amazon ECS)

[ ] Azure Container Instances

[ ] Google Cloud Platform (GCP)

[ ] Google App Engine

[ ] Azure Functions

[ ] Google Cloud Run

[ ] Datalore Enterprise

[ ] Datalore Team

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists. Hidden unless: (#3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization") AND ((Question

"Data science" is one of the following answers ("It's my primary professional activity") OR Question "Data analytics" is one of the following answers ("It's my primary professional activity")) OR Question "Machine learning" is one of the following answers ("It's my primary professional activity")))

397) Including you, how many members does your data team have?*

( ) I'm not a part of data team

( ) Fewer than 5

( ) 5–10

( ) 11–20

( ) 21–50

( ) 51–100

( ) More than 100

Logic: Hidden unless: #397 Question "Including you, how many members does your data team have?" is one of the following answers ("Fewer than 5","5–10","11–20","21–50","51–100","More than 100")

398) Which of the following dedicated roles does your team or department have?*

[ ] Data engineer

[ ] Machine learning engineer

[ ] MLOps engineer

[ ] None

399) Does your company or organization have dedicated roles for infrastructure management and setup?

( ) Yes

( ) No

Logic: Show/hide trigger exists.

400) Do you use dbt?*

( ) Yes

( ) No

Logic: Hidden unless: #400 Question "Do you use dbt?" is one of the following answers ("Yes")

401) Which data platform do you use with dbt?

[ ] None

[ ] AlloyDB

[ ] Azure Synapse

[ ] BigQuery

[ ] Databricks

[ ] Dremio

[ ] Redshift

[ ] Snowflake

[ ] Starburst

[ ] Spark

[ ] Starburst and Trino

[ ] PostgreSQL

[ ] Other, please specify:: _____

Logic: Hidden unless: #400 Question "Do you use dbt?" is one of the following answers ("Yes")

402) Which dbt do you use?

( ) dbt Core

( ) dbt Cloud

( ) Both

Logic: Hidden unless: #400 Question "Do you use dbt?" is one of the following answers ("Yes")

403) Do you use Python models in dbt?

( ) Yes

( ) No

Page entry logic: This page will show when: (((Question "Machine learning" is one of the following answers ("It’s my primary professional activity","It’s a secondary professional activity","It serves educational purposes") OR #9 Question "Which of the following best describe your job role?" is one of the following answers ("Machine Learning Engineer")) OR #8 Question "In which kinds of activities are you involved?" is one of the following answers ("Machine Learning")) OR #383 Question "In which of the following activities are you involved?" is one of the following answers ("Machine learning modeling","Machine learning operations"))

Machine learning - (9 of 17 q shown)

9 q of 17 shown – a random set of 9 questions out of 17 were shown on this page

Logic: Show/hide trigger exists.

404) Do you train machine learning or deep learning models?*

( ) Yes

( ) No

405) Do you consider yourself an AI developer?*

( ) Yes

( ) No

406) Which type of models do you train?*

[ ] I don’t train models

[ ] I train my own models

[ ] I fine-tune pre-trained models

[ ] I only use pre-trained models without fine-tuning them

Logic: Hidden unless: (#8 Question "In which kinds of activities are you involved?" is one of the following answers ("Machine Learning") OR #9 Question "Which of the following best describe your job role?" is one of the following answers ("Machine Learning Engineer"))

407) How often do you retrain / update your machine learning models?*

( ) More than once a month

( ) Monthly

( ) Quarterly

( ) Twice a year

( ) Annually

( ) Never

Logic: Hidden unless: #383 Question "In which of the following activities are you involved?" is one of the following answers ("Machine learning modeling","Machine learning operations","Exploratory data analysis")

408) Which machine learning framework(s) do you use?*

[ ] None

[ ] scikit-learn

[ ] TensorFlow

[ ] Keras

[ ] XGBoost

[ ] PyTorch

[ ] LightGBM

[ ] CatBoost

[ ] Prophet

[ ] fast.ai

[ ] Tidymodels

[ ] JAX

[ ] Other, please specify:: _____

Logic: Hidden unless: (#3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization","Self-employed *(a person earning income directly from their own business, trade, or profession)*","Working student") AND (#8 Question "In which kinds of activities are you involved?" is one of the following answers ("Machine Learning") OR #9 Question "Which of the following best describe your job role?" is one of the following answers ("Machine Learning Engineer")))

409) For which purposes is machine learning used in your company or organization?*

[ ] Supporting internal IT operations

[ ] Improving understanding of corporate data

[ ] Driving production applications

[ ] Reducing business costs

[ ] Aiding research and development of new products

[ ] Supporting other business functions

[ ] Supporting manufacturing and production operations

[ ] Using AI-based features in products or services

[ ] Researching and piloting potential applications

[ ] Improving productivity and efficiency of internal business processes

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists. Hidden unless: #404 Question "Do you train machine learning or deep learning models?" is one of the following answers ("Yes")

410) Do you train or tweak ML models on GPUs or TPUs?*

( ) Yes

( ) No

Logic: Show/hide trigger exists. Hidden unless: #410 Question " Do you train or tweak ML models on GPUs or TPUs?" is one of the following answers ("Yes")

411) Do you have any difficulties training ML models on GPUs or TPUs?

( ) No, everything goes smoothly

( ) Yes, there are minor difficulties

( ) Yes, there are major difficulties

( ) Other, please specify:: _____

Logic: Hidden unless: #411 Question "Do you have any difficulties training ML models on GPUs or TPUs?" is one of the following answers ("Yes, there are minor difficulties","Yes, there are major difficulties")

412) What kinds of difficulties do you experience when training ML models on GPU or TPUs?

[ ] None

[ ] Context switching (different tool sets for development and training)

[ ] Hard to debug and investigate issues remotely

[ ] Reproducibility issues (code, environment, and data versioning)

[ ] Hard to obtain GPUs or TPUs (shortage)

[ ] Training start is slow

[ ] Data storage and transfer

[ ] Other, please specify:: _____

413) How many people use GPUs or TPUs for training ML models in your company?*

( ) Fewer than 5

( ) 5–10

( ) 11–20

( ) More than 20

414) On average, how many training sessions (experiments) do you run on GPUs or TPUs per month?*

( ) Fewer than 5

( ) 5–10

( ) 11–20

( ) More than 20

415) On average, how many GPUs or TPUs do you usually use per training session?*

( ) 1

( ) 2

( ) 4

( ) 8

( ) I use multi-node clusters

( ) Other, please specify:: _____

416) On average, how many hours does it take you to train one model?*

( ) Less than 2 hours

( ) From 2 to less than 10 hours

( ) From 10 to less than 100 hours

( ) From 100 to less than 1,000 hours

( ) 1,000 hours or more

( ) Other, please specify:: _____

417) How much data is usually involved in training one model?

( ) Less than 10 GB

( ) From 10 GB to less than 100 GB

( ) From 100 GB to less than 500 GB

( ) From 500 GB to less than 1 TB

( ) 1 TB or more

( ) Other, please specify:: _____

418) What sorts of computational resources do you use for data science tasks?*

[ ] None

[ ] Local resources

[ ] On-premises company servers

[ ] Amazon Web Services

[ ] Google Cloud Platform

[ ] Microsoft Azure

[ ] Others, please specify:: _____

419) Which specific tools do you use for tracking model training experiments?*

[ ] None

[ ] TensorBoard

[ ] WandB

[ ] MLflow

[ ] Other, please specify:: _____

420) How strict are your organization's privacy and security measures governing the use of data or code for model training?*

( ) Loose

( ) Moderate

( ) Strict

( ) I don't know

Page entry logic: This page will show when: #384 Question "Is it part of your job to present the results of your work to colleagues, management, or customers?" is one of the following answers ("Yes")

DataScience Presenting the results - (5 of 8 q shown)

5 q of 8 shown – a random set of 5 questions out of 8 were shown on this page

421) What tools do you use to present the results of your research?*

[ ] I present the notebook
[ ] Tableau
[ ] Microsoft Power BI
[ ] Plotly Dash
[ ] Voila
[ ] Looker
[ ] Streamlit
[ ] Qlik
[ ] PowerPoint, Google Slides, or similar
[ ] MS Word, Google Docs, or similar
[ ] Spreadsheet editor (Excel, Google Sheets)
[ ] Other, please specify:: _____

422) When presenting, what are the most usual outcomes of your work?*

[ ] Notebook with code
[ ] Python script or Python package
[ ] Data story
[ ] Set of metrics, numbers, or single-line answers
[ ] Visualization
[ ] Dashboard
[ ] Separate presentation
[ ] Written report
[ ] Other, please specify:: _____

423) Who is the main target audience of your reports?*

[ ] Technical users who can read code

[ ] Business users who are interested in numbers and charts

[ ] Other, please specify:: _____

424) Is interactivity required when presenting your results? (For example, having an interactive report with several dropdowns that change the charts or findings based on the selection.)*

( ) Yes, interactivity is required

( ) Interactivity is not required but would be useful

( ) No, interactivity is not required; a static document is sufficient

425) How often do you need to prepare and present the results of your work?*

( ) Once a week or more often

( ) Every two weeks

( ) Once a month

( ) Once every two months or less often

426) What percentage of your time is spent on preparing materials for presentations?*

( ) 0–10%

( ) 10–20%

( ) 20–40%

( ) More than 40%

427) How do you usually share the results of your work?*

[ ] As an email attachment

[ ] At a meeting from a local machine

[ ] By linking to a dashboard

[ ] Other, please specify:: _____

428) Do you have to revise the results based on the feedback you receive?*

( ) Yes, many times

( ) Yes, a couple of times

( ) No

Page entry logic: This page will show when: #46 Question "How much experience do you have with low-code/no-code platforms?" is one of the following answers ("I develop applications using low-code/no-code platforms","I develop systems to support other users of low-code/no-code platforms","I've used or evaluated some low-code/no-code solutions but don't use them right now","I haven't used any low-code/no-code platforms, but they are used in my company")

Low-code/No-code

429) What do you or your company use low-code/no-code platforms for?*

[ ] I don't know

[ ] Business process automation

[ ] Decision-making automation

[ ] Document and data processing

[ ] Content management systems

[ ] Robotic automation

[ ] Integration systems

[ ] End-user applications

[ ] Analytics and business intelligence applications

[ ] Websites and applications

[ ] Mobile applications

[ ] Desktop applications

[ ] Prototyping of new products and services

[ ] Other, please specify:: _____

430) Which platforms do you or your company use for low-code/no-code development?

[ ] None
[ ] Airtable
[ ] Appian
[ ] Bubble
[ ] Directual
[ ] FlutterFlow
[ ] Glide
[ ] Google AppSheet
[ ] Make (formerly Integromat)
[ ] Mendix
[ ] Microsoft Power Apps
[ ] Nintex
[ ] OutSystems
[ ] Pega
[ ] Quickbase
[ ] Salesforce Platform
[ ] ServiceNow
[ ] Softr
[ ] Zoho Creator
[ ] Other, please specify:: _____

431) What key benefits of using a low-code/no-code platform do you see?*

[ ] I’m not sure
[ ] Accelerating the development of applications
[ ] Involving business-oriented team members in the application development process
[ ] Saving on application development costs by using a less expensive workforce
[ ] Reducing operational costs associated with running the applications
[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

432) Please rate the usability of the applications built on low-code/no-code platforms that you've come across:

( ) 5 – Very good

( ) 4 – Good

( ) 3 – OK

( ) 2 – Usable, but with a lot of issues

( ) 1 – Barely usable

Logic: Hidden unless: #432 Question "Please rate the usability of the applications built on low-code/no-code platforms that you've come across:" is one of the following answers ("3 – OK","2 – Usable, but with a lot of issues","1 – Barely usable")

433) Which kinds of issues do you commonly experience when using applications developed on/with no-code/low-code platforms?*

[ ] Performance issues

[ ] Subpar user experience

[ ] Limited functionality

[ ] Poor style and design

[ ] Lots of bugs

[ ] Inconsistent behaviors

[ ] Other, please specify:: _____

Logic: Hidden unless: #46 Question "How much experience do you have with low-code/no-code platforms?" is one of the following answers ("I develop applications using low-code/no-code platforms","I develop systems to support other users of low-code/no-code platforms")

434) What percentage of total working time do you spend using low-code/no-code platforms?

( ) Less than 10%

( ) 10–19%

( ) 20–39%

( ) 40–59%

( ) 60–79%

( ) 80% or more

Logic: Show/hide trigger exists. Hidden unless: #46 Question "How much experience do you have with low-code/no-code platforms?" is one of the following answers ("I develop applications using low-code/no-code platforms","I develop systems to support other users of low-code/no-code platforms")

435) Please rate your experience while developing on such platforms:*

( ) 1 – Barely usable

( ) 2 – Usable, but with a lot of issues

( ) 3 – OK

( ) 4 – Good

( ) 5 – Very good

Logic: Hidden unless: #435 Question "Please rate your experience while developing on such platforms:" is one of the following answers ("2 – Usable, but with a lot of issues","3 – OK","4 – Good","5 – Very good")

436) Which kinds of issues do you commonly experience while developing using no-code/low-code platforms?*

[ ] Not enough flexibility and customization options

[ ] Issues with integrating with or into other systems

[ ] Development tools below the industry standard

[ ] Poor observability over deployed applications

[ ] Limited style and design options

[ ] Inadequate or poor support for some of the target platforms

[ ] Custom code is required to achieve the desired functionality

[ ] Issues with maintainability in the long run

[ ] Slow development tools, especially on large projects

[ ] Insufficient support for development practices, such as debugging, profiling, and automated testing

[ ] Other, please specify:: _____

437) What benefits of using AI with low-code/no-code platforms do you see?

[ ] I haven't used AI with low-code/no-code platforms

[ ] AI helps with initial project generation for new products

[ ] AI allows for faster generation of data models, user interfaces, business rules, or other components

[ ] AI acts as a subject matter expert to help generate proper business functionality

[ ] AI reduces requirements for training and knowledge from developers

[ ] AI increases velocity when building integrations with other systems

[ ] AI improves productivity for developers and reduces the workforce needed

[ ] I haven't observed any benefits from using AI with low-code/no-code platforms

[ ] Other, please specify:: _____

Testing - (if Tester show by default, Random if activities testing, (2 out of 9 sections), on page 9 of 19 q shown)

This section was mandatory for respondents with the job role of Tester or QA. For respondents who indicated that they are involved in testing, it was shown randomly.

Random (2 out of 9 sections) – There were 9 sections in total, which were randomized for all respondents. Each respondent answered questions from 2 of these sections

9 q of 19 shown – a random set of 9 questions out of 19 were shown on this page

The following questions are about testing and quality assurance.

438) Is testing an integral part of the development process in your company or team?*

( ) Yes

( ) No

( ) I’m not sure

439) Do you lead or manage a QA team?*

( ) Yes

( ) No

Logic: Show/hide trigger exists. Hidden unless: #5 Question "Which of the following best describe your job role?" is one of the following answers ("Tester / QA Engineer")

440) Which of the following best describes your QA role (regardless of the level of your position)?*

( ) Manual QA Specialist

( ) QA / Test Engineer

( ) QA / Test Automation Engineer

( ) SDET (Software Development Engineer In Test)

( ) I’m a QA professional working in another area, please specify::

_____

( ) I’m not a QA professional

Logic: Hidden unless: #440 Question "Which of the following best describes your QA role (regardless of the level of your position)?" is one of the following answers ("Manual QA Specialist","QA / Test Engineer","QA / Test Automation Engineer","SDET (Software Development Engineer In Test)","I’m a QA professional working in another area, please specify:")

441) How long have you been working as a QA specialist?*

( ) Less than 6 months

( ) From 6 months to less than 1 year

( ) From 1 to less than 3 years

( ) From 3 to less than 5 years

( ) From 5 to less than 10 years

( ) 10 years or more

442) What do you test?*

[ ] Web applications (UI)

[ ] Web applications (backend API)

[ ] Mobile applications

[ ] Desktop applications

[ ] Other, please specify:: _____

443) Do you develop automated tests?*

( ) Yes

( ) No

( ) I’m not sure

Logic: Show/hide trigger exists.

444) Does your testing process include test case design?*

( ) Yes

( ) No

( ) I’m not sure

Logic: Hidden unless: #444 Question "Does your testing process include test case design?" is one of the following answers ("Yes")

445) Which test design techniques do you use?*

[ ] I’m not sure

[ ] Equivalence partitioning

[ ] Boundary value analysis

[ ] Decision tables

[ ] Use case testing

[ ] User story testing

[ ] Ad hoc testing

[ ] State transition testing

[ ] Syntax testing

[ ] Control-flow testing

[ ] Data-flow testing

[ ] Path testing

[ ] Condition testing

[ ] Error guessing

[ ] Exploratory testing

[ ] Checklists

[ ] Failure-based testing

[ ] Other, please specify:: _____

Logic: Hidden unless: #3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization","Self-employed *(a person earning income directly from their own business, trade, or profession)*","Freelancer *(a person pursuing a profession without a long-term commitment to any one employer)*","Working student")

446) How are test design and test execution performed in your company?*

( ) Separately (performed by different people)

( ) Together (performed by the same people)

( ) I'm not sure

447) Which types of tests are used in your project?*

[ ] None

[ ] Regression testing

[ ] Functional testing

[ ] Security testing

[ ] Usability testing

[ ] Performance testing

[ ] Stress testing

[ ] Stability testing

[ ] Smoke testing

[ ] Acceptance testing

[ ] Accessibility testing

[ ] Sanity testing

[ ] Load testing

[ ] Volume testing

[ ] Beta testing

[ ] Production testing

[ ] I’m not sure

[ ] Other, please specify:: _____

448) What proportion of testers and QA engineers in your project have programming skills?*

( ) 0–25%

( ) 26–50%

( ) 51–75%

( ) 76–100%

( ) I don't know

449) What proportion of testers and QA Engineers in your project do only manual testing?*

( ) 0%–25%

( ) 26%–50%

( ) 51%–75%

( ) 76%–100%

( ) I don't know

Logic: Show/hide trigger exists. Hidden unless: #5 Question "Which of the following best describe your job role?" is one of the following answers ("Tester / QA Engineer")

450) Which kinds of tools do you use to store test cases?*

[ ] I don’t use any specific tools

[ ] Office documents (such as Excel spreadsheets or Word docs)

[ ] Special test case management tools

[ ] Other, please specify:: _____

Logic: Hidden unless: #450 Question "Which kinds of tools do you use to store test cases?" is one of the following answers ("Special test case management tools")

451) Which test management tools do you use?*

[ ] None

[ ] Azure

[ ] Allure TestOps

[ ] Qase

[ ] qTest

[ ] PractiTest

[ ] Zephyr

[ ] TestFLO for Jira

[ ] XQual

[ ] TestCaseLab

[ ] QAComplete

[ ] Plutora

[ ] SpiraTest by Inflectra

[ ] Meliora Testlab

[ ] QMetry

[ ] Testpad

[ ] aqua cloud

[ ] ReQtest

[ ] Adaptavist

[ ] TestCollab

[ ] TestLodge

[ ] TestRail

[ ] QACoverage

[ ] TestLink

[ ] HP ALM

[ ] Xray for Jira

[ ] Custom tool

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

452) Approximately how many of your project tests are automated?*

( ) All

( ) Most

( ) About half

( ) Only some

( ) None

( ) I'm not sure

Logic: Hidden unless: #452 Question "Approximately how many of your project tests are automated?" is one of the following answers ("All ","Most ","About half","Only some")

453) Which of the following test frameworks, tools, or technologies do you use, if any?*

[ ] None

[ ] TestNG

[ ] JUnit

[ ] NUnit / xUnit.net

[ ] MSTest / VSTest

[ ] Robot Framework

[ ] Cucumber
[ ] RSpec
[ ] ExtentReports
[ ] Allure
[ ] SoapUI
[ ] Apache JMeter
[ ] Katalon Studio
[ ] Postman
[ ] Gatling
[ ] Cypress
[ ] pytest
[ ] Playwright
[ ] ReportPortal
[ ] TestCafe
[ ] behave
[ ] Mocha
[ ] Jest
[ ] Puppeteer
[ ] Selenium
[ ] Selenide
[ ] k6
[ ] Appium
[ ] LoadRunner
[ ] Espresso
[ ] Perfecto
[ ] TESSY
[ ] VectorCAST
[ ] Parasoft DTP
[ ] Custom tool or framework
[ ] Other, please specify:: _____

Logic: Hidden unless: #452 Question "Approximately how many of your project tests are automated?" is one of the following answers ("All ","Most ","About half","Only some")

454) Which programming languages do you use for test automation in your project?*

[ ] None

[ ] Python

[ ] JavaScript / TypeScript

[ ] Java

[ ] Kotlin

[ ] C#

[ ] Perl

[ ] Ruby

[ ] Tcl

[ ] PHP

[ ] Groovy

[ ] Scala

[ ] Clojure

[ ] Go

[ ] Bash

[ ] C++

[ ] Rust

[ ] Swift

[ ] Other, please specify:: _____

455) Which BDD (behavior-driven development) technologies do you use, if any?*

[ ] I don’t use BDD

[ ] Cucumber

[ ] JBehave

[ ] Lettuce

[ ] Behat software tools

[ ] Gauge

[ ] Custom tool

[ ] Other, please specify:: _____

456) Would you like to participate in further research relating to JetBrains QA tools?

( ) Yes

( ) No

Tools, CI, IT, VCS - (Random 2 of 9 sections)

Random (2 out of 9 sections) – There were 9 sections in total, which were randomized for all respondents. Each respondent answered questions from 2 of these sections.

Logic: Show/hide trigger exists. Hidden unless: #3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization","Self-employed *(a person earning income directly from their own business, trade, or profession)*","Freelancer *(a person pursuing a profession without a long-term commitment to any one employer)*","Working student")

457) Which of the following types of tools do you regularly use?*

[ ] Issue tracking / Task management / Project management tools (e.g. Atlassian, YouTrack, Microsoft Teams)

[ ] Code review tools (e.g. Gerrit, Crucible)

[ ] Static analysis tools (e.g. Code Climate)

[ ] Source code collaboration tools (e.g. GitHub, GitLab, Bitbucket)

[ ] Continuous integration (CI) / Continuous delivery (CD) tools (e.g. Jenkins, TeamCity)

[ ] None

Logic: Show/hide trigger exists. Hidden unless: #3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or

organization","Partially employed by a company or organization","Self-employed *(a person earning income directly from their own business, trade, or profession)*","Freelancer *(a person pursuing a profession without a long-term commitment to any one employer)*","Working student")

458) Which types of communication tools do you regularly use for work?*

[ ] Email (e.g. Microsoft Mail Server, Gmail)

[ ] Instant messaging / Video calling (e.g. Microsoft Teams, Slack, Skype)

[ ] Video conferencing (e.g. Google Meet, Zoom)

[ ] Calendars (e.g. Google Calendar)

[ ] Corporate portal (e.g. SharePoint, Pingboard)

[ ] Service desk or helpdesk automation solution (e.g. Zendesk, YouTrack Helpdesk)

[ ] None

Logic: Hidden unless: #457 Question "Which of the following types of tools do you regularly use?" is one of the following answers ("Continuous integration (CI) / Continuous delivery (CD) tools (e.g. Jenkins, TeamCity)")

459) Which continuous integration (CI) system do you regularly use in your company or organization?*

[ ] None

[ ] GoCD

[ ] Travis CI

[ ] Bamboo

[ ] Google Cloud Build

[ ] CircleCI

[ ] JetBrains Space

[ ] Custom tool

[ ] AWS CodePipeline / AWS CodeStar

[ ] GitHub Actions

[ ] GitLab CI

[ ] Azure DevOps Server

[ ] TeamCity

[ ] AppVeyor

[ ] Buildkite

[ ] Bitbucket Pipelines

[ ] Harness

[ ] Jenkins

[ ] CloudBees CodeShip

[ ] Epic Horde

[ ] Drone CI

[ ] Other, please specify:: _____

Logic: Hidden unless: #457 Question "Which of the following types of tools do you regularly use?" is one of the following answers ("Continuous integration (CI) / Continuous delivery (CD) tools (e.g. Jenkins, TeamCity)")

460) Which continuous integration (CI) system(s) do you regularly use for your personal or side projects?*

[ ] None

[ ] Epic Horde

[ ] GoCD

[ ] Travis CI

[ ] Bamboo

[ ] Drone CI

[ ] Google Cloud Build

[ ] CircleCI

[ ] JetBrains Space

[ ] AWS CodePipeline / AWS CodeStar

[ ] GitHub Actions

[ ] GitLab CI

[ ] Azure DevOps Server

[ ] TeamCity

[ ] AppVeyor

[ ] Buildkite

[ ] Bitbucket Pipelines

[ ] Harness

[ ] Jenkins

[ ] CloudBees CodeShip

[ ] Custom tool

[ ] Other, please specify:: _____

Logic: Hidden unless: #457 Question "Which of the following types of tools do you regularly use?" is one of the following answers ("Issue tracking / Task management / Project management tools (e.g. Atlassian, YouTrack, Microsoft Teams)")

461) Which of the following tools do you use for project and task management in your company or organization?*

[ ] None

[ ] Jira

[ ] GitHub Issues

[ ] Trello

[ ] GitLab Issues

[ ] Redmine

[ ] YouTrack

[ ] Asana

[ ] Azure DevOps Server

[ ] Microsoft Project

[ ] Basecamp

[ ] monday.com

[ ] Wrike

[ ] Linear

[ ] JetBrains Space

[ ] Custom tool

[ ] Other, please specify:: _____

Logic: Hidden unless: #457 Question "Which of the following types of tools do you regularly use?" is one of the following answers ("Issue tracking / Task management / Project management tools (e.g. Atlassian, YouTrack, Microsoft Teams)")

462) Which of the following tools do you use for project and task management for your side, open-source, or personal projects?*

[ ] None

[ ] Jira

[ ] GitHub Issues

[ ] Trello

[ ] GitLab Issues

[ ] Redmine

[ ] YouTrack

[ ] Asana

[ ] Azure DevOps Server

[ ] Microsoft Project

[ ] Basecamp

[ ] monday.com

[ ] Wrike

[ ] Linear

[ ] JetBrains Space

[ ] Custom tool

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

463) Which version control system(s) do you regularly use, if any?*

[ ] None

[ ] Concurrent Versions System (CVS)

[ ] Apache Subversion (SVN)

[ ] Git

[ ] Mercurial

[ ] Perforce

[ ] Helix Core (Perforce Helix)

[ ] Plastic SCM

[ ] Azure DevOps Server

[ ] Other, please specify:: _____

Logic: Hidden unless: (#463 Question "Which version control system(s) do you regularly use, if any?" is one of the following answers ("Concurrent Versions System (CVS)","Apache Subversion (SVN)","Git","Mercurial","Perforce","Helix Core (Perforce Helix)","Plastic SCM","Azure DevOps Server") AND #3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization","Self-employed *(a person earning income directly from their own business, trade, or profession)*","Working student"))

464) Which version control service(s) do you regularly use in your company or organization?*

[ ] None

[ ] GitHub

[ ] GitLab

[ ] Azure DevOps Server

[ ] AWS CodeCommit

[ ] SourceForge

[ ] Bitbucket

[ ] Perforce

[ ] Helix Core (Perforce Helix)

[ ] JetBrains Space

[ ] Custom tool

[ ] Other, please specify:: _____

Logic: Hidden unless: #463 Question "Which version control system(s) do you regularly use, if any?" is one of the following answers ("Concurrent Versions System (CVS)","Apache Subversion (SVN)","Git","Mercurial","Perforce","Helix Core (Perforce Helix)","Plastic SCM","Azure DevOps Server")

465) Which version control service(s) do you regularly use for your personal or side projects?*

[ ] None

[ ] GitHub

[ ] GitLab

[ ] SourceForge

[ ] AWS CodeCommit

[ ] Bitbucket

[ ] Perforce

[ ] Helix Core (Perforce Helix)

[ ] JetBrains Space

[ ] Azure DevOps Server

[ ] Custom tool

[ ] Other, please specify:: _____

Page entry logic: This page will show when: (#463 Question "Which version control system(s) do you regularly use, if any?" AND #3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization","Self-employed *(a person earning income directly from their own business, trade, or profession)*","Working student"))

Team tools CI+IT+VCS

Logic: Hidden unless: (#457 Question "Which of the following types of tools do you regularly use?" AND #457 Question "Which of the following types of tools do you regularly use?" is not one of the following answers ("None"))

466) Which of the following types of tools have you and/or your team adopted in the past 12 months?*

[ ] Issue tracking / Task management / Project management tools (e.g. Atlassian, YouTrack, Microsoft Teams)

[ ] Code review tools (e.g. Gerrit, Crucible)

[ ] Static analysis tools (e.g. Code Climate)

[ ] Service desk or helpdesk automation solution (e.g. Zendesk, YouTrack Helpdesk)

[ ] Source code collaboration tools (e.g. GitHub, GitLab, Bitbucket)

[ ] Continuous integration (CI) / Continuous delivery (CD) tools (e.g. Jenkins, TeamCity)

[ ] None

Logic: Hidden unless: #457 Question "Which of the following types of tools do you regularly use?" is not exactly equal to ("None")

467) For each of the following types of tools that you use, do you use its paid or free version?

	Paid	Free	Not sure
Issue tracking / Task management / Project management tools (e.g. Atlassian, YouTrack, Microsoft Teams)	[ ]	[ ]	[ ]
Code review tool (e.g. Crucible, Upsource)	[ ]	[ ]	[ ]
Static analysis tool (e.g. Code Climate)	[ ]	[ ]	[ ]
Source code collaboration tool (e.g. GitHub, GitLab, Bitbucket)	[ ]	[ ]	[ ]
Continuous integration (CI) / Continuous delivery (CD) tool (e.g. Jenkins, TeamCity)	[ ]	[ ]	[ ]

Logic: Hidden unless: (#4 Question "Do you work professionally in the field of software development, including the use of programming languages or related activities?" is one of the following answers ("Yes (full-time, part-time, self-employed, etc.)") AND #3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization"))

468) Does your company or organization allow the purchase of additional consumable cloud tool resources if they run out?*

( ) Resources can be purchased easily

( ) Resources can be purchased, but with restrictions

( ) We have a strict budget that cannot be exceeded

( ) I don't know

Logic: Hidden unless: #457 Question "Which of the following types of tools do you regularly use?" is one of the following answers ("Issue tracking / Task management / Project management tools (e.g. Atlassian, YouTrack, Microsoft Teams)","Code review tools (e.g. Gerrit, Crucible)","Static analysis tools (e.g. Code Climate)","Source code collaboration tools (e.g. GitHub, GitLab, Bitbucket)","Continuous integration (CI) / Continuous delivery (CD) tools (e.g. Jenkins, TeamCity)")

469) Which of the following types of tools do you use in the cloud?*

[ ] I don’t use any of these tools

[ ] Continuous integration tool

[ ] Continuous delivery tool

[ ] Static analysis tool

[ ] Automated code review

[ ] Issue tracking / Task management / Project management tools

Logic: Hidden unless: #457 Question "Which of the following types of tools do you regularly use?" is one of the following answers ("Continuous integration (CI) / Continuous delivery (CD) tools (e.g. Jenkins, TeamCity)")

470) Which type of installation does your primary CI/CD tool have?*

( ) Installed on my own premises

( ) Installed on cloud instances that are managed by me or my company

( ) Fully managed cloud service

( ) Other, please specify:: _____

Logic: Hidden unless: ((#463 Question "Which version control system(s) do you regularly use, if any?" AND #463 Question "Which version control system(s) do you regularly use, if

any?" is not one of the following answers ("None")) AND (#464 Question "Which version control service(s) do you regularly use in your company or organization?" is one of the following answers ("GitHub","GitLab","Azure DevOps Server","AWS CodeCommit","SourceForge","Bitbucket","Perforce","Helix Core (Perforce Helix)","JetBrains Space","Custom tool","Other, please specify:") OR #465 Question "Which version control service(s) do you regularly use for your personal or side projects?" is one of the following answers ("GitHub","GitLab","SourceForge","AWS CodeCommit","Bitbucket","Perforce","Helix Core (Perforce Helix)","JetBrains Space","Azure DevOps Server","Custom tool","Other, please specify:")))

Piping: Piped From Question 463. (Which version control system(s) do you regularly use, if any?)

Where do you keep your source code?

	SaaS	**Self-hosted**

Logic: Hidden unless: #463 Question "Which version control system(s) do you regularly use, if any?" is one of the following answers ("Concurrent Versions System (CVS)","Apache Subversion (SVN)","Git","Mercurial","Perforce","Helix Core (Perforce Helix)","Plastic SCM","Azure DevOps Server","Other, please specify:")

471) How do you prefer to work with version control systems (e.g. Git, SVN)?*

[ ] From the terminal

[ ] Using specialized tools (e.g. GitKraken, Sourcetree, GitHub Desktop)

[ ] From the IDE

[ ] From a web browser

[ ] Other, please specify:: _____

Logic: Hidden unless: #458 Question "Which types of communication tools do you regularly use for work?" is not one of the following answers ("None")

Piping: Piped Values From Question 458. (Which types of communication tools do you regularly use for work?)

472) For which of the following types of tools do you use the mobile app version, if any?*

[ ] None

473) Which tools do you use for artifact and package management in your company or organization?*

[ ] None

[ ] I'm not sure

[ ] GitHub

[ ] GitLab

[ ] Azure DevOps Server / Container Registry

[ ] JFrog Artifactory

[ ] Sonatype Nexus Repository

[ ] Docker Hub

[ ] AWS Container Registry / CodeArtifact

[ ] NuGet

[ ] npm

[ ] JetBrains Space

[ ] Custom tool

[ ] Other, please specify:: _____

Logic: Hidden unless: #457 Question "Which of the following types of tools do you regularly use?" is one of the following answers ("Code review tools (e.g. Gerrit, Crucible)")

474) Which tools do you use for code review in your company or organization?*

[ ] None

[ ] GitHub

[ ] GitLab

[ ] Azure DevOps Server

[ ] Bitbucket

[ ] Gerrit

[ ] AWS CodeCommit / AWS CodeStar

[ ] Gogs / Gitea

[ ] Crucible

[ ] Collaborator

[ ] Helix Swarm

[ ] Review Board

[ ] JetBrains Space

[ ] Custom tool

[ ] Other, please specify:: _____

475) For which of the following external tools and actions do you use plugins to integrate with your IDE?*

[ ] None

[ ] Git hosting

[ ] Code review tools

[ ] Merge requests

[ ] Issue tracking

[ ] Pipelines

[ ] Other, please specify:: _____

Logic: Hidden unless: #458 Question "Which types of communication tools do you regularly use for work?" is one of the following answers ("Instant messaging / Video calling (e.g. Microsoft Teams, Slack, Skype)")

476) Which instant messaging or chat tools do you use at work?*

[ ] Mattermost

[ ] Telegram

[ ] WhatsApp

[ ] Slack

[ ] Rocket.Chat

[ ] Skype

[ ] Google Hangouts

[ ] Microsoft Teams

[ ] Discord

[ ] WeChat

[ ] DingTalk

[ ] Signal

[ ] JetBrains Space

[ ] Custom tool

[ ] Other, please specify:: _____

Logic: Hidden unless: #458 Question "Which types of communication tools do you regularly use for work?" is one of the following answers ("Instant messaging / Video calling (e.g. Microsoft Teams, Slack, Skype)")

477) Which tools do you use for video calls and conferences in your company or organization?*

[ ] None

[ ] Slack

[ ] Skype for Business

[ ] Microsoft Teams

[ ] Google Meet

[ ] Zoom

[ ] WeChat

[ ] Cisco Webex

[ ] Discord

[ ] Jitsi

[ ] BlueJeans

[ ] GoTo Meeting

[ ] DingTalk

[ ] Tencent Meeting

[ ] Custom tool

[ ] Other, please specify:: _____

478) Which tools do you use for knowledge sharing and document collaboration in your company or organization?*

[ ] None

[ ] Confluence

[ ] MediaWiki

[ ] GitHub Wiki

[ ] Stack Overflow for Teams

[ ] GitLab

[ ] Notion

[ ] Microsoft Docs / Microsoft 365 / SharePoint

[ ] Jive

[ ] Google Docs / Google Sheets / Google Drive

[ ] Redmine Wiki

[ ] DokuWiki

[ ] OneNote

[ ] Zoho Office Suite

[ ] Dropbox Paper

[ ] Quip

[ ] YouTrack Knowledge Base

[ ] Custom tool

[ ] Other, please specify:: _____

Page entry logic: This page will show when: #458 Question "Which types of communication tools do you regularly use for work?" is one of the following answers ("Service desk or helpdesk automation solution (e.g. Zendesk, YouTrack Helpdesk)")

Service desk / Helpdesk

Logic: Show/hide trigger exists.

479) Which service desk / helpdesk tools do you use in your company or organization? *

[ ] None

[ ] Zendesk

[ ] Jira Service Desk

[ ] HubSpot Service Hub

[ ] Help Scout

[ ] Salesforce

[ ] Zoho Desk

[ ] ServiceNow

[ ] Freshdesk

[ ] Microsoft Dynamics

[ ] HelpDesk

[ ] Bitrix24

[ ] Kayako

[ ] ProProfs Help Desk

[ ] ManageEngine

[ ] Gorgias

[ ] Kustomer

[ ] Front

[ ] HappyFox

[ ] Helpjuice

[ ] Intercom

[ ] LiveAgent

[ ] Groove

[ ] AzureDesk

[ ] Hiver

[ ] Sugar Serve

[ ] YouTrack Helpdesk

[ ] Other, please specify:: _____

Logic: Hidden unless: #479 Question "Which service desk / helpdesk tools do you use in your company or organization? " is one of the following answers ("Zendesk","Jira Service Desk","HubSpot Service Hub","Help Scout","Salesforce","Zoho

Desk","ServiceNow","Freshdesk","Microsoft Dynamics","HelpDesk","Bitrix24","Kayako","ProProfs Help Desk","ManageEngine","Gorgias","Kustomer","Front","HappyFox","Helpjuice","Intercom","LiveAgent","Groove","AzureDesk","Hiver","Sugar Serve","YouTrack Helpdesk","Other, please specify:")

480) For which purposes do you use service desk or helpdesk tools?*

[ ] Processing customer support tickets

[ ] Processing internal support tickets

[ ] Providing self-service support (Knowledge base / Help center)

[ ] Automating workflows

[ ] Reporting and analytics

[ ] Other, please specify:: _____

481) How many agents are there in your workspace?*

( ) I don’t know

( ) 1–10

( ) 11–50

( ) 51–100

( ) 101–500

( ) 501–1,000

( ) 1,001 or more

Logic: Hidden unless: #3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization","Self-employed *(a person earning income directly from their own business, trade, or profession)*","Freelancer *(a person pursuing a profession without a long-term commitment to any one employer)*","Working student")

489) How satisfied are you with your salary?

( ) Completely satisfied

( ) Mostly satisfied

( ) Rather satisfied

( ) Rather dissatisfied

( ) Mostly dissatisfied

( ) Completely dissatisfied

( ) I'd prefer not to answer

Page entry logic: This page will show when: ((#8 Question "In which kinds of activities are you involved?" is one of the following answers ("Technical Writing") OR #5 Question "Which of the following best describe your job role?" is one of the following answers ("Technical Writer"))

Tech writing section (9 of 14 q shown)

9 q of 14 shown – a random set of 9 questions out of 14 were shown on this page

The following questions are about technical writing.

490) Which of the following activities around documentation do you participate in?*

[ ] I write documentation myself

[ ] I write drafts and notes for technical writers

[ ] Technical writers interview me as a subject-matter expert

[ ] I review docs after a technical writer has written them

[ ] I write / validate code samples for documentation

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

491) Which type(s) of documentation do you write?*

[ ] Customer-facing documentation

[ ] Internal documentation

[ ] Code documentation (e.g. Javadocs)

[ ] Other, please specify:: _____

493) Which markup language do you use to write technical documentation?*

[ ] I use a WYSIWYG editor or an Office-like application

[ ] Markdown

[ ] A custom Markdown flavor

[ ] AsciiDoc

[ ] reStructuredText

[ ] DITA

[ ] DocBook

[ ] Other XML-based format

[ ] Other, please specify:: _____

[ ] I'm not sure

Logic: Show/hide trigger exists.

494) Do you write API documentation?*

( ) Yes

( ) No

Logic: Hidden unless: #494 Question "Do you write API documentation?" is one of the following answers ("Yes")

495) Which type(s) of APIs do you document?*

[ ] RESTful HTTP API

[ ] WebSocket

[ ] GraphQL

[ ] SOAP

[ ] gRPC

[ ] The native SDK

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists. Hidden unless: #494 Question "Do you write API documentation?" is one of the following answers ("Yes")

496) Do you automatically generate the API reference from the code?*

( ) Yes

( ) No

Logic: Hidden unless: #496 Question "Do you automatically generate the API reference from the code?" is one of the following answers ("Yes")

497) Which tool(s) do you use to generate API documentation?*

[ ] Swagger (OpenAPI)

[ ] ReDoc

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists. Hidden unless: #496 Question "Do you automatically generate the API reference from the code?" is one of the following answers ("Yes")

498) Do you extend automatically generated API references with manually written content?*

( ) Yes

( ) No

Logic: Hidden unless: #498 Question "Do you extend automatically generated API references with manually written content?" is one of the following answers ("Yes")

499) How do you supply additional information to automatically generated API references?*

[ ] I edit annotations in code

[ ] I edit the OpenAPI specification manually

[ ] I edit the output manually

[ ] I use overlays

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

500) Which kinds of AI tools do you use for documentation authoring?*

( ) None

( ) I use generic AI tools like ChatGPT, outside the documentation authoring environment

( ) I use specific AI features within the documentation authoring environment

( ) I use both generic and specific AI tools

502) Do you use templates to speed up the writing process?*

( ) Yes

( ) No

Page entry logic: This page will show when: (#3 Question "What is your employment status?" is one of the following answers ("Working student","Student")

Students

504) Which of the following tools have your teachers or professors advised you to use?*

[ ] None

[ ] RStudio

[ ] IntelliJ IDEA

[ ] IntelliJ IDEA Edu

[ ] Android Studio

[ ] Visual Studio

[ ] Xcode

[ ] PhpStorm

[ ] GoLand

[ ] WebStorm

[ ] RubyMine

[ ] PyCharm

[ ] PyCharm Edu

[ ] Vi / Vim

[ ] Sublime Text

[ ] Atom

[ ] Visual Studio Code

[ ] Notepad++

[ ] AppCode

[ ] CLion

[ ] Eclipse

[ ] NetBeans

[ ] Qt Creator

[ ] Emacs

[ ] TextMate

[ ] Rider

[ ] gedit

[ ] IPython / Jupyter Notebook

[ ] Other, please specify:: _____

Page entry logic: This page will show when: (#5 Question "Which of the following best describe your job role?" is one of the following answers ("Instructor / Teacher / Tutor") OR URL Variable "short" is exactly equal to "edu")

Teachers

Logic: Hidden unless: (#5 Question "Which of the following best describe your job role?" is one of the following answers ("Instructor / Teacher / Tutor") AND #5 Question "Which of the following best describe your job role?" is one of the following answers ("Developer / Programmer / Software Engineer","DevOps Engineer / Infrastructure Developer","DBA","Architect","Tester / QA Engineer","Technical Support","Data Analyst / Data Engineer/ Data Scientist","Business Analyst","Systems Analyst","Developer Advocate"))

505) What is teaching for you?*

( ) Primary activity

( ) Secondary activity

( ) I don't teach

( ) Other, please specify:: _____

Logic: Show/hide trigger exists.

506) Which type of educational institution do you teach at?*

( ) Private company / Organization

( ) University

( ) Community college

( ) High school

( ) Vocational school

( ) Training center

( ) Other, please specify:: _____

Logic: Show/hide trigger exists. Hidden unless: #506 Question "Which type of educational institution do you teach at?" is one of the following answers ("University","Community college")

507) Which level of education do you teach?*

[ ] Associate

[ ] Bachelor

[ ] Specialist

[ ] Master

[ ] Postgraduate

[ ] High school

[ ] Other, please specify:: _____

Logic: Hidden unless: #507 Question "Which level of education do you teach?" is one of the following answers ("Associate","Bachelor","Specialist","Master","Postgraduate")

508) Which subject(s) do you teach?*

[ ] Computer science

[ ] Software engineering

[ ] Other engineering field

[ ] Mathematics

[ ] Physics

[ ] Biology

[ ] Chemistry

[ ] Economics

[ ] Social sciences

[ ] Art / Humanities

[ ] Other, please specify:: _____

509) Which programming languages do you currently teach or have you taught in the past?*

[ ] None

[ ] Haskell

[ ] Python

[ ] Java

[ ] C++

[ ] C#

[ ] C

[ ] PHP

[ ] Pascal

[ ] Kotlin

[ ] JavaScript

[ ] R

[ ] Other, please specify:: _____

510) Which of the following tools do you recommend to students?*

[ ] None

[ ] RStudio

[ ] IntelliJ IDEA

[ ] Android Studio

[ ] Visual Studio

[ ] Xcode

[ ] PhpStorm

[ ] GoLand

[ ] WebStorm

[ ] RubyMine

[ ] PyCharm

[ ] Vi / Vim

[ ] Sublime Text

[ ] Atom

[ ] Visual Studio Code

[ ] Notepad++

[ ] AppCode

[ ] CLion

[ ] Eclipse

[ ] NetBeans

[ ] Qt Creator

[ ] Emacs

[ ] TextMate

[ ] Rider

[ ] gedit

[ ] IPython / Jupyter Notebook

[ ] Other, please specify:: _____

AI

513) Which of the following AI tools have you ever used or tried for coding and other development-related activities?*

[ ] Aide by CodeStory

[ ] Amazon Q Developer (previously CodeWhisperer)

[ ] Anthropic Claude

[ ] Blackbox AI

[ ] ChatGPT

[ ] CodeGPT plugin in VS Code

[ ] CodeGPT plugin in JetBrains IDEs (IntelliJ IDEA, PyCharm, PhpStorm, etc.)

[ ] Code Llama

[ ] CodeRabbit

[ ] Codeium

[ ] Codiumate (previously Codium)

[ ] Cursor

[ ] Devin

[ ] Gemini Code Assist (previously Duet AI for Developers)

[ ] Google Gemini (previously Bard)

[ ] GitHub Copilot

[ ] GitLab Duo

[ ] IntelliPHP

[ ] JetBrains AI Assistant

[ ] Microsoft 365 Copilot

[ ] OpenDevin

[ ] Project IDX

[ ] Replit AI

[ ] Sourcegraph Cody

[ ] Sourcery

[ ] Studio Bot (for Android Studio)

[ ] Tabby

[ ] Tabnine

[ ] TONGYI Lingma

[ ] Visual Studio IntelliCode

[ ] Zed

[ ] Custom local AI tool for coding and development

[ ] Other, please specify:: _____

[ ] None

Logic: Hidden unless: Question "How many people work for your company or organization?" is one of the following answers ("2–10","11–50","51–500","501–1,000","1,001–5,000","More than 5,000","I'm not sure")

517) What is your company's policy regarding the usage of third-party cloud-based AI tools (such as ChatGPT, GitHub Copilot, or Google Gemini) for coding and development-related tasks?*

( ) Prohibited for all projects

( ) Allowed only for some projects

( ) Allowed for all projects

( ) Other, please specify:: _____

( ) There is no such policy in my company

( ) I don't know

523) What benefits do you get from using AI tools for coding and other development-related activities?*

[ ] Faster completion of repetitive tasks

[ ] Increased productivity

[ ] Faster coding and development

[ ] Less time spent searching for information

[ ] Less mental effort required for coding and development

[ ] Faster learning of new technologies, frameworks, languages, etc.

[ ] Better quality of code and development solutions

[ ] Better coding and development experience

[ ] Other, please specify:: _____

[ ] None

524) On average, how much time do you think you save per week by using AI tools for coding and other development-related activities?*

( ) I don’t save any time

( ) Less than 1 hour

( ) From 1 to less than 2 hours

( ) From 2 to less than 4 hours

( ) From 4 to less than 8 hours

( ) 8 hours or more

Page entry logic: This page will show when: #5 Question "Which of the following best describe your job role?" is one of the following answers ("Team Lead","CIO / CEO / CTO","Developer Productivity / Developer Experience Engineer")

Developer Experience (for DX persons)

534) Does your company measure developer experience and developer productivity (either for individuals or teams)?*

( ) Yes, we measure both developer productivity and developer experience

( ) Yes, we measure developer productivity

( ) Yes, we measure developer experience

( ) No

( ) I’m not sure

( ) Other, please specify:: _____

535) To what extent do you believe developer productivity is influenced by …?*

	Significantly influenced	**Influenced**	**Somewhat influenced**	**Not at all influenced**
Technical factors (such as performance of development tools, code editor responsiveness, etc.)?	( )	( )	( )	( )
Non-technical factors (such as team processes, clear communication, clear goals, fair compensation, your overall well-being, work-life balance, etc.)?	( )	( )	( )	( )

536) To what extent do you believe developer experience is influenced by …?*

	Totally influenced	**Strongly influenced**	**Somewhat influenced**	**Not at all influenced**
Technical factors (such as performance of development tools, code editor responsiveness, etc.)?	( )	( )	( )	( )

Non-technical factors (such as team processes, clear communication, clear goals, fair compensation, your overall well-being, work-life balance, etc.)?	( )	( )	( )	( )

537) Are you aware of your company’s approach toward developer productivity, developer experience, and their related processes? *

( ) Yes

( ) No

( ) I’m not sure

Page entry logic: This page will show when: #537 Question "Are you aware of your company’s approach toward developer productivity, developer experience, and their related processes? " is one of the following answers ("Yes")

Developer Experience (for DX persons) 2

Logic: Show/hide trigger exists.

538) Who is responsible for developer productivity engineering and developer experience in your company?*

[ ] Team leads

[ ] Human Resources

[ ] Platform Engineering team

[ ] Dedicated specialists (e.g. Developer Productivity Engineers) or dedicated teams (Developer Experience, Engineering Operations, Productivity & Happiness, Developer Infrastructure & Tools, and similar)

[ ] No one is responsible for measuring developer productivity or developer experience

[ ] I don’t know

[ ] Other, please specify:: _____

Logic: Hidden unless: #538 Question "Who is responsible for developer productivity engineering and developer experience in your company?" is one of the following answers ("Dedicated specialists (e.g. Developer Productivity Engineers) or dedicated teams (Developer Experience, Engineering Operations, Productivity & Happiness, Developer Infrastructure & Tools, and similar)")

539) How long have these roles or teams been in place (approximately)?*

( ) Less than 1 year

( ) 1–3 years

( ) More than 3 years

( ) I don’t know

( ) Other, please specify:: _____

540) How many people (approximately) in your company work full-time in the areas of developer productivity and/or developer experience?*

( ) 1

( ) 2–5

( ) 6–10

( ) 11–30

( ) 31–50

( ) More than 50

( ) I’m not sure

541) What organizational measures does your company implement to enhance developer productivity and developer experience?*

[ ] Training and skill development (internal)

[ ] Training and skill development (from tool vendors)

[ ] HR policies and decisions

[ ] Internal collaboration and communication initiatives

[ ] Improvements to tools and infrastructure

[ ] Improvements to development processes

[ ] Improvements to tracking, analysis, and interpretation of developer productivity and developer experience data

[ ] I’m not sure

[ ] Other, please specify:: _____

Logic: Show/hide trigger exists.

542) As a manager, how do you feel about your company’s current approach to developer productivity and developer experience?*

( ) Very satisfied

( ) Somewhat satisfied

( ) Neutral

( ) Somewhat dissatisfied

( ) Very dissatisfied

Page entry logic: This page will show when: ((#537 Question "Are you aware of your company’s approach toward developer productivity, developer experience, and their related processes? " is one of the following answers ("Yes") AND #534 Question "Does your company measure developer experience and developer productivity (either for individuals or teams)?" is one of the following answers ("Yes, we measure both developer productivity and developer experience","Yes, we measure developer productivity","Yes, we measure developer experience"))

Developer Experience (DX Persons) 3

544) How often are developer productivity or developer experience assessed in your company?*

( ) Monthly

( ) Quarterly

( ) Annually

( ) Irregularly

( ) I don’t know

( ) Other, please specify:: _____

545) Which types of data does your company use to assess developer productivity or developer experience?

( ) Quantitative data only (e.g. various usage analytics such as number of lines of code, number of pull requests, pull request cycle time, tasks completed, etc.)

( ) Qualitative data only (e.g. surveys about developer satisfaction and their well-being, self-reported productivity, etc.)

( ) Both quantitative and qualitative data

( ) I’m not sure

( ) Other, please specify:: _____

546) Which types of measurements does your company use to assess developer productivity or developer experience?*

[ ] Deployment frequency (DORA) – how often a developer deploys code

[ ] Lead time for changes (DORA) – the amount of time it takes a code change to reach production

[ ] Change failure rate (DORA) – the percentage of deployments causing a failure in production

[ ] Time to restore service (DORA) – the average time it takes to recover from a failure in production

[ ] Satisfaction metrics (SPACE) – how fulfilled developers feel with their work, team, and their tools; how healthy and happy they are

[ ] Performance metrics (SPACE) – the outcomes of a system or process (e.g. stability, quality, etc.)

[ ] Activity metrics (SPACE) – the number of actions completed or amount of output delivered per unit of time

[ ] Communication and collaboration metrics (SPACE) – how people and teams communicate and work together

[ ] Efficiency and flow metrics (SPACE) – how much progress developers and teams make on their work without interruptions or delays

[ ] None of the above

[ ] I’m not sure

[ ] Other, please specify:: _____

547) Which of the following specific measurements does your company use to assess developer productivity or developer experience?*

[ ] Adoption rate

[ ] Change failure rate

[ ] Deployment frequency

[ ] Developer engagement

[ ] Developer satisfaction

[ ] Developer sentiment

[ ] Ease of delivery

[ ] Lead time for changes

[ ] Perceived/Self-reported productivity

[ ] Time to restore service

[ ] Number of diffs/pull requests per developer

[ ] Time loss

[ ] I’m not sure

[ ] Other, please specify:: _____

Page entry logic: This page will show when: ((#537 Question "Are you aware of your company’s approach toward developer productivity, developer experience, and their related processes? " is one of the following answers ("Yes") AND #534 Question "Does your company measure developer experience and developer productivity (either for individuals or teams)?" is one of the following answers ("Yes, we measure both developer productivity and developer experience","Yes, we measure developer productivity","Yes, we measure developer experience"))

Developer Experience (DX Persons) 3 part 2

548) In your opinion, to what degree are these metrics useful for tracking developer productivity and experience?

	Very useful	**Useful**	**Fairly useful**	**Slightly useful**	**Not useful at all**	**I don't know**
Adoption rate	( )	( )	( )	( )	( )	( )
Change failure rate	( )	( )	( )	( )	( )	( )
Deployment frequency	( )	( )	( )	( )	( )	( )
Developer engagement	( )	( )	( )	( )	( )	( )
Developer satisfaction	( )	( )	( )	( )	( )	( )
Developer sentiment	( )	( )	( )	( )	( )	( )
Ease of delivery	( )	( )	( )	( )	( )	( )
Lead time for changes	( )	( )	( )	( )	( )	( )
Perceived/Self-reported productivity	( )	( )	( )	( )	( )	( )
Time to restore service	( )	( )	( )	( )	( )	( )
Number of diffs/pull	( )	( )	( )	( )	( )	( )

requests per developer						
Time loss	( )	( )	( )	( )	( )	( )

549) Which types of tools does your company use to measure developer productivity and/or developer experience?*

[ ] Code review tools

[ ] Tools integrated into IDEs

[ ] Project management platforms

[ ] Engineering platforms

[ ] Tools for conducting surveys (e.g. Google Forms, etc.)

[ ] Tools that transcribe interview recordings

[ ] Custom in-house tools

[ ] We don’t use any tools for this purpose

[ ] I’m not sure

[ ] Other, please specify:: _____

550) How is the collected developer productivity and developer experience data used in your company?*

[ ] It helps us implement internal improvements (to processes, standards, etc.)

[ ] It helps us make HR decisions

[ ] It helps us provide feedback to product vendors

[ ] It helps us enhance the products we develop internally

[ ] I’m not sure

[ ] Other, please specify:: _____

Page entry logic: This page will show when: #5 Question "Which of the following best describe your job role?" is one of the following answers ("Team Lead","CIO / CEO / CTO","Developer Productivity / Developer Experience Engineer")

Developer Experience (DX Persons) 4 (all)

Logic: Show/hide trigger exists.

551) Do you follow and stay informed of the latest trends and discussions related to developer experience and developer productivity?*

( ) Yes

( ) No

Logic: Hidden unless: #48 Question "What do you know about JetBrains?" is one of the following answers ("I currently use JetBrains products","I have used JetBrains products, but stopped","I have evaluated some JetBrains products, but haven't adopted any")

553) Would you like to set up a call with a member of the JetBrains Customer Success team or the JetBrains Developer Experience Research team about your experience with JetBrains tools? Please select "Yes" if you prefer to be contacted by email. Alternatively, you can email us at cse@jetbrains.com.*

( ) Yes

( ) No

End of the main part of the survey

Lifestyle branch

AI - Optional (everybody is eligible)

The following questions are about AI tools for developers.

557) How likely is it that you would delegate the following activities to an AI tool for developers (in an ideal world where the performance of such tools is humanlike)?

	I would still do it myself	I am not sure yet	I would delegate it
Writing code	( )	( )	( )
Writing boilerplate, repetitive code	( )	( )	( )
Writing code comments or code documentation	( )	( )	( )
Writing user documentation (e.g. manuals, tutorials, release notes)	( )	( )	( )
Writing internal documentation	( )	( )	( )
Writing commit messages	( )	( )	( )
Writing tests	( )	( )	( )
Understanding code	( )	( )	( )

Performing code reviews	( )	( )	( )
Searching for code fragments inside the codebase	( )	( )	( )
Searching for development-related information on the internet	( )	( )	( )
Debugging	( )	( )	( )
Understanding recent code changes	( )	( )	( )
Refactoring	( )	( )	( )
Performing actions in the terminal / CLI	( )	( )	( )
Checking code for potential issues	( )	( )	( )
Improving or optimizing code	( )	( )	( )
Converting code into other languages	( )	( )	( )
Creating project-related content, such as tasks, comments, descriptions, etc.	( )	( )	( )
Writing reports or whitepapers	( )	( )	( )
Communicating through email and messaging	( )	( )	( )

558) How enjoyable or unpleasant are the following activities for you?

	Unpleasant	**Neither enjoyable nor unpleasant**	**Enjoyable**
Writing code	( )	( )	( )
Writing boilerplate, repetitive code	( )	( )	( )
Writing code comments or code documentation	( )	( )	( )
Writing user documentation (e.g. manuals, tutorials, release notes)	( )	( )	( )
Writing internal documentation	( )	( )	( )
Writing commit messages	( )	( )	( )
Writing tests	( )	( )	( )
Understanding code	( )	( )	( )
Performing code reviews	( )	( )	( )
Searching for code fragments inside the codebase	( )	( )	( )

Searching for development-related information on the internet	( )	( )	( )
Debugging	( )	( )	( )
Understanding recent code changes	( )	( )	( )
Refactoring	( )	( )	( )
Performing actions in the terminal / CLI	( )	( )	( )
Checking code for potential issues	( )	( )	( )
Improving or optimizing code	( )	( )	( )
Converting code into other languages	( )	( )	( )
Learning new things about coding and software development	( )	( )	( )
Creating project-related content, such as tasks, comments, descriptions, etc.	( )	( )	( )

Writing reports or whitepapers	( )	( )	( )
Communicating through email and messaging	( )	( )	( )

559) How simple or difficult are the following activities for you?

	Simple	**Neither simple nor difficult**	**Difficult**
Writing code	( )	( )	( )
Writing boilerplate, repetitive code	( )	( )	( )
Writing code comments or code documentation	( )	( )	( )
Writing user documentation (e.g. manuals, tutorials, release notes)	( )	( )	( )
Writing internal documentation	( )	( )	( )
Writing commit messages	( )	( )	( )
Writing tests	( )	( )	( )

Understanding code	( )	( )	( )
Performing code reviews	( )	( )	( )
Searching for code fragments inside the codebase	( )	( )	( )
Searching for development-related information on the internet	( )	( )	( )
Debugging	( )	( )	( )
Understanding recent code changes	( )	( )	( )
Refactoring	( )	( )	( )
Performing actions in the terminal / CLI	( )	( )	( )
Checking code for potential issues	( )	( )	( )
Improving or optimizing code	( )	( )	( )
Converting code into other languages	( )	( )	( )
Learning new things about coding and	( )	( )	( )

software development			
Creating project-related content, such as tasks, comments, descriptions, etc.	( )	( )	( )
Writing reports or whitepapers	( )	( )	( )
Communicating through email and messaging	( )	( )	( )

560) To what extent do you agree or disagree with the following statements?

	Disagree	**Neither agree nor disagree**	**Agree**
I am ready to use cloud-based generative AI services for work tasks	( )	( )	( )
I have security concerns about using generative AI services	( )	( )	( )

I have ethical concerns about using generative AI services	( )	( )	( )
Local or offline AI tools are unlikely to reach the quality and performance of cloud-based solutions	( )	( )	( )
I am worried that AGI (artificial general intelligence) will become dangerous to humans	( )	( )	( )

561) To what extent do you agree with each of the following statements about the future of AI-powered code generation?

	Disagree	**Neither agree nor disagree**	**Agree**
AI will eventually take over the coding process, fully replacing human developers	( )	( )	( )
The majority of coding will turn into prompt engineering	( )	( )	( )

The adoption of AI coding will decrease the demand for professional software developers	( )	( )	( )
AI tools for developers will radically change the software development job market	( )	( )	( )
Employers will expect every software developer to be proficient with AI tools for developers	( )	( )	( )
AI tools for developers will make developers more efficient	( )	( )	( )

Page entry logic: This page will show when: Question "How many people work for your company or organization?" is one of the following answers ("2–10","11–50","51–500","501–1,000","1,001–5,000","More than 5,000","I'm not sure")

AI - Optional (Qs about AI in organisations)

The following questions are about the use of AI-powered tools in your organization.

Logic: Show/hide trigger exists.

563) Which types of AI- or LLM-powered tools or services are used in your organization?

[ ] Organization’s own local, non-cloud-based AI tools or services

[ ] Organization’s own cloud-based AI tools or services

[ ] Third-party locally installed, non-cloud-based AI tools or services

[ ] Third-party cloud-based AI tools or services managed and hosted by my company

[ ] Third-party cloud-based AI tools or services (e.g. ChatGPT, GitHub Copilot, etc.)

[ ] Other, please specify:: _____

[ ] None

[ ] I don’t know

Logic: Hidden unless: #563 Question "Which types of AI- or LLM-powered tools or services are used in your organization?" is one of the following answers ("None")

564) In your opinion, why doesn’t your organization use AI- or LLM-powered tools or services?

[ ] My organization is planning to start using them in the nearest future

[ ] They are expensive

[ ] Developers don’t see value in such tools or services

[ ] Management doesn’t see value in such tools or services

[ ] My organization has data privacy and security concerns

[ ] My organization has concerns about intellectual property rights over content generated by such tools

[ ] There is not enough demand for such tools from employees

[ ] Negative previous experience with such tools

[ ] Lack of knowledge about relevant AI / LLM tools and services in the company

[ ] Difficulty in incorporating such tools into existing workflows and systems

[ ] My organization can’t use third-party cloud-based AI / LLM tools, but our own or local, non-cloud based tools are not good enough

[ ] Processes and decision-making for adopting new technologies are slow and conservative

[ ] Distrust in new technologies

[ ] We have no resources for investigating the benefits and risks of adopting such tools

[ ] Other, please specify:: _____

[ ] I don’t know

Logic: Show/hide trigger exists.

565) What is the policy regarding third-party AI deployment in your organization?*

[ ] Some third-party multi-tenant AI deployments are allowed (ChatGPT, JetBrains AI Pro, etc.)

[ ] Some third-party single-tenant AI deployments are allowed

[ ] Some third-party multi-tenant AI deployments are only allowed for specific tasks

[ ] All third-party multi-tenant AI deployments are prohibited

[ ] Only single-tenant AI deployments are allowed (Azure OpenAI, Google Cloud, etc.)

[ ] Only on-premises, local, non-cloud-based AI deployments are allowed

[ ] Other, please specify:: _____

[ ] I don’t know

Logic: Hidden unless: #565 Question "What is the policy regarding third-party AI deployment in your organization?" is one of the following answers ("Some third-party multi-tenant AI deployments are allowed (ChatGPT, JetBrains AI Pro, etc.)","Some third-party single-tenant AI deployments are allowed","Some third-party multi-tenant AI deployments are only allowed for specific tasks","Only single-tenant AI deployments are allowed (Azure OpenAI, Google Cloud, etc.)","Only on-premises, local, non-cloud-based AI deployments are allowed","Other, please specify:")

566) Which types of AI / LLM models does your organization use for these AI- or LLM-powered tools or services?*

[ ] Open-source models that are trained / tuned on internal data

[ ] Open-source models that are trained / tuned on external data

[ ] Open-source models that are trained / tuned both on internal and external data

[ ] Third-party models that are trained / tuned on internal data

[ ] Third-party models that are trained / tuned on external data

[ ] Third-party models that are trained / tuned both on internal and external data

[ ] Own custom models that are trained / tuned on internal data

[ ] Own custom models that are trained / tuned on external data

[ ] Own custom models that are trained / tuned both on internal and external data

[ ] Other, please specify:: _____

[ ] None

[ ] I don’t know

Page entry logic: This page will show when: #514 Question "Which of the following AI tools do you **regularly use** for coding and other development-related activities?" is one of the following answers ("Aide by CodeStory","Amazon Q Developer (previously CodeWhisperer)","Anthropic Claude","Blackbox AI","ChatGPT","CodeGPT plugin in VS Code","CodeGPT plugin in JetBrains IDEs (IntelliJ IDEA, PyCharm, PhpStorm, etc.)","Code Llama","CodeRabbit","Codeium","Codiumate (previously Codium)","Cursor","Devin","Gemini Code Assist (previously Duet AI for Developers)","Google Gemini (previously Bard)","GitHub Copilot","GitLab Duo","IntelliPHP","JetBrains AI Assistant","Microsoft 365 Copilot","OpenDevin","Project IDX","Replit AI","Sourcegraph Cody","Sourcery","Studio Bot (for Android Studio)","Tabby","Tabnine","TONGYI Lingma","Visual Studio IntelliCode","Zed","Custom local AI tool for coding and development","Other, please specify:")

AI - optional

567) How often do you use AI tools for each of the following tasks?

	Every day	Several times a week	Once a week	Several times a month	Once a month or less often	Never
Code autocompletion	( )	( )	( )	( )	( )	( )
Generating code	( )	( )	( )	( )	( )	( )
Generating chunks of boilerplate, repetitive code	( )	( )	( )	( )	( )	( )
Generating code comments or code documentation	( )	( )	( )	( )	( )	( )

Generating user documentation (e.g., manuals, tutorials, release notes)	( )	( )	( )	( )	( )	( )
Generating internal documentation	( )	( )	( )	( )	( )	( )
Generating tests	( )	( )	( )	( )	( )	( )
Generating commit messages	( )	( )	( )	( )	( )	( )
Explaining code	( )	( )	( )	( )	( )	( )
Summarizing recent code changes	( )	( )	( )	( )	( )	( )
Performing code reviews	( )	( )	( )	( )	( )	( )
Explaining bugs and offering fixes for them	( )	( )	( )	( )	( )	( )
Checking code for potential issues	( )	( )	( )	( )	( )	( )
Improving or optimizing code	( )	( )	( )	( )	( )	( )
Converting code to other languages	( )	( )	( )	( )	( )	( )

Refactoring code	( )	( )	( )	( )	( )	( )
Suggesting names for classes, functions, variables, etc.	( )	( )	( )	( )	( )	( )
Debugging code	( )	( )	( )	( )	( )	( )
Generating CLI commands by natural-language description	( )	( )	( )	( )	( )	( )
Search in natural-language queries for code fragments	( )	( )	( )	( )	( )	( )
Asking questions about software development and coding	( )	( )	( )	( )	( )	( )
Brainstorming new ideas	( )	( )	( )	( )	( )	( )
Learning new things about coding and software development	( )	( )	( )	( )	( )	( )

568) How important is each of the following aspects of AI tools for developers for you?

	Not important at all	**Slightly important**	**Moderately important**	**Very important**
Quality of code suggestions in code autocompletion	( )	( )	( )	( )
Speed of code autocompletion	( )	( )	( )	( )
Quality of generated code	( )	( )	( )	( )
Quality of answers in chat	( )	( )	( )	( )
Speed of response	( )	( )	( )	( )
Quality of context-awareness of AI features	( )	( )	( )	( )
Smooth integration with my IDE or code editor	( )	( )	( )	( )
Easy-to-use user interface	( )	( )	( )	( )
Customizable user interface and features	( )	( )	( )	( )
Predictability of features' behavior	( )	( )	( )	( )

570) To what degree do you agree or disagree with each of the following statements? "When using AI tools for developers, …"*

	Strongly disagree	**Disagree**	**Neither agree nor disagree**	**Agree**	**Strongly agree**
I feel more productive	( )	( )	( )	( )	( )
I am more satisfied with my workflow	( )	( )	( )	( )	( )
I am happier with my IDE experience	( )	( )	( )	( )	( )
It is easier for me to focus	( )	( )	( )	( )	( )
I make fewer mistakes while coding	( )	( )	( )	( )	( )
I spend less time searching for information	( )	( )	( )	( )	( )
I complete my tasks faster	( )	( )	( )	( )	( )
I complete my tasks	( )	( )	( )	( )	( )

with less mental effort					
I have more time for more interesting work tasks	( )	( )	( )	( )	( )
I have more time for learning new things or for my hobbies, friends, and family	( )	( )	( )	( )	( )
I find myself in a flow state more often	( )	( )	( )	( )	( )

Plugins

Logic: Show/hide trigger exists.

572) Do you use plugins with your IDE or editor?

( ) Yes

( ) No

Logic: Hidden unless: #572 Question "Do you use plugins with your IDE or editor?" is one of the following answers ("Yes")

573) Do you use paid plugins with your IDE or editor?

( ) Yes

( ) No

574) Have you ever contributed to the development of a plugin for the IDE you currently use the most?

( ) No

( ) No, but I'm considering creating a plugin in the future

( ) Yes, I've developed my own plugin

( ) Yes, I've made contributions to an open-source plugin project

( ) No, but I've reported issues or provided feedback for a plugin

Logic: Hidden unless: #572 Question "Do you use plugins with your IDE or editor?" is one of the following answers ("Yes")

575) How do you usually discover new plugins?

[ ] Online search

[ ] Recommendations from colleagues or friends

[ ] Browsing online marketplaces

[ ] Personalized in-product suggestions

[ ] Developer communities (Stack Overflow, Reddit, etc.)

[ ] Social media and developer blogs

[ ] Plugin lists within my IDE or editor's marketplace (featured, staff picks, top-rated, etc.)

[ ] Other, please specify:: _____

Logic: Hidden unless: #572 Question "Do you use plugins with your IDE or editor?" is one of the following answers ("Yes")

576) Which factors influence your decision to use a particular plugin the most?

[ ] Popularity

[ ] Unique functionality

[ ] Reviews and ratings

[ ] Clear documentation

[ ] Detailed descriptions of functionality

[ ] Regular updates and bug fixes

[ ] Vendor’s reputation

[ ] Other, please specify:: _____

Open Source

577) Do you contribute to open-source projects?*

( ) Yes, I work full time on open-source code and get paid for it

( ) Yes, I work full time on open-source code, but I do not get paid for it

( ) Yes, I contribute regularly (at least once a month)

( ) Yes, I contribute from time to time (several times a year)

( ) I have contributed only a few times

( ) No, but I would like to

( ) No, and I would not like to

Logic: Show/hide trigger exists.

578) Do you or your company support any open-source projects financially?

[ ] Yes, I regularly contribute financially

[ ] Yes, I occasionally contribute financially

[ ] No, but I have contributed financially in the past

[ ] No, I do not contribute financially

[ ] I'm not sure

Logic: Hidden unless: #578 Question "Do you or your company support any open-source projects financially?" is one of the following answers ("Yes, I regularly contribute financially","Yes, I occasionally contribute financially")

579) How much do you or your company pay to use any OSS projects (in USD)?

( ) Up to $100 a year

( ) $100 – $1,000 a year

( ) $1,000 – $5,000 a year

( ) More than $5,000 a year

( ) I'd prefer not to answer

Logic: Hidden unless: #578 Question "Do you or your company support any open-source projects financially?" is one of the following answers ("No, but I have contributed financially in the past","No, I do not contribute financially")

580) What keeps you or your company from paying to support open-source software?

[ ] Not a requirement

[ ] Hard to justify

[ ] Financially difficult

[ ] Other, please specify:: _____

Security+Hardware - Random

581) How large is the codebase you most typically work with?

( ) Extra Small

( ) Small

( ) Medium

( ) Large

( ) Extra Large

( ) Double Extra Large

The following questions are about security and hardware.

582) Do you follow a secure software development life cycle?

( ) Yes

( ) No

583) Which types of tools do you use for secure development?

[ ] I don't use any tools for secure development

[ ] IDE or editor

[ ] CI/CD solution

[ ] Issue tracker

[ ] Specialized / Dedicated security software

[ ] Other, please specify:: _____

584) Which features of your IDE do you use to help write secure code?

[ ] Built-in security inspections

[ ] Structural search and replace

[ ] Third-party plugins with security inspections

[ ] My own IDE plugin for handling custom cases

[ ] I don't use IDE features to help me write secure code

[ ] Other, please specify:: _____

585) Where would you prefer to be notified of security problems?

( ) In the IDE or editor, where I write code

( ) In a separate window within the IDE

( ) In a separate application outside of the IDE

( ) Other, please specify: _____*

( ) I'd prefer not to be notified of security problems

586) Which of the following security problems should an IDE be able to detect in order to help you write secure code?

[ ] Vulnerabilities in third-party dependencies

[ ] Malicious third-party dependencies

[ ] Licensing problems in third-party dependencies

[ ] Issues with processing personal data

[ ] Vulnerabilities in the source code

[ ] Hard-coded secrets

[ ] Problems relating to AI-generated code

[ ] Other, please specify:: _____

[ ] None of the above: _____

587) Would you be willing to send your code to a third party for security analysis?

( ) No, I would prefer not to send my code to a third party

( ) No, this is prohibited in our organization

( ) Yes

( ) Other, please specify:: _____*

588) In general, how would you prefer tools to help you with security problems?

[ ] Offer a solution generated by a predefined logic

[ ] Remove vulnerable code

[ ] Block the execution of vulnerable code

[ ] Offer a solution generated by AI

[ ] Provide a detailed description, highlight the problem, and let me decide

[ ] Other, please specify:: _____

[ ] I'd prefer tools not to help me with security problems

589) In your team, company, or organization, who makes the decision to update a project's external dependency?

[ ] Any software developer

[ ] A software developer responsible for related source code

[ ] Technical stakeholders

[ ] Business stakeholders

[ ] Security specialists

[ ] Multiple different roles

[ ] Other, please specify: _____

590) Which integrated solutions do you use to maintain the security of developed software?

[ ] I don't use any integrated solutions

[ ] Snyk

[ ] Checkmarx

[ ] FOSSA

[ ] GitLab

[ ] JFrog

[ ] Sonatype

[ ] Synopsys

[ ] Veracode

[ ] Other, please specify:: _____

Logic: Hidden unless: #3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization","Self-employed *(a person earning income directly from their own business, trade, or profession)*","Working student")

591) Who is responsible for secure software development in your company or organization?

[ ] Software developers

[ ] Quality assurance specialists

[ ] Site reliability engineers (SREs)

[ ] DevOps engineers

[ ] DevSecOps engineers

[ ] Security professionals inside each development team

[ ] Dedicated security team

[ ] Security champions

[ ] Other, please specify:: _____

592) Which types of devices do you use for development?

[ ] Desktop

[ ] Laptop

[ ] Tablet

[ ] Chromebook or similar device

[ ] Smartphone

[ ] Other, please specify:: _____

593) How much RAM do you have on the computer you use most often?

( ) I don’t know

( ) Less than 512 MB

( ) From 512 MB to less than 1 GB

( ) From 1 to less than 2 GB

( ) From 2 to less than 4 GB

( ) From 4 to less than 8 GB

( ) From 8 to less than 16 GB

( ) From 16 to less than 32 GB

( ) From 32 to less than 64 GB

( ) From 64 to less than 128 GB

( ) 128 GB or more

( ) Other, please specify:: _____

594) Which type of disk storage do you use most often for work?

( ) SSD

( ) HDD

( ) I use both SSD and HDD equally

( ) I don't know

595) How many monitors do you use for your work?

( ) 1

( ) 2

( ) 3

( ) 4

( ) Other, please specify:: _____

Education - Random

596) Which of the following best describes the highest level of formal education that you've completed?

( ) I never completed any formal education

( ) Primary / Elementary school

( ) Secondary school (e.g. American high school, German Realschule or Gymnasium, etc.)

( ) Incomplete college or university study without earning a bachelor's degree

( ) Bachelor's degree (BA, BS, BEng, etc.)

( ) Master's degree (MA, MS, MEng., MBA, etc.)

( ) Professional degree (JD, MD, etc.)

( ) Doctoral degree (PhD, EdD., etc.)

( ) Other, please specify:: _____

597) Have you ever made a career transition to tech or IT?

( ) Yes, I worked in another field before changing to tech / IT

( ) No, tech / IT has always been my primary field

( ) Other, please specify:: _____

Logic: Hidden unless: #5 Question "Which of the following best describe your job role?" is one of the following answers ("Developer / Programmer / Software Engineer","DevOps Engineer / Infrastructure Developer","DBA","Architect","Data Analyst / Data Engineer/ Data Scientist")

598) Which of the following educational institutions or resources empowered you to take your first step toward becoming a developer?

( ) Formal educational institution (university, college, or school)

( ) Offline courses (code schools)

( ) Free online courses (MOOCs or code schools)

( ) Paid online courses (MOOCs or code schools)

( ) Code camps / User groups / Meetups

( ) Blogs / Community forums

( ) Books

( ) Other, please specify:: _____

599) Which programming languages have you been learning in the past 12 months, if any?

[ ] I’ve not been learning any programming languages

[ ] Java

[ ] C

[ ] C++

[ ] Python

[ ] C#

[ ] PHP

[ ] JavaScript

[ ] Ruby

[ ] Kotlin

[ ] Swift

[ ] Scala

[ ] Go

[ ] R

[ ] TypeScript

[ ] Haskell

[ ] Elixir

[ ] Clojure

[ ] Rust

[ ] Other, please specify:: _____

600) Which of the following have you been using to learn new tools, technologies, or programming languages in the past 12 months?

[ ] I've not tried to learn anything new in the past 12 months

[ ] Offline educational organizations

[ ] Books

[ ] Personal teacher / Consultant

[ ] Online coding schools (Codecademy, JetBrains Academy, etc.)

[ ] MOOCs (Coursera, edX, Udacity, etc.)

[ ] Blogs / Forums

[ ] Documentation and APIs

[ ] Other, please specify:: _____

Work and Employment

Logic: Hidden unless: #3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization","Self-employed *(a person earning income directly from their own business, trade, or profession)*","Freelancer *(a person pursuing a profession without a long-term commitment to any one employer)*","Working student")

601) How satisfied are you in your (main) job?

( ) Completely satisfied

( ) Very satisfied

( ) Fairly satisfied

( ) Neither satisfied nor dissatisfied

( ) Fairly dissatisfied

( ) Very dissatisfied

( ) Completely dissatisfied

( ) I don’t know

Logic: Hidden unless: #22 Question "How many people work in your project team?" is one of the following answers ("2–7 people","8–12 people","13–20 people","21–40 people","More than 40 people")

602) Which agile software development framework(s) do you use in your team, if any?

[ ] None

[ ] Scrum

[ ] Kanban

[ ] XP

[ ] A combination of agile frameworks

[ ] Other, please specify:: _____

Logic: Hidden unless: (#22 Question "How many people work in your project team?" is one of the following answers ("2–7 people","8–12 people","13–20 people","21–40

people","More than 40 people") AND Question "How many people work for your company or organization?" is one of the following answers ("2–10","11–50","51–500","501–1,000","1,001–5,000","More than 5,000","I'm not sure"))

603) How is your team distributed?

( ) Across several countries

( ) Within one country

( ) Within one city

( ) Within one physical location

Logic: Hidden unless: #3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization","Self-employed *(a person earning income directly from their own business, trade, or profession)*","Freelancer *(a person pursuing a profession without a long-term commitment to any one employer)*","Working student")

604) In your current job, how would you rate the amount of work you do compared to what is expected of you?

( ) Significantly more than expected

( ) A bit more than expected

( ) As much as expected

( ) A bit less than expected

( ) Only the bare minimum

Validation: Max. answers = 3 *(if answered)*

Logic: Hidden unless: (#3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization","Self-employed *(a person earning income directly from their own business, trade, or profession)*","Freelancer *(a person pursuing a profession without a long-term commitment to any one employer)*","Working student") AND #8 Question "In which kinds of activities are you involved?" is one of the following answers ("Coding / Programming"))

605) What are the most challenging parts of your job? Select up to three.

[ ] Understanding user requirements

[ ] Communication with other job roles (product managers, QA engineers, UX designers)

[ ] Communication with other developers

[ ] Writing code

[ ] Understanding other people’s code

[ ] Debugging

[ ] Writing tests

[ ] Performing code reviews

[ ] Setting up my work environment

[ ] Improving team processes

[ ] Improving my technical skills

[ ] Context switching

[ ] Managing my team lead’s expectations

[ ] Waiting for various processes, like code compiling, CI/CD, or indexing, to finish

[ ] Other, please specify:: _____

Logic: Hidden unless: #3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization","Self-employed *(a person earning income directly from their own business, trade, or profession)*","Freelancer *(a person pursuing a profession without a long-term commitment to any one employer)*","Working student")

606) Where do you primarily work?

( ) Only from the office

( ) Mainly from the office

( ) Equally from the office and remotely

( ) Mainly remotely

( ) Only remotely

( ) Other, please specify:: _____

607) Is working from home allowed in your company or organization?

( ) Yes, always

( ) Yes, partially

( ) No, but exceptions can be made

( ) No, never

( ) I’m not sure

608) Do you have any restrictions in accessing the internet during your work?

( ) No, there are no restrictions

( ) Yes, there are minor restrictions, for example, non-work-related websites are blocked

( ) Yes, the internet is generally restricted, but it’s possible to get access from certain computers, via special software such as a VPN, or with special permissions

( ) Yes, internet access is completely blocked; we only have an internal network

Logic: Hidden unless: #8 Question "In which kinds of activities are you involved?" is one of the following answers ("Coding / Programming")

609) How much of your working time do you spend on activities directly involving code?

( ) Less than 10%

( ) 10–20%

( ) 21–30%

( ) 31–40%

( ) 41–50%

( ) 51–60%

( ) 61–70%

( ) 71–80%

( ) 81–90%

( ) More than 90%

610) How much of your working time do you spend on meetings, work-related chats, and emails?

( ) Less than 10%

( ) 10–20%

( ) 21–30%

( ) 31–40%

( ) 41–50%

( ) 51–60%

( ) 61–70%

( ) 71–80%

( ) 81–90%

( ) More than 90%

611) Do you code on weekends?

[ ] Yes, for work

[ ] Yes, for personal or side projects

[ ] Yes, for learning

[ ] Yes, for fun

[ ] No

Logic: Show/hide trigger exists. Hidden unless: #3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization","Self-employed *(a person earning income directly from their own business, trade, or profession)*","Working student","Retired","Currently unemployed")

612) Have there been any layoffs in companies you worked for in the past two years?

( ) Yes, mass layoffs

( ) Yes, small-scale layoffs

( ) No

( ) Not applicable

Logic: Hidden unless: #612 Question "Have there been any layoffs in companies you worked for in the past two years?" is one of the following answers ("Yes, mass layoffs","Yes, small-scale layoffs")

613) Have you personally been affected by layoffs in the past two years?

( ) Yes, I lost my job

( ) Yes, I kept my job, but the layoffs still affected me

( ) No

Logic: Hidden unless: #3 Question "What is your employment status?" is one of the following answers ("Fully employed by a company or organization","Partially employed by a company or organization","Self-employed *(a person earning income directly from their own business, trade, or profession)*","Freelancer *(a person pursuing a profession without a long-term commitment to any one employer)*","Working student")

614) How secure do you feel in your current job?

( ) Completely secure

( ) Very secure

( ) Fairly secure

( ) Hard to say

( ) Fairly insecure

( ) Very insecure

( ) Completely insecure

( ) I don’t know

615) How would you describe the current job market for software developers in your city or area, particularly in terms of how easy it is to get a job?

( ) Very favorable

( ) Somewhat favorable

( ) Neutral

( ) Somewhat challenging

( ) Very challenging

( ) I don’t know

Developer Experience 1 (JetBrains users)

The following questions are about developer experience and developer productivity.

Logic: Show/hide trigger exists.

616) How satisfied or dissatisfied are you with JetBrains tools overall?*

( ) Very satisfied

( ) Satisfied

( ) Neither satisfied nor dissatisfied

( ) Dissatisfied

( ) Very dissatisfied

618) How productive do you usually feel while working with JetBrains tools?*

( ) Very productive

( ) Productive

( ) Neither productive nor unproductive

( ) Unproductive

( ) Very unproductive

619) To what degree do each of the following statements describe your experience using JetBrains tools?

	Doesn’t describe it at all	**Somewhat describes it**	**Describes it well**	**Describes it perfectly**	**Not applicable**
The functionality I need is easy to find	( )	( )	( )	( )	( )
Comprehensive documentation and learning resources are available	( )	( )	( )	( )	( )
They integrate smoothly with my existing workflows and tools	( )	( )	( )	( )	( )
The user interface is intuitive	( )	( )	( )	( )	( )
They are customizable (theme, layout, plugins/extensions)	( )	( )	( )	( )	( )
They help solve my software development problems	( )	( )	( )	( )	( )
They are fast and highly performant	( )	( )	( )	( )	( )
They provide strong security and data protection measures	( )	( )	( )	( )	( )

Developer Experience 2 (not JetBrains users)

Logic: Show/hide trigger exists.

620) How satisfied or dissatisfied are you with your development tools (e.g. IDE, CI/CD solution, and others)?

( ) Very satisfied

( ) Satisfied

( ) Neutral

( ) Dissatisfied

( ) Very dissatisfied

622) How productive do you usually feel while working with your development tools?*

( ) Very productive

( ) Productive

( ) Neither productive nor unproductive

( ) Unproductive

( ) Very unproductive

623) To what degree do each of the following statements describe your experience using your development tools (e.g. IDE, CI/CD)?

	Doesn't describe it at all	**Somewhat describes it**	**Describes it well**	**Describes it perfectly**	**Not applicable**
The functionality I need is easy to find	( )	( )	( )	( )	( )
Comprehensive documentation and	( )	( )	( )	( )	( )

learning resources are available					
They integrate smoothly with my existing workflows	( )	( )	( )	( )	( )
The user interface is intuitive	( )	( )	( )	( )	( )
They are customizable (theme, layout, plugins/extensions)	( )	( )	( )	( )	( )
They help solve my software development problems	( )	( )	( )	( )	( )
They are fast and highly performant	( )	( )	( )	( )	( )
They provide strong security and data protection measures	( )	( )	( )	( )	( )

Productivity measurement Intro

624) Which of the following methods or metrics does your company or organization use to measure your productivity?*

[ ] Surveys and feedback forms (based on my personal perception of my productivity)

[ ] Key performance indicators (KPIs)

[ ] One-on-one interviews

[ ] Activity logs (e.g. code commits, pull requests)

[ ] Telemetry data (e.g. tracking mouse movement, keyboard usage, etc.)

[ ] Work journals or diaries

[ ] Observational assessments

[ ] Self-assessment (in any other form except surveys and feedback forms)

[ ] My productivity is not measured

[ ] My productivity is measured, but I am not aware of the methods used

[ ] I don't know if my productivity is measured

[ ] Other, please specify:: _____

Page entry logic: This page will show when: #624 Question "Which of the following methods or metrics does your company or organization use to measure your productivity?" is one of the following answers ("Surveys and feedback forms (based on my personal perception of my productivity)","Key performance indicators (KPIs)","One-on-one interviews","Activity logs (e.g. code commits, pull requests)","Telemetry data (e.g. tracking mouse movement, keyboard usage, etc.)","Work journals or diaries","Observational assessments","Self-assessment (in any other form except surveys and feedback forms)","My productivity is measured, but I am not aware of the methods used")

Productivity measurement

625) How frequently is your productivity measured?*

( ) Daily

( ) Weekly

( ) Monthly

( ) Quarterly

( ) Annually

( ) At irregular intervals

( ) Other, please specify:: _____

626) How do you feel about the fact that your productivity is being measured?*

( ) Very comfortable

( ) Somewhat comfortable

( ) Neutral

( ) Somewhat uncomfortable

( ) Very uncomfortable

627) Do you feel that the methods or metrics used to measure your productivity accurately reflect your productivity and contribution?*

( ) Yes

( ) No

( ) I’m not sure

Logic: Hidden unless: (#627 Question "Do you feel that the methods or metrics used to measure your productivity accurately reflect your productivity and contribution?" is one of the following answers ("No","I’m not sure") OR #626 Question "How do you feel about the fact that your productivity is being measured?" is one of the following answers ("Somewhat uncomfortable","Very uncomfortable"))

628) What would need to change to make you more comfortable with the productivity measurement process?*

( ) The method used (e.g. activity logs, issue tracking statistics, interviews, surveys, etc.)

( ) The specific metrics that are measured

( ) The frequency of measurement

( ) Who performs the measurement

( ) How the results are used in decision-making

( ) The transparency and clarity of the process

( ) The fairness of the process

( ) The ability to suggest modifications to the process

( ) I would like to receive constructive feedback based on the results to improve my development

( ) Other, please specify:: _____

629) How aware are you of the decisions made based on the assessment of your productivity?

( ) Fully aware – I am regularly informed about, and I fully understand how my productivity data is used in making decisions

( ) Mostly aware – I have a general understanding of how my productivity data is used in making decisions

( ) Somewhat aware – I have a limited understanding of how my productivity data is used in making decisions

( ) Slightly aware – I am rarely informed and have very little understanding of how my productivity data is used in making decisions

( ) Completely unaware – I am not at all aware of how my productivity data is used in making decisions

630) To what extent can you access and use your productivity data?*

( ) Full access and autonomy – I have complete access to my performance metrics, and I can initiate and implement changes influencing my productivity

( ) Limited access, with autonomy – I have some access to my productivity metrics, and I can initiate changes that may influence my productivity, which need to be approved by my team lead or manager

( ) Access without autonomy – I can see my performance metrics, but I need managerial approval to take any steps that may influence my productivity

( ) No access and no autonomy – I have no access to my performance metrics, and I cannot take any independent steps that may influence my productivity

( ) Other, please specify:: _____

Developer experience (for developer)

Logic: Show/hide trigger exists.

631) Are you familiar with the concept of developer experience?*

( ) Yes

( ) No

Logic: Hidden unless: #631 Question "Are you familiar with the concept of developer experience?" is one of the following answers ("Yes")

632) To what extent do you believe your developer experience is influenced by …?*

	Significantly influenced	Influenced	Somewhat influenced	Not at all influenced
Technical factors (such as performance of development tools, code editor responsiveness, etc.)?	( )	( )	( )	( )
Non-technical factors (such as team processes, clear communication, clear goals, fair compensation, your overall well-being, work-life balance, etc.)?	( )	( )	( )	( )

Logic: Show/hide trigger exists.

633) How is your satisfaction with development tools measured in your company?*

[ ] Through surveys and feedback forms

[ ] In one-on-one interviews

[ ] Via observational assessments

[ ] Informally, during spontaneous conversations

[ ] My satisfaction with development tools is not measured

[ ] I don’t know

[ ] Other, please specify:: _____

634) How frequently is your satisfaction with development tools measured?*

( ) Weekly

( ) Monthly

( ) Quarterly

( ) Annually

( ) At irregular intervals

( ) Other, please specify:: _____

Logic: Hidden unless: #633 Question "How is your satisfaction with development tools measured in your company?" is one of the following answers ("Through surveys and feedback forms","In one-on-one interviews","Via observational assessments","Informally, during spontaneous conversations")

635) How do you feel about the fact that your satisfaction with development tools is being measured?*

( ) Very comfortable

( ) Somewhat comfortable

( ) Neutral

( ) Somewhat uncomfortable

( ) Very uncomfortable

Logic: Hidden unless: (#633 Question "How is your satisfaction with development tools measured in your company?" is one of the following answers ("Through surveys and feedback forms","In one-on-one interviews","Via observational assessments","Informally, during spontaneous conversations") OR #624 Question "Which of the following methods or metrics does your company or organization use to measure your productivity?" is one of the following answers ("Surveys and feedback forms (based on my personal perception of

my productivity)","Key performance indicators (KPIs)","One-on-one interviews","Activity logs (e.g. code commits, pull requests)","Telemetry data (e.g. tracking mouse movement, keyboard usage, etc.)","Work journals or diaries","Observational assessments","Self-assessment (in any other form except surveys and feedback forms)","My productivity is measured, but I am not aware of the methods used"))

636) Who is primarily responsible for measuring your productivity and/or developer experience?*

[ ] My team lead

[ ] Human Resources

[ ] Myself

[ ] Platform Engineering team

[ ] Dedicated specialists (e.g. Developer Productivity Engineers) or dedicated teams (Developer Experience, Engineering Operations, Productivity & Happiness, Developer Infrastructure & Tools, and similar)

[ ] No one is responsible for measuring my productivity or developer experience

[ ] I don’t know

[ ] Other, please specify:: _____

Media

The following questions are about your experience with tech media.

637) Which types of media do you use to keep up with tech or software development news?

[ ] I don’t follow tech news

[ ] Aggregated news sites

[ ] Tech-focused print media

[ ] Tech-focused websites

[ ] Newsletters

[ ] Social media

[ ] YouTube

[ ] Podcasts

[ ] Blogs

[ ] Community forums

[ ] Other, please specify:: _____

640) Which of the following apps, platforms, or websites have you used or visited in the last 30 days?

[ ] Facebook

[ ] X (formerly Twitter)

[ ] LinkedIn

[ ] QQ

[ ] Baidu Tieba

[ ] Quora

[ ] Zhihu (知乎)

[ ] Instagram

[ ] GitHub

[ ] Stack Overflow

[ ] Reddit

[ ] Medium

[ ] DZone

[ ] TikTok

[ ] Twitch

[ ] DEV Community

[ ] HackerNoon

[ ] Hacker News

[ ] CodeProject

[ ] Bilibili

[ ] Douyin

[ ] YouTube

[ ] Substack

[ ] Spotify

[ ] Apple Music

[ ] Snapchat

[ ] Telegram

[ ] Tumblr

[ ] Discord

[ ] WeChat

[ ] Netflix

[ ] TechCrunch

[ ] The Register

[ ] The Verge

[ ] Other, please specify:: _____

[ ] None of the above

641) Which of the following tools or subscriptions do you use?

[ ] Tool for blocking online ads (such as AdBlock)

[ ] YouTube Premium

[ ] X (formerly Twitter) Premium or Premium+

[ ] Paid subscription for ad-free Instagram or Facebook

[ ] Telegram Premium

[ ] Reddit Premium

[ ] Quora+

[ ] Twitch Turbo

[ ] None of the above

642) How do you feel about personal data collection?

( ) I don’t care one way or another

( ) I am concerned with how my personal data is collected and used, but I don’t make a lot of effort to influence it

( ) I am concerned with how my personal data is collected and used, and I take steps to make sure it stays private

( ) I'm not sure what you mean

643) Have you attended any of the following events during the last year?

	Online	In person	Didn't attend
Conferences	[ ]	[ ]	[ ]
User groups	[ ]	[ ]	[ ]
Meetups	[ ]	[ ]	[ ]
Workshops	[ ]	[ ]	[ ]
Hackathons	[ ]	[ ]	[ ]

Gamification

Logic: Show/hide trigger exists.

645) How often do you use fun, reward-based (gamified)* apps or features to help you learn, work, or improve yourself?

Gamification refers to adding fun, game-like elements (such as points, levels, or rewards) to everyday activities to make them more engaging. Some examples include fitness challenges on apps, learning languages with Duolingo, and earning badges for completing tasks on productivity apps.

( ) Every day

( ) Several times a week

( ) Several times a month

( ) Several times a year

( ) Never

Logic: Hidden unless: #645 Question "How often do you use fun, reward-based (gamified)* apps or features to help you learn, work, or improve yourself?" is one of the following answers ("Every day","Several times a week","Several times a month","Several times a year")

646) In which aspects of life do you use gamification tools?

[ ] Personal development

[ ] Fitness

[ ] Sleep

[ ] Managing personal finances

[ ] Physical health

[ ] Learning foreign languages

[ ] Improving mental health

[ ] Learning professional tools

[ ] Learning professional skills

[ ] Work task management

[ ] Interaction with the larger developer community

[ ] Knowledge sharing

[ ] Daily life management

[ ] Focus and concentration management

[ ] None of the above

[ ] Other, please specify:: _____

647) Do you use WakaTime?

( ) Yes

( ) No, but I've heard about it

( ) No, I don't know what that is

Gamification (for management)

648) Do you agree or disagree with the following statement? “A fun reward-based (gamified*) approach to tasks and workflows is likely to improve my colleagues' work productivity.”

*By gamification, we mean adding fun game elements (like points, levels, or rewards) to work-related activities to make them more engaging. Some examples include earning points and badges for completing tasks, fixing bugs, code review, etc.

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

649) Do you use gamification (points, leaderboards, etc.) to enhance your colleagues' work processes?

[ ] Yes, we use digital gamification tools

[ ] Yes, we use our own non-digital solutions

[ ] Yes, we use third-party non-digital solutions

[ ] No

[ ] Other, please specify:: _____

650) How would you assess the overall skills and experience that developers in your company have in using professional development tools, including IDEs?

( ) Excellent

( ) Good

( ) Fair

( ) Poor

( ) I don’t know

( ) Other, please specify:: _____

651) Do you agree or disagree with the following statement? “My teammates’ proficiency with professional development tools affects my team’s overall performance and productivity.”

( ) Strongly disagree

( ) Disagree

( ) Neutral

( ) Agree

( ) Strongly agree

Self-monitoring

652) How familiar are you with the concept of mental health?

( ) I’ve never heard of it

( ) I’m vaguely aware of it

( ) I know about it, but I’m not interested in the topic

( ) I’m actively interested in this topic

653) Based on your experience, how often are you affected by each of the following psychological or emotional challenges?

	Daily	**Twice a week, or more**	**Once or twice a month**	**Less than once a month**	**I used to, but not anymore**	**Never**
Difficulty maintaining focus	( )	( )	( )	( )	( )	( )

Feelings of low mood or sadness	( )	( )	( )	( )	( )	( )
Anxiety or persistent worrying	( )	( )	( )	( )	( )	( )
Burnout or exhaustion	( )	( )	( )	( )	( )	( )
Challenges with detaching from work (cannot stop thinking about work)	( )	( )	( )	( )	( )	( )
Imposter syndrome	( )	( )	( )	( )	( )	( )
Social isolation or feeling disconnected from colleagues	( )	( )	( )	( )	( )	( )
Tech overload (overwhelmed by constantly changing technologies and the need to keep up)	( )	( )	( )	( )	( )	( )
Information overload (overwhelmed by the amount of information and its	( )	( )	( )	( )	( )	( )

sources that you need to keep up with)						
Deadline stress	( )	( )	( )	( )	( )	( )
Work-life imbalance	( )	( )	( )	( )	( )	( )
Sleep issues due to work stress	( )	( )	( )	( )	( )	( )

654) How often do you find yourself continuing to work despite feeling fatigued or tired?

( ) Multiple times a day

( ) Daily

( ) More than twice a week, but not every day

( ) Weekly

( ) More than once a month, but less than weekly

( ) Monthly

( ) A few times a year

( ) Never

655) Have you ever experienced burnout?

By “burnout” we mean emotional exhaustion and decreased motivation due to intense or difficult work.

( ) Yes

( ) No

656) In which aspects of life do you use special tools or apps to help take care of your mental health?

[ ] Meditation and mindfulness practices

[ ] Sleep enhancement

[ ] Focus and concentration improvement

[ ] Stress management

[ ] Anxiety reduction

[ ] Anger management

[ ] Addiction recovery support

[ ] Psychotherapy (e.g. CBT, DBT)

[ ] Mood/emotion tracking and improvement

[ ] Self-esteem and confidence building

[ ] Relationship and communication skills

[ ] Grief and loss support

[ ] Personal growth and development

[ ] Resilience training

[ ] Parenting and family dynamics

[ ] None of the above

[ ] Other, please specify:: _____

657) Do you use any self-monitoring apps or devices to track physical activity, sleep quality, health, and so on?

( ) Yes

( ) No

658) Do you take care of your mental health? Please select all that apply.

[ ] No

[ ] Yes, I visit a therapist

[ ] Yes, I take prescribed medications

[ ] Yes, I take over-the-counter medications

[ ] Yes, I use psychological techniques and practices on my own (mindfulness meditation, etc.)

[ ] Other, please specify:: _____

659) Does your company subsidize mental health activities (e.g. subscription to mental health apps)?

( ) Yes

( ) No

660) Which of the following statements best describes you?

( ) I rarely feel tired

( ) I don’t often feel tired while working, but I do feel tired after finishing work

( ) I sometimes feel tired while working

( ) I often feel tired while working

( ) I always feel tired

( ) Other, please specify:: _____

661) Which of the following metrics do you believe most accurately reflects your personal productivity?

( ) Number of tasks completed

( ) Number of fixed bugs

( ) Number of code reviews completed

( ) Time spent reading code

( ) Time spent writing code

( ) Time spent debugging

( ) Number of code lines written

( ) Number of files changed

( ) Number of commits made

( ) Number of projects opened

( ) Number of queries executed

( ) Number of context switches

( ) Active time in the IDE

( ) Number of changes made to code

( ) Code quality metrics

( ) Test coverage metrics

( ) None of the above

( ) Other, please specify:: _____

Page entry logic: This page will show when: (#16 Question "What is your gender?" is one of the following answers ("Female","Non-binary, genderqueer, or gender non-conforming") OR #652 Question "How familiar are you with the concept of mental health?")

Biased treatment

Logic: Show/hide trigger exists.

662) Have you faced any of the following situations in the tech industry over the last year?*

[ ] Being overlooked for promotions or challenging projects

[ ] Experiencing the need to prove my competence again and again

[ ] Being regularly assigned menial tasks, such as taking notes, ordering food, and so on

[ ] Being micromanaged by my superiors

[ ] Having my work quality routinely evaluated as acceptable even when it’s excellent

[ ] Feeling not valued or recognized in the workplace

[ ] Colleagues not consulting me in areas I’m qualified in but instead consulting other, less-qualified coworkers

[ ] Colleagues presenting my ideas as theirs without proper credit or attribution

[ ] Lacking growth opportunities in the tech industry

[ ] Feeling like I’m not accepted in the tech industry

[ ] Receiving unsolicited or offensive comments or hearing inappropriate jokes

[ ] Being the target of disrespectful or dismissive behavior at work

[ ] Experiencing unwanted physical contact

[ ] Experiencing disparities in salary or benefits that seem unrelated to job performance or qualifications

[ ] Inappropriate expectations from others about my family vs. work priorities

[ ] Having to step down after a childcare leave

[ ] Being told that I’m too aggressive, bossy, or abrasive at work

[ ] Feeling excluded from informal social activities or networking opportunities at work

[ ] None of the above

Logic: Hidden unless: #662 Question "Have you faced any of the following situations in the tech industry over the last year?" is one of the following answers ("Being overlooked for promotions or challenging projects","Experiencing the need to prove my competence again and again","Being regularly assigned menial tasks, such as taking notes, ordering food, and so on","Being micromanaged by my superiors","Having my work quality routinely evaluated as acceptable even when it’s excellent","Feeling not valued or recognized in the workplace","Colleagues not consulting me in areas I’m qualified in but instead consulting other, less-qualified coworkers","Colleagues presenting my ideas as theirs without proper credit or attribution","Lacking growth opportunities in the tech industry","Feeling like I’m not accepted in the tech industry","Receiving unsolicited or offensive comments or hearing inappropriate jokes","Being the target of disrespectful or dismissive behavior at work","Experiencing unwanted physical contact","Experiencing disparities in salary or benefits that seem unrelated to job performance or qualifications","Inappropriate expectations from others about my family vs. work priorities","Having to step down after a childcare leave","Being told that I’m too aggressive, bossy, or abrasive at work","Feeling excluded from informal social activities or networking opportunities at work")

663) Which of the following traits or characteristics might be the basis of the biased treatment you've received?*

[ ] My age

[ ] My gender

[ ] My sexual orientation

[ ] My immigrant status

[ ] My racial, ethnic, or national identity

[ ] My religious affiliation

[ ] My personality or social behavior

[ ] My physical characteristics or health conditions

[ ] My mental health conditions

[ ] None of the above

[ ] I’m not sure

[ ] Other, please specify:: _____

Page entry logic: This page will show when: #16 Question "What is your gender?" is one of the following answers ("Female")

Diversity

Previous iterations of the Developer Ecosystem Survey have consistently revealed that only about 5% of programmers worldwide are women, varying from 10% to as low as 2% in different countries. This year, we're looking deeper into why this is the case and what challenges women are currently facing in the tech industry. Our goal is to understand the obstacles that hinder your participation in tech and, by raising awareness of these issues, hopefully make the industry more accessible to women.

Logic: Show/hide trigger exists.

664) As far as you're aware, which of the following measures are being implemented in your country to attract and retain women in tech and to support their career advancement?

[ ] Prohibition of any discriminatory practices against women

[ ] Parental leave available for both mothers and fathers

[ ] Extended and paid maternity leave over 6 months

[ ] Protecting the jobs of women who are unable to work during pregnancy

[ ] Support for female-owned startups and female entrepreneurship

[ ] Child care expense compensation or government-funded kindergartens

[ ] Grants for women for conducting research or undertaking projects in the tech industry

[ ] Fellowships targeting women at the graduate or postgraduate level, providing support for advanced studies, research, or development work in tech-related fields

[ ] Specialized educational programs for women, including scholarships and grants

[ ] Mentorship programs that connect aspiring women in tech with experienced professionals

[ ] Awareness campaigns about tech careers for women in schools and universities that challenge stereotypes and encourage interest

[ ] Gender quotas for education

[ ] Flexible work schedules

[ ] Assisting employees in returning to work after maternity leave, including training, upskilling courses, and gradual return to full-time employment

[ ] On-site childcare

[ ] Promoting an all-gender-inclusive culture

[ ] Public campaigns to draw attention to the importance of diversity in tech and encourage women to pursue careers in this field

[ ] Seminars, support groups, or counseling services for parents to help them manage the challenges of balancing career and family

[ ] I’m not aware of any such policies or practices where I live

[ ] Other, please specify:: _____

Diversity 2

Logic: Show/hide trigger exists. Hidden unless: #664 Question "As far as you’re aware, which of the following measures are being implemented in your country to attract and retain women in tech and to support their career advancement?" is one of the following answers ("Prohibition of any discriminatory practices against women","Parental leave available for both mothers and fathers","Extended and paid maternity leave over 6 months","Protecting the jobs of women who are unable to work during pregnancy","Support for female-owned startups and female entrepreneurship","Child care expense compensation or government-funded kindergartens","Grants for women for conducting research or undertaking projects in the tech industry","Fellowships targeting women at the graduate or postgraduate level, providing support for advanced studies, research, or development work in tech-related fields","Specialized educational programs for women, including scholarships and grants","Mentorship programs that connect aspiring women in tech with experienced professionals","Awareness campaigns about tech careers for women in schools and universities that challenge stereotypes and encourage interest","Gender quotas for education","Flexible work schedules","Assisting employees in returning to work after maternity leave, including training, upskilling courses, and gradual return to full-time employment","On-site childcare","Promoting an all-gender-inclusive culture","Public campaigns to draw attention to the importance of diversity in tech and encourage women to pursue careers in this field","Seminars, support groups, or counseling services for parents to help them manage the challenges of balancing career and family")

665) Which of the measures you selected above have personally helped you in any way?

[ ] Prohibition of any discriminatory practices against women

[ ] Parental leave available for both mothers and fathers

[ ] Extended and paid maternity leave over 6 months

[ ] Protecting the jobs of women who are unable to work during pregnancy

[ ] Support for female-owned startups and female entrepreneurship

[ ] Child care expense compensation or government-funded kindergartens

[ ] Grants for women for conducting research or undertaking projects in the tech industry

[ ] Fellowships targeting women at the graduate or postgraduate level, providing support for advanced studies, research, or development work in tech-related fields

[ ] Specialized educational programs for women, including scholarships and grants

[ ] Mentorship programs that connect aspiring women in tech with experienced professionals

[ ] Awareness campaigns about tech careers for women in schools and universities that challenge stereotypes and encourage interest

[ ] Gender quotas for education

[ ] Flexible work schedules

[ ] Assisting employees in returning to work after maternity leave, including training, upskilling courses, and gradual return to full-time employment

[ ] On-site childcare

[ ] Promoting an all-gender-inclusive culture

[ ] Public campaigns to draw attention to the importance of diversity in tech and encourage women to pursue careers in this field

[ ] Seminars, support groups, or counseling services for parents to help them manage the challenges of balancing career and family

[ ] Other, please specify:: _____

[ ] None

Logic: Hidden unless: #665 Question "Which of the measures you selected above have personally helped you in any way?" is one of the following answers ("Prohibition of any discriminatory practices against women","Parental leave available for both mothers and fathers","Extended and paid maternity leave over 6 months","Protecting the jobs of women who are unable to work during pregnancy","Support for female-owned startups and female entrepreneurship","Child care expense compensation or government-funded kindergartens","Grants for women for conducting research or undertaking projects in the tech industry","Fellowships targeting women at the graduate or postgraduate level, providing support for advanced studies, research, or development work in tech-related fields","Specialized educational programs for women, including scholarships and

grants","Mentorship programs that connect aspiring women in tech with experienced professionals","Awareness campaigns about tech careers for women in schools and universities that challenge stereotypes and encourage interest","Gender quotas for education","Flexible work schedules","Assisting employees in returning to work after maternity leave, including training, upskilling courses, and gradual return to full-time employment","On-site childcare","Promoting an all-gender-inclusive culture","Public campaigns to draw attention to the importance of diversity in tech and encourage women to pursue careers in this field","Seminars, support groups, or counseling services for parents to help them manage the challenges of balancing career and family","Other, please specify:")

Lifestyle

We're almost done! This last series of questions is about your everyday life, hobbies, habits, and well-being.

667) Which activities or hobbies do you pursue in your free time? (Select up to three.)

[ ] Creative arts

[ ] Performing arts

[ ] Playing board games

[ ] Cooking

[ ] Dancing

[ ] Spending time with pets

[ ] DIY (do it yourself) projects or handicrafts

[ ] Gardening

[ ] Physical exercise or sports

[ ] Learning foreign languages

[ ] Listening to music

[ ] Photography

[ ] Programming for fun

[ ] Reading

[ ] Socializing

[ ] Parenting or spending time with family

[ ] Traveling

[ ] Playing video games

[ ] Volunteering or activism

[ ] Walking

[ ] Watching TV or video streaming services

[ ] Creative writing

[ ] Yoga or meditation

[ ] Collecting

[ ] I have no spare time for hobbies

[ ] Other, please specify:: _____

668) Which generation do you identify with?

( ) Baby Boomers (1946–1964)

( ) Generation X (1965–1980)

( ) Millennials (1981–1996)

( ) Generation Z (1997–2012)

( ) I don't really care about generations

Validation: Max. answers = 3 *(if answered)*

669) What does “good code” mean to you? Select up to three qualities.

[ ] Readable

[ ] Maintainable

[ ] Beautiful

[ ] Coherent

[ ] Searchable

[ ] Robust

[ ] Secure

[ ] Simple

[ ] Elegant

[ ] Other, please specify:: _____

Thank You!

If there's anything you'd like to discuss with us concerning this survey, please email us at surveys@jetbrains.com.
