

Trending Developer Technologies

Zach Stafiej

March 7th, 2025



OUTLINE



- Executive Summary
- Introduction
- Methodology
- Results
 - Visualization – Charts
 - Dashboard
- Discussion
 - Findings & Implications
- Conclusion
- Appendix

EXECUTIVE SUMMARY



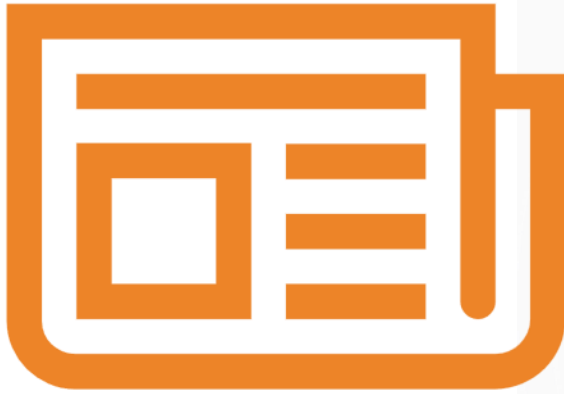
- Data Contextualization & Analysis Goal.
- Methodology Description.
 - Data Gathering.
 - Data Analysis
 - Data Visualizations.
- Results Including Graphs & Trends
- Discussion of Overall Findings
- Final Conclusions

INTRODUCTION



- Stack Overflow's Annual Developer Survey captures responses from over 14,000 developers globally.
- Highlights key technologies and frameworks in use today and reveals what developers aim to adopt next.
- The data offers insights into industry directions and helps organizations plan for emerging trends.

METHODOLOGY

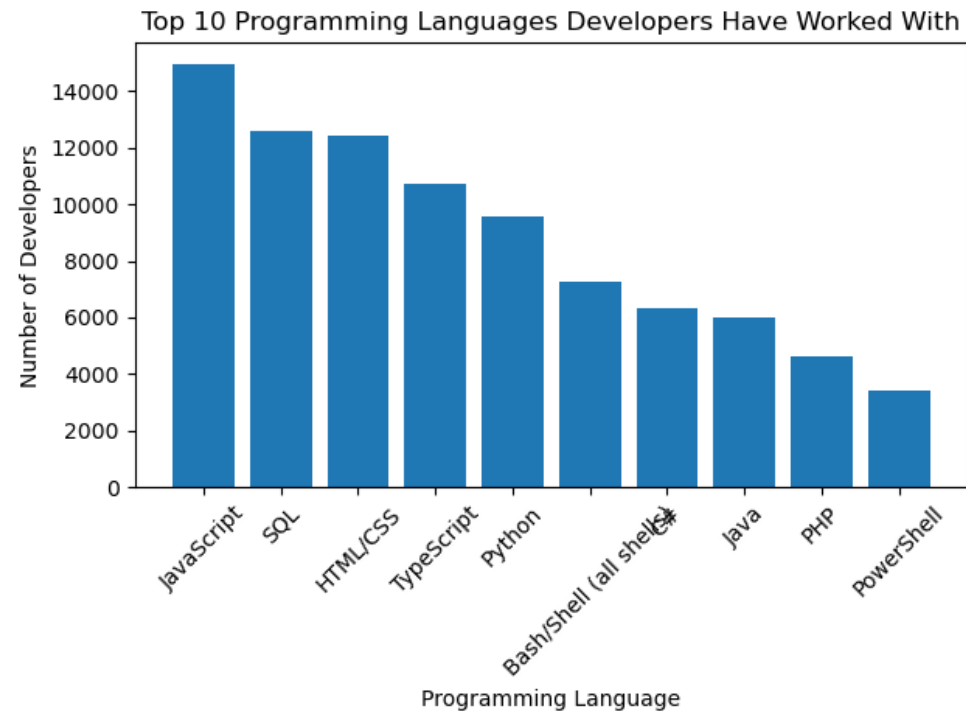


- Collecting Survey Data & Exploration
 - Web Scraping
 - APIs
 - Request & Pandas
- Data Wrangling
- Exploratory Data Analysis
 - Analyzing Data Distribution
 - Handling Outliers
 - Correlations
- Data Visualization
 - Distribution, Relationships, and Comparison of Data.
- Dashboards

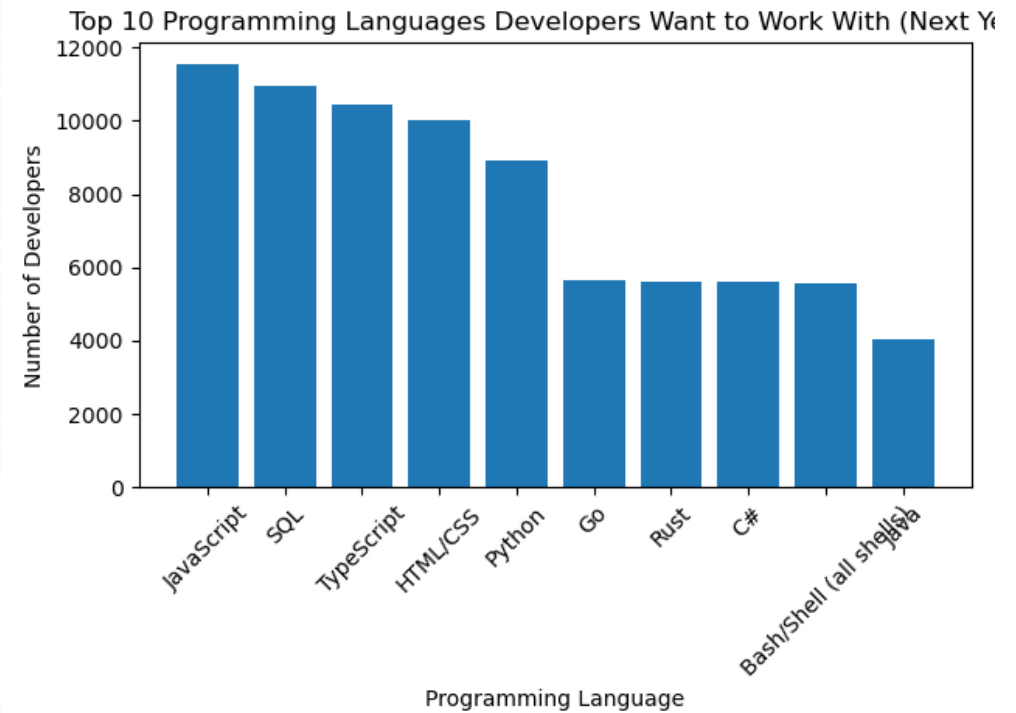


PROGRAMMING LANGUAGE TRENDS

Current Year



Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- **JavaScript** remains the dominant language both in current usage and future interest.
- **SQL** holds a strong second place, underscoring the ongoing reliance on relational databases in most applications.
- **Python** shows consistent usage, favored for Data Science, automation, and back-end scripting.

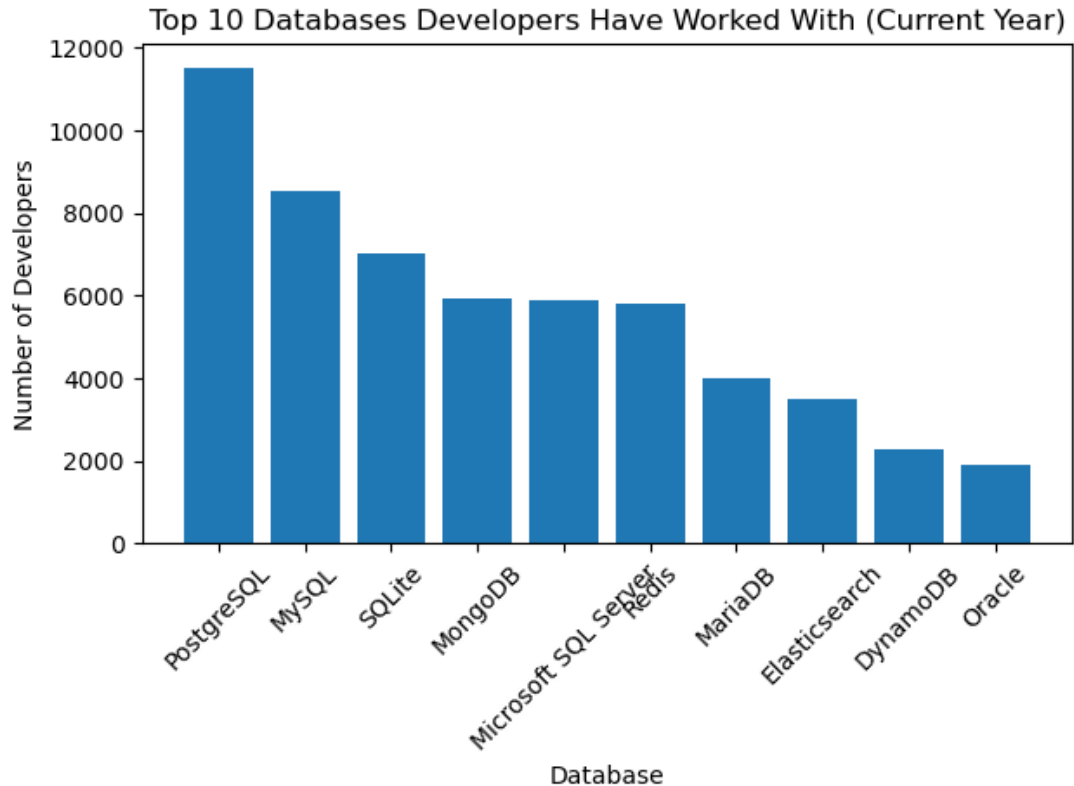
Implications

- Mastery of TypeScript can improve code maintainability and scale for larger applications.
- Databases remain central to most applications, making SQL a critical skill for data-driven and transactional systems.
- Data analytics, AI/ML, and automation drive Python's broad usage.

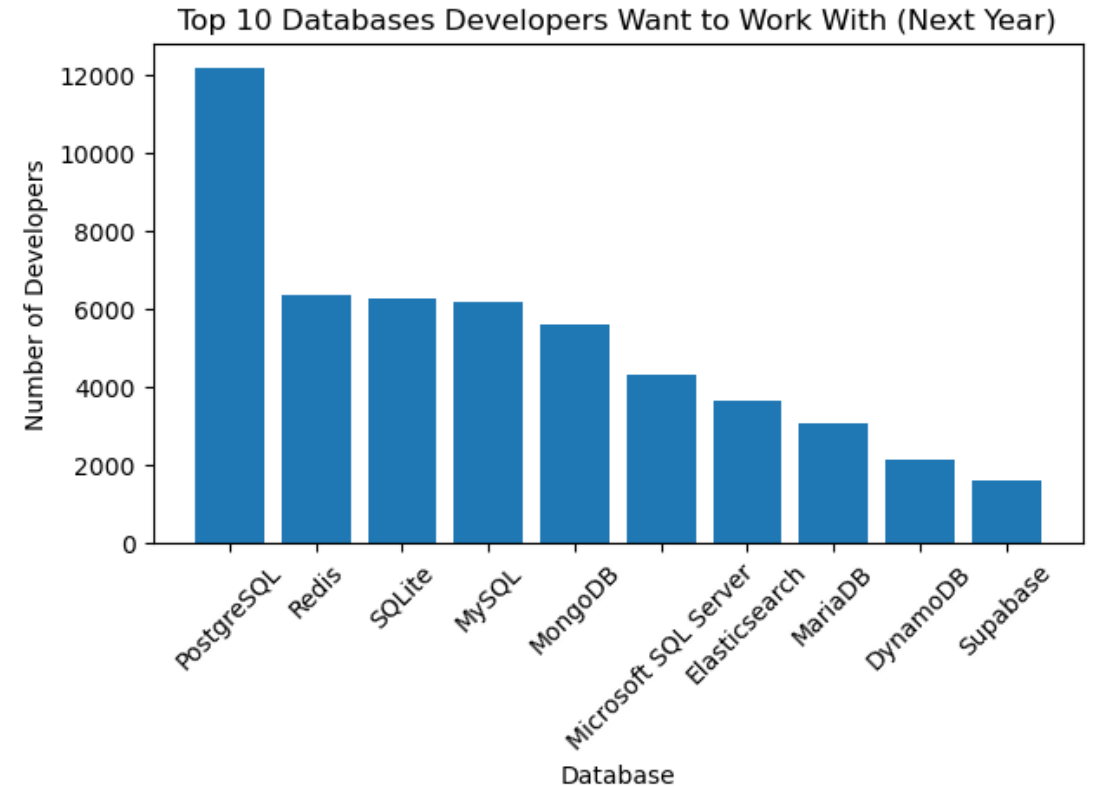


DATABASE TRENDS

Current Year



Next Year



DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- **PostgreSQL** stands out as the clear leader, ranking first in both current usage and future demand.
- **MySQL** appears prominently across both charts, underscoring the popularity of lightweight relational databases and flexible noSQL options.
- **Microsoft SQL Server**, remains a stable choice for enterprise environments.

Implications

- SQL databases remain staples of the industry, confirming an ongoing need for strong SQL skills and data-modeling expertise.
- Organizations should invest in both traditional relational databases and specialized data stores to handle diverse workloads.
- Teams can benefit by upskilling around PostgreSQL administration, distributed caching, and search to remain competitive in a data intensive landscape.



DASHBOARD: Current Technology Usage



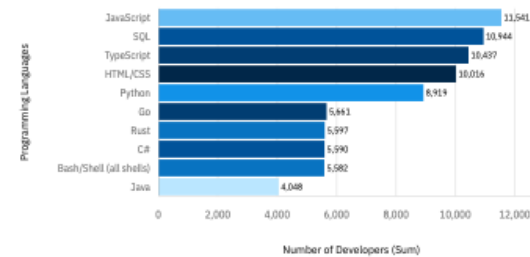
DASHBOARD: Future Technology Trends

3/6/25, 8:43 PM

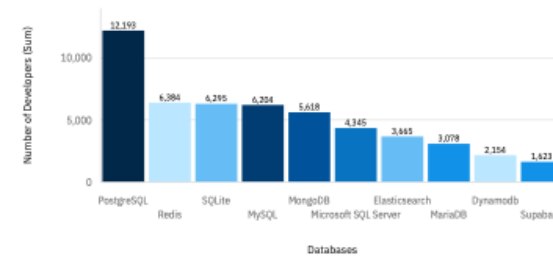
Future Technology Trend

Tab 1

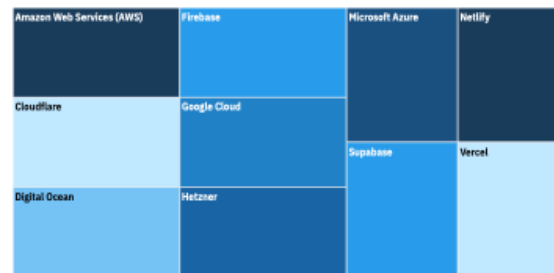
Top 10 Programming Languages Developers Want to Work With



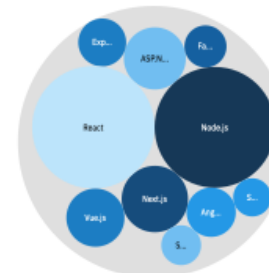
Top 10 Databases Developers Want to Work With



Top 10 Platforms Developers Want to Work With



Top 10 Web Frameworks Developers Want to Work With



<https://us1.ca.analytics.ibm.com/bi/?perspective=dashboards&id=C5B9A2A0C68249BFB669D70D1FB19606&objRef=C5B9A2A0C68249BFB669D70D1FB19606&options%5BdisableGlassPrefetch%5D=true&options%5BdisableGlassPrefetch%5D=true&options%5BdisableGlassPrefetch%5D=true>

DASHBOARD: Demographics

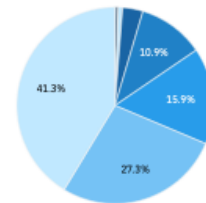
3/6/25, 8:43 PM

Demographics

Tab 1

Respondent Distribution by Age

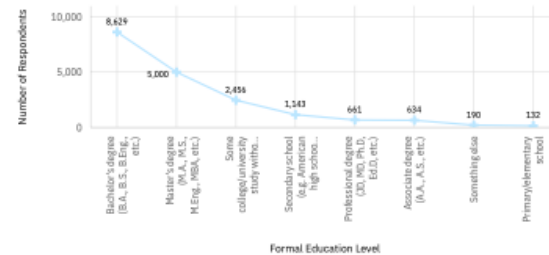
Age
 ● Prefer not to say ● 65 years or older ● Under 18 years old ● 55-64 years old
 ● 45-54 years old ● 18-24 years old ● 35-44 years old ● 25-34 years old



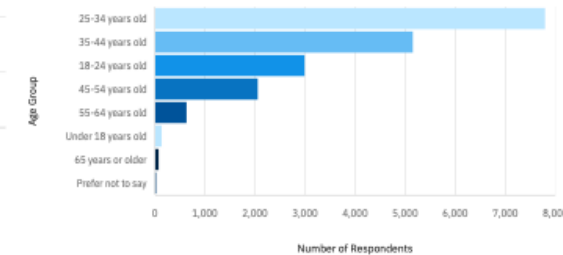
Respondent Distribution by Country



Respondent Distribution by Formal Education Level



Respondent Count by Age and Education Level



<https://us1.ca.analytics.ibm.com/bi/?perspective=dashboards&id=IF1BD196DD294E7A9C4A19CABBA0C4DA&objRef=IF1BD196DD294E7A9C4A19CABBA0C4DA&options%5BdisableGlassPrefetch%5D=true&up...> 1/1



DISCUSSION



- JavaScript and SQL remain the most widely used programming languages.
- AWS is the most commonly used platform.
- PostgreSQL is the leading database, followed by MySQL, SQLite, and MongoDB.
- Most respondents are 25-34 years old, with bachelor's degrees as the predominant education level.

OVERALL FINDINGS & IMPLICATIONS

Findings

- **JavaScript** remains core for web development.
- **SQL** endures due to extensive database use.
- **Python** holds strong for automation and data-focused roles.
- **Cloud platforms** are essential for large-scale deployments, confirming the shift to distributed architectures.

Implications

- Rapid evolution in programming languages requires proactive learning and adaptation.
- Enduring reliance on SQL-based systems underscores the importance of database skills.
- Rising demand for in-memory and NoSQL solutions shows a trend toward real-time data processing.
- Emphasis on scalable, cloud-based infrastructure calls for cloud-native practices and DevOps integration.

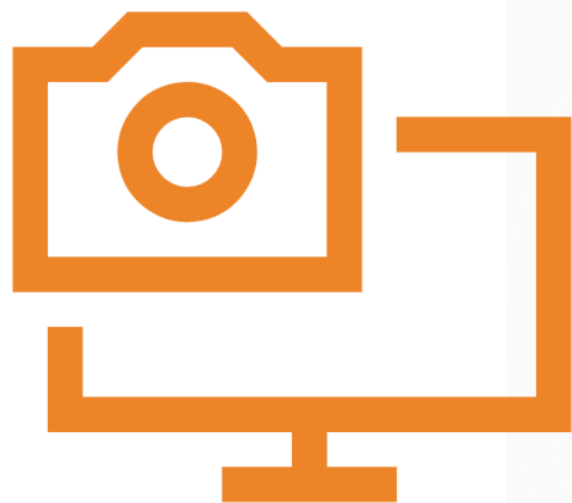


CONCLUSION

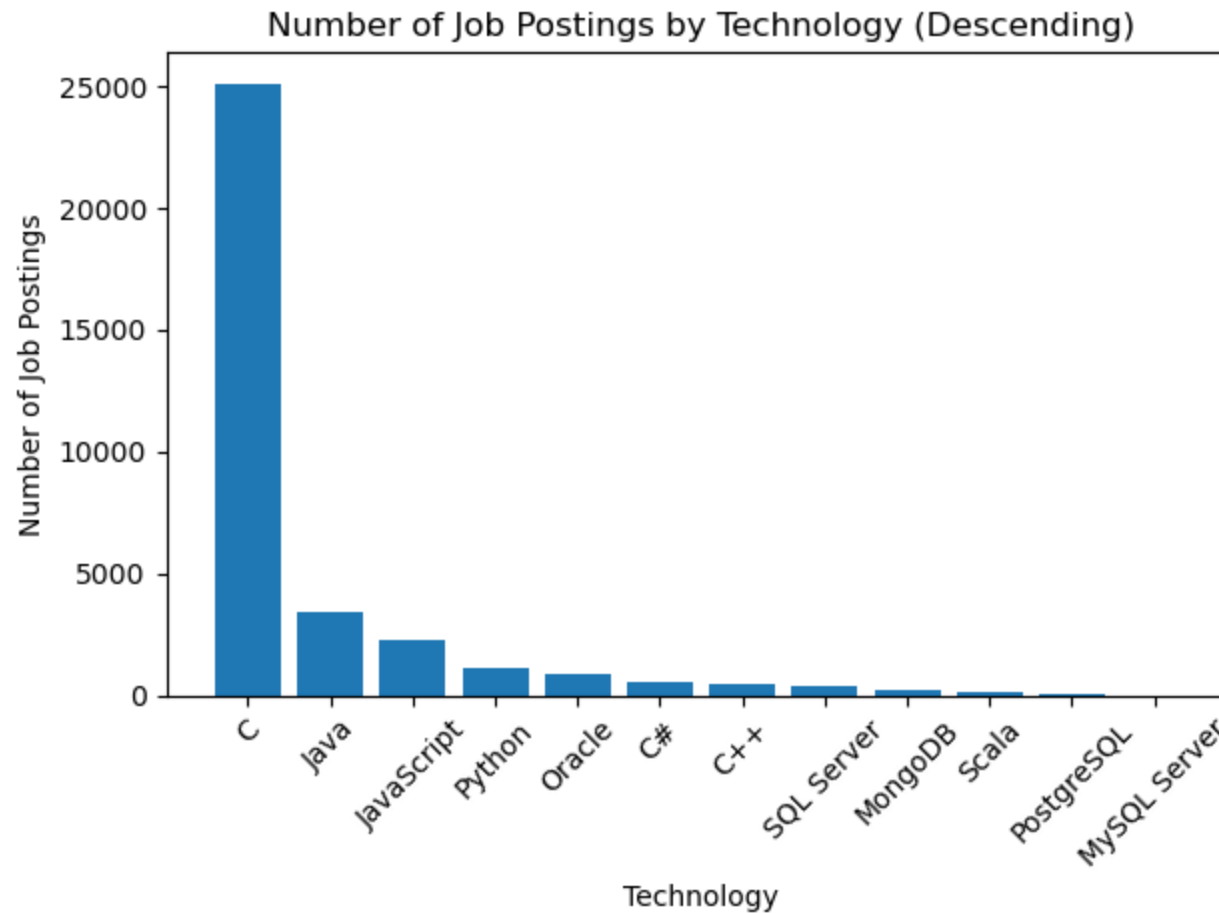


- Dominance of JavaScript & SQL
- PostgreSQL Leading Database
- Developer Demographics
 - Younger, bachelor-educated professionals are shaping today's technology landscape.
- Future-Proofing
 - Staying competitive means adopting new languages, embracing modern data stores, and leveraging the cloud for scalability and innovation.

APPENDIX



JOB POSTINGS



POPULAR LANGUAGES

