

# Developer Technology Trends



**Created & Presented By**

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8<sup>th</sup> Sept 2025

# OUTLINE

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



# EXECUTIVE SUMMARY

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- The 2024 Stack Overflow Developer Survey reveals clear technology adoption and future preferences among developers worldwide.
- Programming languages such as JavaScript, Python, and SQL dominate current use, while Python and TypeScript show strong future demand.
  - Databases: MySQL and PostgreSQL remain widely used, with PostgreSQL gaining momentum in future preferences.
  - Platforms: Windows remains dominant, while Linux and Docker are expected to see increased demand.
  - Web frameworks: React and Node.js lead usage, while React continues to top future interest.
- Demographics highlight a young developer population, with a large share in the 25–34 age group.
- Education levels vary, but majority of respondents hold a bachelor's degree or equivalent.
- Global distribution shows strong participation from the United States, India, and major European countries.



# INTRODUCTION

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- The Stack Overflow Developer Survey is one of the largest annual surveys capturing developer preferences and trends.
- The 2024 dataset provides insights into technology usage, future trends, and demographics across the global developer community.
- Understanding these trends helps organizations align hiring, training, and technology adoption strategies.
- This report focuses on key dimensions: programming languages, databases, platforms, web frameworks, and demographics.
  - Sub The Stack Overflow Developer Survey is one of the largest annual surveys capturing developer preferences and trends.
  - Sub The 2024 dataset provides insights into technology usage, future trends, and demographics across the global developer community.



# METHODOLOGY

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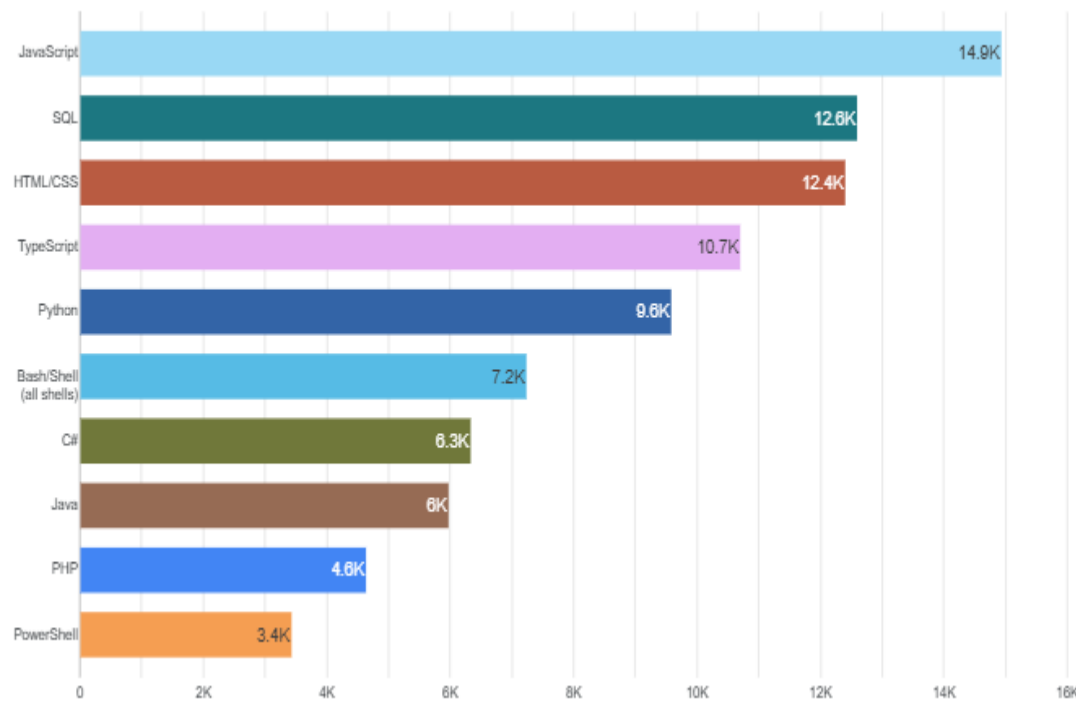
- Dataset: 2024 Stack Overflow Developer Survey responses.
- Web API was used to collect job posting data for different technologies
- Popular Programming Languages data was web scraped from IBM Skills Network.
- Data cleaning involved handling multi-response fields such as 'LanguagesHaveWorkedWith'.
- Semi-colon separated values were split and exploded into individual rows for accurate counting.
- Top 10 rankings were calculated for each category (languages, databases, platforms, frameworks).



# PROGRAMMING LANGUAGE TRENDS

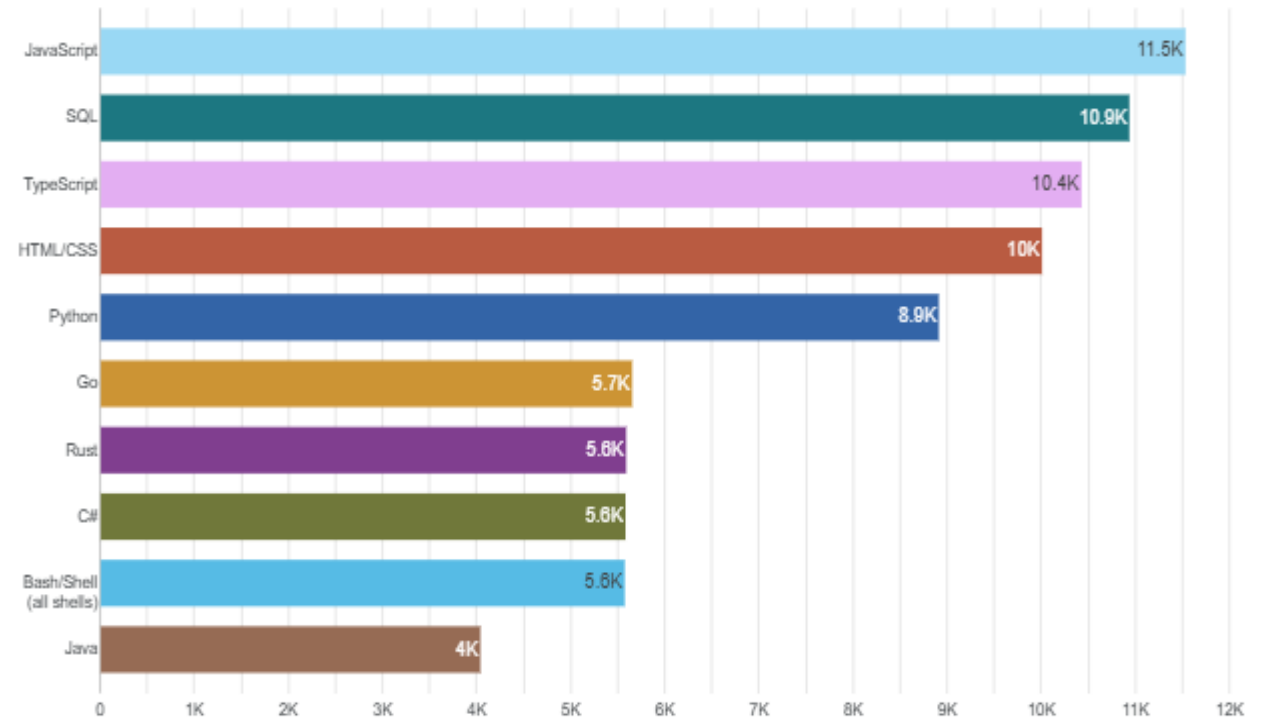
Current Year

Top 10 Languages Used



Next Year

Top 10 Languages Desired Next Year



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- JavaScript and Python are the most widely used programming languages in 2024.
- Python, TypeScript, and Go show higher interest for future adoption.
- Older languages like C and PHP show declining developer interest.

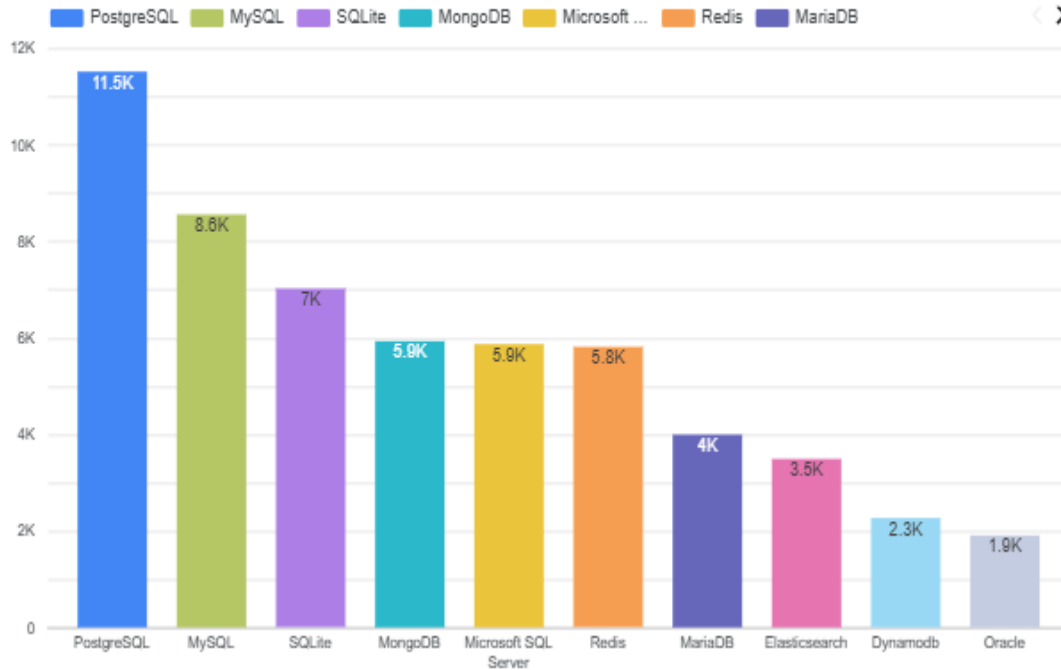
## Implications

- Organizations should continue investing in JavaScript and Python ecosystems.
- Training programs should focus on Python and TypeScript to meet developer demand.
- Languages with declining popularity may face reduced community support over time.

# DATABASE TRENDS

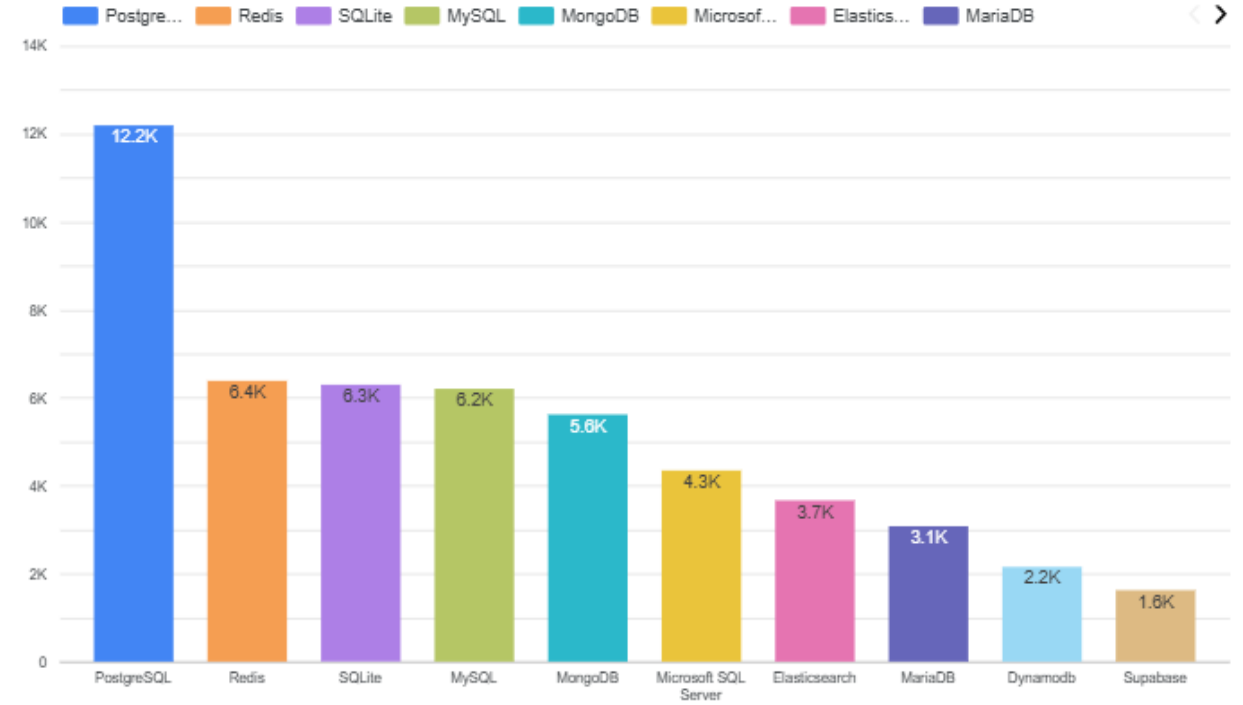
## Current Year

Top 10 Databases Used



## Next Year

Top 10 Databases Desired Next Year





# DATABASE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- MySQL and PostgreSQL dominate current database usage.
- PostgreSQL shows strong momentum for future adoption.
- MongoDB continues to be a preferred NoSQL option.

## Implications

- Enterprises should consider PostgreSQL for scalability and developer preference.
- NoSQL databases will remain critical for modern application needs.
- Legacy systems using less popular databases may require modernization.



# DASHBOARD

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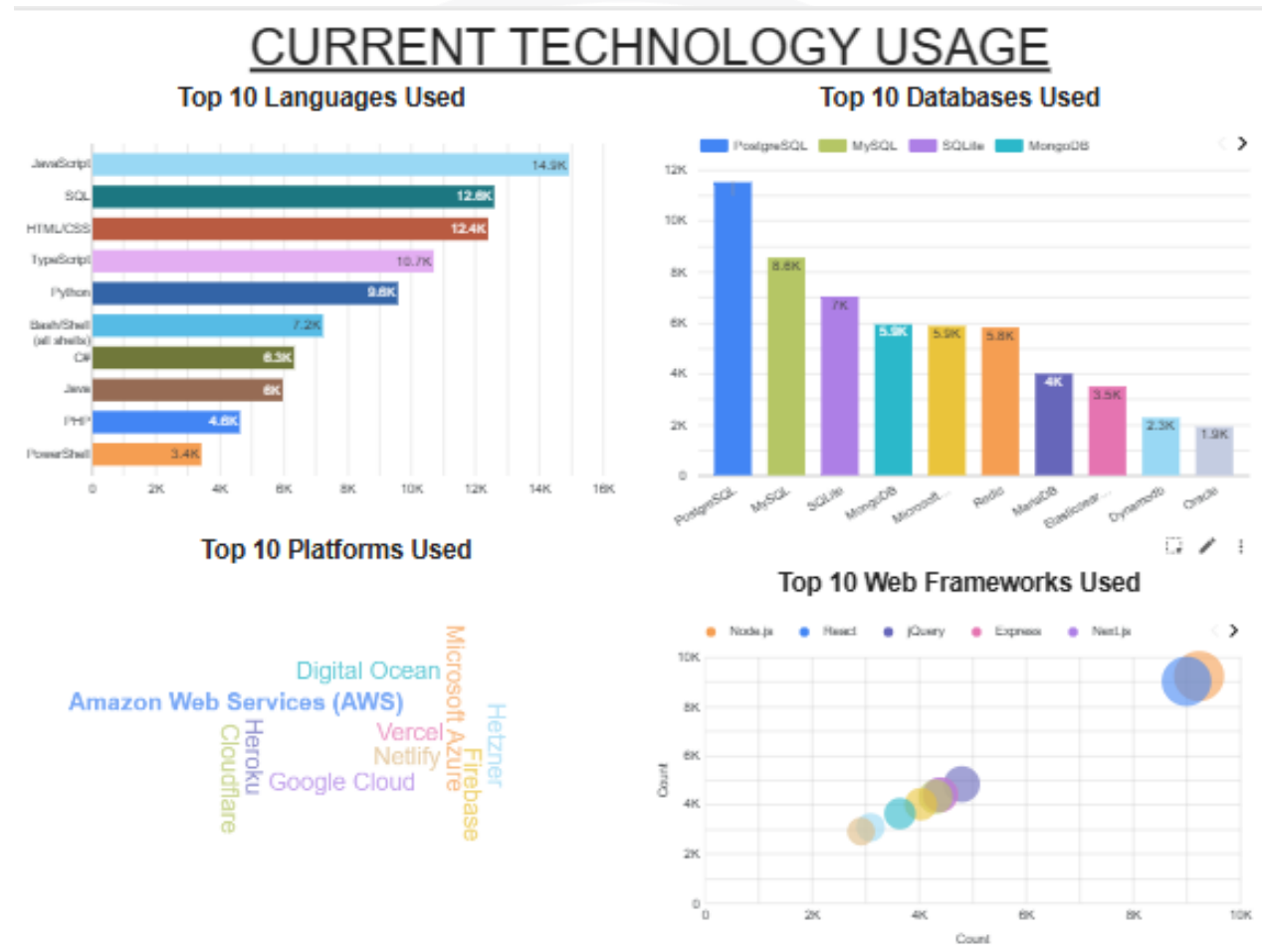


The interactive Looker Studio dashboard can be accessed here:

<https://lookerstudio.google.com/reporting/e4624702-0d58-4c52-9bf6-943168a5ecf1>



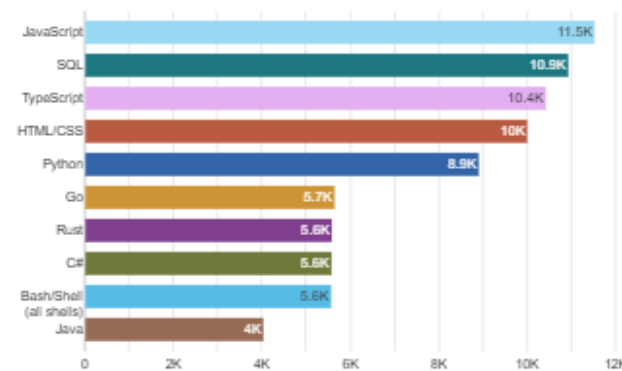
# DASHBOARD TAB 1



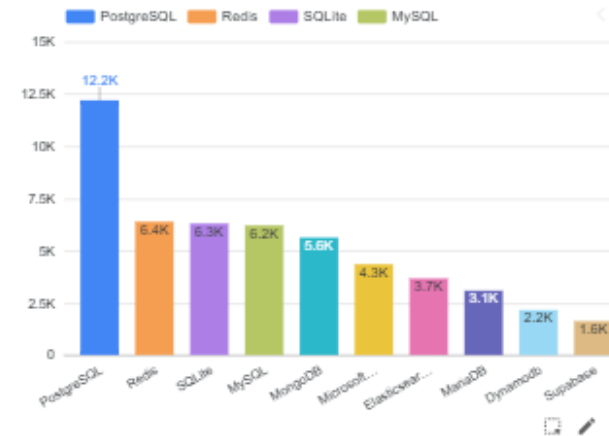
# DASHBOARD TAB 2

## Future Technology Trends

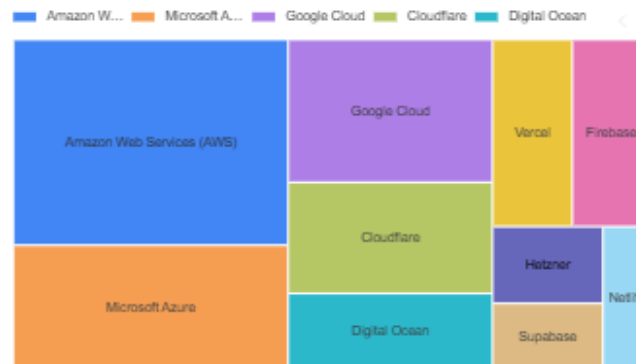
Top 10 Languages Desired Next Year



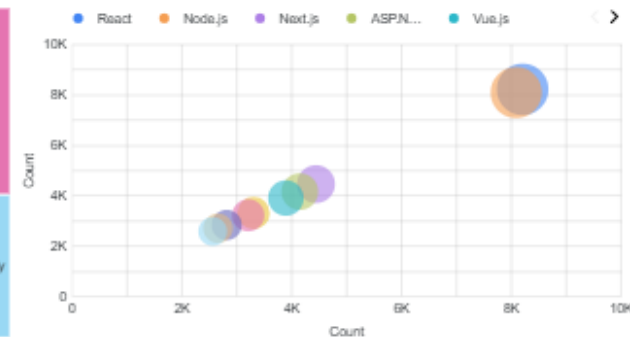
Top 10 Databases Desired Next Year



Top 10 Desired Platforms



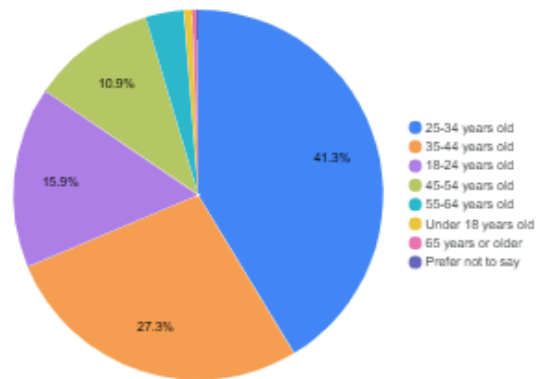
Top 10 Desired Web Frameworks



# DASHBOARD TAB 3

## Demographics

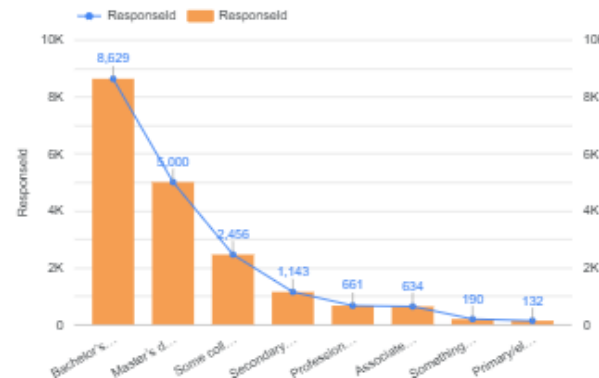
Respondents by Age



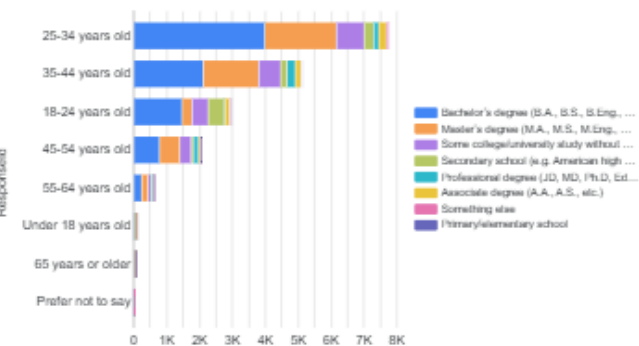
Respondent Count by Country



Respondent Distribution by Education Level



Respondent Count by Age, Classified by Education Level



## DISCUSSION

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The analysis highlights a shift toward modern, open-source, and cloud-native technologies. Developers are increasingly favoring Python, TypeScript, PostgreSQL, Docker, and React. Employers aligning with these preferences can improve recruitment and retention while staying ahead in innovation.



# OVERALL FINDINGS & IMPLICATIONS

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## Findings

- Modern languages and frameworks continue to grow in popularity.
- PostgreSQL is poised to challenge MySQL as the top database.
- Platform preferences are shifting toward Linux and containerization.

## Implications

- Organizations should align roadmaps with developer technology choices.
- Future-proofing skill sets is crucial for both developers and employers.
- Education and training must evolve with emerging trends in software development.

# CONCLUSION

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- The 2024 Stack Overflow Developer Survey reveals clear technology adoption patterns.
- Future preferences highlight the rise of Python, TypeScript, and PostgreSQL.
- Platform and framework choices are evolving toward cloud-native and open-source technologies.
- Organizations and developers must adapt to these changes to remain competitive.





# APPENDIX

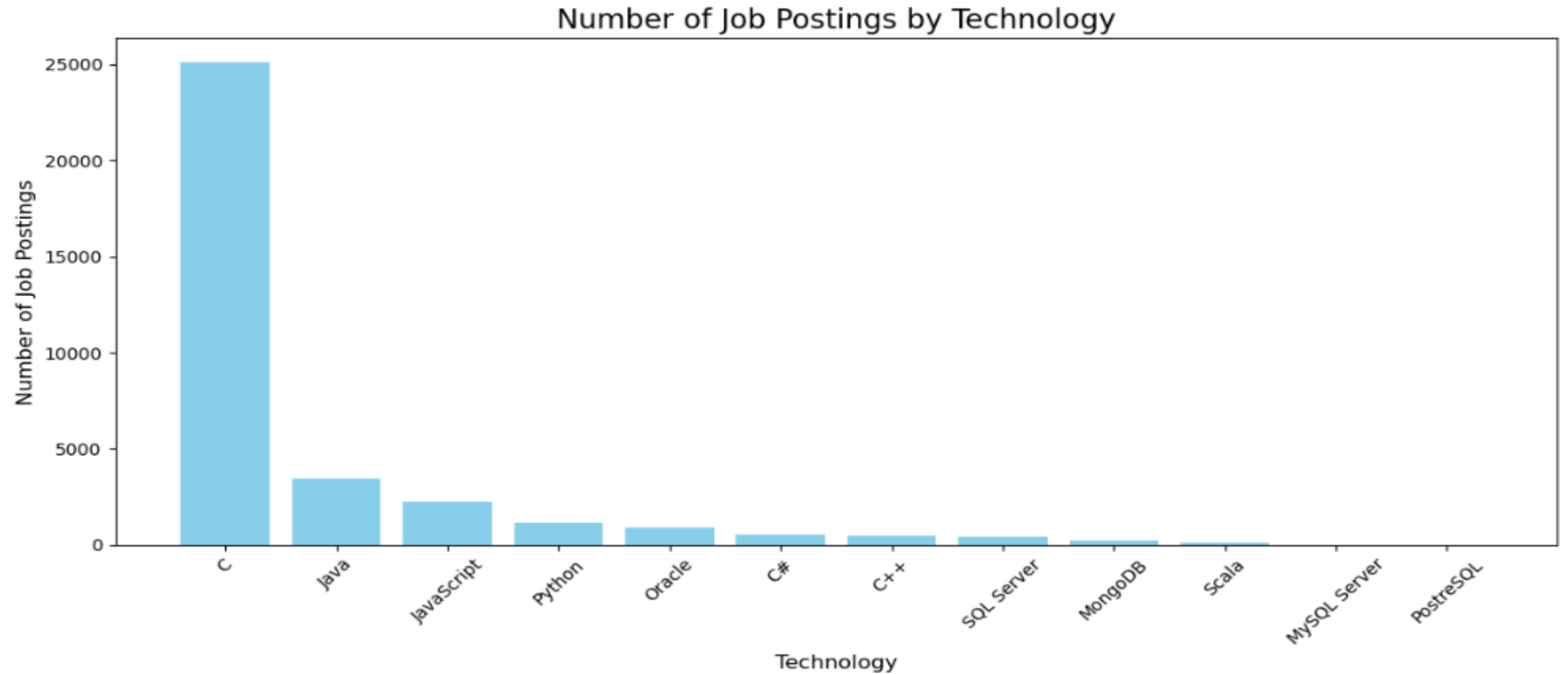
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- Include any relevant additional charts, or tables that you may have created during the analysis phase.



# JOB POSTINGS



# POPULAR LANGUAGES

