



Analysis of Technology Trends: Programming Languages, Databases, and Platforms

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OUTLINE



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EXECUTIVE SUMMARY



- **Key Findings:** JavaScript, HTML/CSS are top languages; PostgreSQL and MongoDB lead databases.
- **Technologies:** AWS, Windows, Docker are widely used; Kubernetes and Raspberry Pi show growth.
- **Future Trends:** High demand for TypeScript, Go, PostgreSQL, and cloud technologies.
- **Survey Insights:** Majority are front-end developers from diverse countries and age groups.
- **Dashboard:** Visualizes current and future trends in languages, databases, and platforms.

INTRODUCTION



- **Objective:** Identify current and future technology trends among developers.
- **Survey Data:** Based on Stack Overflow survey responses from global developers.
- **Scope:** Focus on programming languages, databases, platforms, and frameworks.
- **Audience:** Relevant for developers, employers, and educators looking to align with industry trends.

METHODOLOGY



- **Data Source:** Stack Overflow Developer Survey.
- **Tools:** Analyzed using IBM Cognos Analytics.
- **Process:** Cleaned, normalized data; identified top technologies.
- **Visuals:** Bar charts, pie charts, tree maps.
- **Focus:** Top 10 current and future languages, databases, and platforms.

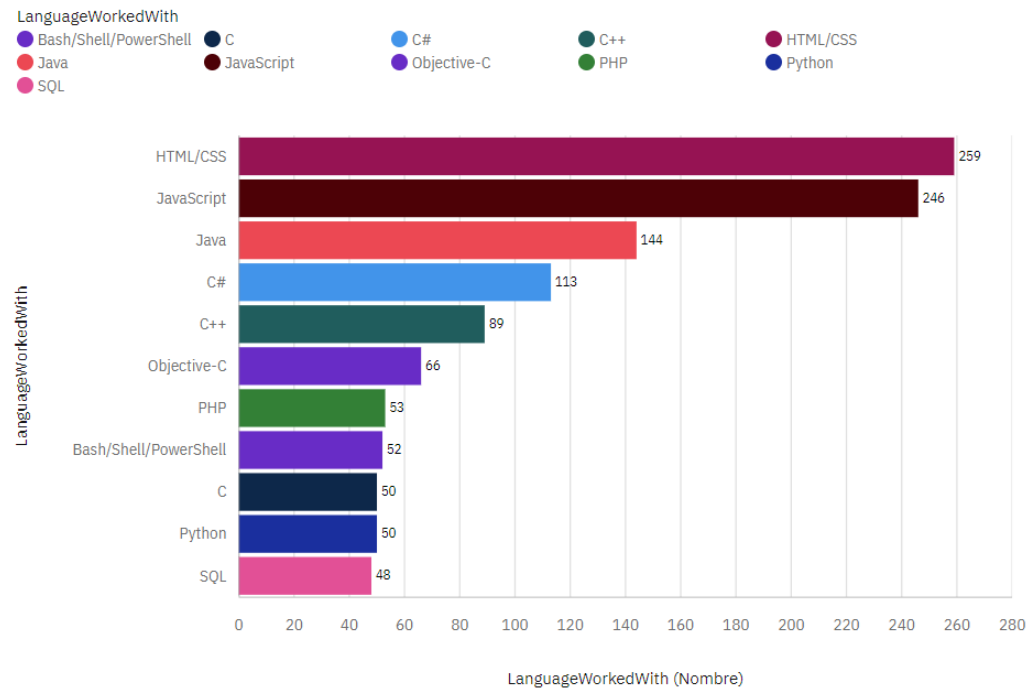
RESULTS

- **Current Languages:** JavaScript, HTML/CSS, SQL are the most used.
- **Future Languages:** High interest in TypeScript and Go.
- **Current Databases:** PostgreSQL, MongoDB lead usage.
- **Future Databases:** Growing interest in PostgreSQL and Redis.
- **Current Platforms:** Windows, Docker, AWS widely adopted.
- **Future Platforms:** Interest in Kubernetes, Raspberry Pi increasing.
- **Key Insights:**
 - Majority are front-end developers.
 - Strong demand for cloud technologies and modern frameworks.

PROGRAMMING LANGUAGE TRENDS

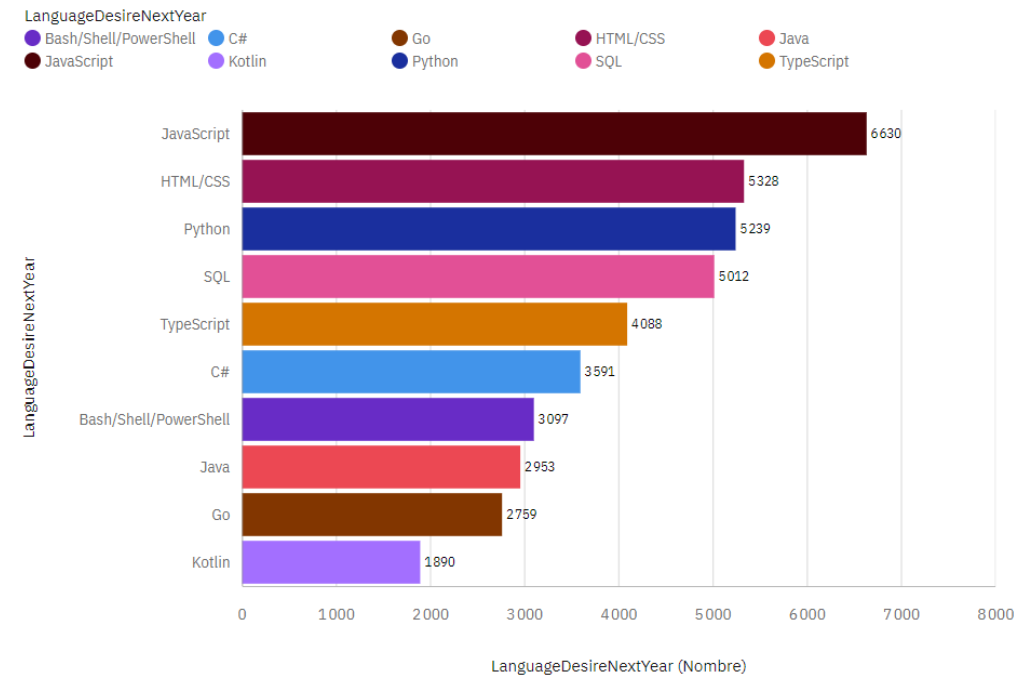
Current Year

Top 10 Languages Utilized by Respondents



Next Year

Top 10 Languages Desired by Respondents for Next Year



PROGRAMMING LANGUAGE TRENDS – FINDINGS & IMPLICATIONS

Findings

- JavaScript and HTML/CSS lead in usage this year.
- Python and TypeScript are highly desired for next year.
- SQL demand is rising for data management.

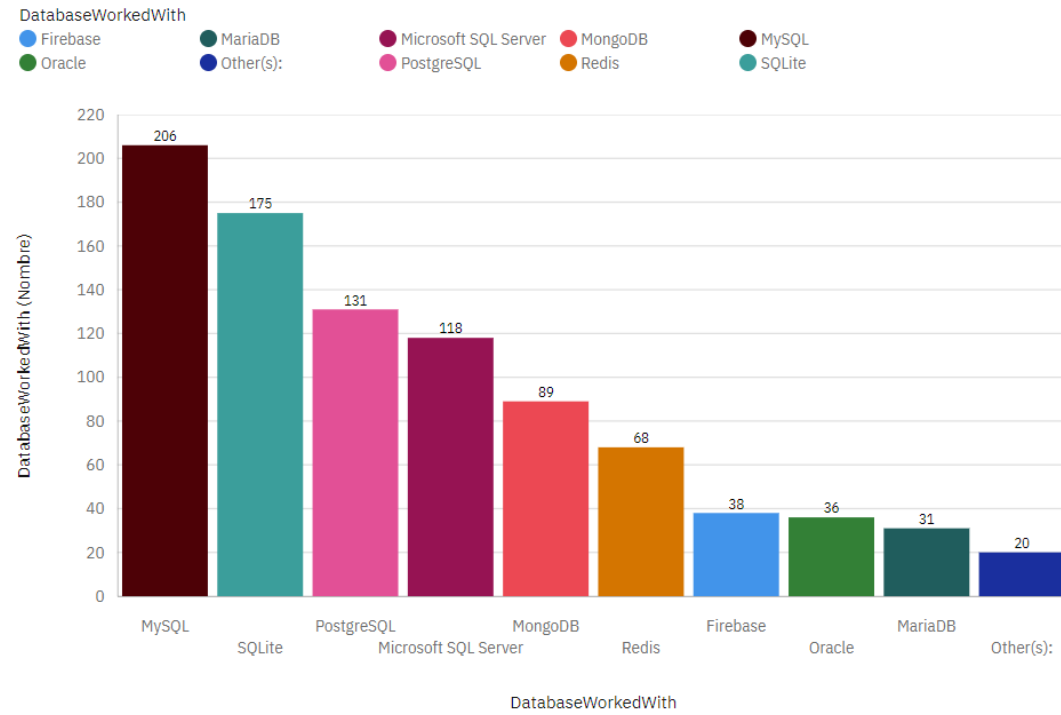
Implications

- Front-end skills remain essential.
- Growth in Python suggests increased focus on data science.
- TypeScript's rise points to a shift towards scalable JavaScript solutions.

DATABASE TRENDS

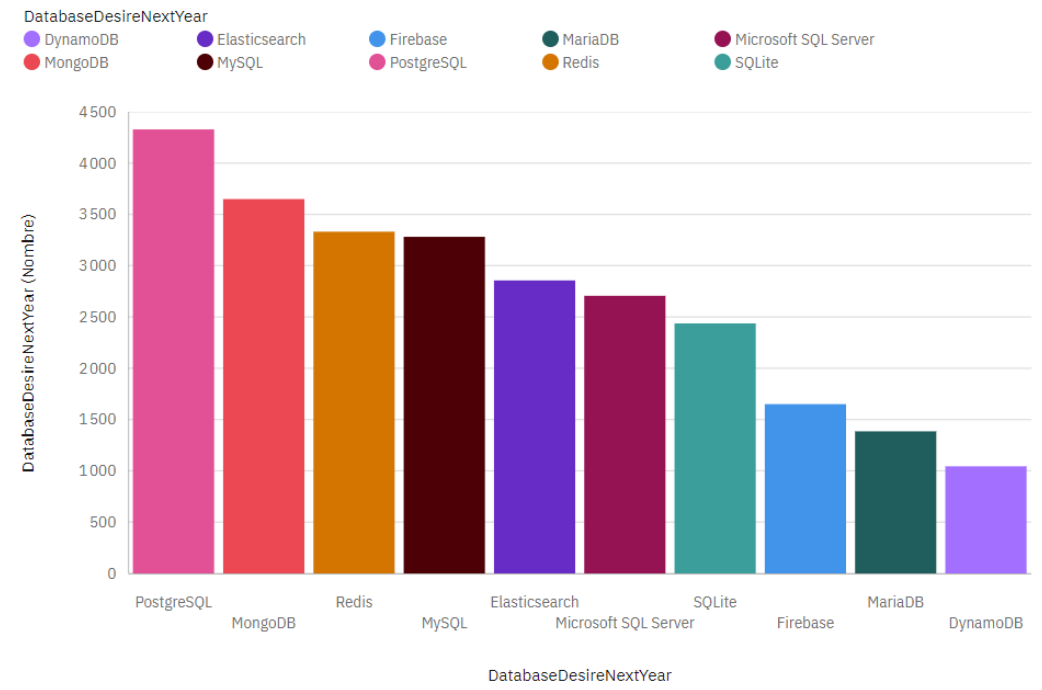
Current Year

Top 10 Databases utilised by respondents



Next Year

Top 10 Databases Desired by Respondents for Next Year



DATABASE TRENDS – FINDINGS & IMPLICATIONS

Findings

- MySQL is the most widely used database this year.
- PostgreSQL leads the list of desired databases for next year.
- Redis and MongoDB show steady demand for both current and future use.

Implications

- MySQL remains a dominant choice for developers, but PostgreSQL is quickly gaining traction.
- Interest in NoSQL databases like MongoDB and Redis indicates a shift towards flexible, scalable database solutions.
- The rise of Redis reflects the increasing importance of in-memory databases for high-performance applications.

DASHBOARD

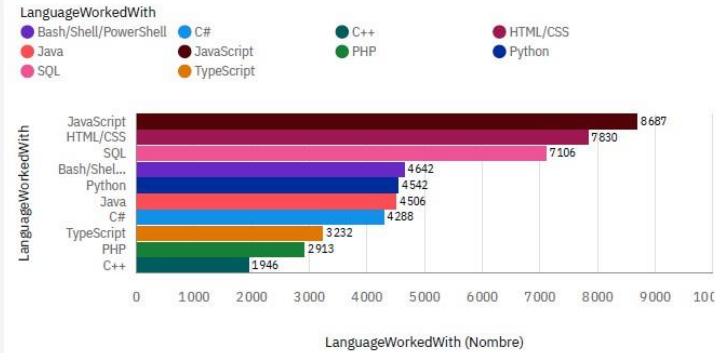


GitHub link of the Cognos/Looker Studio dashboard

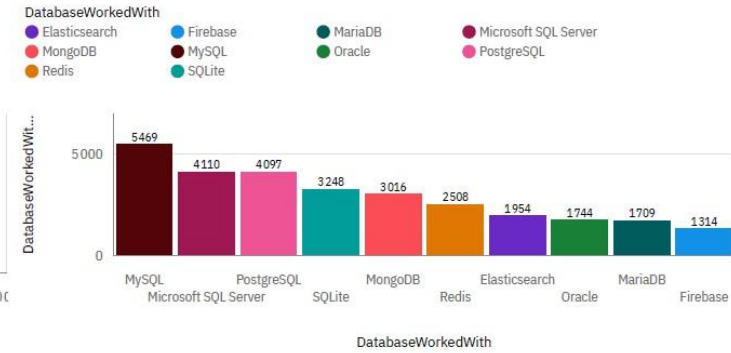
DASHBOARD TAB 1

Current Technology Usage

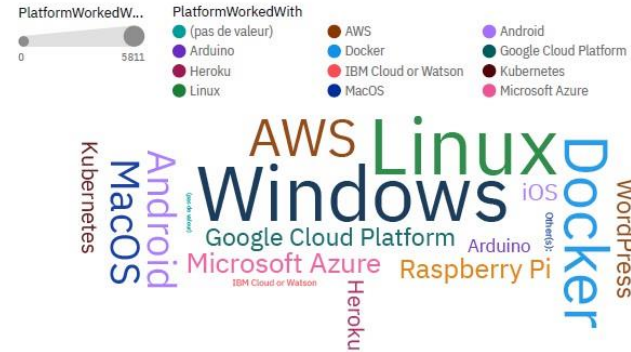
Top 10 Languages Worked With



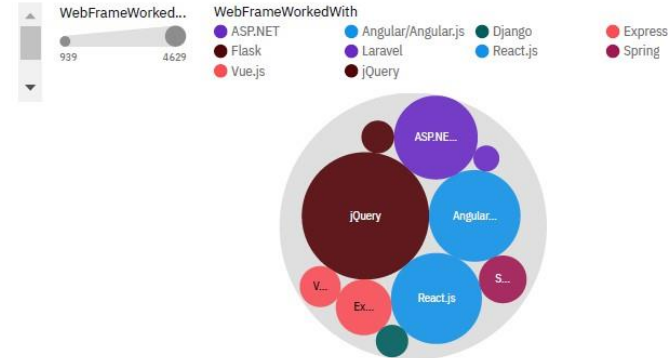
Top 10 Databases Worked With



Most Popular Platforms Worked With



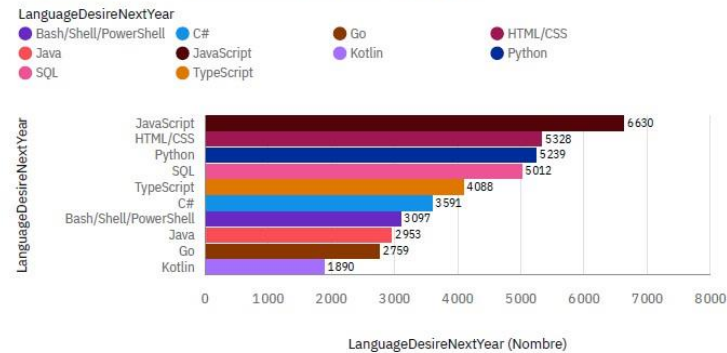
Top 10 Web Frameworks Utilized



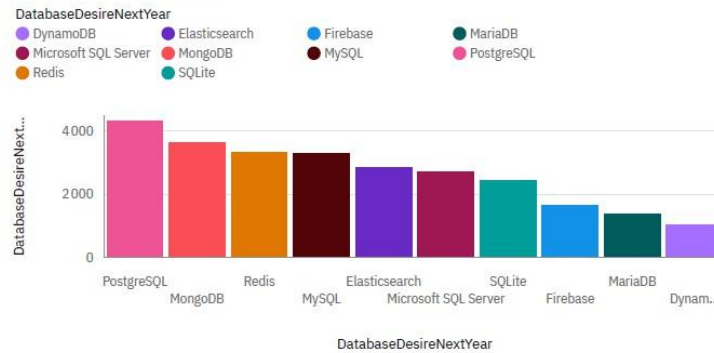
DASHBOARD TAB 2

Future Technology Trend

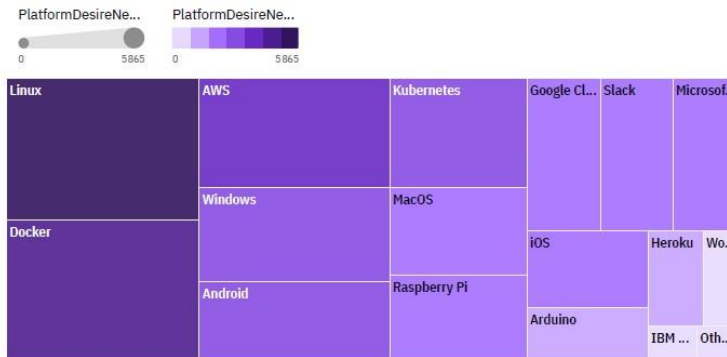
Top 10 Languages Desired by Respondents for Next Year



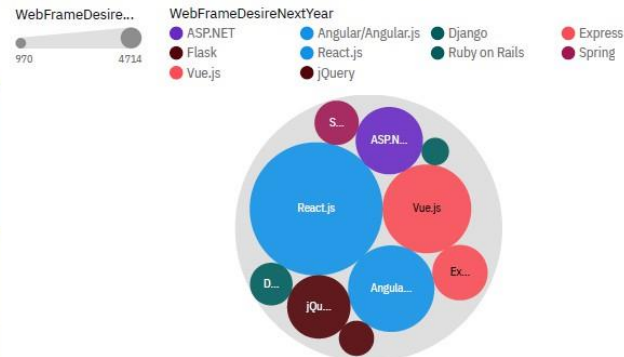
DatabaseDesireNextYear



Preferred Platforms for Future Learning by Respondents



Top 10 Web Frameworks Respondents Wish to Learn Next Year

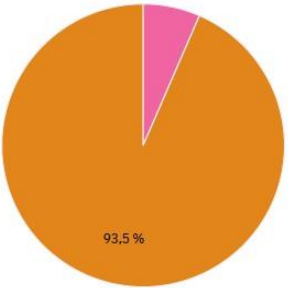


DASHBOARD TAB 3

Demographics

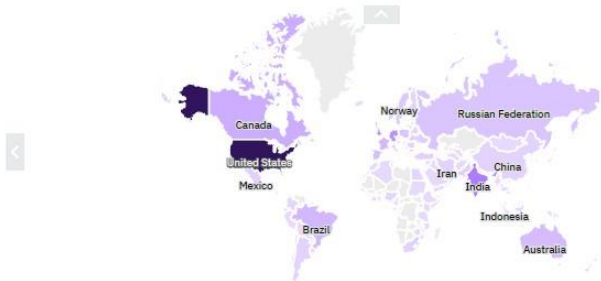
Répartition des répondants par sexe

Gender
● Woman ● Man

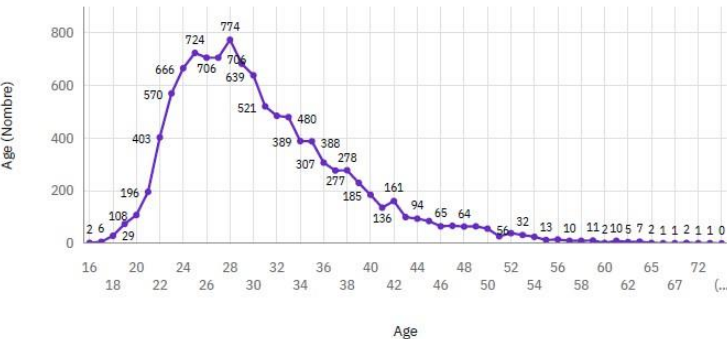


Répartition géographique des répondants

Country (Nombre)
1 3058

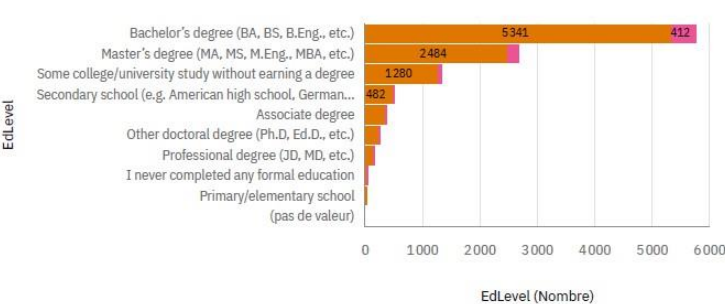


Répartition des répondants par âge



Répartition des répondants par sexe et niveau d'éducation

Gender
● Man ● Woman



DISCUSSION



- **Programming Trends:** JavaScript and Python dominate now and in the future.
- **Database Trends:** MySQL and PostgreSQL lead today; PostgreSQL and MongoDB in demand for future learning.
- **Demographics:** 93.5% male, most aged 25-34, and hold a Bachelor's degree.

OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScript, HTML/CSS, and Python remain top programming languages.
- PostgreSQL and MySQL are the most desired databases for the future.
- Majority of respondents are male and hold a Bachelor's degree.

Implications

- Focus on enhancing skills in JavaScript, Python, and SQL-based technologies.
- Companies should invest in PostgreSQL for future database needs.
- Gender diversity and educational initiatives could improve workforce balance.

CONCLUSION



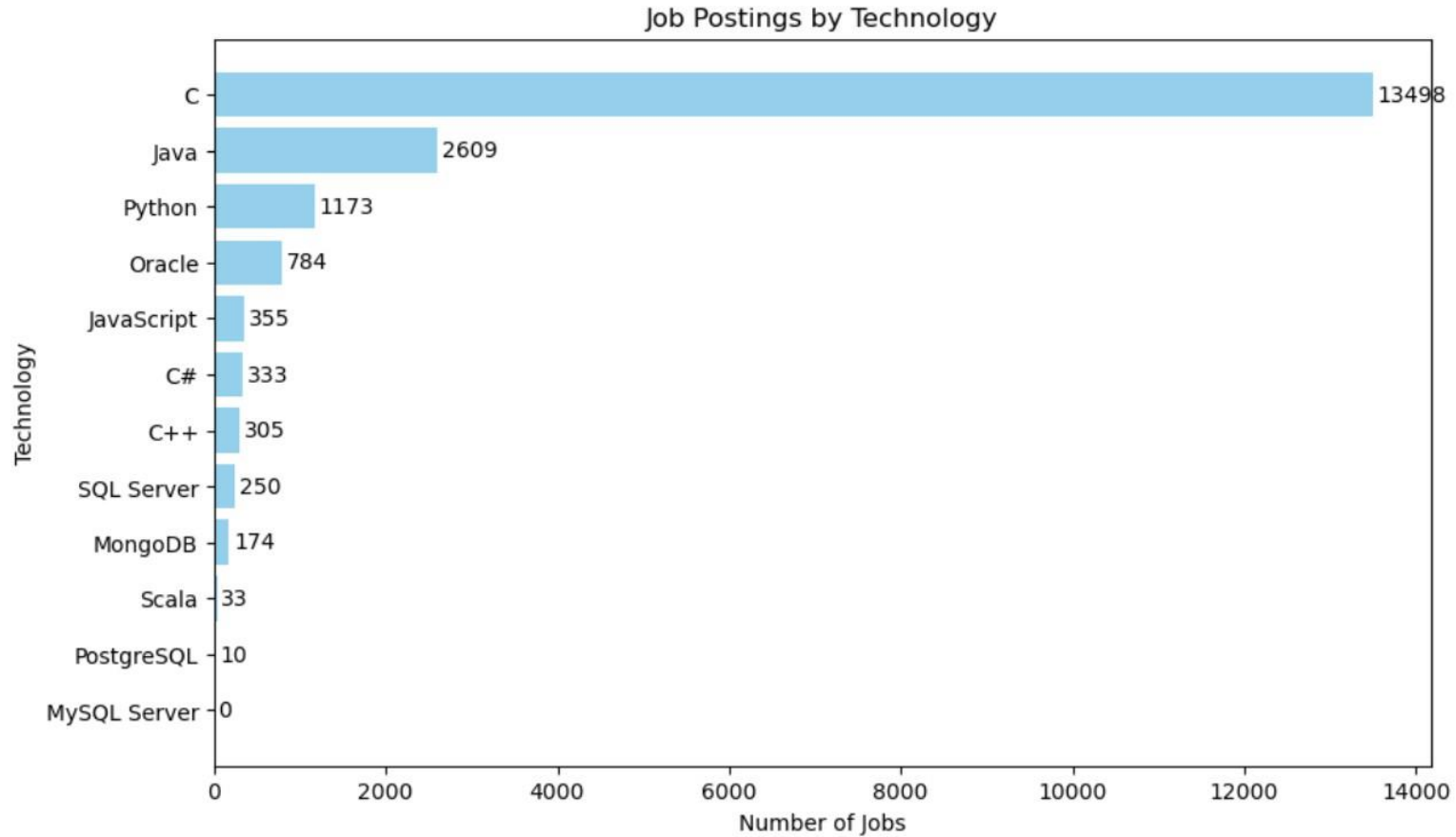
- JavaScript, Python, and PostgreSQL are leading technologies in both current usage and future interest.
- Cloud platforms like AWS and Linux are increasingly favored for future learning and development.
- Organizations should prioritize training in these technologies to stay competitive.
- A focus on diversity and inclusion will foster innovation and team growth in the tech industry.

APPENDIX



- **Tool Used:** This study was conducted using IBM Cognos Analytics, a powerful tool for data visualization and analysis.
- **Data Used:** The data was sourced from the 2019 Stack Overflow Developer Survey, modified and normalized for this analysis.
- **Dashboards Created:** Three dashboards were created to analyze current and future technology trends, as well as respondent demographics.
- **Additional Visualizations:** Additional visualizations, including word clouds, bar charts, and interactive maps, are included for deeper insight into the results.

JOB POSTINGS



POPULAR LANGUAGES

