

# Analyzing Current Technology Trends, From The 2019 Developer Survey

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# EXECUTIVE SUMMARY

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- Long-standing programming languages maintain their popularity, but there is a desire to adopt newer languages.
- The most popular databases remains unchanged, with a shift in desirability.
- Cross-platform and cloud development are on the rise.
- JavaScript and its frameworks continue to dominate the web field.
- Most developers are educated adults, with men holding the majority.
- Overall, the tech trend stays consistent.

# INTRODUCTION

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- In this report:
  - Analyzing survey data gathered from developers
  - Examining the prevalence and desirability of different technologies, consisting of languages, databases, platforms, and web frameworks
- Target audience:
  - Beginners who want to step foot in the tech field
  - Developers who want to expand their tech stack
- Purpose:
  - Gain insights into the current technology usage and trends

# METHODOLOGY

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- Data is gathered from the **2019 Developer Survey** conducted by Stack Overflow.
- The dataset used in this report is a modified subset of the 2019 Developer Survey, provided by the IBM Data Analyst Capstone Project course on Coursera.
- The dataset is explored in Python using **Pandas** and **Matplotlib** to identify correlation between the fields.
- The dataset is imported to **IBM Cognos Analytics** to visualize:
  - Current technology usage
  - Future technology trend
  - Demographics



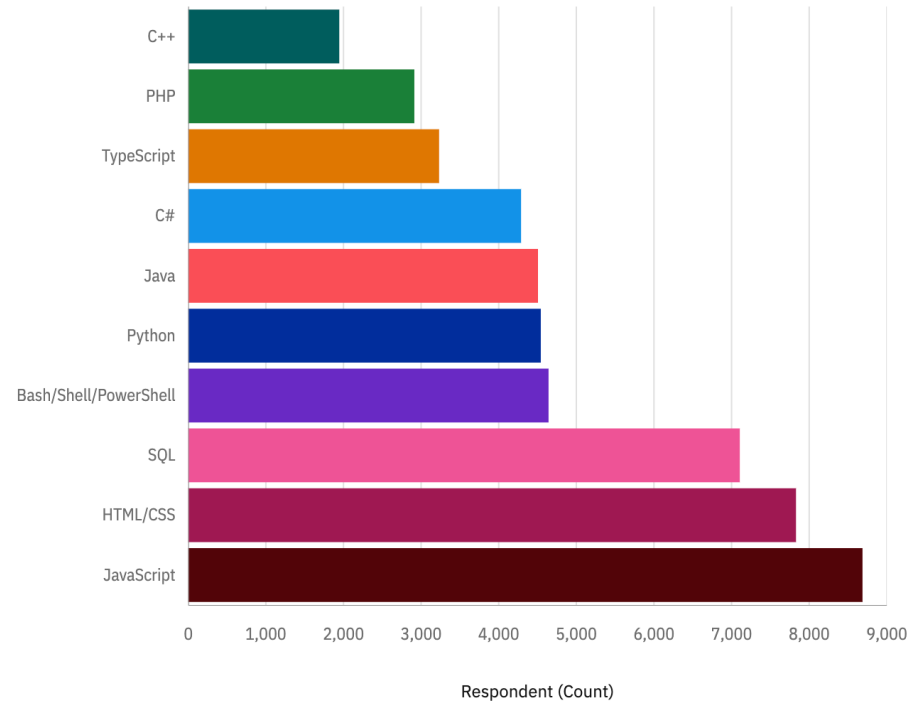
# RESULTS

# PROGRAMMING LANGUAGE TRENDS

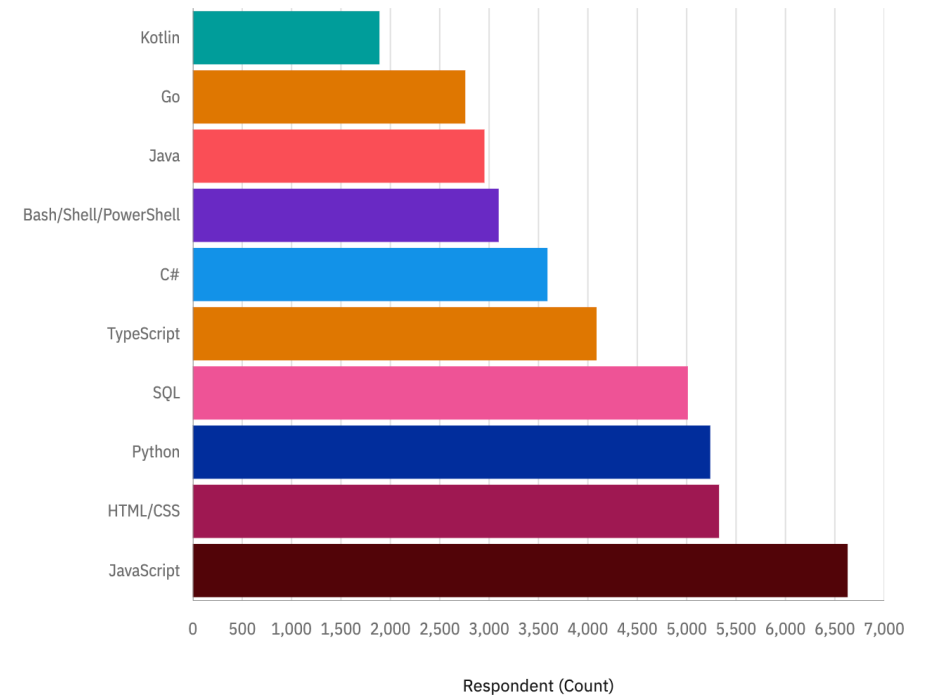
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- Long-standing programming languages maintain their popularity:
  - JavaScript and HTML/CSS hold their place in the top 2.
  - Python and SQL consistently show up in top 5.
- There is a desire to adopt newer languages, with the appearance of Go and Kotlin in place of C++ and PHP.

Top 10 Language Worked With

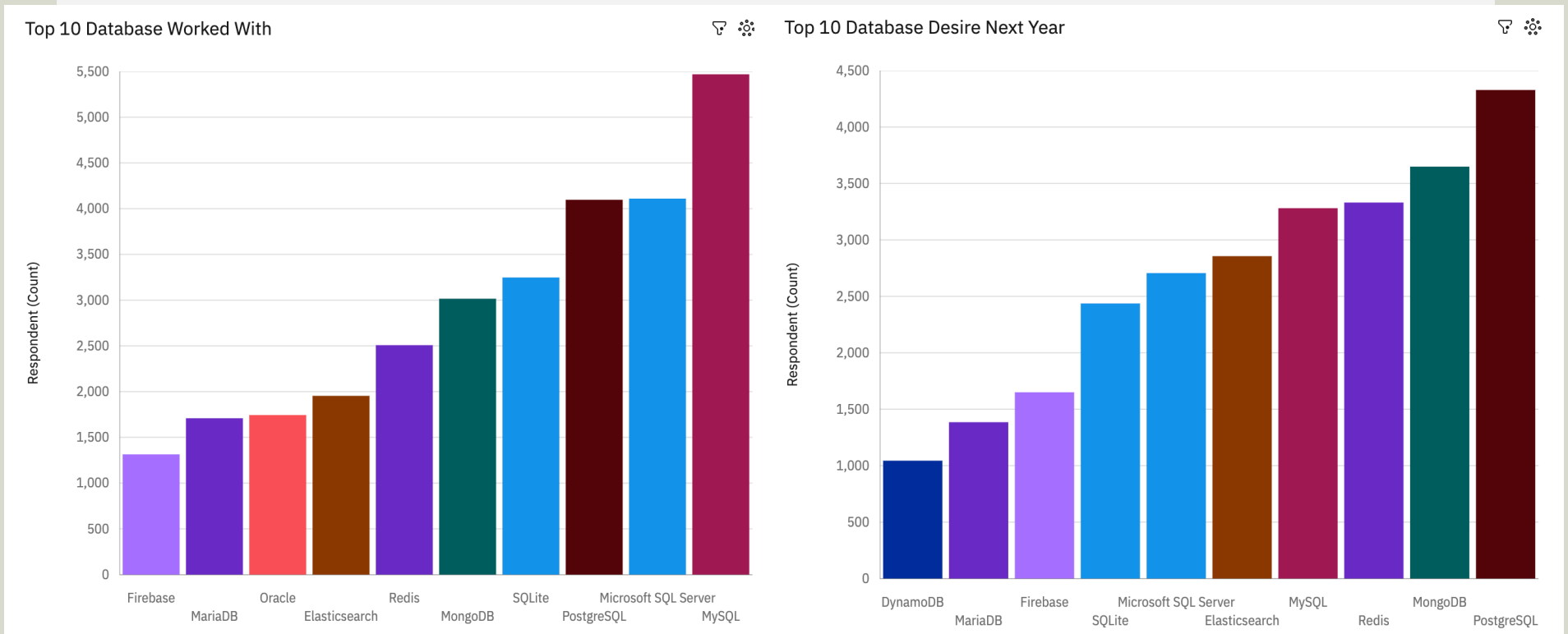


Top 10 Language Desire Next Year



# DATABASE TRENDS

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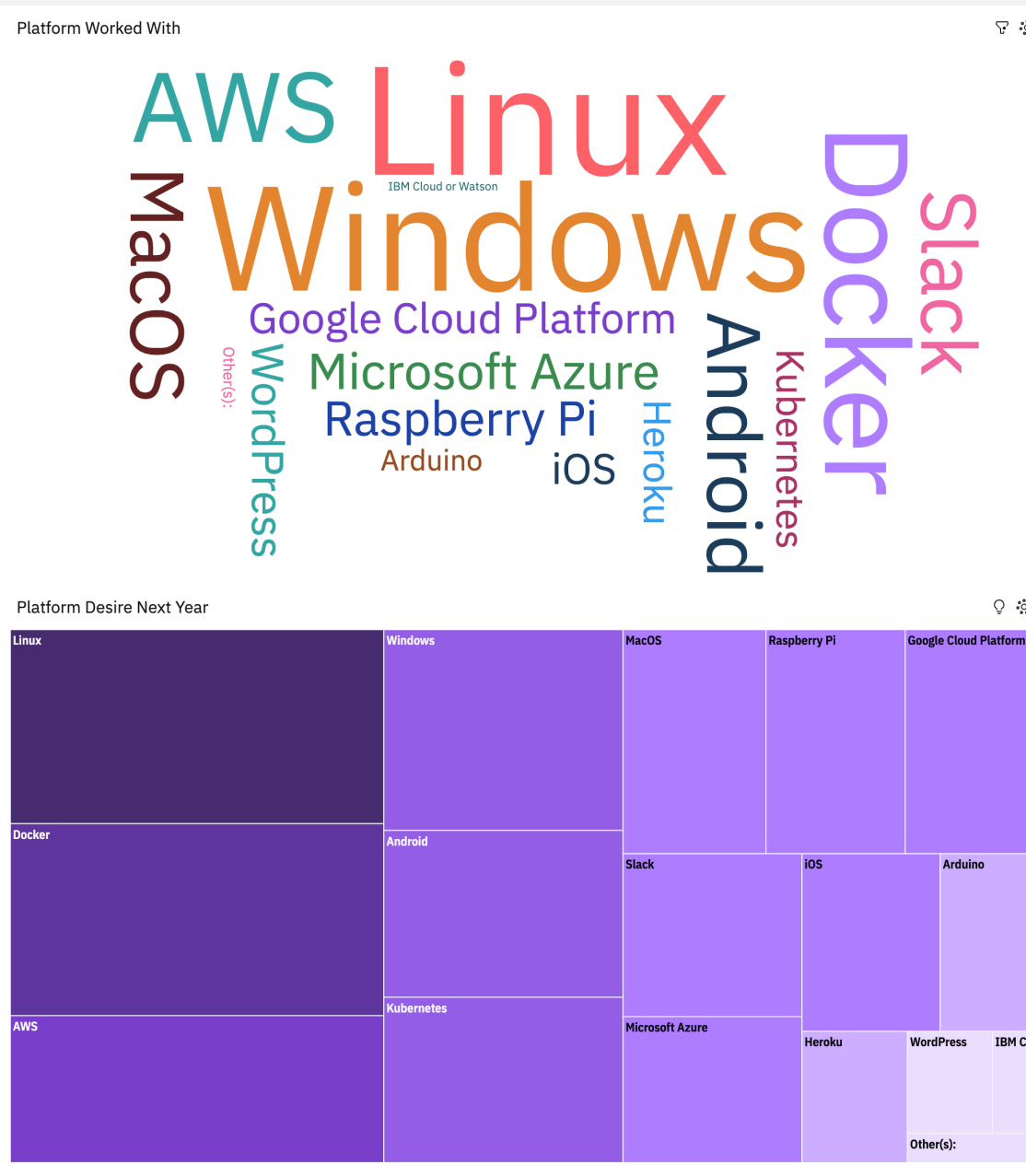


- The top 10 most popular databases remains mostly unchanged.
- However, there is a shift in desirability:
  - MySQL is the most used database, but PostgreSQL is the most sought-after.
  - Redis and MongoDB gain popularity, as well as other NoSQL databases such as DynamoDB, Firebase, and Elasticsearch.
  - It seems cloud-based and NoSQL databases are becoming more popular.



# PLATFORM TRENDS

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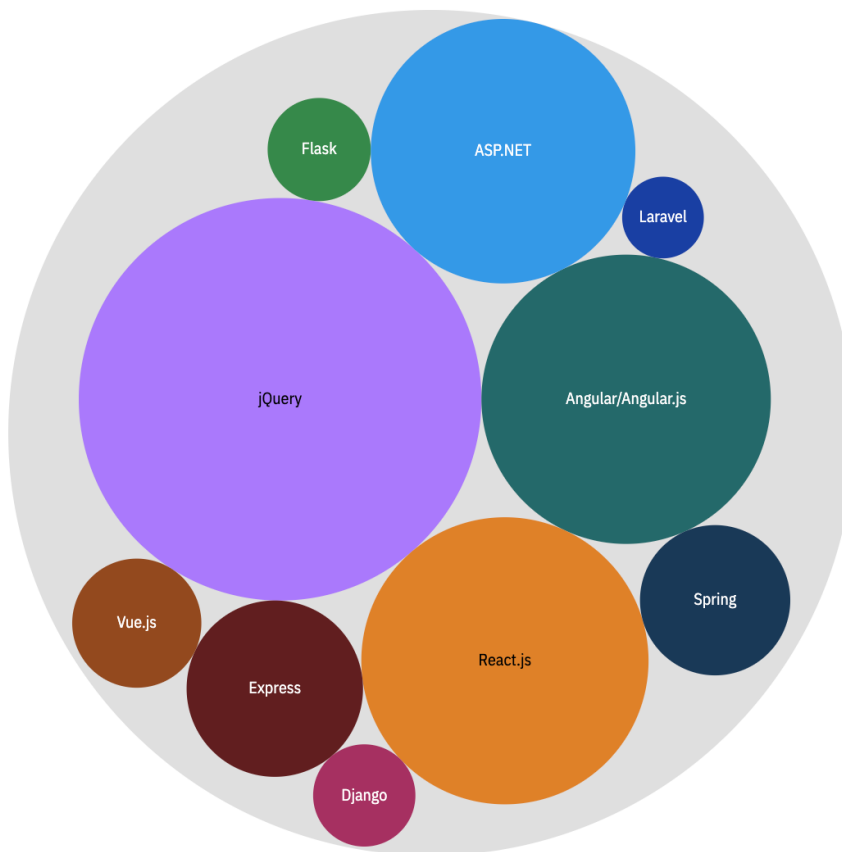


- Unix and Windows are the most popular platforms.
- Cross-platform and cloud development are on the rise.
- Docker and Kubernetes skills are highly desirable with both presenting in the top 5.
- AWS, Azure, and Google Cloud are gaining popularity.

# WEB FRAMEWORK TRENDS

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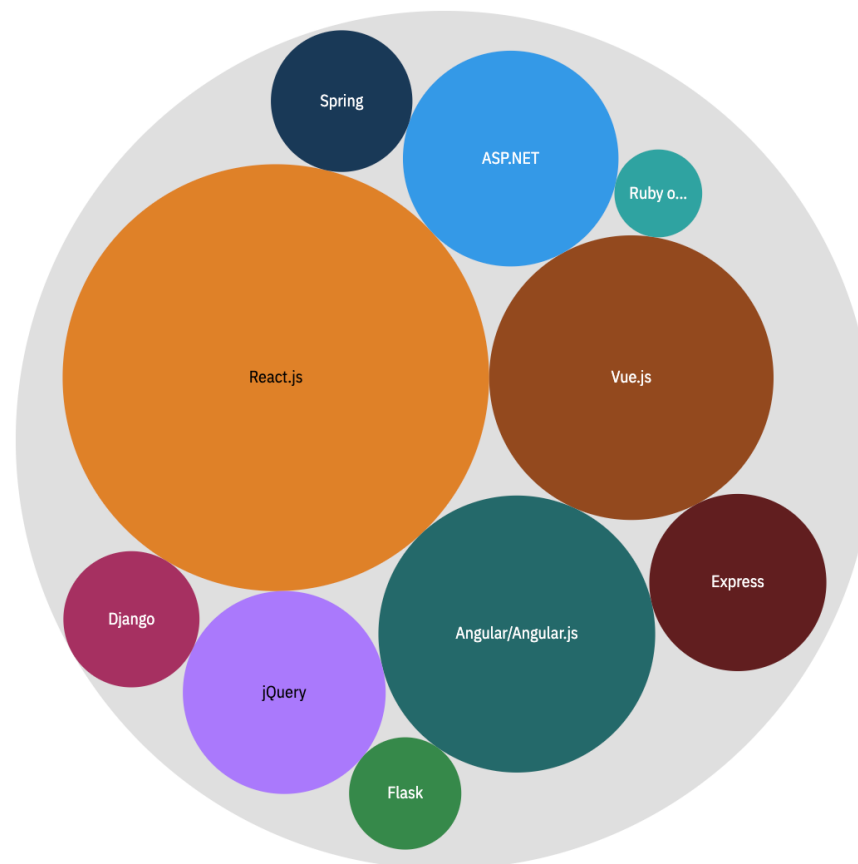
Top 10 Web Framework Worked With



- The popularity of ASP.NET, Python frameworks, and Java frameworks remain consistent.
- Ruby on Rails is getting popular.

- JavaScript and its frameworks (jQuery, React.js, Angular, Vue, Express) continue to dominate the web field.

Top 10 Web Framework Desire Next Year



# RECAP

Let's look at all the dashboards again.

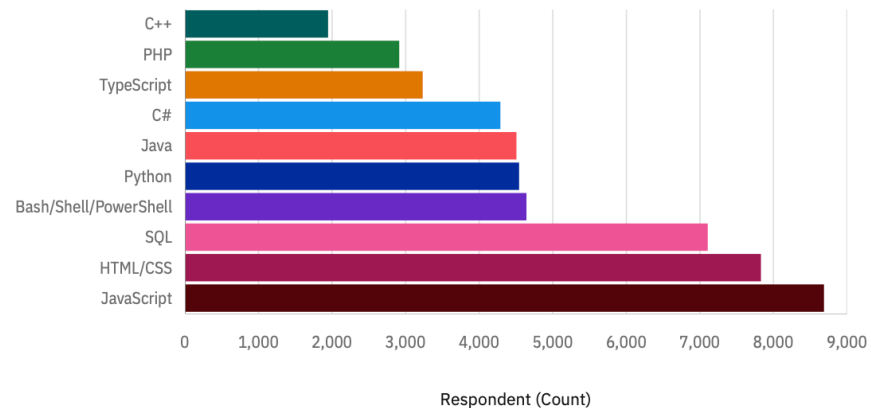
[github.com/nta5/ibm\\_data\\_analyst\\_project/blob/main/IBM\\_FinalProject.pdf](https://github.com/nta5/ibm_data_analyst_project/blob/main/IBM_FinalProject.pdf)

# CURRENT TECHNOLOGY TREND

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## Current Technology Usage

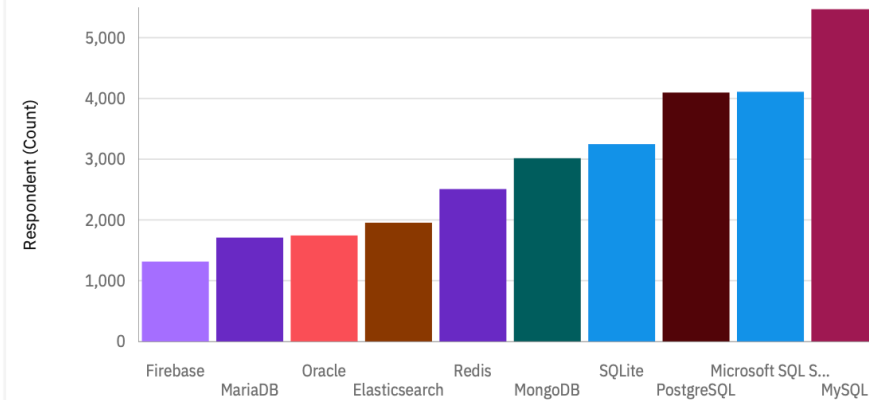
Top 10 Language Worked With



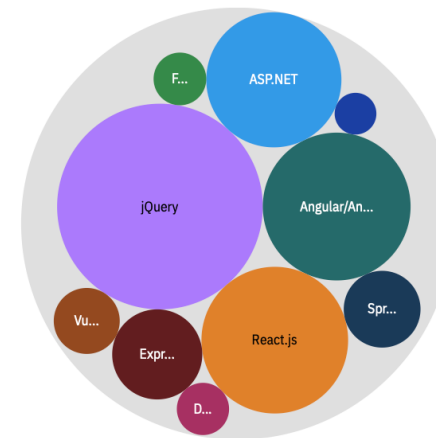
Platform Worked With



Top 10 Database Worked With



Top 10 Web Framework Worked With

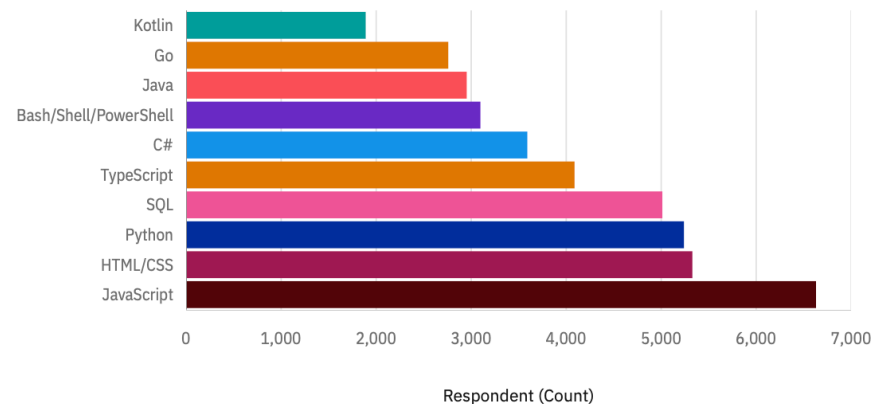


# FUTURE TECHNOLOGY TREND

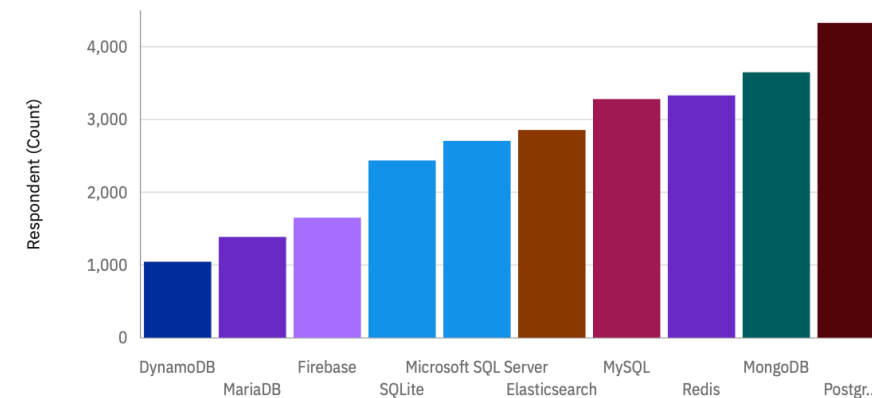
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## Future Technology Trend

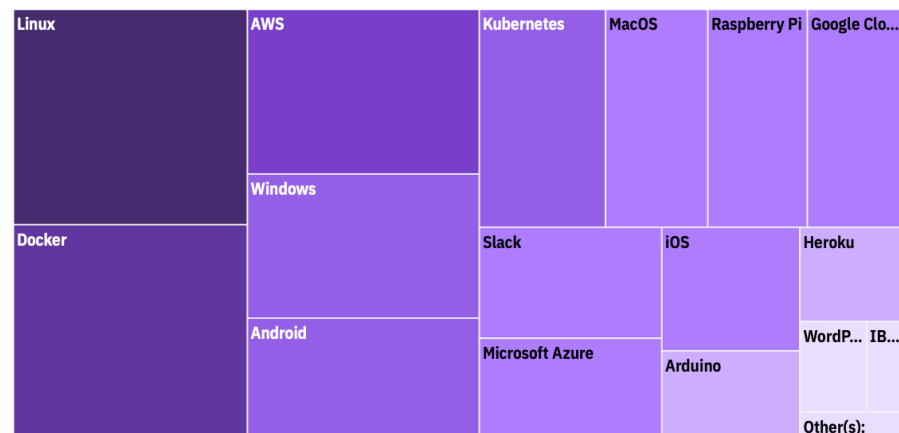
### Top 10 Language Desire Next Year



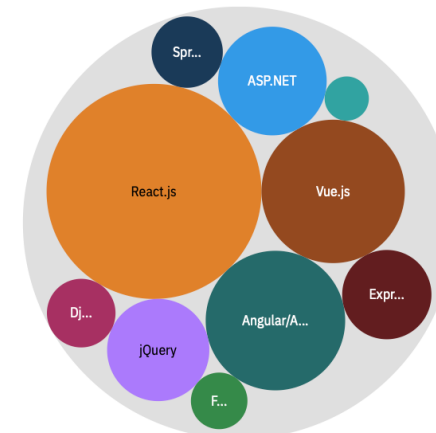
### Top 10 Database Desire Next Year



### Platform Desire Next Year



### Top 10 Web Framework Desire Next Year



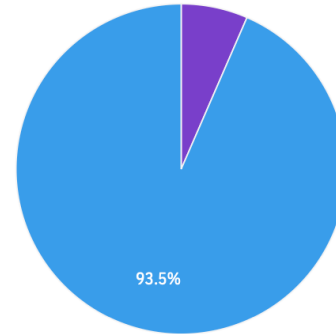
# DEMOGRAPHICS

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## Demographics

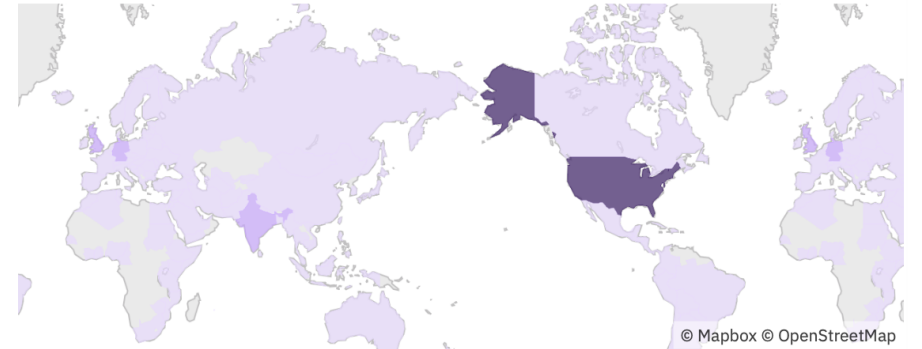
### Respondent classified by Gender

Gender  
● Woman ● Man

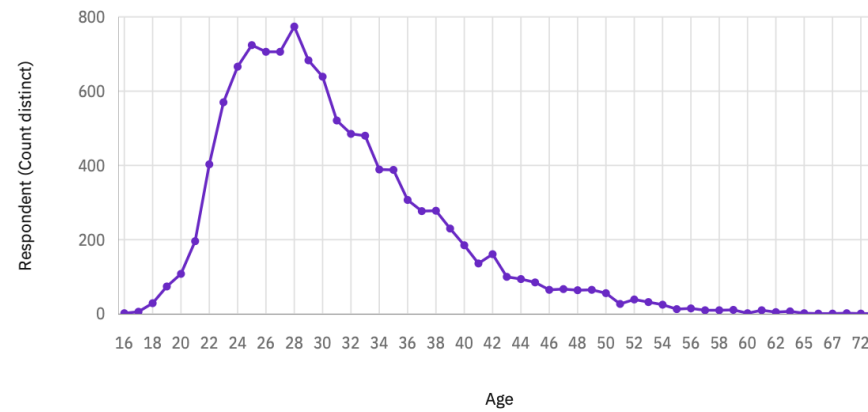


### Respondent Count for Countries

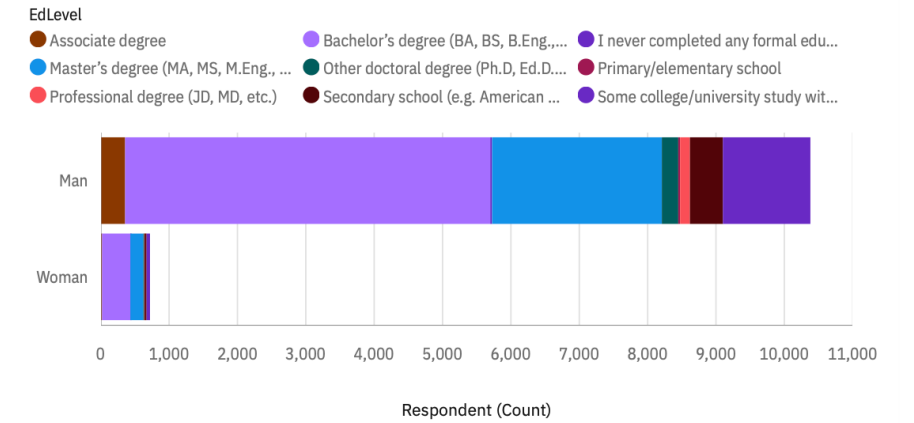
Country (Count)  
1 3,058



### Respondent Count by Age



### Respondent Count by Gender, classified by Formal Education Level



# DISCUSSION

- New technologies are invented every year, but the long-standing technologies are still going strong.
- The effect of demographics on the survey result:
  - Gender
  - Age
  - Regions
  - Level of Education

# OVERALL FINDINGS & IMPLICATIONS

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## FINDINGS

- Long-standing programming languages maintain their popularity, but there is a desire to adopt newer languages.
- The most popular databases remains unchanged, with a shift in desirability.
- Cross-platform and cloud development are on the rise.
- JavaScript and its frameworks continue to dominate the web field.
- Most developers are educated adults, with men holding the majority.

## IMPLICATIONS

- This reflects the dynamic nature of the programming landscape, where developers are constantly exploring and embracing new technologies to stay competitive.
- A shift towards building scalable and adaptable software applications.
- Long-standing web frameworks are still in desire as they are effective and reliable.
- The tech field is male dominated. Younger generation is more capable of catching up to new technologies.





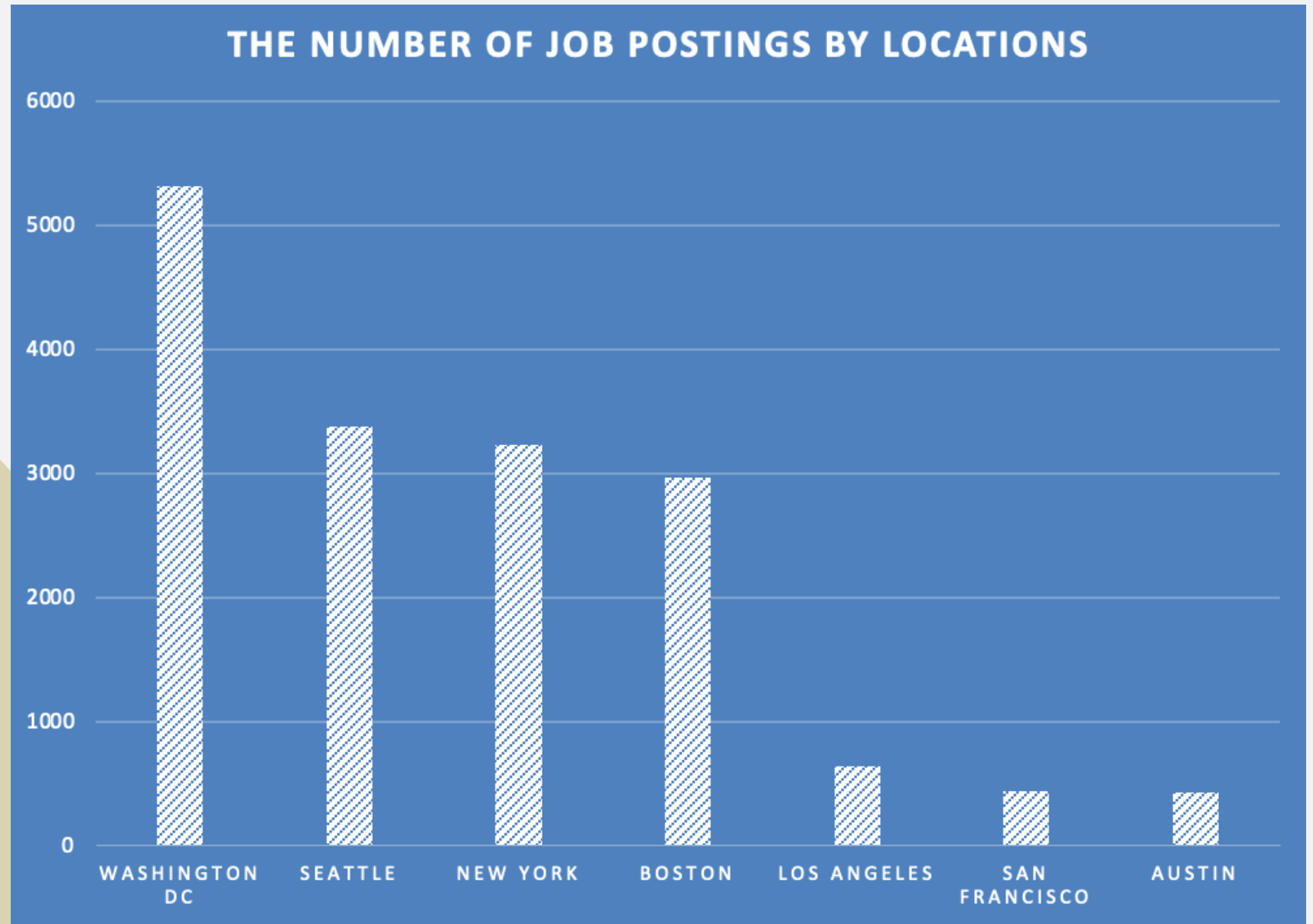
# CONCLUSION

- In summary, while there may be changes and advancements in technology, the overall trends and patterns in the industry remain relatively stable over time.
- However, there is a clear desire for developers to reach a broader audience while reducing development time and costs.



THANK YOU  
FOR YOUR TIME

# JOB POSTINGS



# POPULAR LANGUAGES

