



# Analysis of Stack Overflow Developer Survey in 2019

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# OUTLINE

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

# EXECUTIVE SUMMARY

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- Analysis of Stack Overflow Developer Survey in 2019
- Visualize Current and Expected Trends in:
  - Programming Languages
  - Databases
  - Web Framework
  - OS Platform
- Discussion of overall findings
- Final conclusion

# INTRODUCTION

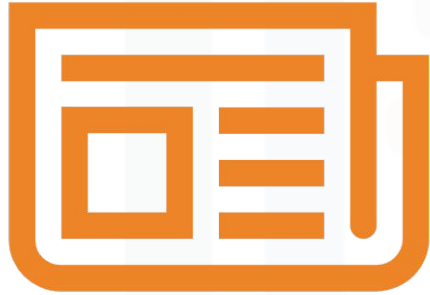
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- This analysis will take a look at developer current technology usage and future trend based on different demographic criteria
- Draw conclusion based on several visualization provided
- Provide insight on what the data can be used for

# METHODOLOGY

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- Retrieve Data from Stack Overflow Developer Survey
- Extract and explore dataset
  - Sanitized dataset
  - Exploratory data analysis
- Data Visualization
- Dashboard creation via IBM Cognos

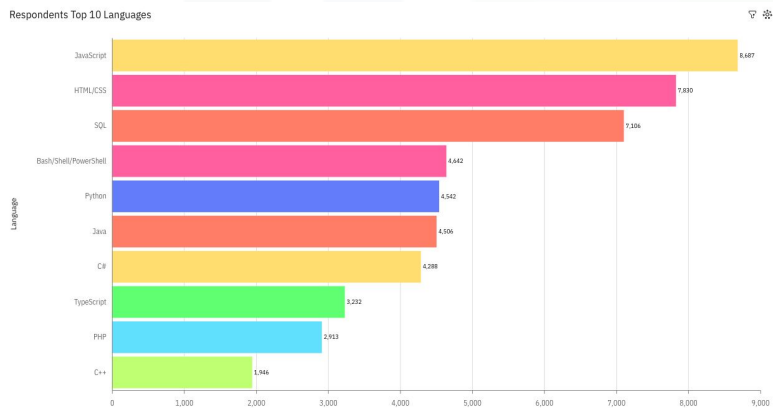
# RESULTS

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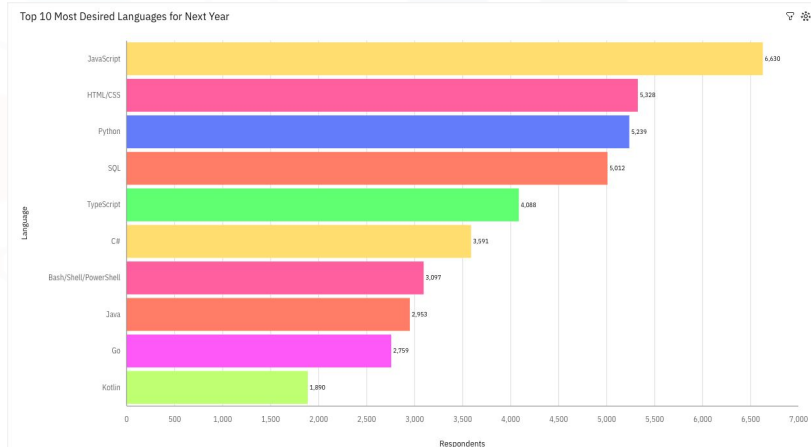
- The top language that is being utilized is Javascript
- It is expected that Javascript will continue to gain popularity
- MySQL seems to be the database most developers have worked with
- There is a growing interest in PostgreSQL and MongoDB suggesting a shift from MySQL
- Many respondents of the survey are male who has a bachelor equivalent degree

# PROGRAMMING LANGUAGE TRENDS

## Current Year



## Next Year



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- Top Language currently use is Javascript
- Growing trend to learn Javascript in the future
- Following closely by HTML/CSS

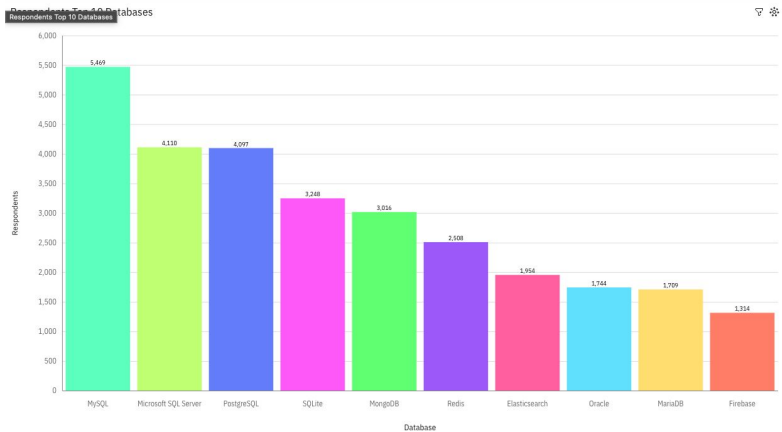
## Implications

- Javascript and Web-related language and framework will continue to rise in popularity

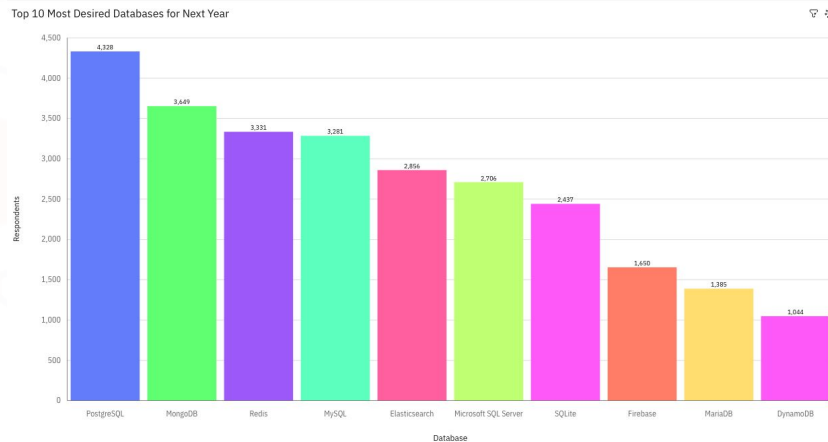


# DATABASE TRENDS

## Current Year



## Next Year



# DATABASE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- Current top database is MySQL
- A shift to PostgreSQL and MongoDB

## Implications

- MySQL is currently the top database utilized by developer
- With emerging technology, it seems developer may shift over to PostgreSQL and MongoDB in the future

# DASHBOARD

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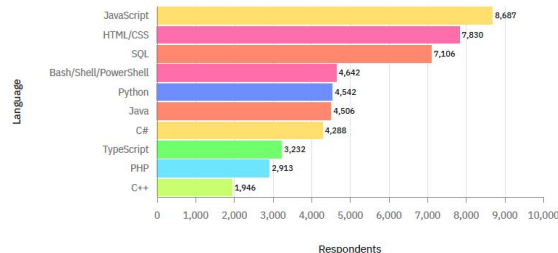


Complete Dashboard: [Link](#)

# DASHBOARD: Current Technology Usage

## Current Technology Usage

### Respondents Top 10 Languages



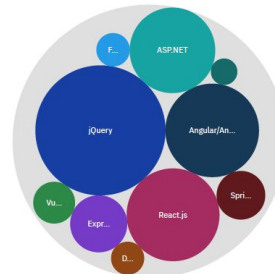
### Respondents Top 10 Databases



### Respondents Platform Experience



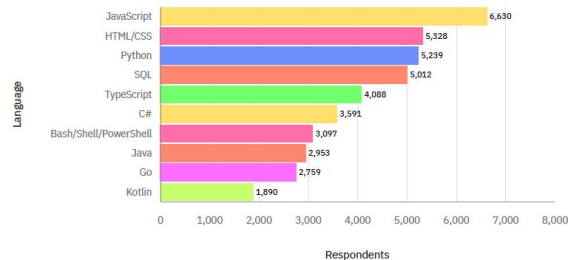
### Respondents Top 10 Web Framework



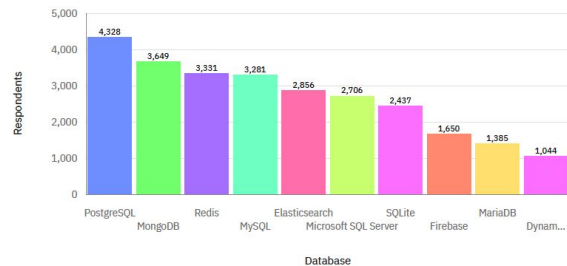
# DASHBOARD: Future Technology Trend

## Future Technology Trend

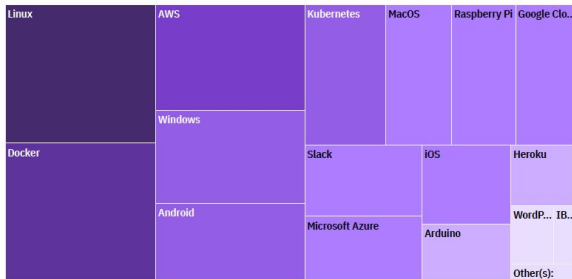
Top 10 Most Desired Languages for Next Year



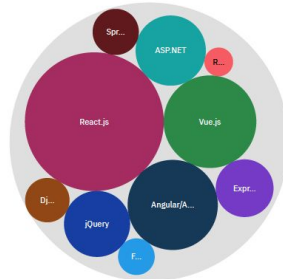
Top 10 Most Desired Databases for Next Year



Desired Platforms for Next Year



Top 10 Most Desired Web Frameworks for Next Year

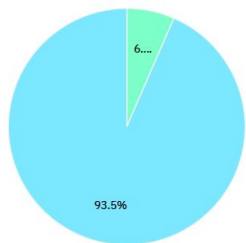


# DASHBOARD: Demographics

## Demographics

### Respondents By Gender

Gender  
● Woman ● Man

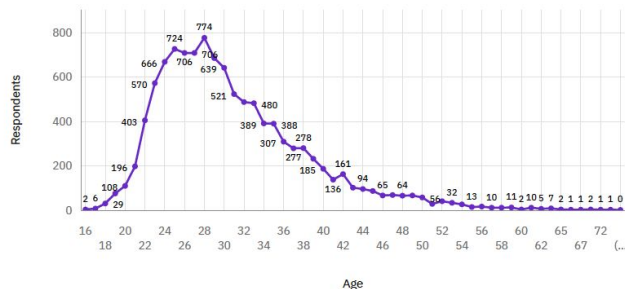


### Respondent Count for Countries

Country (Count)  
1 3,058

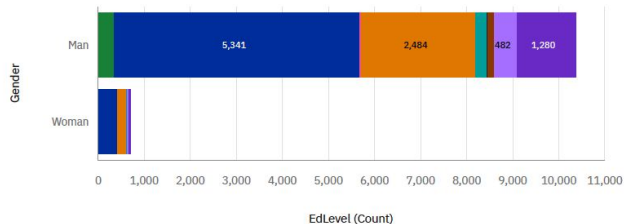


### Respondent Count by Age.



### Formal Education by Gender

● Associate degree ● Bachelor's degree (BA, BS, B.Eng., ... ● I never completed any formal edu...  
● Master's degree (MA, MS, M.Eng., ... ● Other doctoral degree (Ph.D, Ed.D., ... ● Primary/elementary school  
● Professional degree (JD, MD, etc.) ● Secondary school (e.g. American ... ● Some college/university study wit...



# DISCUSSION

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- As illustrated by the dashboards, the top language being utilized is Javascript, which seems to be gain popularity.
- Although MySQL is highly utilized now, there seems to be a pivot to MongoDB and PostgreSQL

# OVERALL FINDINGS & IMPLICATIONS

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## Findings

- Javascript is currently very popular and will increase next year
- MySQL is popular now but may be less so in the future.

## Implications

- Going forward, Javascript will continue to be popular
- MySQL developers may change to PostgreSQL and MongoDB developer in the future.



# CONCLUSION

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- Javascript doesn't seem to be decreasing in popularity anytime soon
- MySQL developers may change to PostgreSQL and MongoDB as technology continue to develop

# APPENDIX

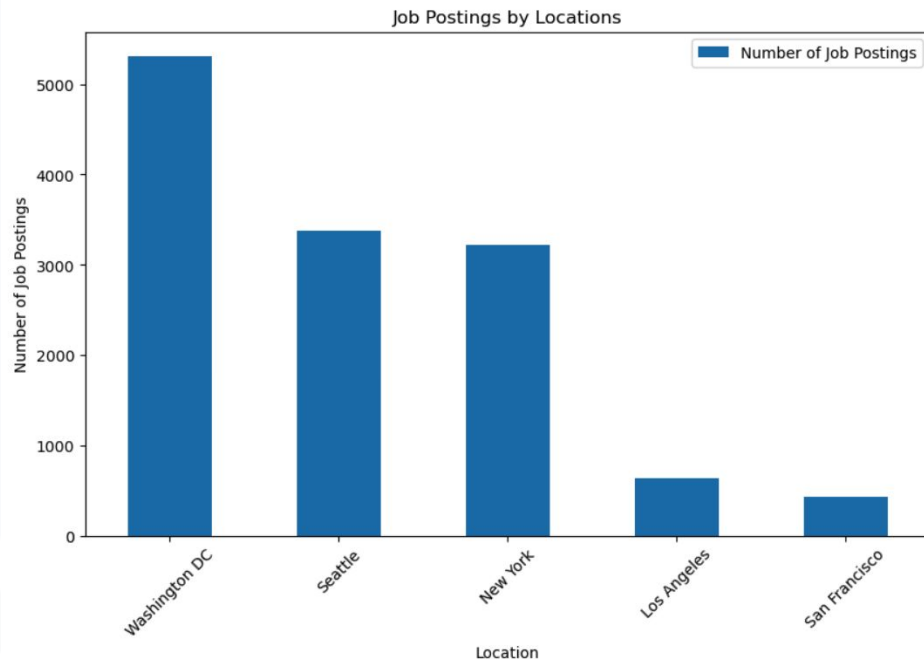
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- In the next few slides are charts relating job posting and program language popularity.

# JOB POSTINGS

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# POPULAR LANGUAGES

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