



# FUTURE TECHNOLOGY REVIEW

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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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- The most popular languages are front-end languages such as JavaScript, HTML/CSS. Which are also the most desired.
- Windows and Linux are the top platforms developers work with.
- MySQL and MS SQL Server are the most popular DBMSs but PostgreSQL looks on the rise
- JavaScript libraries like jQuery and React.js are developers' favourite at the moment.
- Most developers are men between the ages of 20-30 from the United States

# INTRODUCTION

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- It is important to catch up with the latest technology in each technological field. Comparison between current technology and next year's provides great insights.
- This report is an overview of technologies developers work with and those they wish to learn in the next year.
- This report is for aspiring developers who might need insights on what skills to learn and also for experienced developers who might be willing to upskill and learn new technology.

# METHODOLOGY

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- The technology trend is studied by comparing current usage with the desires of the developers for the next year.
- The data source is a Stackoverflow Developer Survey in 2019 from [stackoverflow.com](https://stackoverflow.com)
- The data was cleaned, explored, and EDA was done using Python & SQL.
- Final visualizations and charts were created using IBM Cognos Analytics

# RESULTS

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The results consist of four main parts

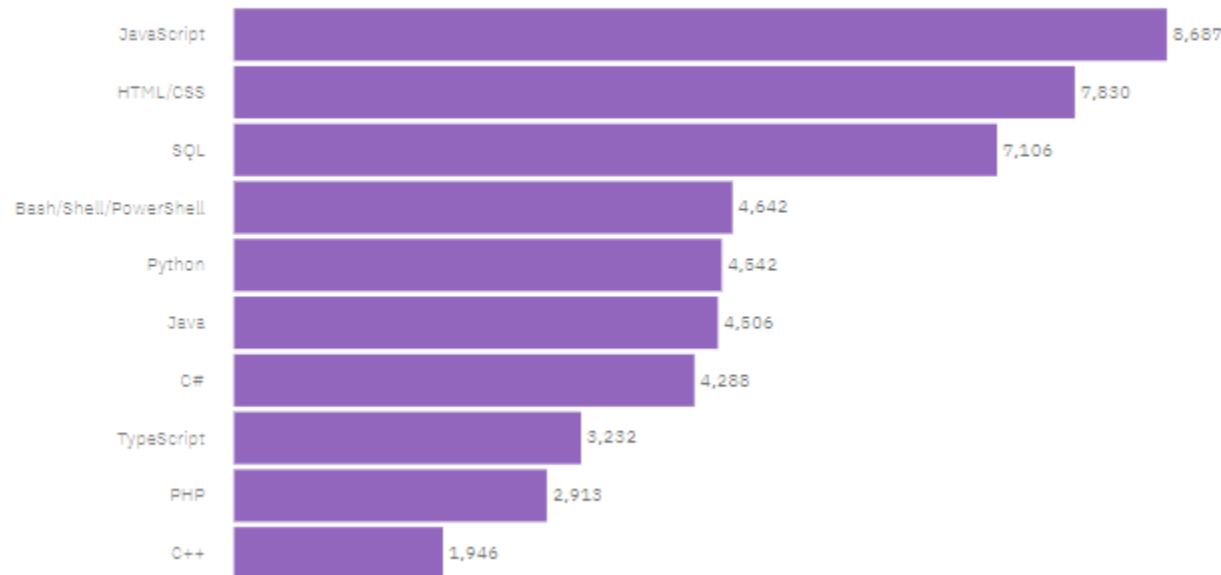
- Programming Languages trend
- Database Management Systems trend
- Platforms trend
- Frameworks trend



# PROGRAMMING LANGUAGE TRENDS

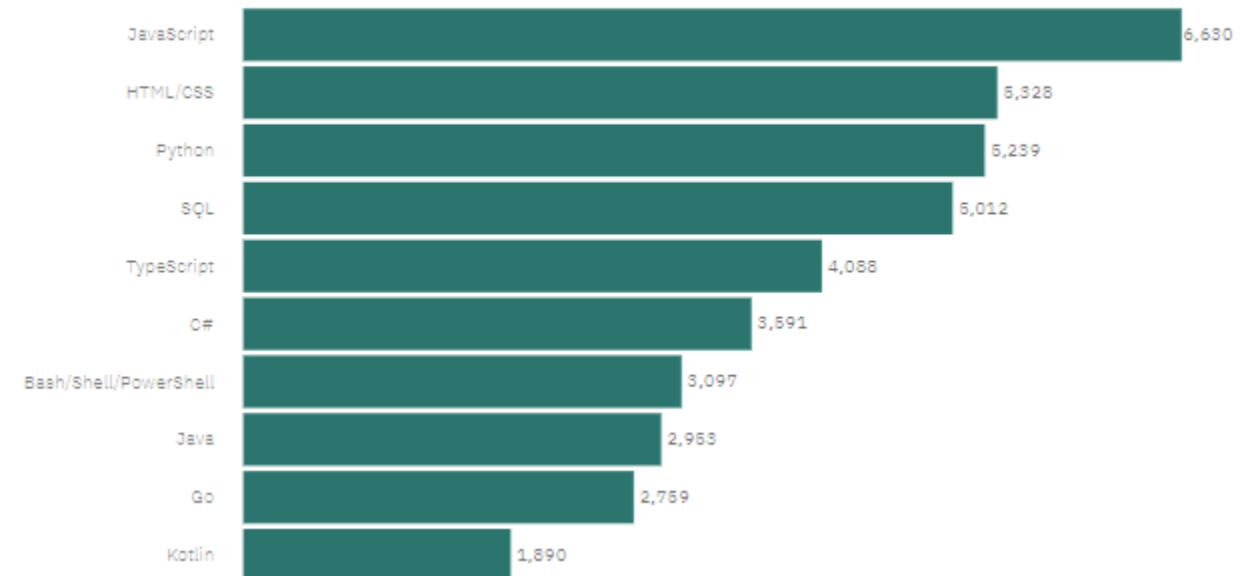
Current Year

Top Languages Worked With



Next Year

Language Desires



# PROGRAMMING LANGUAGE TRENDS – FINDINGS & IMPLICATIONS

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## Findings

- JavaScript, HTML/CSS are top programming languages for present and future
- Python moves 2 places higher for the Desires chart
- PHP & C++ do not show up in the top 10 most desired languages.

## Implications

- Web development programming languages might continue its dominance
- Python and Data Science becomes increasingly important
- Legacy languages such as PHP & C++ are generally falling out of interest

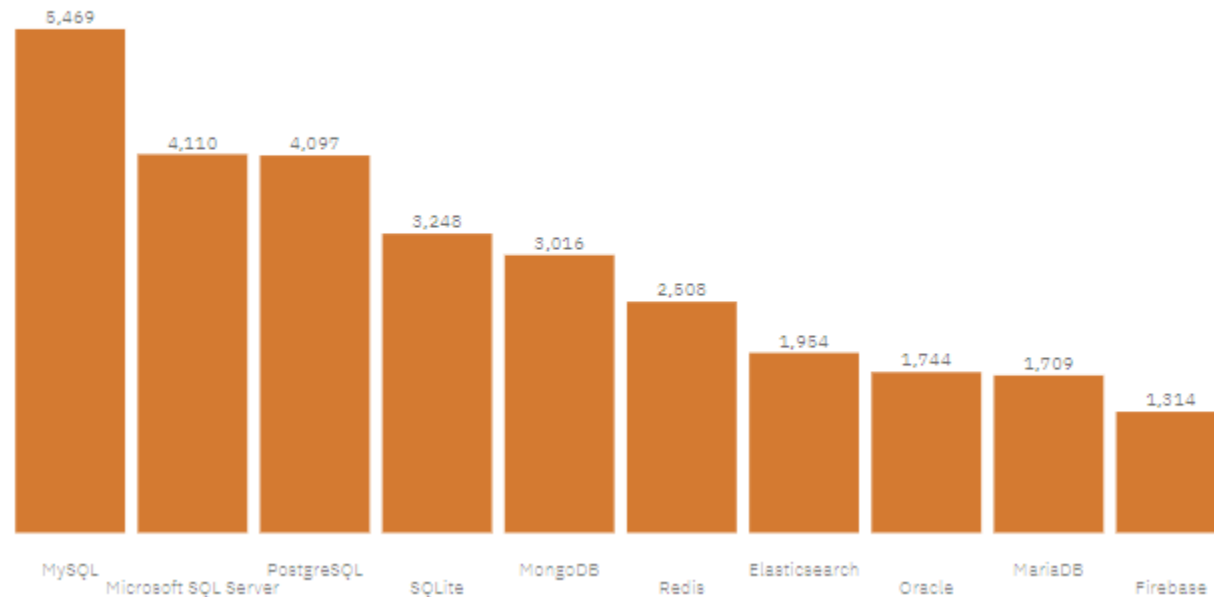


# DATABASE TRENDS

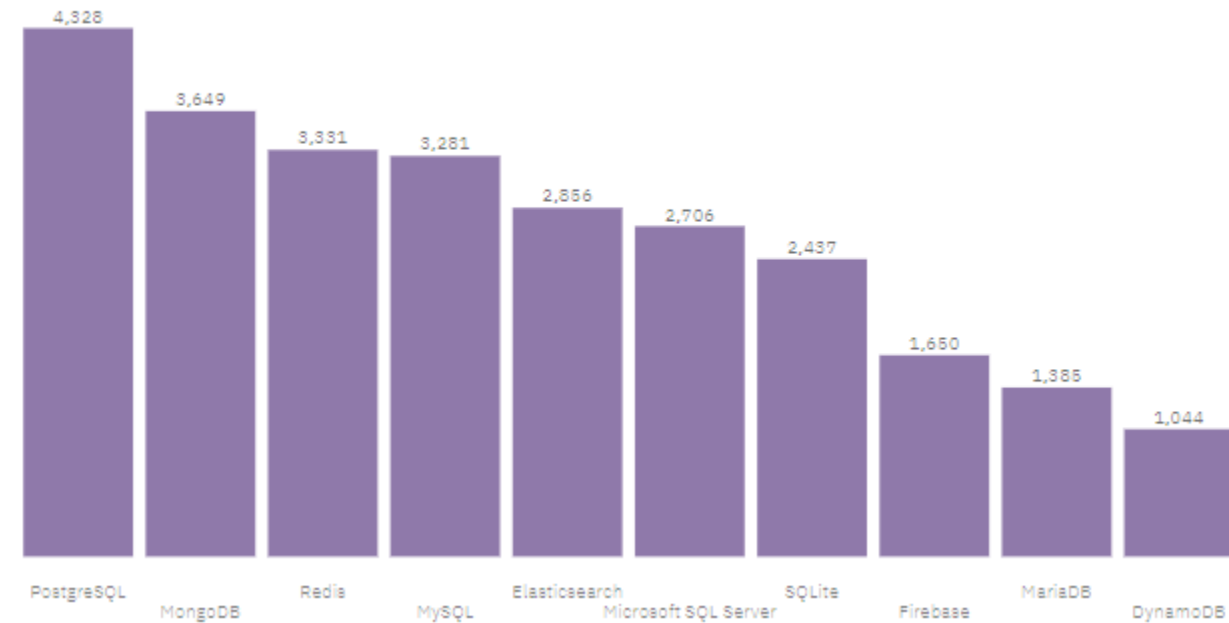
Current Year

Next Year

Top Databases Worked With



Database Desires



# DATABASE TRENDS – FINDINGS & IMPLICATIONS

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## Findings

- PostgreSQL moves to the top
- MongoDB, Redis & Elasticsearch grow in desires.
- MS SQL Server drops 3 places
- Oracles does not show up in the desires chart

## Implications

- Open-source databases become more popular than closed-source
- Non-relational databases are on the rise
- Relational database still takes a leading position for the future

# PLATFORMS TRENDS

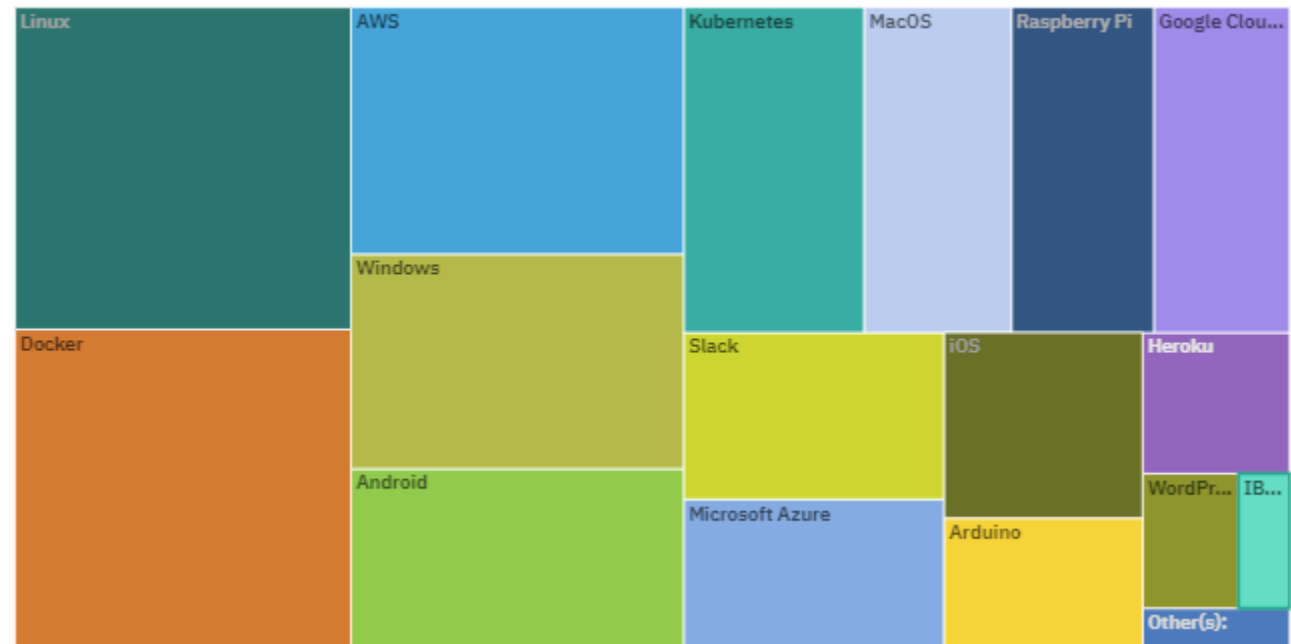
Current Year

Next Year

Popular Platforms Worked With



Platforms Desires



# PLATFORMS TREND

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## Findings

- Windows & Linux still dominate the platform
- Android is the Number 1 mobile platform
- Cloud platforms such as Kubernetes, Docker, AWS are getting more market share.

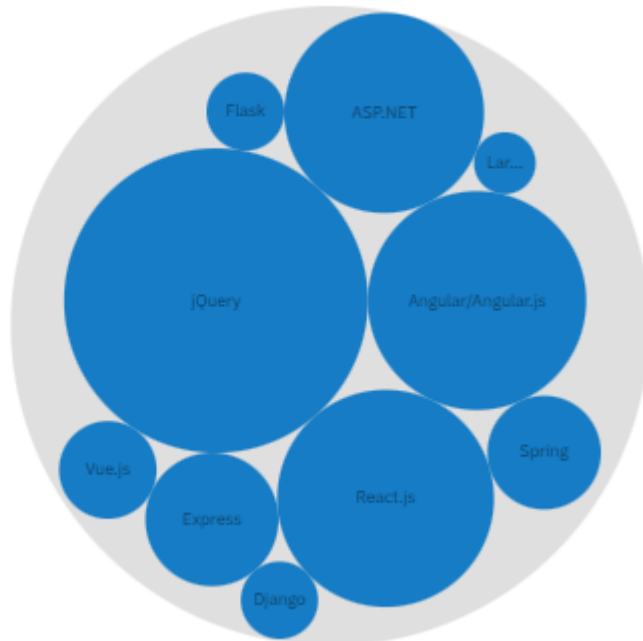
## Implications

- Windows and Linux are still main developing platform in a foreseeable future.
- Cloud computing is a rising technological trend.

# FRAMEWORKS TREND

## • Current Year

Most Used WebFrames



## • Next Year

WebFrame Desires



# FRAMEWORKS TREND

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## Findings

- The most popular frameworks are JavaScript libraries
- jQuery decreases from No.1 to No.4
- React.js moves up from No.3 to No.1
- Vue.js moves from No.9 to No.3


## Implications

- JavaScript libraries still rule the market
- jQuery quickly loses market share which shows lack of interest from developers in the future
- React.js and Vue.js becomes the new standard for web frame development.

# DASHBOARD

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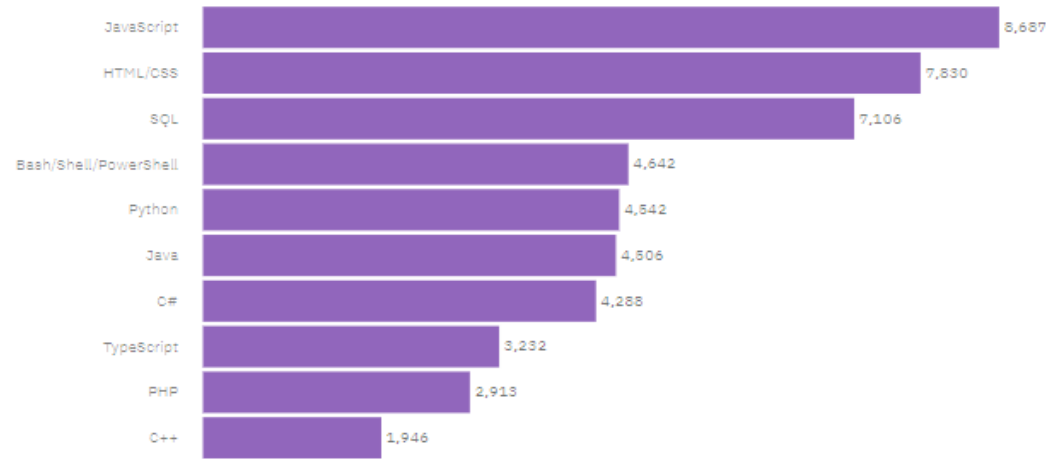
PERMALINK FOR THE INTERACTIVE COGNOS  
DASHBOARD



<https://eu-de.dataplatform.cloud.ibm.com/dashboards/ab0794d5-6ed8-4ad9-af11-cfeb51c1a092/view/1936d41a0f8f14d354d1bde407cf2b037d34270ee1bbd25789807b495d347497f36d1098c827425ddd400c30f2b9110b9b>

# DASHBOARD TAB 1

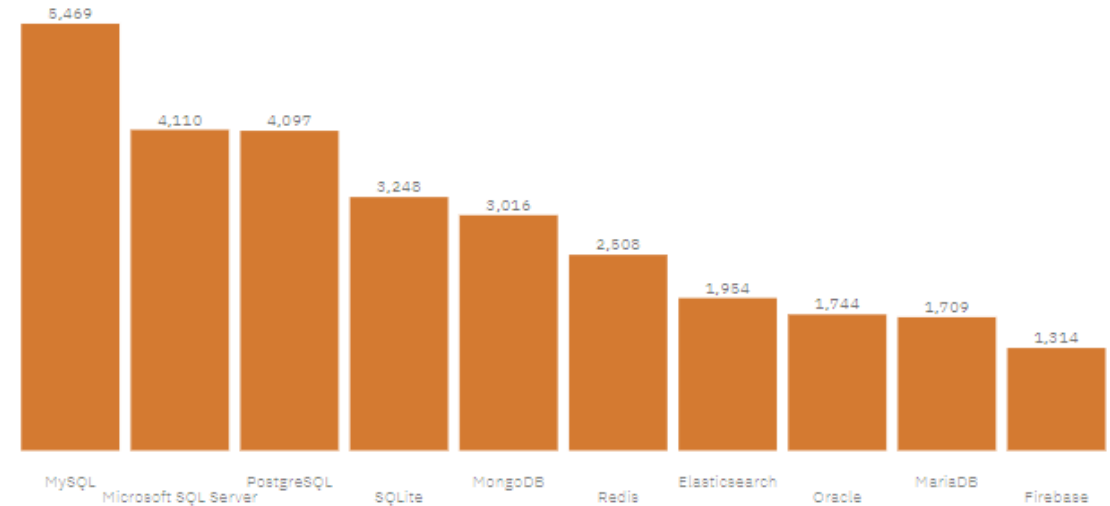
Top Languages Worked With



Popular Platforms Worked With



Top Databases Worked With



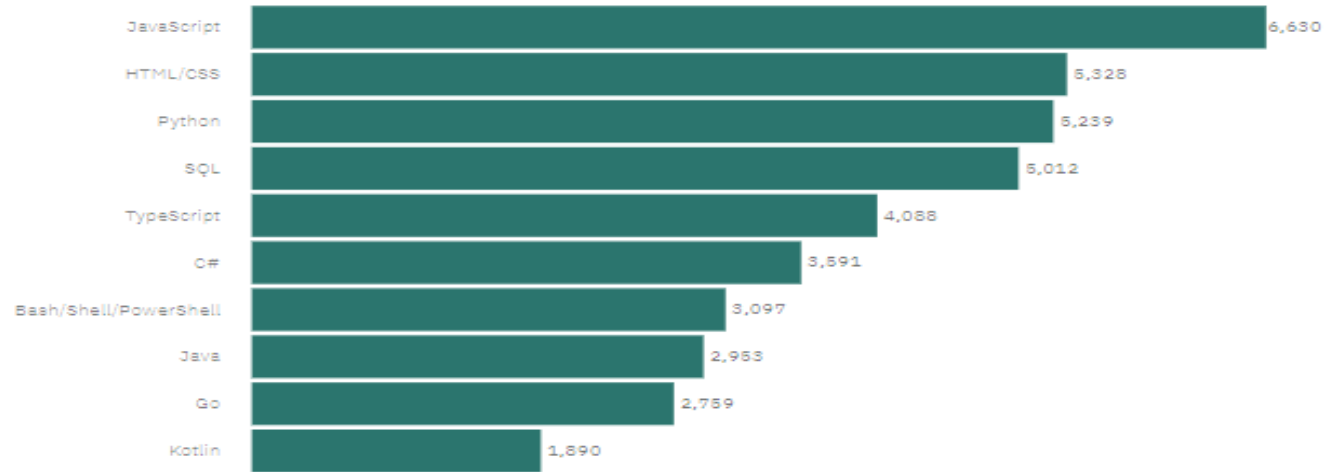
Most Used WebFrames



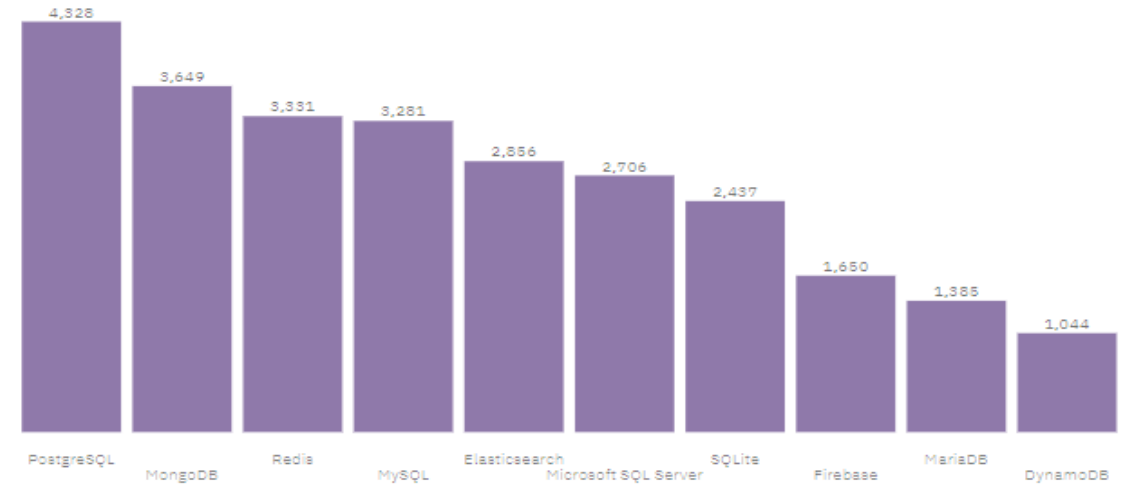


# DASHBOARD TAB 2

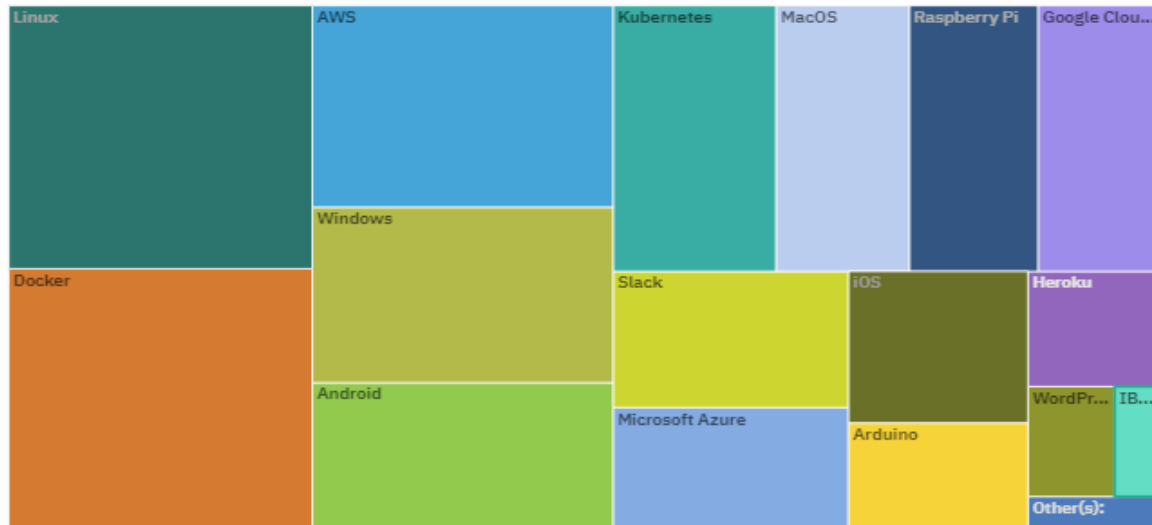
Language Desires



Database Desires



Platforms Desires



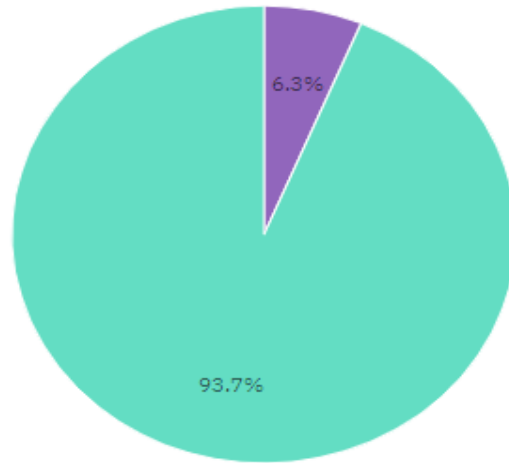
WebFrame Desires



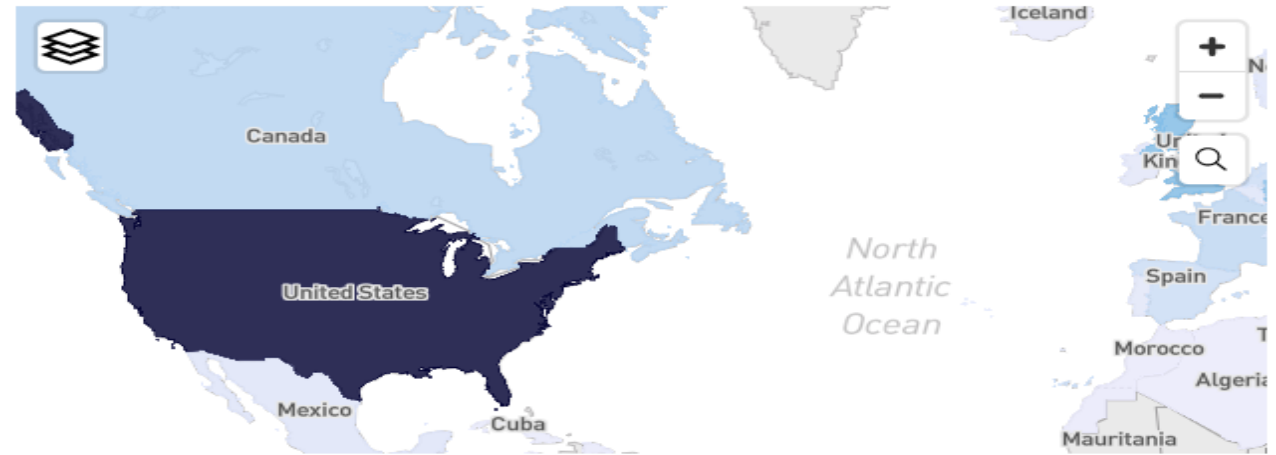
# DASHBOARD TAB 3

## Gender of Respondents

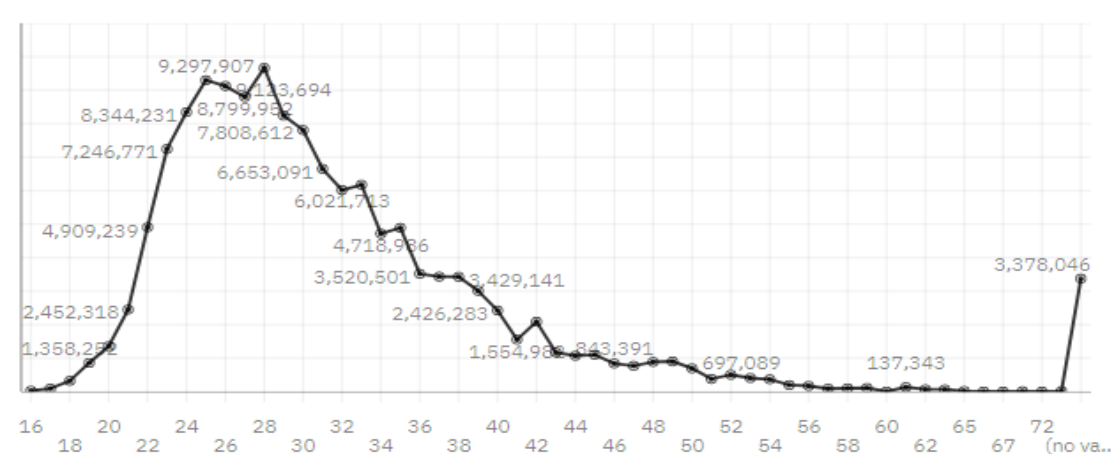
Woman Man



## Respondent Count by Country

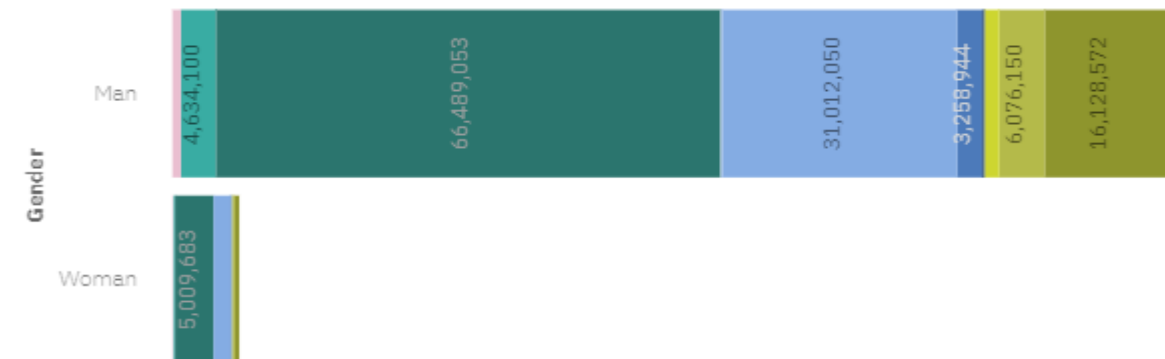


## Respondent Count by Age



## EdLevel

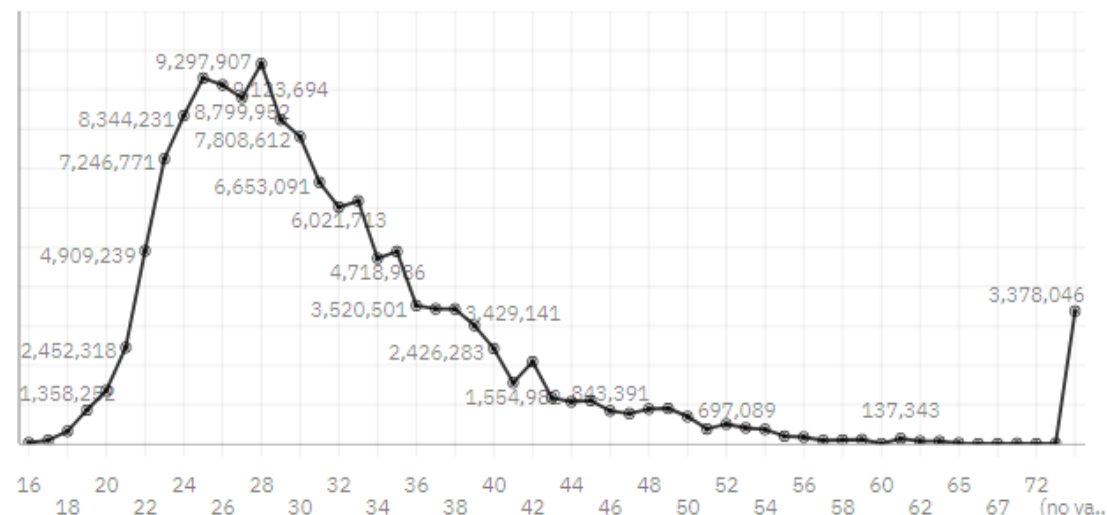
(no value) Associate degree Bachelor's degree (BA, BS, B.E... I never completed any formal ... Master's degree (MA, MS, M.E... Other doctoral degree (Ph.D, E...



# DISCUSSION



Respondent Count by Age



- Majority of respondents are young (20 – 30 years old). This could skew the result in favour of new technologies.

# OVERALL FINDINGS & IMPLICATIONS

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## Findings

- Web-based programming languages stay top
- Non-relational databases are 2<sup>nd</sup> & 3<sup>rd</sup> most desired for next year.
- Cloud platforms rise in popularity

## Implications

- Web-based applications might take over traditional applications
- Non-relational databases are increasingly important as we have more unstructured data to work with
- Cloud systems and cloud computing will rise in the next few years

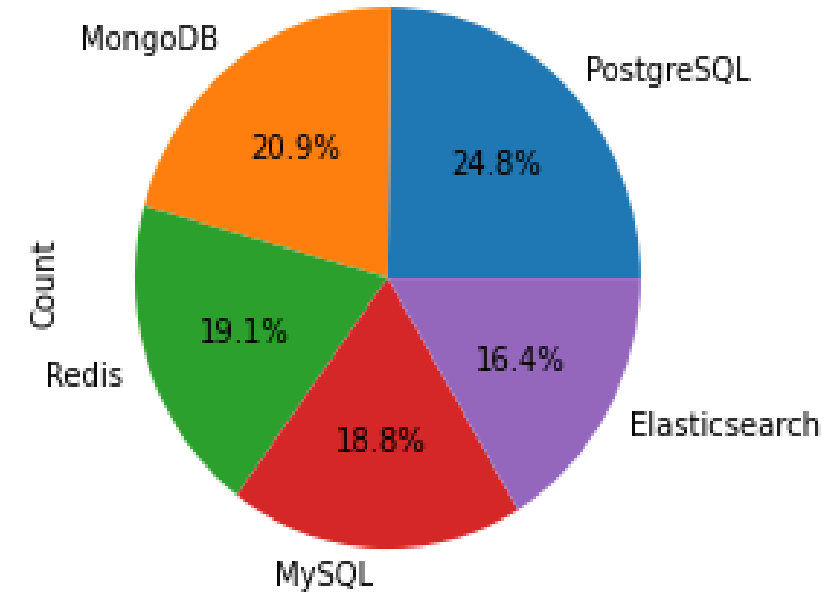
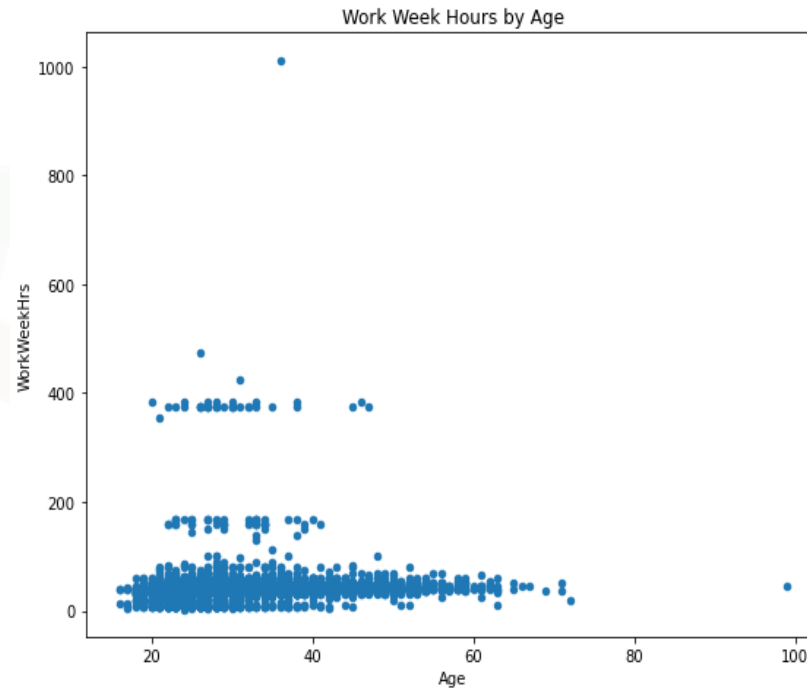
# CONCLUSION

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- To stay relevant in the field of technology, it is important to have good understanding and experience with web-based programming languages.
- Non-relational databases are important as more and more unstructured data is generated by the day.
- Among the most popular frameworks, JavaScript libraries like React.js and Vue.js are good to learn for the future.
- Linux remains important as Bash Scripting is particularly useful. But getting understanding of Cloud platforms might be fruitful for the future.

# APPENDIX



# JOB POSTINGS



# POPULAR LANGUAGES

