



# IBM Data Analyst Capstone Project

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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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- Data contextualization and analysis goal
- Methodology
  - Data collection
  - Data wrangling
  - EDA
  - Data Visualizations
- Results presentation and conclusions of the carried out research

# INTRODUCTION

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- The focus of this project revolves around the annual developer surveys conducted by Stack Overflow, encompassing participants from across the globe
- The project involves analyzing programming languages, web frameworks, and databases, aiming to predict future trends in these technologies

# METHODOLOGY

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- Collecting information
  - Web scraping
  - APIs
  - Libraries
- Data wrangling & munging
- EDA
  - Data distribution
  - Identifying and handling outliers
  - Correlations
- Data visualizations
- Building dashboards

# RESULTS

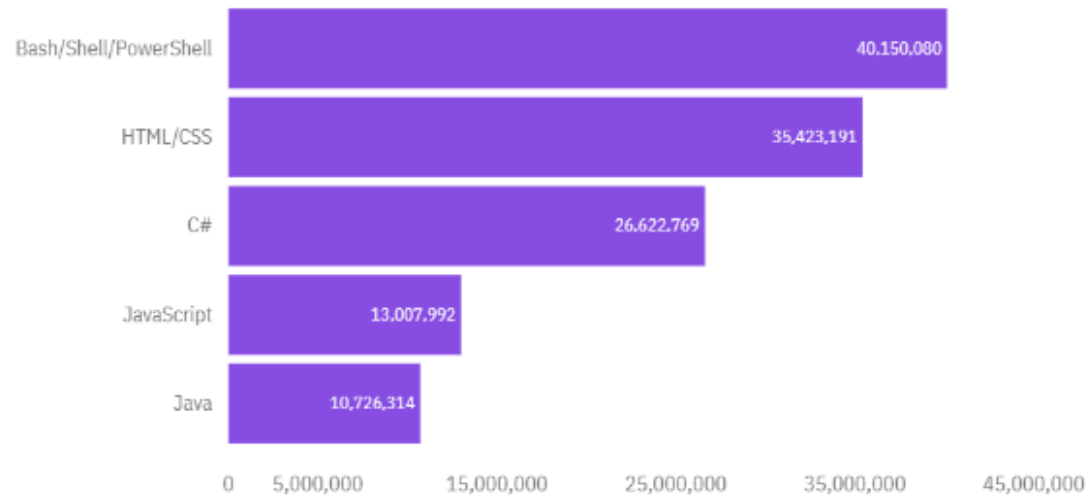
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# PROGRAMMING LANGUAGE TRENDS

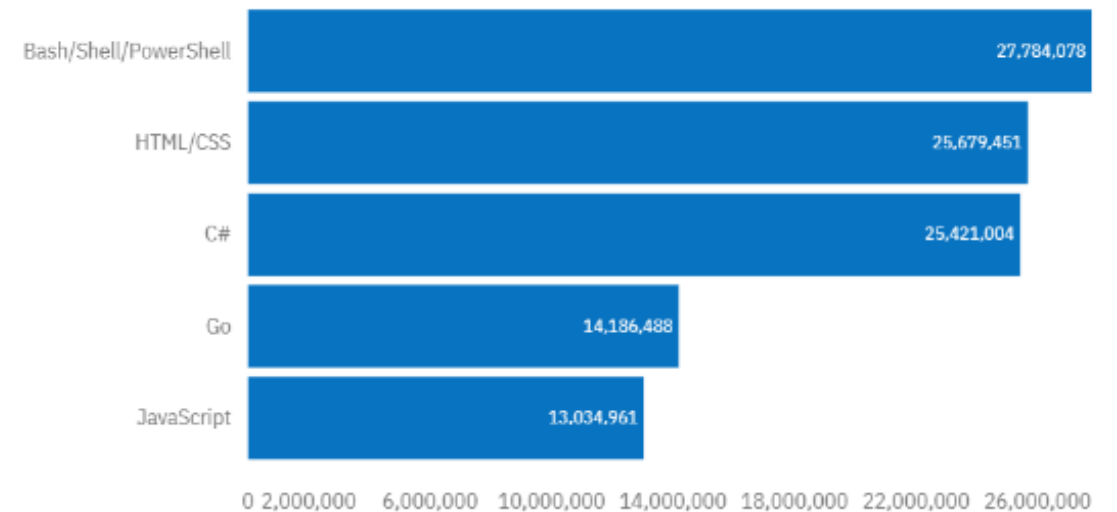
## Current Year

Top 5 Languages Worked With



## Next Year

Top 5 Desired Languages Next Year



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- Bash/Shell/PowerShell leading the trend
- Golang is going to raise next year

## Implications

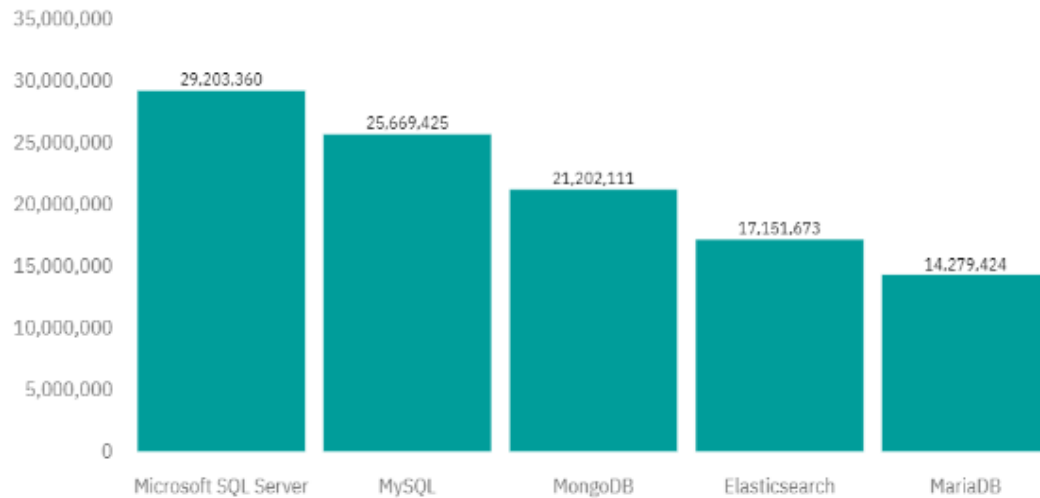
- Organizations should consider the implications of language trends when making technology adoption decisions



# DATABASE TRENDS

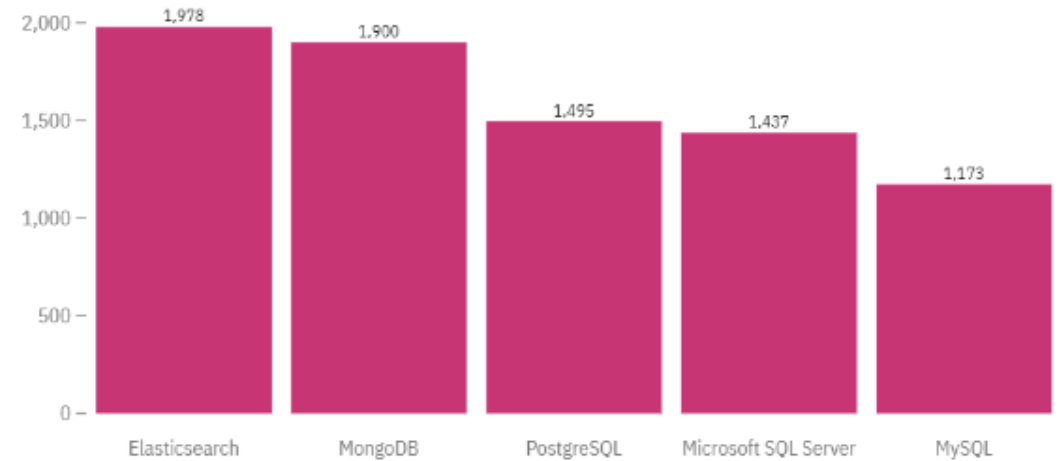
## Current Year

Top 5 Databases Worked With



## Next Year

Top 5 Desired DB Next Year



# DATABASE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- MS SQL is the most used database
- Developers focus on Elasticsearch in the future

## Implications

- Organizations should consider the implications of database trends when formulating their data management strategies
- Assessing the scalability, performance, and suitability of different database technologies is essential to meet evolving business requirements effectively

# DASHBOARD

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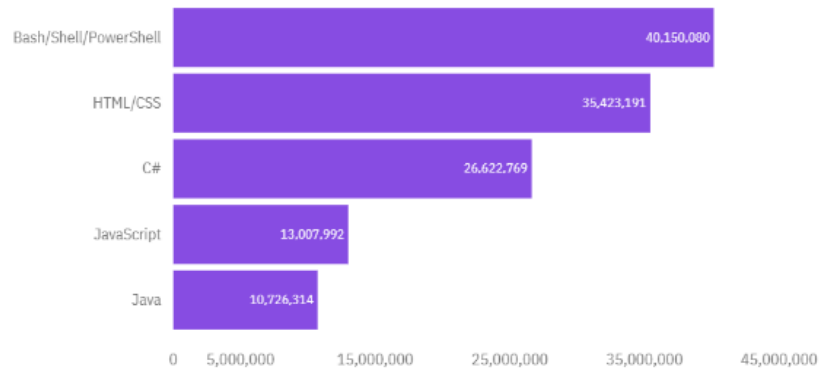


<https://github.com/ddatnguyen97/IBM-Data-Analyst-Capstone-Project/blob/main/IBM%20Data%20Analyst%20Capstone%20Project.pdf>

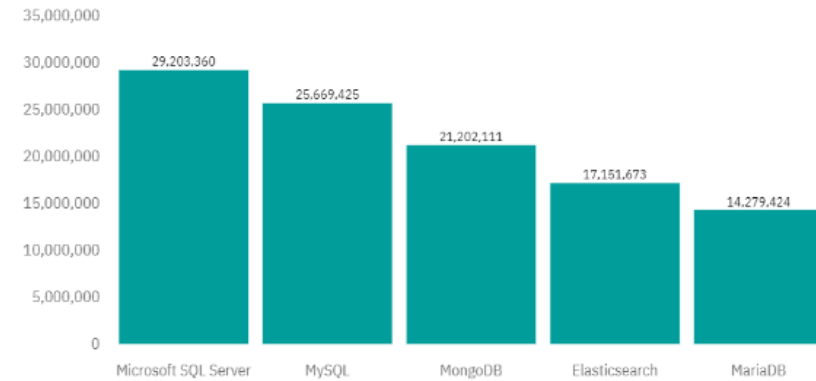
# DASHBOARD TAB 1

## Current Technology Usage

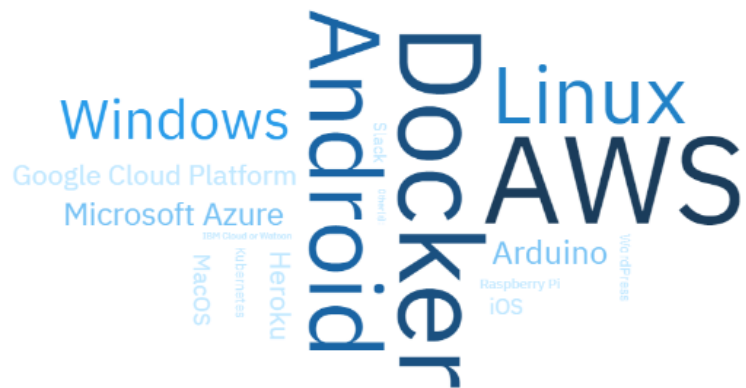
### Top 5 Languages Worked With



### Top 5 Databases Worked With



### Platform Interacted



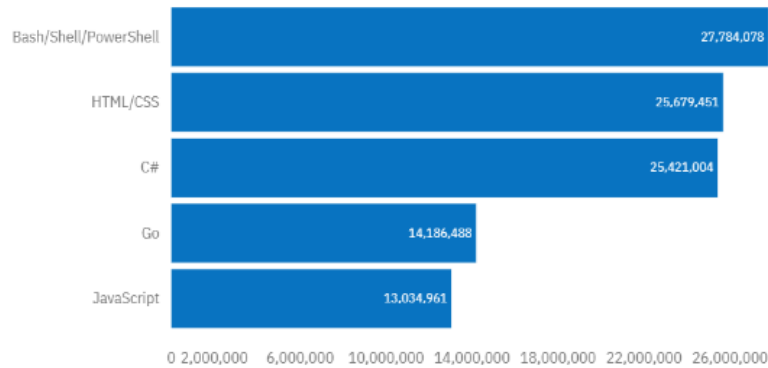
### Top 5 Web Frame Worked With



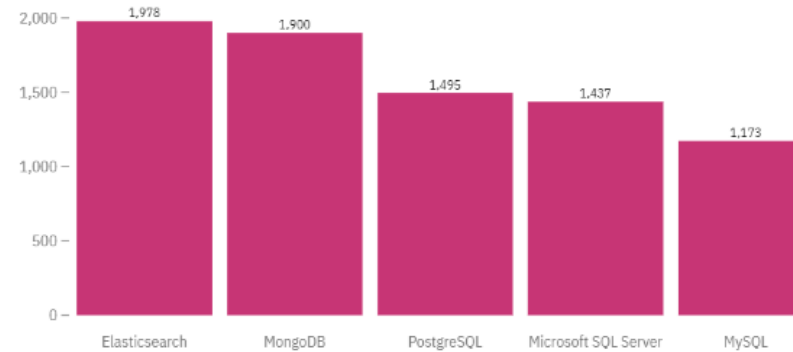
# DASHBOARD TAB 2

## Future Technology Trend

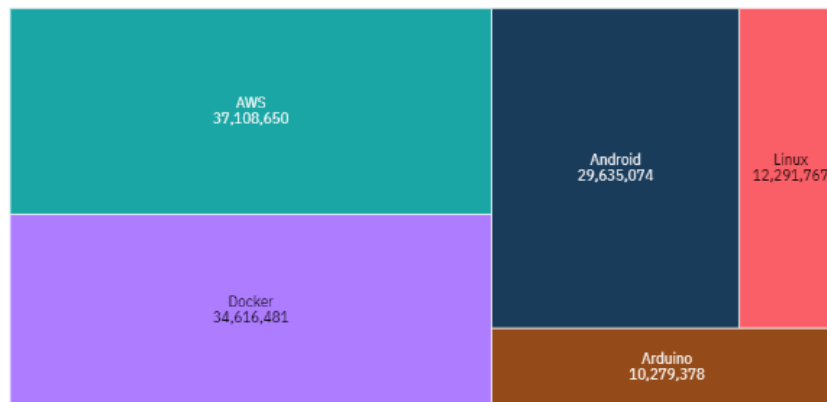
Top 5 Desired Languages Next Year



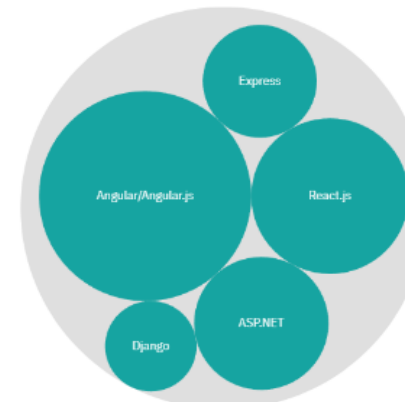
Top 5 Desired DB Next Year



Top 5 Desired Platform Next Year



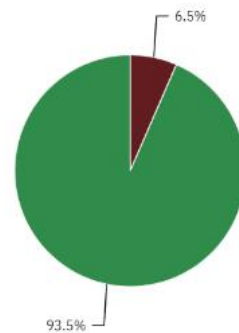
Top 5 Desired Web Frame Next Year



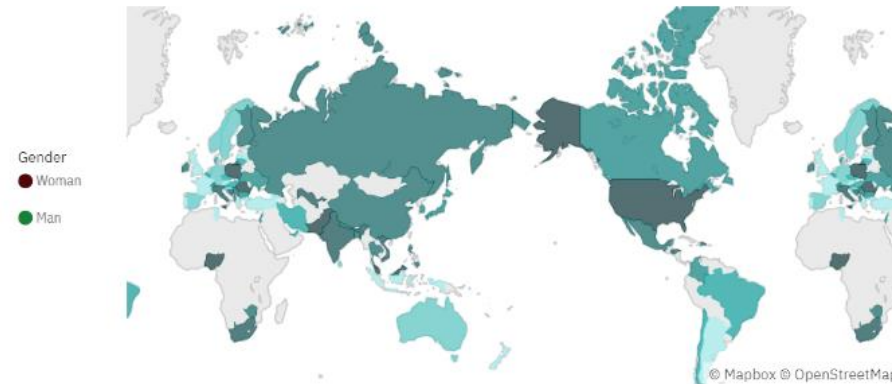
# DASHBOARD TAB 3

## Demographics

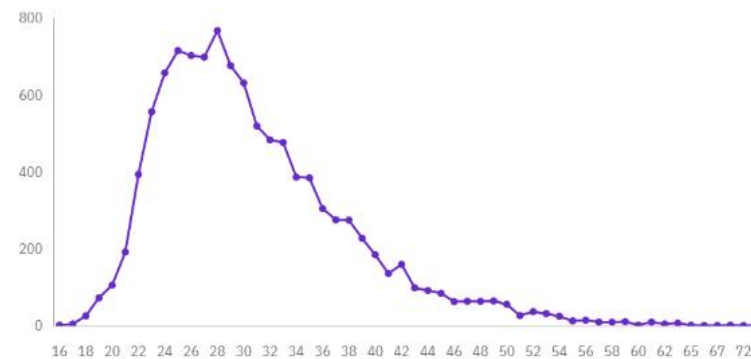
### Gender Percentages



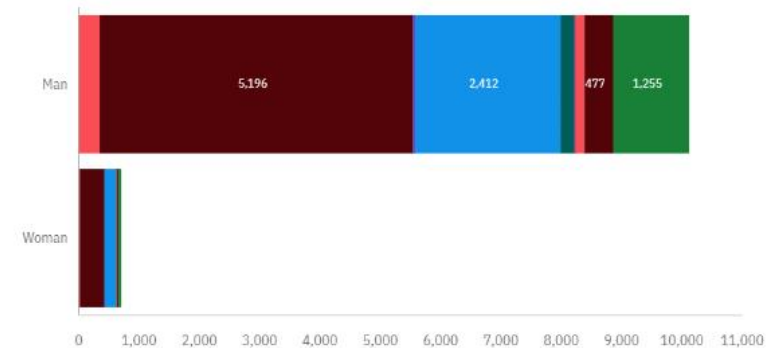
### Respondent by Country



### Respondent by Age



### Education Level/ Gender



# DISCUSSION

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# OVERALL FINDINGS & IMPLICATIONS

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## Findings

- Focusing on DevOps
- Over 90% are male developers
- Mostly located in developed countries

## Implications

- OS platforms on the rise
- Developers without postgraduation studies on its majority



# CONCLUSION

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- A wealth of in-demand programming languages, developer tools, and development platforms are readily accessible
- Development in a diverse range of skills and pursue numerous job opportunities around the world