



# Survey Data Analysis

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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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- Current Technology Usage
- Trends in future technology
- Demographics survey
- Comparison of jobs by age

# INTRODUCTION

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- Analyzing the trends in software Technology
  - Current trend and skills required in future among several age groups
- What are the skills in demand related to:
  - The top programming languages
  - The top database skills in demand
  - Platforms and Web frames
- Jobs considering popular skills wanted

# METHODOLOGY

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- Data Collection
  - GitHub Job Openings using Jobs API
  - Programming Languages with Annual Salary using web scraping
  - Stack Overflow Survey
- Data Cleaning was accomplished by Python:
  - To find and remove missing values
  - To find and replace duplicates
  - Normalizing Data
- Exploratory Data Analysis to evaluate:
  - Data Distribution
  - Outliers
  - Correlation
- Data Visualization using python
  - Charts and graphs to visualize relationship, distribution, composition and comparison of data ,
- IBM Cognos Dashboard Embedded (CDE) platform was used to create the dashboards

# RESULTS

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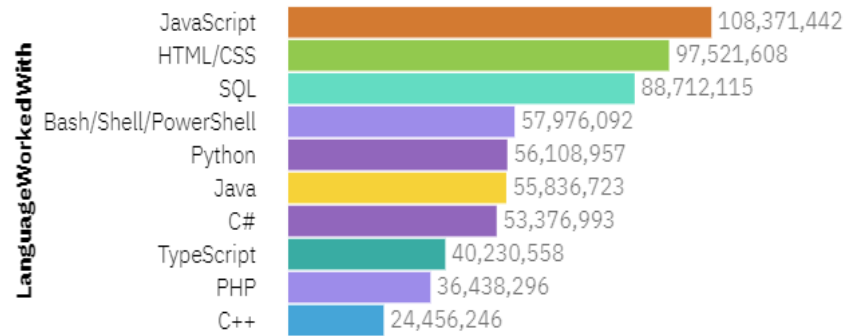
- In the upcoming slides, we will discuss the findings of Current and future trends with demographics

# PROGRAMMING LANGUAGE TRENDS

## Current Year

### Top 10 Languages worked With

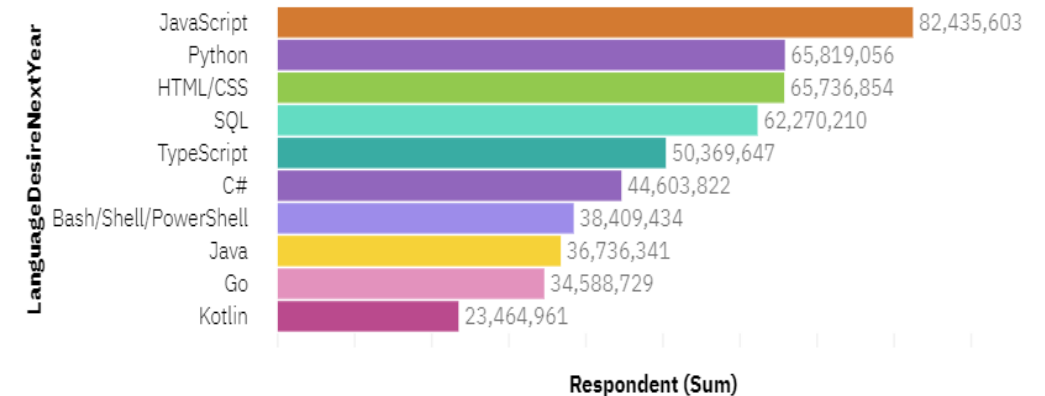
#### Languages



## Next Year

### Top 10 Language Desire Next Year

#### LanguageDesireNextYear



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- JavaScript, HTML/CSS, PowerShell, SQL and Python are the most used languages.
- In future, PowerShell surpassed the demand.
- Python becoming High in demand

## Implications

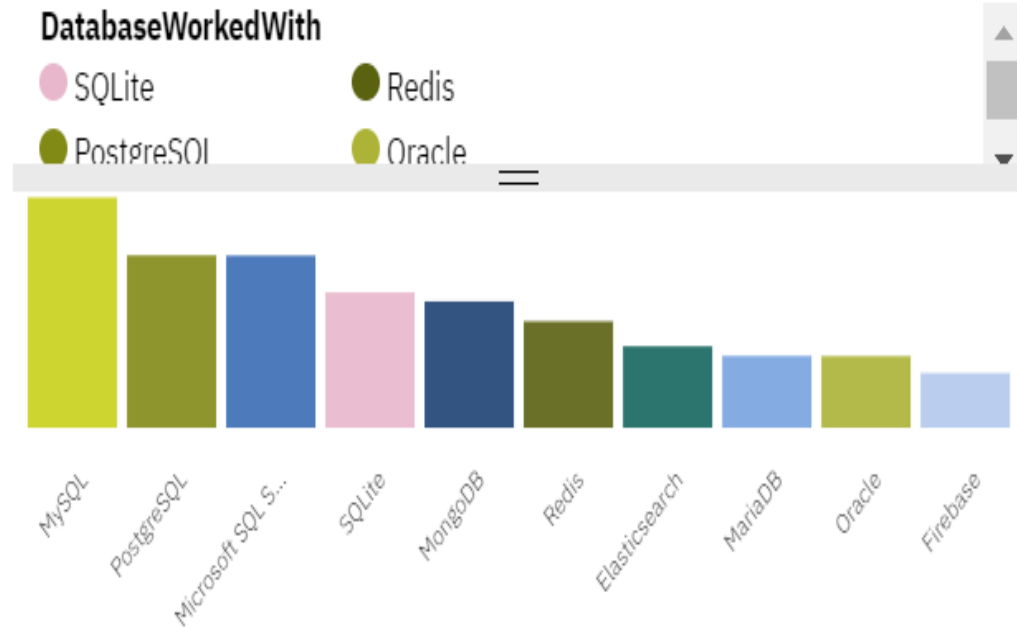
- Web development languages like JavaScript, HTML/CSS are in usual demand
- Python's supportive maturity for trending technology makes favorable in demand
- Databases are everywhere which makes SQL in demand



# DATABASE TRENDS

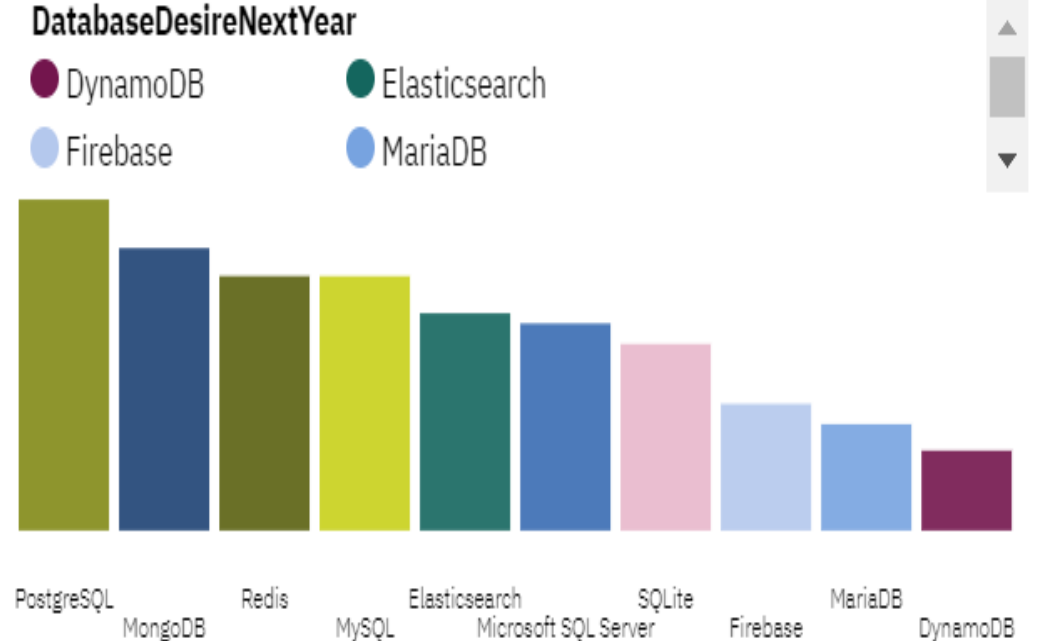
## Current Year

Top 10 Database Worked With



## Next Year

Top 10 Database Desire Next Year



# DATABASE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- Although MySQL is wanted, PostgreSQL overtook it.
- MongoDB is in 5th place and Redis is in 6th place currently, but both are growing in demand.
- SQLite seems off the track.

## Implications

- PostgreSQL and MongoDB are mostly wanted in future years
- Running in memory increases the demand of Redis

# DASHBOARD

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## IBM COGNOS LINK DASHBOARD

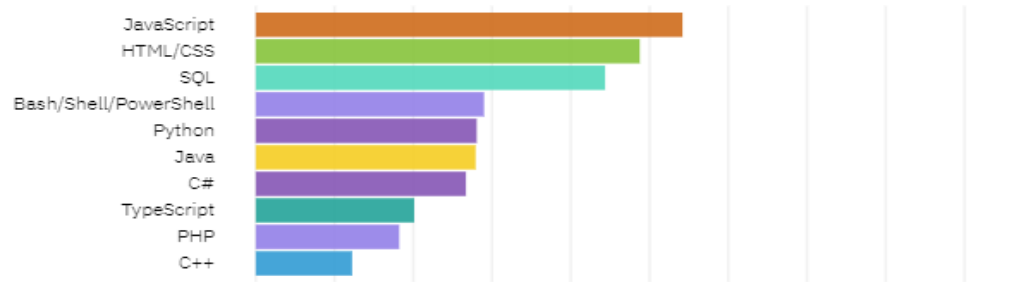
<https://datapatform.cloud.ibm.com/dashboards/bfd31a02-0dd3-4554-8556-6a27c0e2c71b/view/4524db2779af75c376fcd4e407cc2b052c352154e7bbd75282857b495e657197a86814c7c87b4208de110337f1bf475bc0>

# CURRENT TECHNOLOGY USAGE DASHBOARD

## Top 10 Languages worked With

### Languages

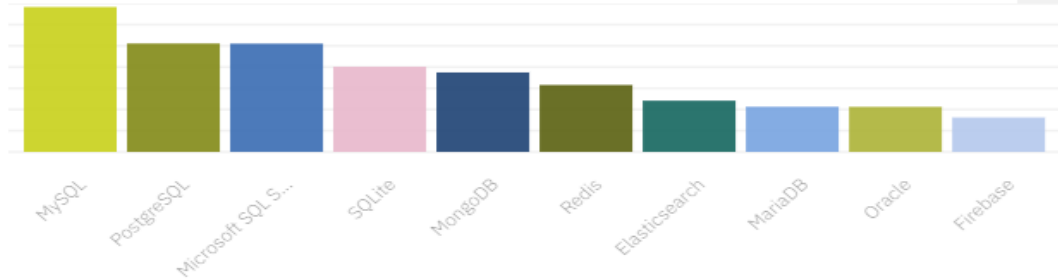
- Bash/Shell/PowerShell
- C++
- C#
- HTML/CSS



## Top 10 Database Worked With

### DatabaseWorkedWith

- Elasticsearch
- Firestore
- MariaDB
- Microsoft SQL Server



## Platform Worked With

### Respondent (Sum)

72,858,615

2,532,293

Platform...

AWS

Android



## Top 10 Web Frame Worked With

### Respondent (Sum)

11,517,716

57,310,840

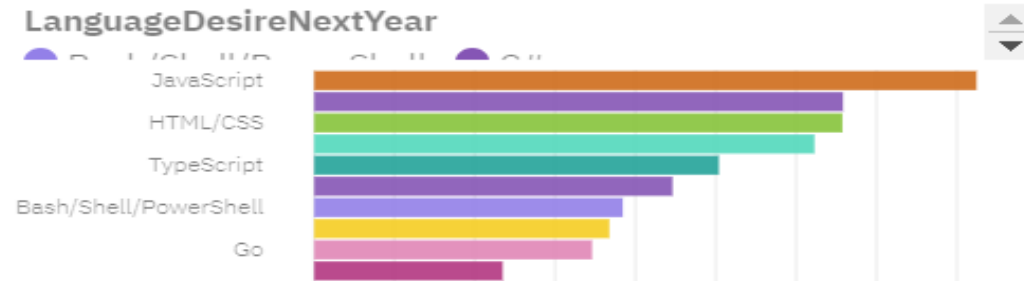
### WebFrameWorkedWith

- ASP.NET
- Angular/Angular.js
- Django
- Express

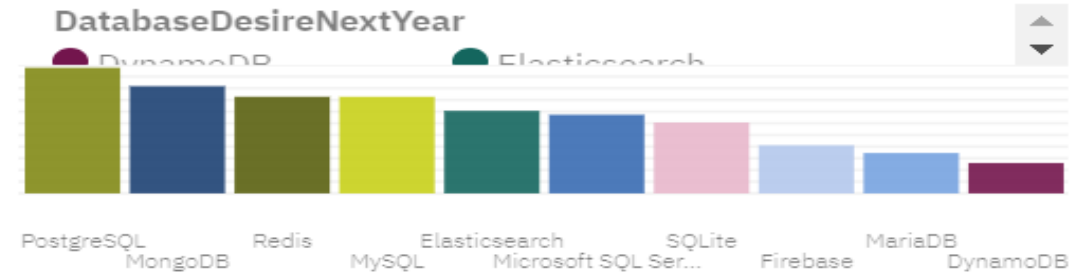


# FUTURE TECHNOLOGY TREND DASHBOARD

## Top 10 Language Desire Next Year



## Top 10 Database Desire Next Year



## Platform Desire Next Year



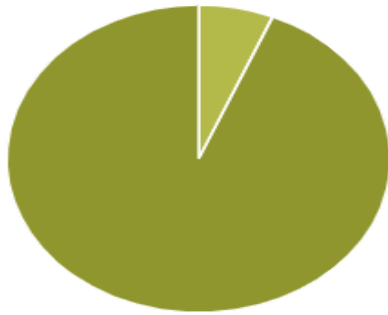
## Top 10 Web Frame Desire Next Year



# DEMOGRAPHICS DASHBOARD

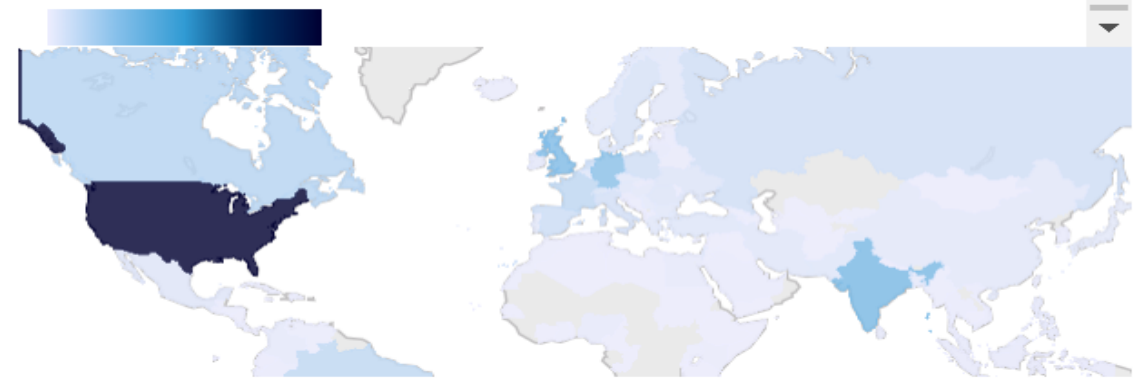
## Respondent classified by Gender

Gender  
● Woman ● Man

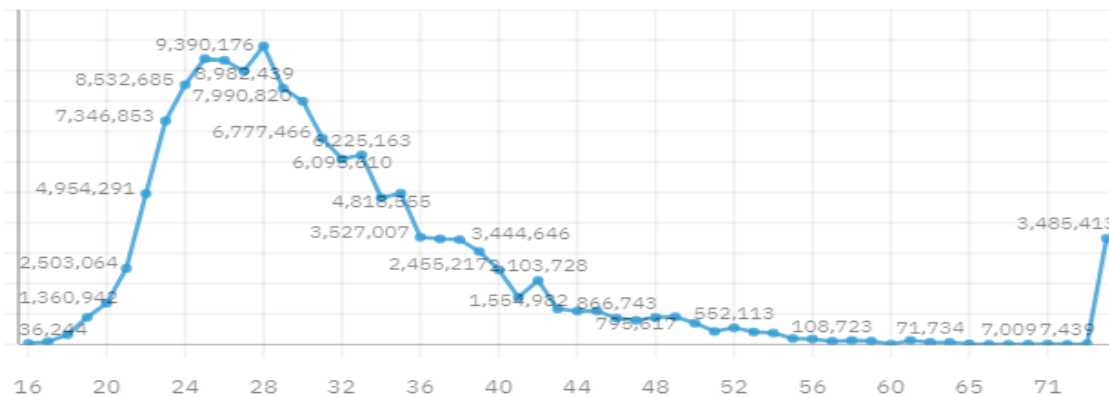


## Respondent Count for Countries

Respondent (Sum)



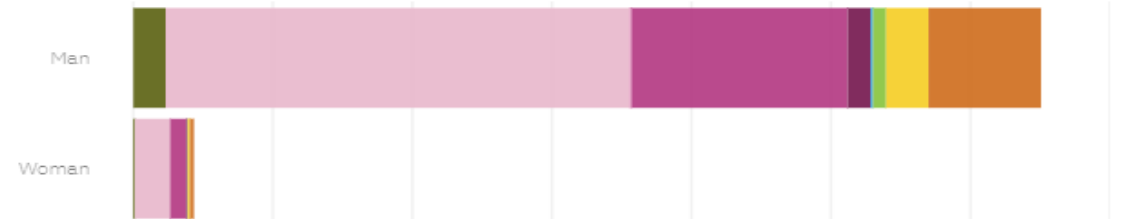
## Respondent Count by Age



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

EdLevel

● Associate degree ● Bachelor's degree (BA, BS, B.E...  
● I never completed any formal ... ● Master's degree (MA, MS, M.E...)



# DISCUSSION

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- Current and future technology
- Demographics
  - Will differentiation of gender and age be reduced?
  - Will education level impact the jobs postings?
  - Does technology traverse between developed and developing countries?

Does change in trend impacts salary?

# OVERALL FINDINGS & IMPLICATIONS

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## Findings

- Python and SQL demands require more responders
- Linux and Docker platforms are expanding their needs
- People under age of 40 are mostly preferred
- Both men and women have Bachelor's degree

## Implications

- Responders need to update demanding trends
- Job postings effects
- Developing Countries need more respondents to tackle the demand of technology



# CONCLUSION

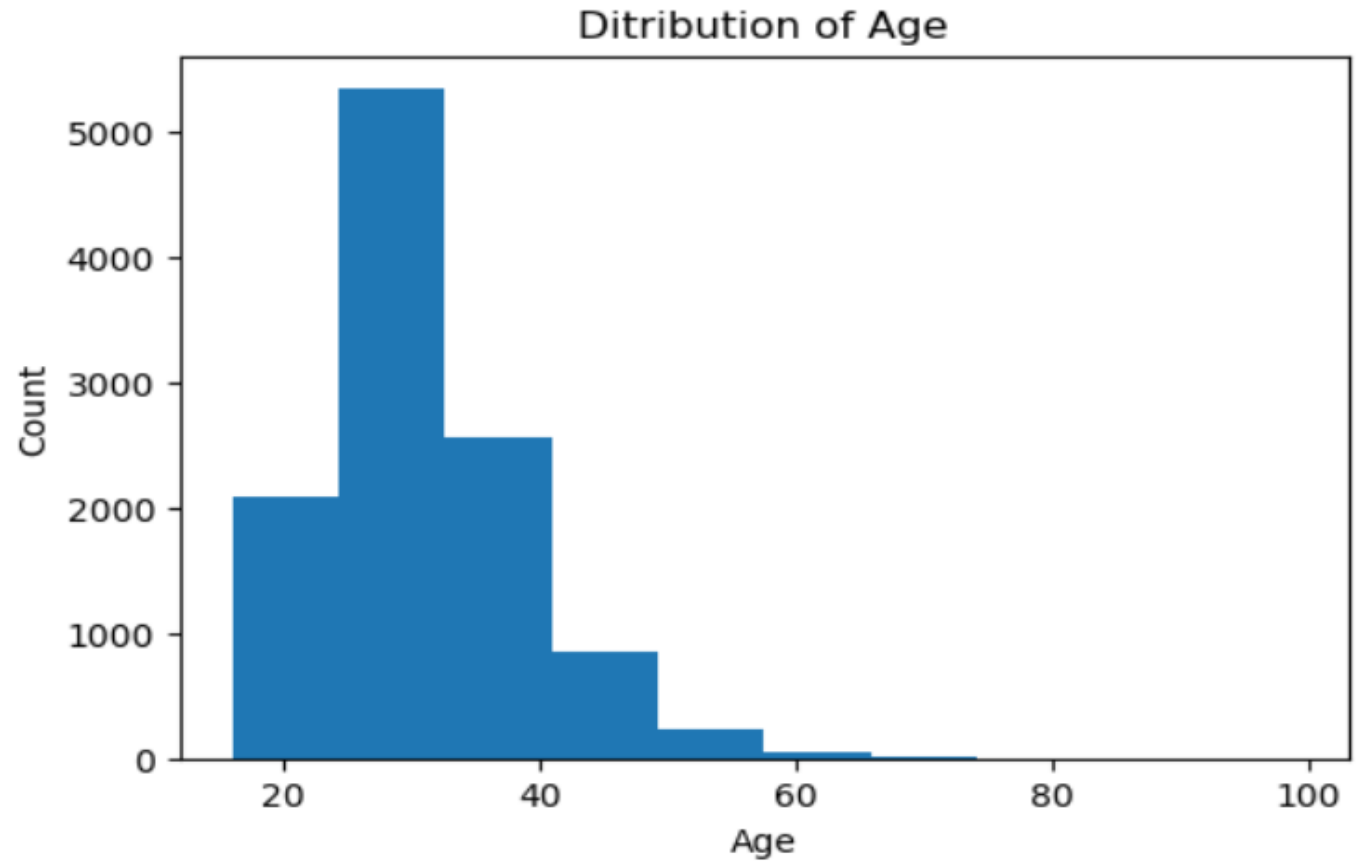
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- It is essential to upgrade challenging skills concerning technologies in demand
- Women needs to be encouraged in job hiring regarding required skills in demand

# APPENDIX

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# JOB POSTINGS



# POPULAR LANGUAGES

