



Stack Overflow Developer Survey on 2019

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OUTLINE



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EXECUTIVE SUMMARY



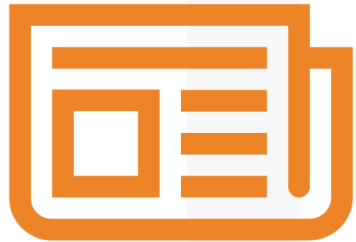
- The 2019 Stack Overflow Developer Survey data were used
- Methodology employed in this research, including:
 - Data collection
 - Data wrangling
 - Exploratory data analysis
 - Data visualization and Dashboard creating
- The results show some changes according to data
 - JavaScript and HTML/CSS still the most language used
 - PostgreSQL popularity increase followed by MongoDB and Redis
 - Linux, Windows, Docker and AWS popularity remain unchanged
- Graph of the trends and complete dashboard provided
- Summary has clear answer for the research question

INTRODUCTION



- The 2019 Stack Overflow Developer Survey is the largest annual survey conducted among developers to see the trends of technology.
- Around 90,000 developers were contributed in the survey
- Language, Database, and Platform which are used and willing to be used are compiled to see the trends between developers
- Question
 - How is the trend changing in languages used among developers?
 - How is the trend changing in databases used among developers?
 - How is the trend changing in platform used among developers?
- This report is designed for other developer, consultant, or informatics related practitioner

METHODOLOGY



Data collection through APIs, Web Scraping, and Request library

Data wrangling includes: finding and removing duplicates, finding and filling missing values, and normalizing data

Exploratory analysis includes: data distribution, finding and removing outlier

Data visualization to measure distribution, relationship, composition, and comparison of Data

Dashboard creating in IBM Cognos Analytics

RESULTS

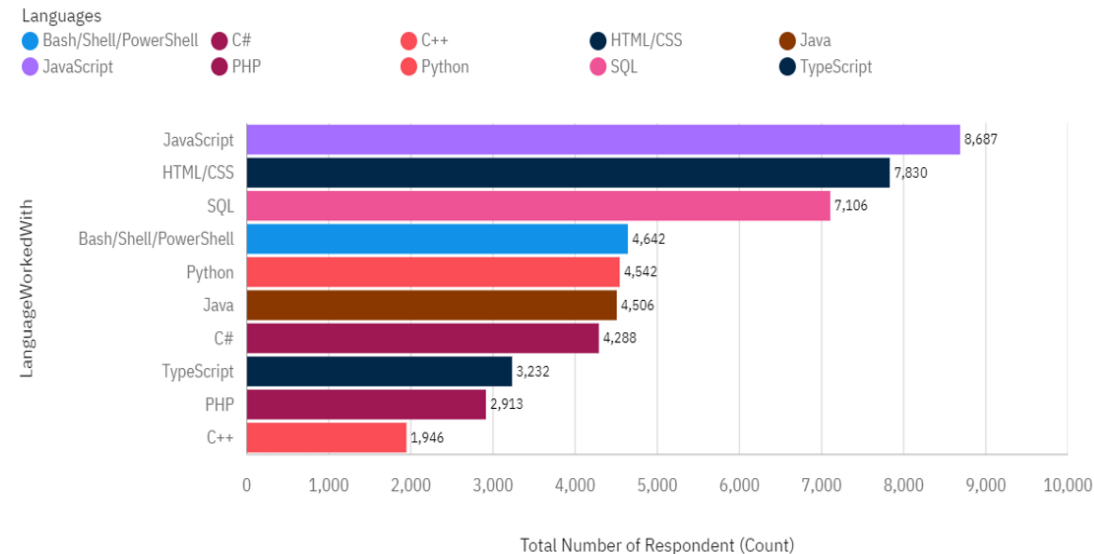


- Results will be provided based on the changing content of data
- Finding and implication are stated for better understanding

PROGRAMMING LANGUAGE TRENDS

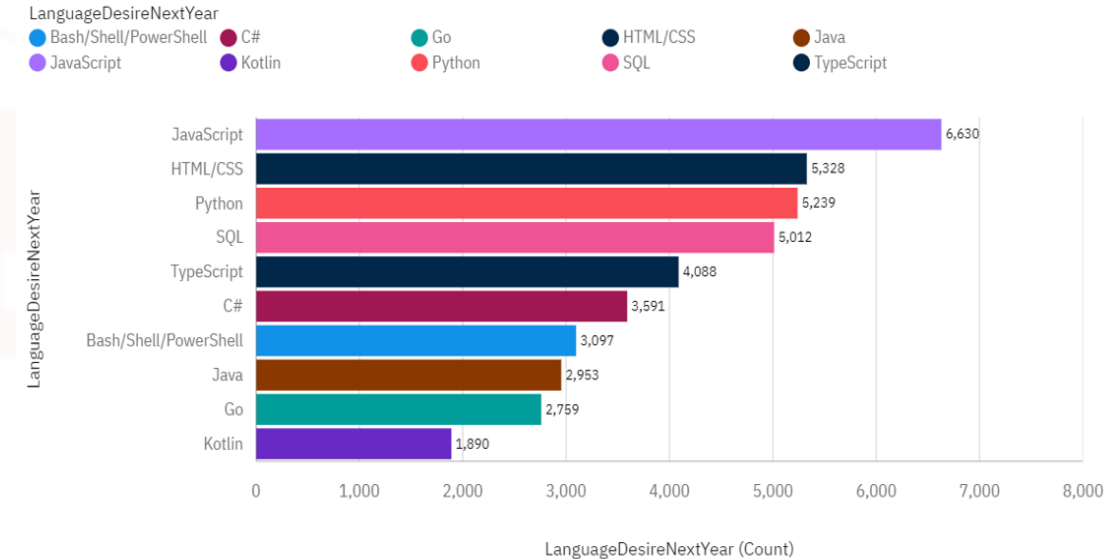
Current Year

Top 10 Language to Worked With



Next Year

Top 10 Language Desire Next Year



PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

Findings

- The increase amount of language desire to work with occurred only in Python and TypeScript
- SQL has the biggest decrease number of respondent in the term most language desire to work with.
- JavaScript and HTML/CSS are remain the most favorited language to work with

Implications

- There is a chance of SQL user move to Python and TypeScript language
- Although the user of JavaScript and HTML/CSS remain the highest, the number is dropping
- There is a chance of increasing demand of Python and TypeScript either class or training for the next year.

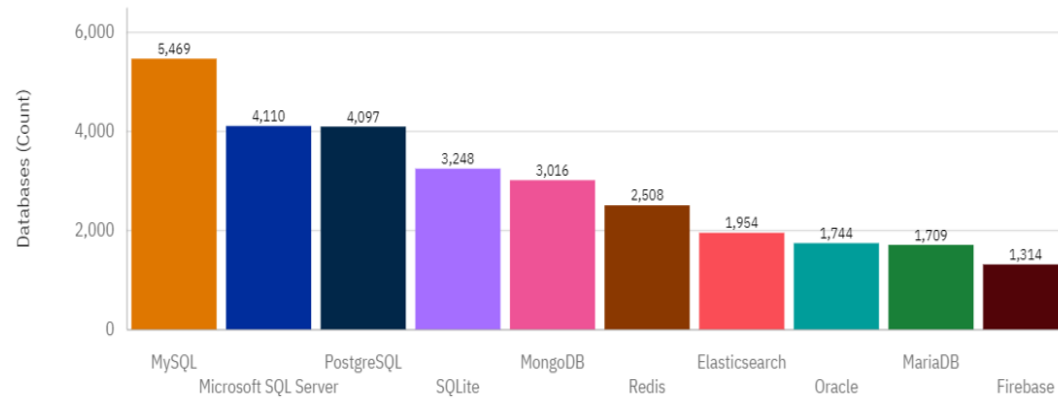
DATABASE TRENDS

Current Year

Top 10 Database to Worked With

DatabaseWorkedWith

Elasticsearch, Firebase, MariaDB, Microsoft SQL Server, MongoDB, MySQL, Oracle, PostgreSQL, Redis, SQLite



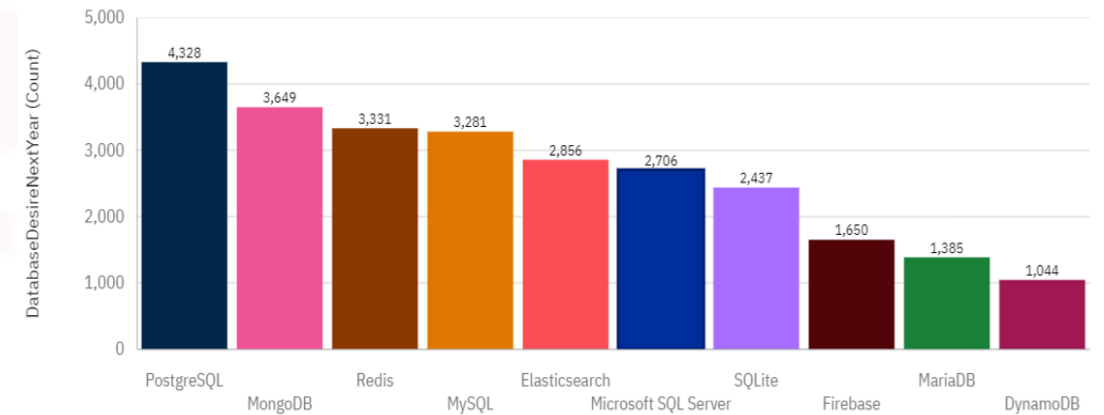
Total Number of Respondent

Next Year

Top 10 Database Desire Next Year

DatabaseDesireNextYear

DynamoDB, Elasticsearch, Firebase, MariaDB, Microsoft SQL Server, MongoDB, MySQL, PostgreSQL, Redis, SQLite



DatabaseDesireNextYear

DATABASE TRENDS - FINDINGS & IMPLICATIONS

Findings

- MySQL, Ms. SQL server, PostgreSQL and SQLite is the most used in current year
- PostgreSQL become the most desired databases to be used, while the other SQL databases count decreases in the next year.
- MongoDB and Redis popularity and desire to be used increase.

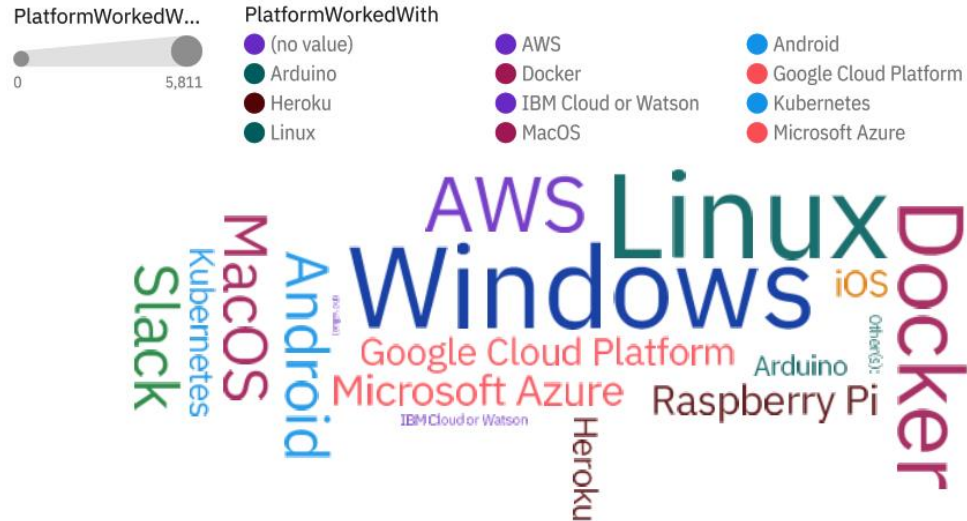
Implications

- There will be an great demand of PostgreSQL database in the next year.
- MongoDB and Redis databases are more likely become alternative of PostgreSQL compared to other databases.

PLATFORM TRENDS

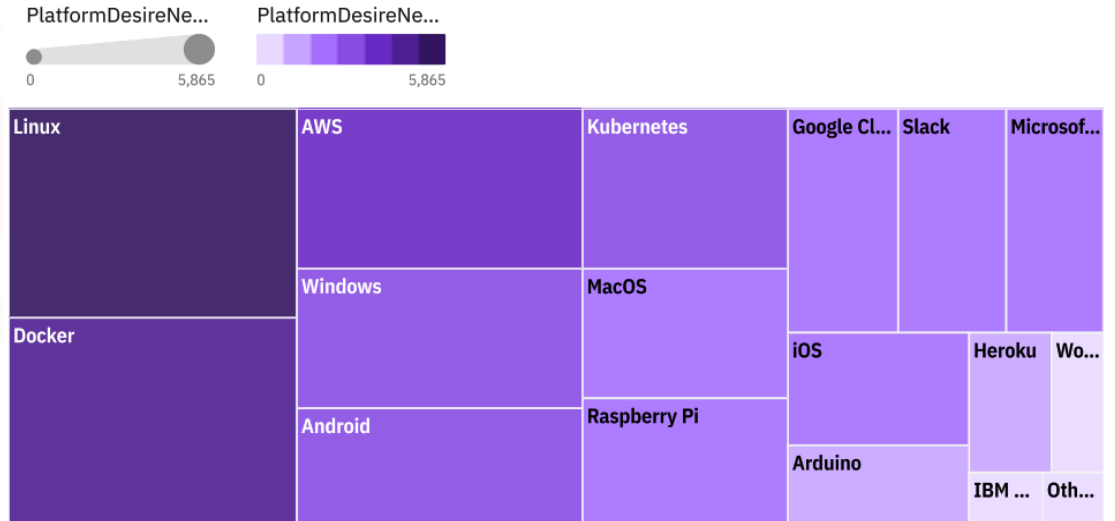
Current Year

Platform to Worked With



Next Year

Platform Desire Next Year



PLATFORM TRENDS - FINDINGS & IMPLICATIONS

Findings

- Linux, Windows, AWS, Docker platform is remain the same for both year

Implications

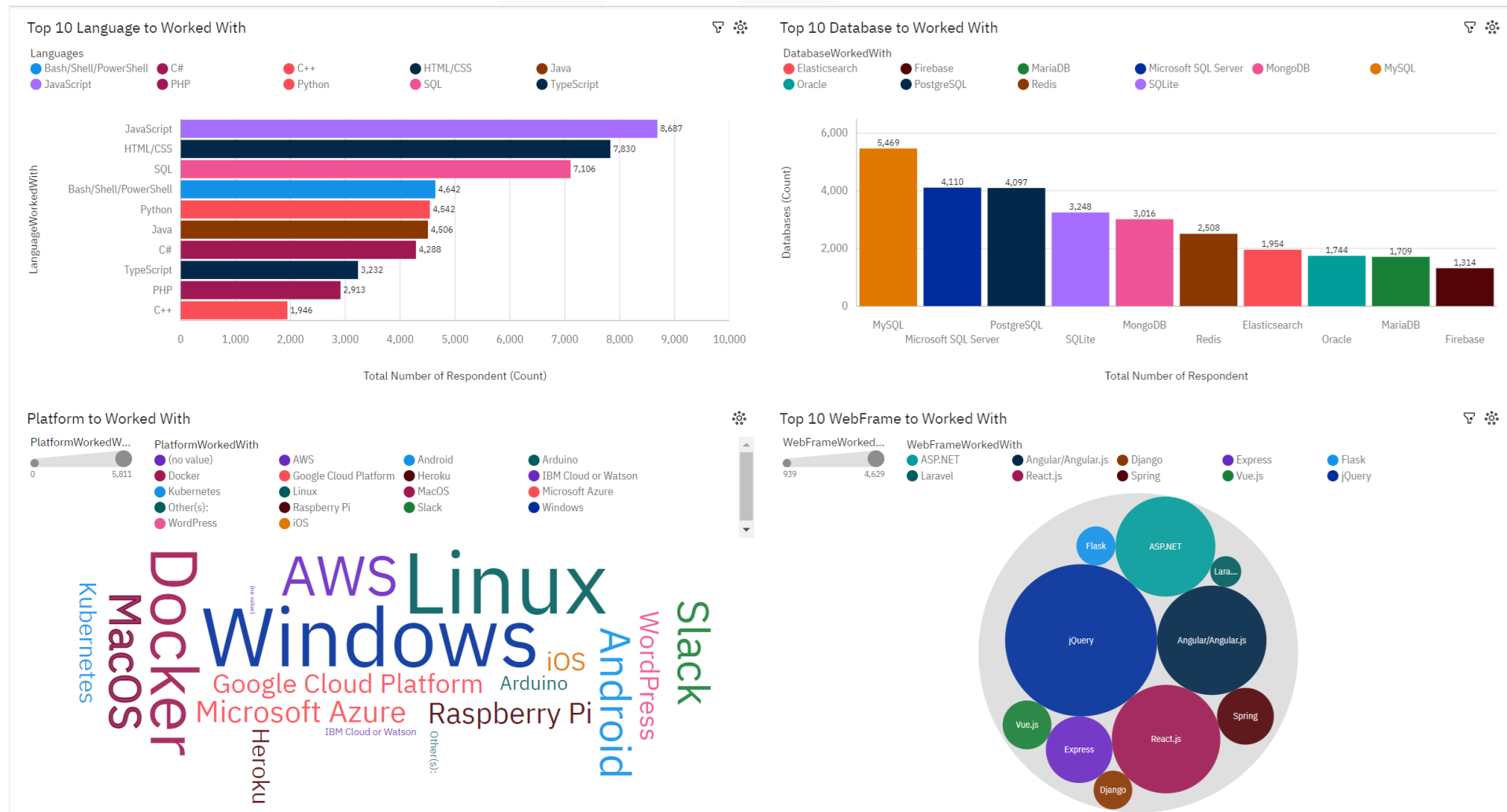
- Platform to work with demand will remain unchanged for the next year.

DASHBOARD

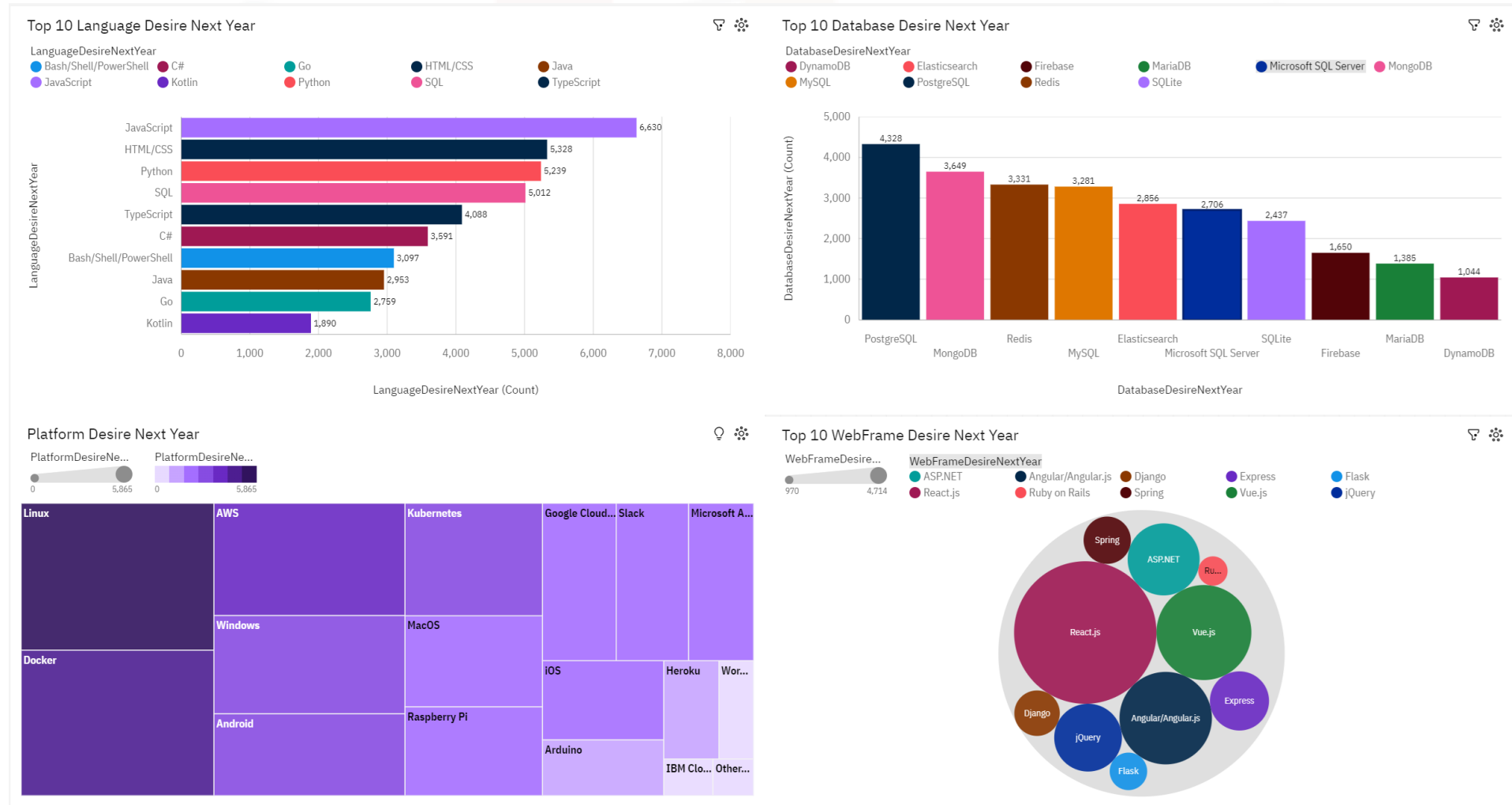


<https://github.com/qazqazpc/starting/blob/main/IBM%20Data%20Analytics%20Capstone.pdf>

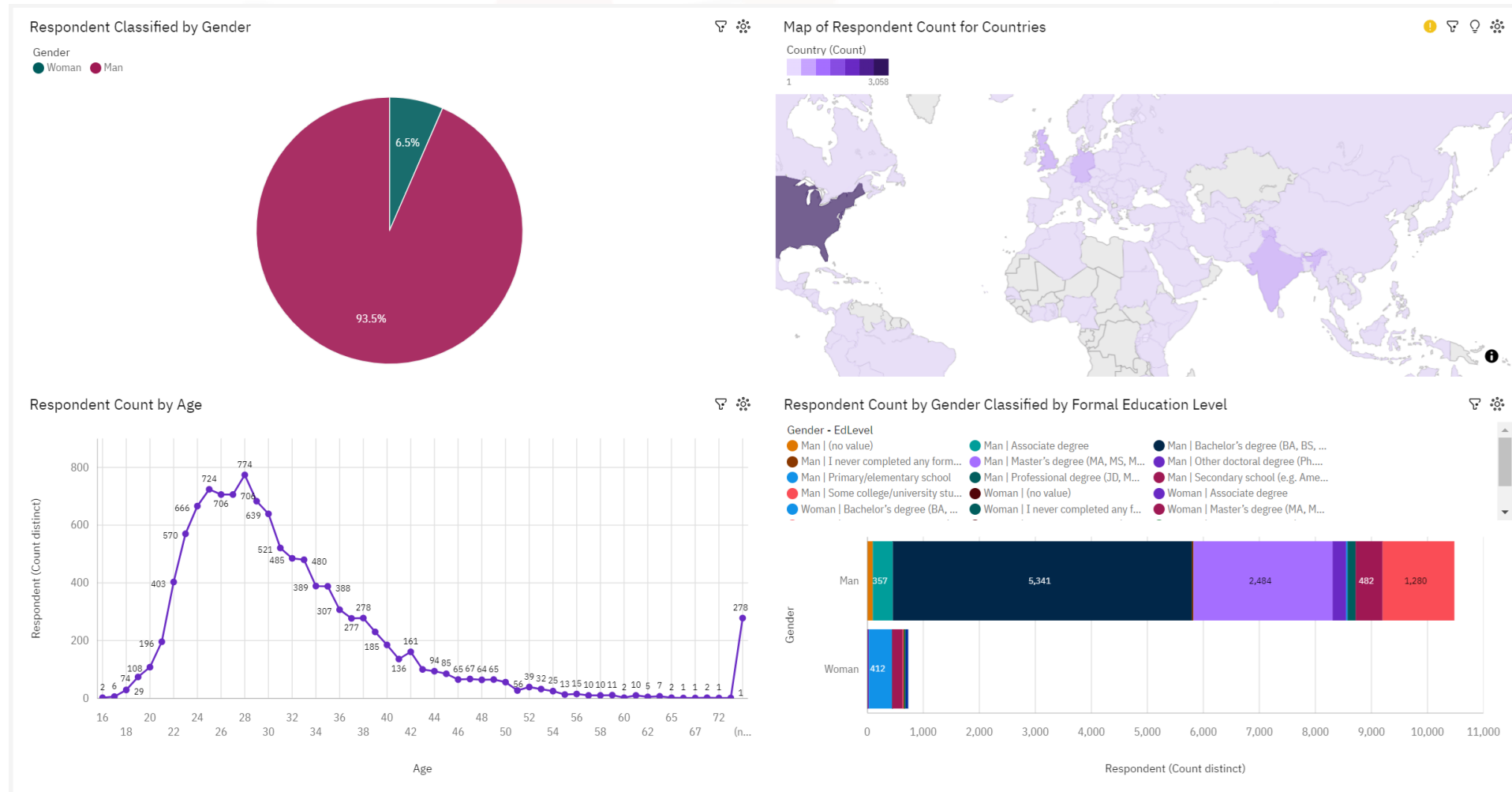
DASHBOARD TAB 1



DASHBOARD TAB 2



DASHBOARD TAB 3



DISCUSSION



- Discussion will cover overall findings and implications
- Each major finding and implication are summarized for better understanding

OVERALL FINDINGS & IMPLICATIONS

Findings

- JavaScript and HTML/CSS remain the most used language, followed by the increase of Python user in the next year
- PostgreSQL become the most voted database to work with in the next year, followed by MongoDB and Redis
- Linux, Windows, Docker and AWS still the most popular platform to work with from both years

Implications

- JavaScript and HTML/CSS demand still at the top while other language trends are changing.
- PostgreSQL demand will increase. MongoDB and Redis may be alternative databases.
- Platform to work with demand will remain unchanged for the next year.

CONCLUSION



- How is the trend changing in languages used among developers?

JavaScript and HTML/CSS remain the most used language, followed by the increase of Python user in the next year

- How is the trend changing in databases used among developers?

PostgreSQL become the most voted database to work with in the next year, followed by MongoDB and Redis

- How is the trend changing in platform used among developers?

Linux, Windows, Docker and AWS still the most popular platform to work with from both years

APPENDIX



- The complete data used was taken from: <https://stackoverflow.blog/2019/04/09/the-2019-stackoverflow-developer-survey-results-are-in/>
- Supplementary Job data was taken from: <https://www.kaggle.com/datasets/promptcloud/jobs-on-naukricom>
- Supplementary Language data was taken from: https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBM-DA0321EN-SkillsNetwork/labs/datasets/Programming_Languages.html

JOB POSTINGS



POPULAR LANGUAGES

