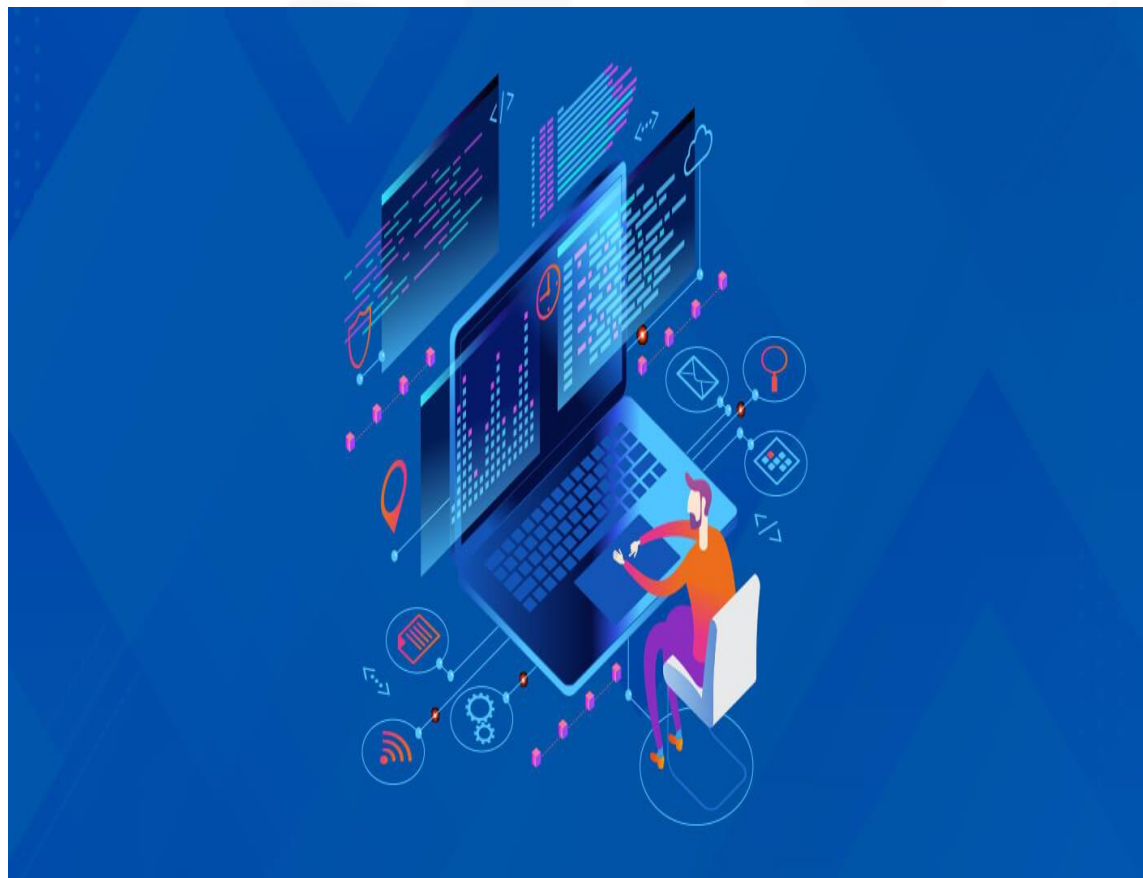


# TRENDS AND EMERGING TECHNOLOGIES IN THE TECH SPACE

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MARCH 9<sup>TH</sup> 2022



# OUTLINE

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

# EXECUTIVE SUMMARY

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In an evolving world of tech, individuals and establishments need to be abreast with trending tools and skill to stay in business. This report shows the current and future trends in programming languages, databases, platforms and web frames used in tech. Analysis were made using a data retrieved from a survey on Stackoverflow.blog. Javascript, MySQL were found to be the most used Programming language and database respectively. Linux and React.Js and the most used platforms and web frames respectively. While some respondents seem to be interested in using some new languages and exploring other databases and platforms, most skills are still relevant in today tech world.

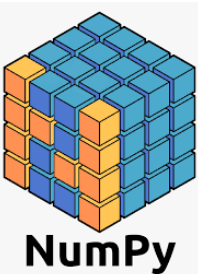
# INTRODUCTION

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The importance of a Tech skill cannot be underestimated in our today world. Tech companies and Individuals are constantly trying to adapt to the evolving world of tech and seeking for new technologies and skills to improve their business and marketability. This includes seeking for programming languages, databases, web frames and platforms to improve their efficiency and scalability.

This work summarizes the current and future trend in the tech space using data from a 2019 survey conducted at [stackoverflow.blog](https://stackoverflow.blog). The major focus was on Programming Languages, Databases, Web frames and Platforms in tech.

# METHODOLOGY



- Tools/Software: Python, IBM Cognos
- Data source: <https://stackoverflow.blog/2019/04/09/the-2019-stackoverflow-developer-survey-results-are-in/>
- Web scrapping
- Data Cleaning
  - Handling Missing Data
  - Handling Duplicate data
  - Data Normalizing
- Data Exploration
- Dashboard and Analysis
- Final Report and Findings

# RESULTS

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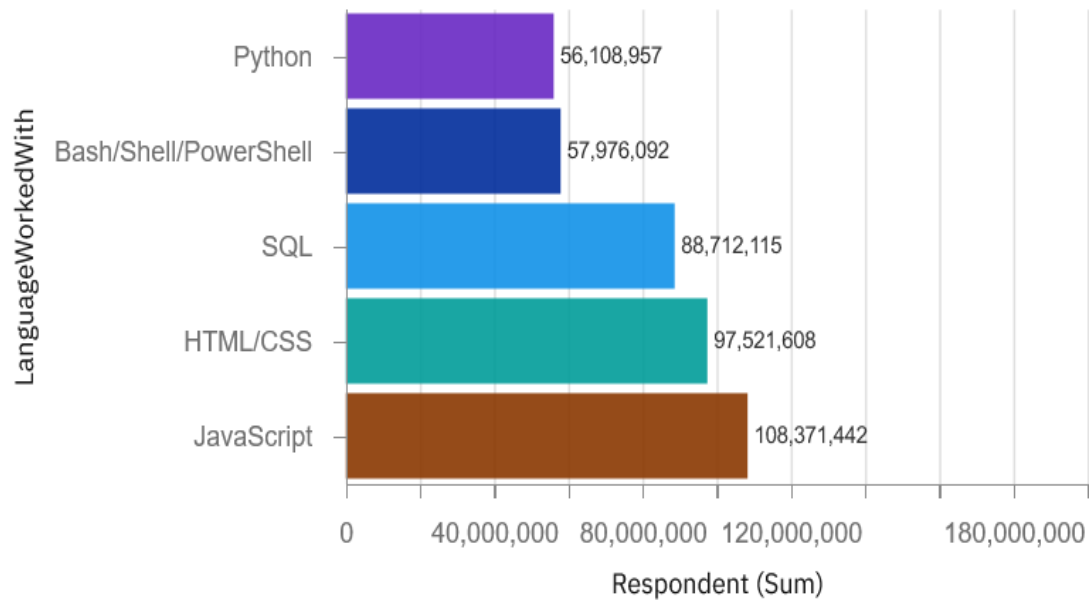
Results were summarized into 2 tables:

- The survey data technologies with 14 columns and 74590 rows, which summarizes response on the current technologies used by respondent and the technologies they desired to work with next year
- The Survey data demographics data with 11398 rows and 70 columns

# PROGRAMMING LANGUAGE TRENDS

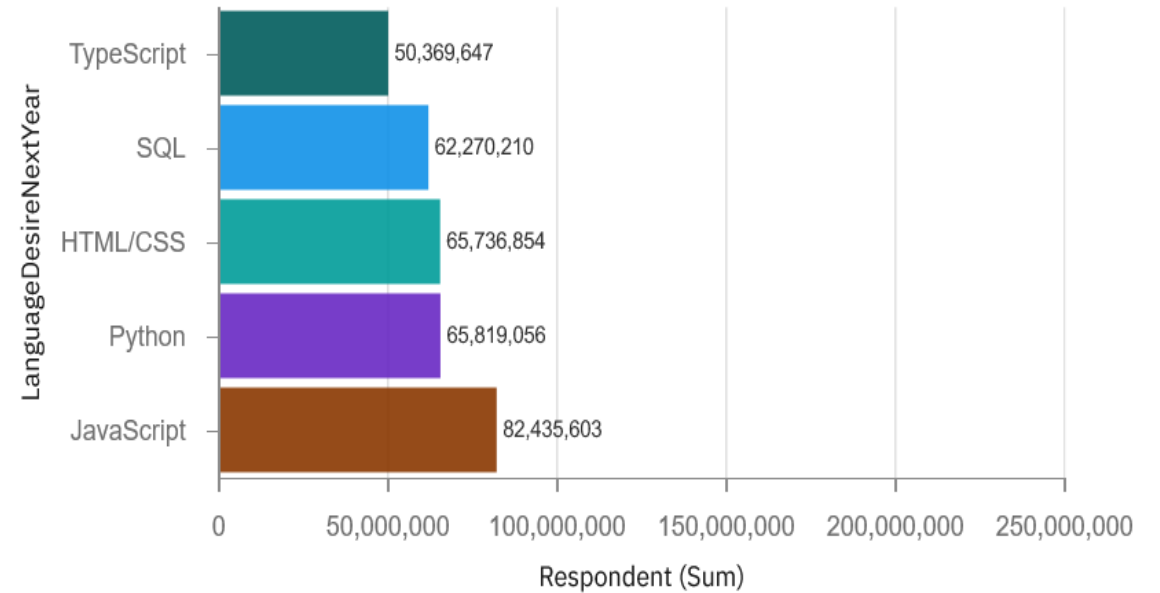
## Current Year

Top 10 Programming Languages Currently



## Next Year

Top 10 Programming Languages For Next Year



# PROGRAMMING LANGUAGE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- According to the report, the most used programming skills currently are: Javascript, HTML/CSS, SQL, Bash and Python accordingly.
- The programming skills programmers desire to use mostly next year are: Java, Python, HTML/CSS, SQL AND Typescript according
- Python has about 17% increase from its current users to programmers who desire to use it next year
- Html/CSS seems to have about 32% of people that will be less interested in it next year than they are now.
- Typescript is gaining recognition and is among the top 5 languages programmers desire to use next year

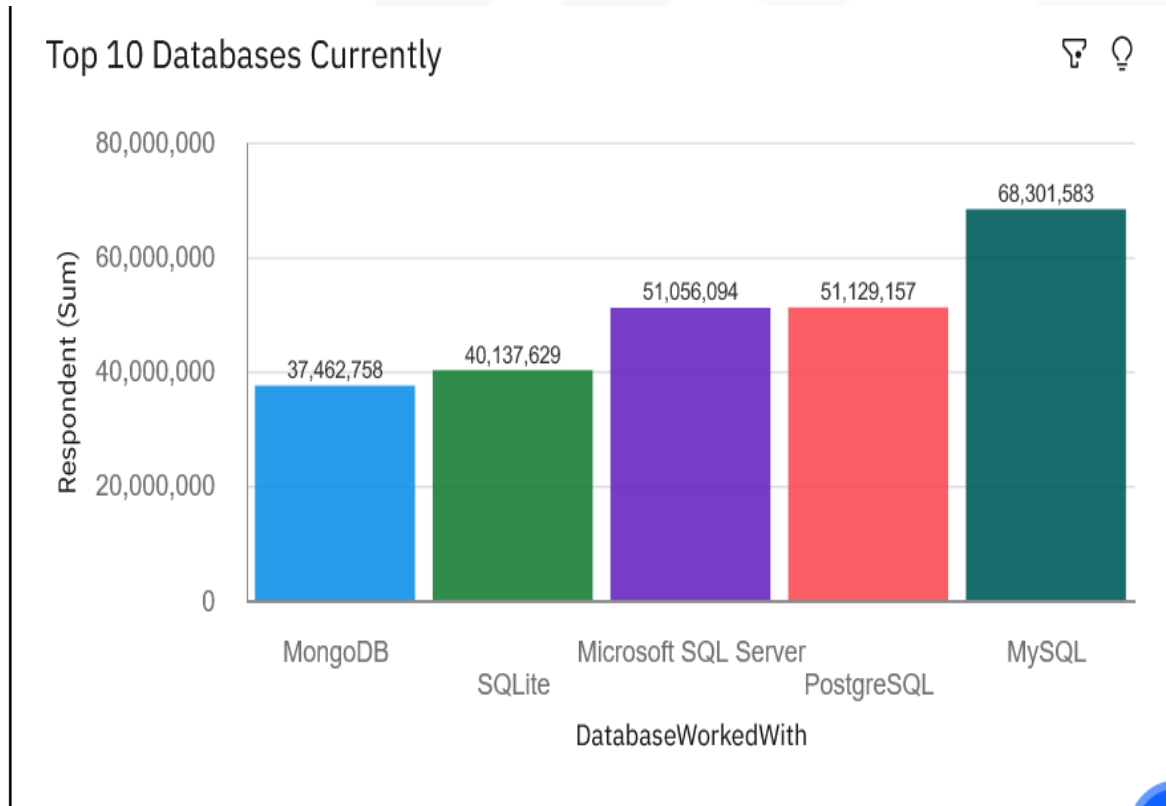
## Implications

- The trend seems to be moving away from Bash/Shell/Power shell
- More programmers would be interested in learning python next year and less interested in learning SQL
- Html/CSS seems to be losing recognition
- Javascript remains the most used programming language and the one people are mostly interested in next year

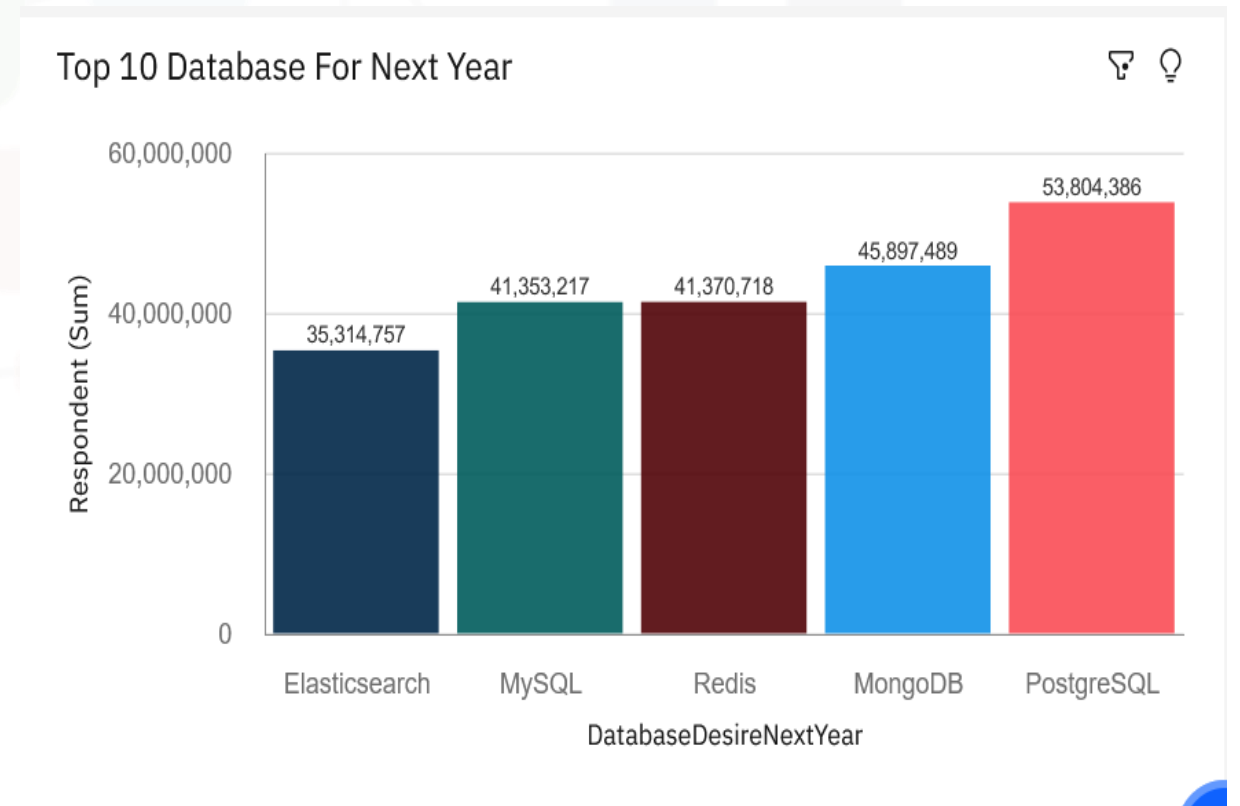


# DATABASE TRENDS

## Current Year



## Next Year



# DATABASE TRENDS - FINDINGS & IMPLICATIONS

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## Findings

- The Databases most used by responders currently are: MySQL, PostgreSQL, Microsoft SQL, SQLite, MongoDB
- The top 5 databases respondents desire to use next year are: PostgreSQL, MongoDB, Redis, MySQL, Elastic search
- Less respondents desire to use My SQL next year

## Implications

- Interest seems to be moving towards PostgreSQL and away from MySQL . This implies more users would be interested in learning PostgreSQL.
- Redis is getting a lot of Interest and could be one of the most used databases next year
- The trend for next year will likely be PostgreSQL, Redis and MongoDB

# DASHBOARD

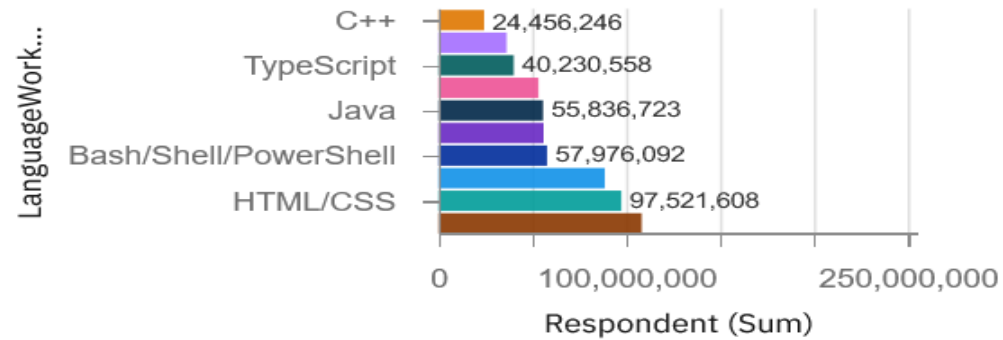
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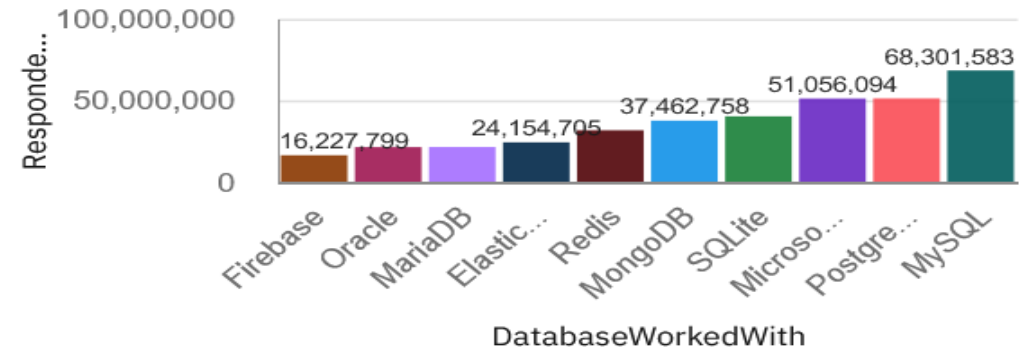
[https://drive.google.com/file/d/1A3ZhybodUPjJeyps9Cz8ICA dAhzt\\_EGJ/view?usp=sharing](https://drive.google.com/file/d/1A3ZhybodUPjJeyps9Cz8ICA dAhzt_EGJ/view?usp=sharing)

# DASHBOARD TAB 1

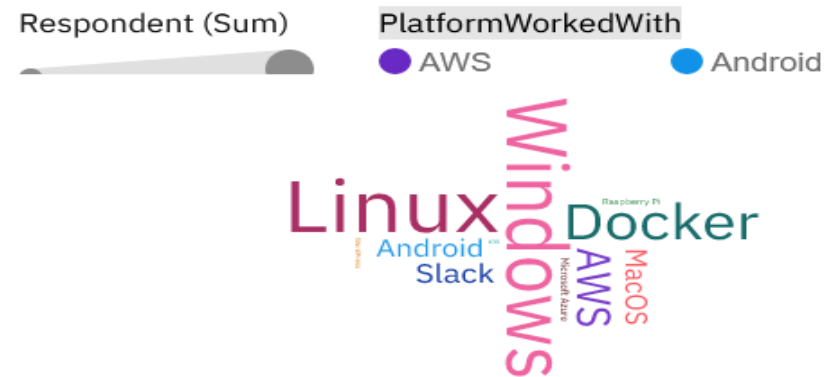
## Top 10 Programming Languages Currently



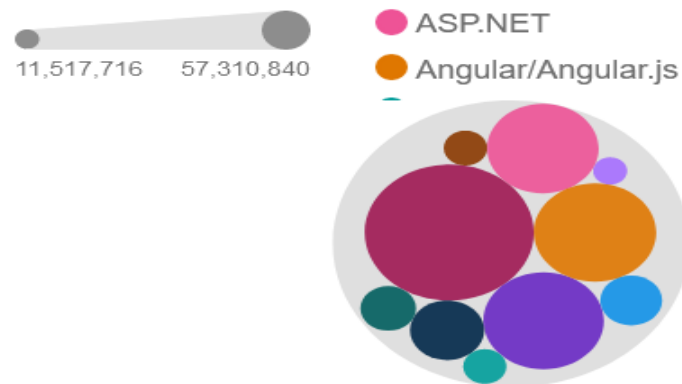
## Top 10 Databases Currently



## Top 10 Platforms Currently Used in Tech

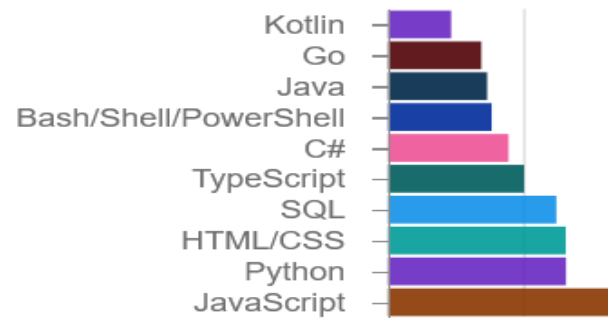
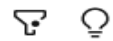


## Top 10 Webframe Currently Used in Tech.

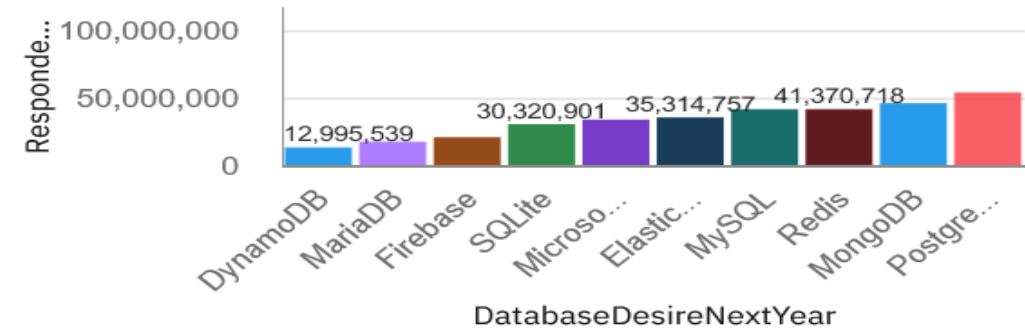


# DASHBOARD TAB 2

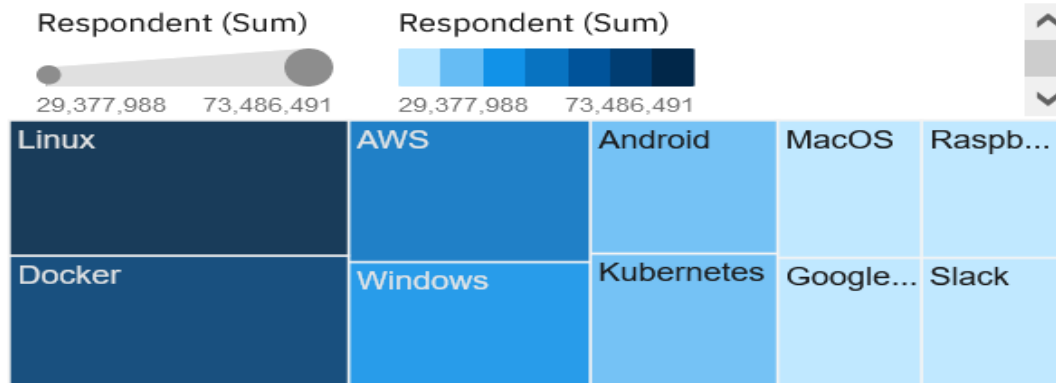
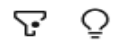
## Top 10 Programming Languages For Next Year



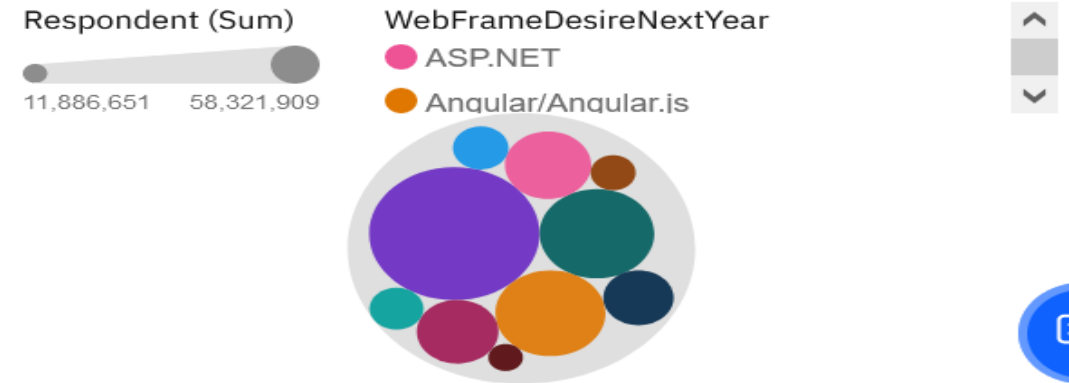
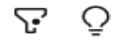
## Top 10 Database For Next Year



## Top 10 Platforms For Next Year



## Top 10 Webframe For Next Year

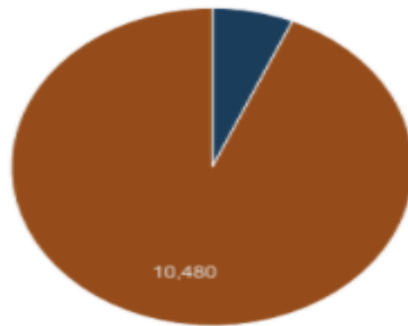


# DASHBOARD TAB 3

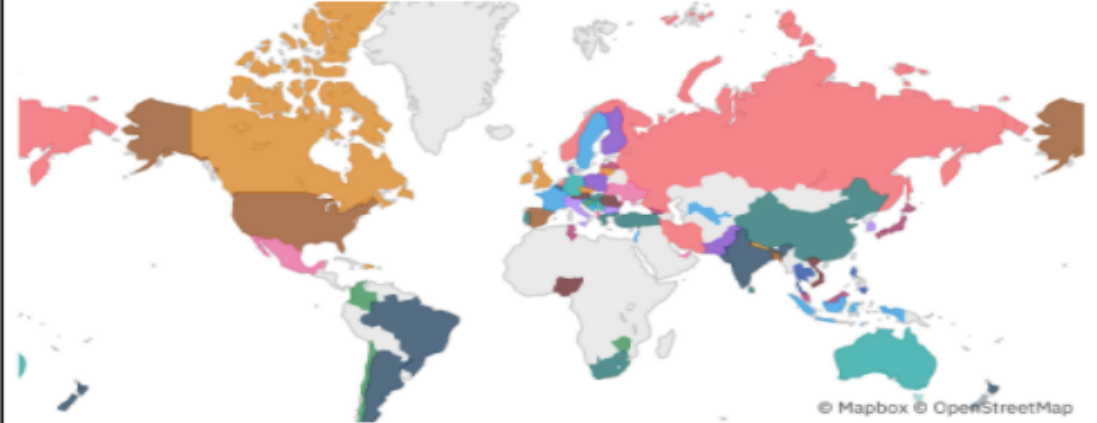
## Demographics

Respondent by Gender

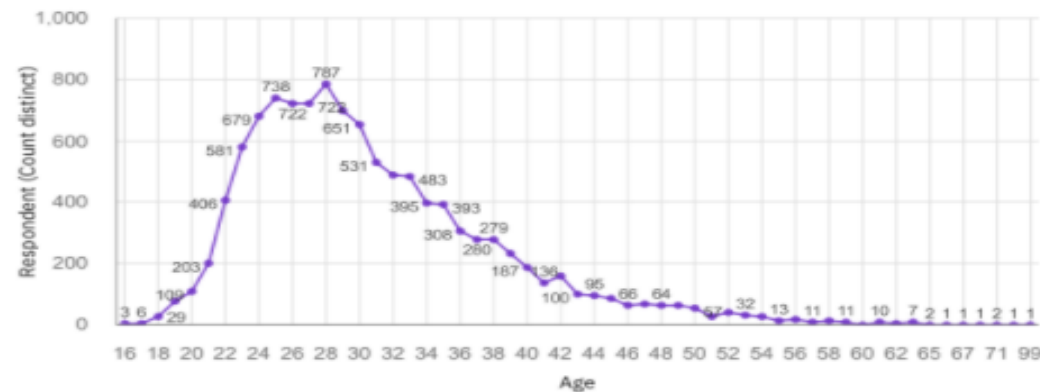
Gender  
● Woman ● Man



Respondent By Country



Respondent by Age



Respondent by Gender Education Level

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



# DISCUSSION

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- Only about 6% of the Respondents were female.
- About 86% of the Respondents attended a University/college, posses a Bachelors degree or Masters degree
- Russia is the cost mostly represented country amongst the Respondents
- Age 24-30 years has the most representation amongst the respondents

# MORE FINDINGS & IMPLICATIONS

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## Findings

- The 5 most used platforms by Respondents currently: Windows, Linux, Docker, AWS, Android.
- The top 5 platforms users are mostly interested in next year are: Linux, Docker, AWS, Windows and Android.
- Users are developing interest in Google platform
- React.js is among the most used webframes and it's even getting more attention

## Implications

- More users would likely be Linux, Docker and AWS platform next year than Windows.
- There could be more users exploring the Google platform than there is currently
- Node.js seems to be the trend in webframes



# OVERALL FINDINGS & IMPLICATIONS

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- Only about 6% of the Respondents were female.
- About 86% of the Respondents attended a University/college, posses a Bachelors degree or Masters degree
- Russia is the cost mostly represented country amongst the Respondents
- Age 24-30 years has the most representation amongst the respondents
- Women are under represented in tech.
- Most people in tech attended a college, University or higher degree
- People in their twenties seems to be the most active in the tech space

# CONCLUSION

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From the survey, Javascript remains the most used programming language with interest growing strongly towards Python programming. MySQL is the most used database with PostgreSQL likely to take over in the coming year. Windows is the most used platform but interest seems to be shifting towards Linux, Docker and AWS. React.js, Angular.js and Angular.js is leading in webframes.

The survey shows how under represented women are in tech, therefore more women should be encouraged to explore the tech space. In terms of pay, swift python, C++ and Javascript are the most paid programming skills.

In conclusion, there's still a lot room for growth for all the tech skills and platforms and none can be said to be out of date, one needs to choose the one that matches their career path and need at that time.

# APPENDIX

|    | Language   | Average Annual Salary |
|----|------------|-----------------------|
| 0  | Language   | Average Annual Salary |
| 1  | Python     | \$114,383             |
| 2  | Java       | \$101,013             |
| 3  | R          | \$92,037              |
| 4  | Javascript | \$110,981             |
| 5  | Swift      | \$130,801             |
| 6  | C++        | \$113,865             |
| 7  | C#         | \$88,726              |
| 8  | PHP        | \$84,727              |
| 9  | SQL        | \$84,793              |
| 10 | Go         | \$94,082              |

## Links to Tables used:

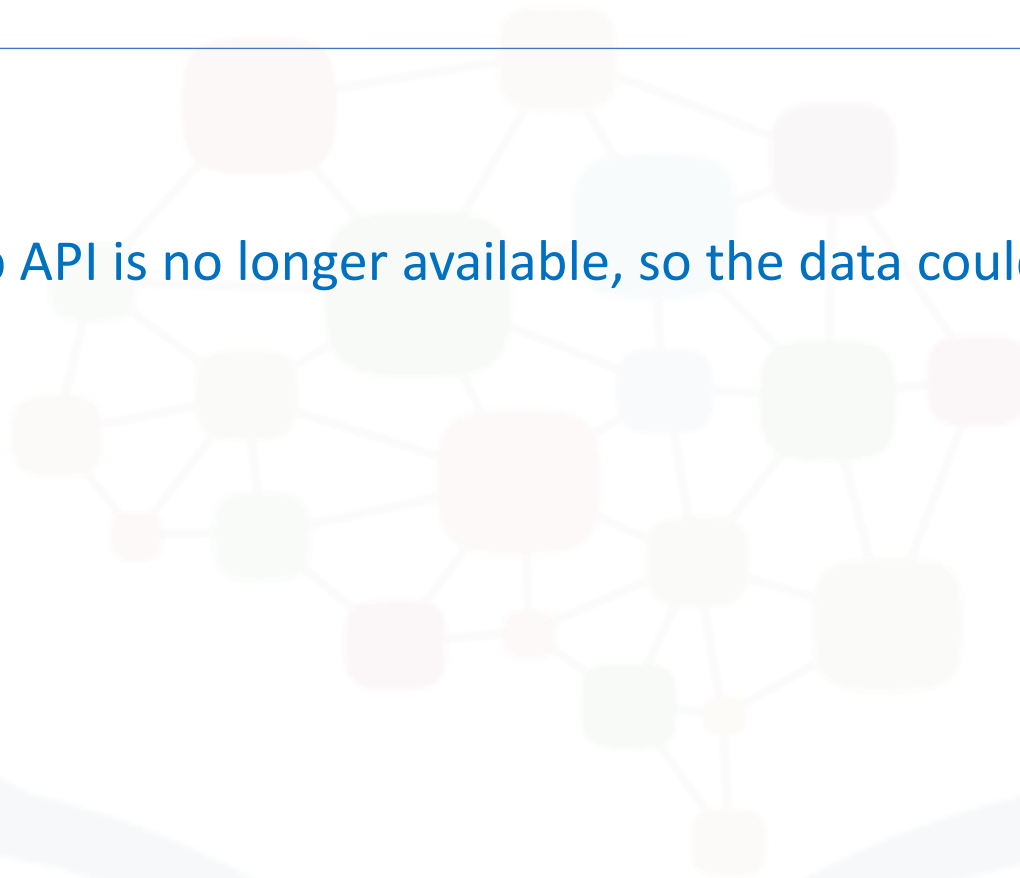
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[https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBM-DA0321EN-SkillsNetwork/LargeData/m5\\_survey\\_data\\_technologies\\_normalised.csv?utm\\_medium=Exinfluencer&utm\\_source=Exinfluencer&utm\\_content=000026UJ&utm\\_term=10006555&utm\\_id=NA-SkillsNetwork-Channel-SkillsNetworkCoursesIBMDA0321ENSkillsNetwork21426264-2021-01-01](https://cf-courses-data.s3.us.cloud-object-storage.appdomain.cloud/IBM-DA0321EN-SkillsNetwork/LargeData/m5_survey_data_technologies_normalised.csv?utm_medium=Exinfluencer&utm_source=Exinfluencer&utm_content=000026UJ&utm_term=10006555&utm_id=NA-SkillsNetwork-Channel-SkillsNetworkCoursesIBMDA0321ENSkillsNetwork21426264-2021-01-01)

# GITHUB JOB POSTINGS

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The Link for the Github API is no longer available, so the data could not be retrieved.



# POPULAR LANGUAGES

