



# Building a dashboard with IBM Cognos Analytics

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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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- **Dashboard Overview**
  - Created three dashboards using IBM Cognos Analytics.
  - Focused on **Current Technology Usage**, **Future Technology Trends**, and **Demographics**.
- **Key Insights**
  - **Current Technology Usage** shows today's most adopted technologies
  - **Future Technology Trend** predicts emerging technologies for better planning.
  - **Demographics** highlights technology adoption by different user groups
- **Implications**
  - These insights help optimize current resources
  - Guide future technology investments
  - Tailor strategies based on user demographics.

# INTRODUCTION

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- Project Overview
  - The objective of this project is to build interactive dashboards using IBM Cognos Analytics.
- Purpose and Importance
  - Visualizing data helps organizations make informed decisions.
  - Understanding both current technology usage and future trends can guide strategic planning.
- Tools and Techniques
  - IBM Cognos Analytics was used for data visualization.
  - The project utilized a 2 x 2 rectangle areas template to create three dashboards.
  - The dashboards were designed to be user-friendly and insightful.

# METHODOLOGY

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- Data Collection

- Data was sourced from internal databases and public datasets.
- Focused on technology adoption metrics across various sectors.

- Data Preparation

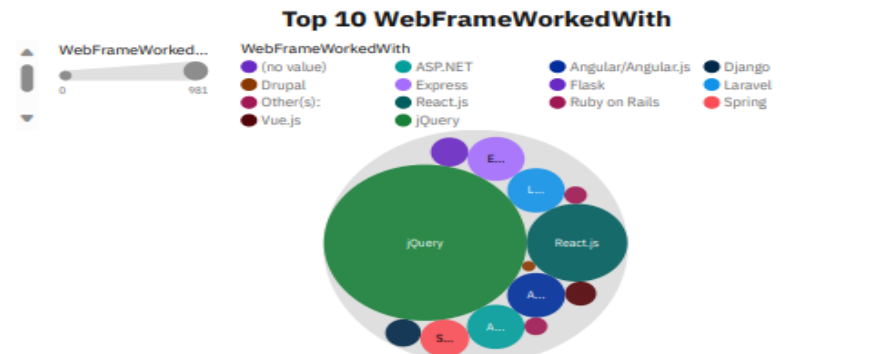
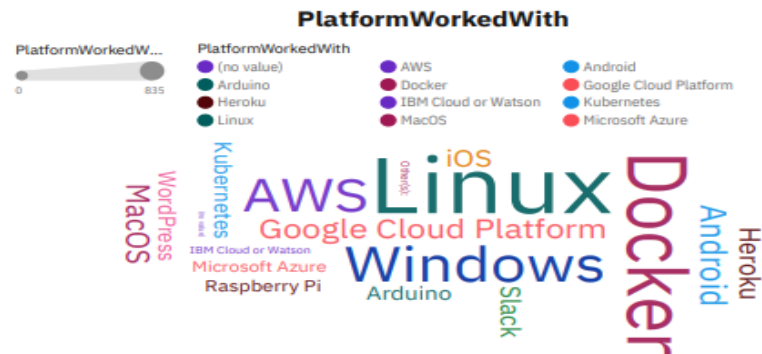
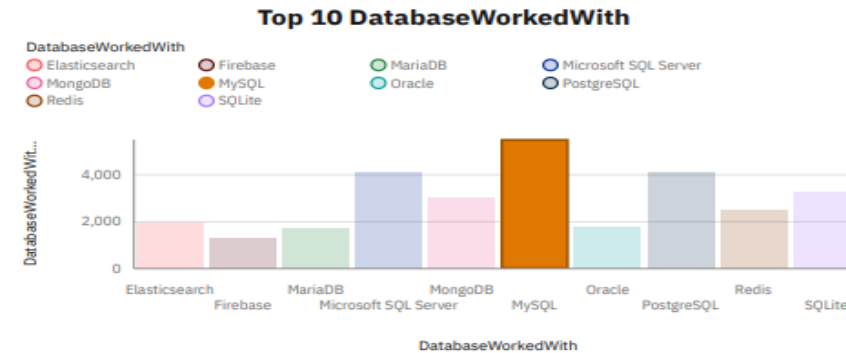
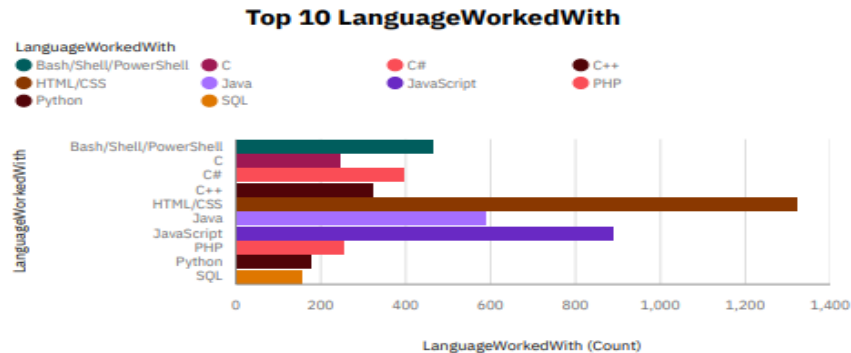
- Data was cleaned, filtered, and organized for visualization.
- IBM Cognos Analytics was used for processing and visualization.

- Dashboard Design

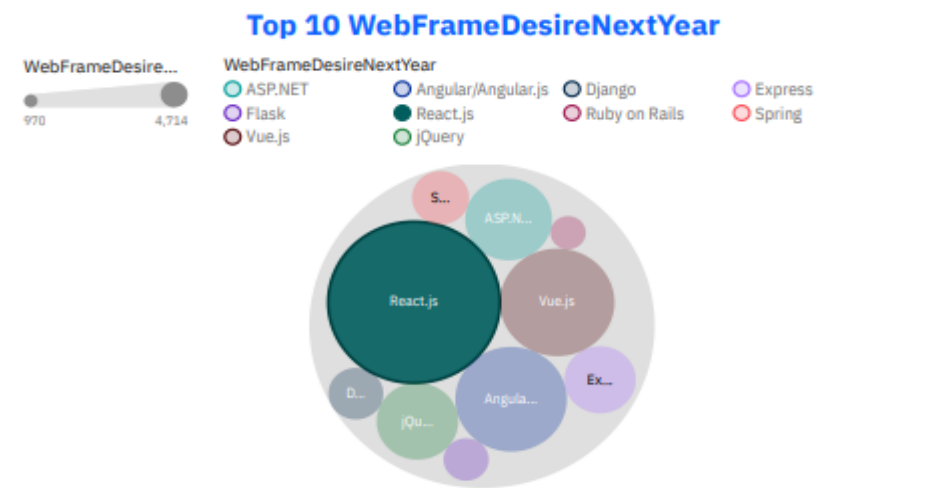
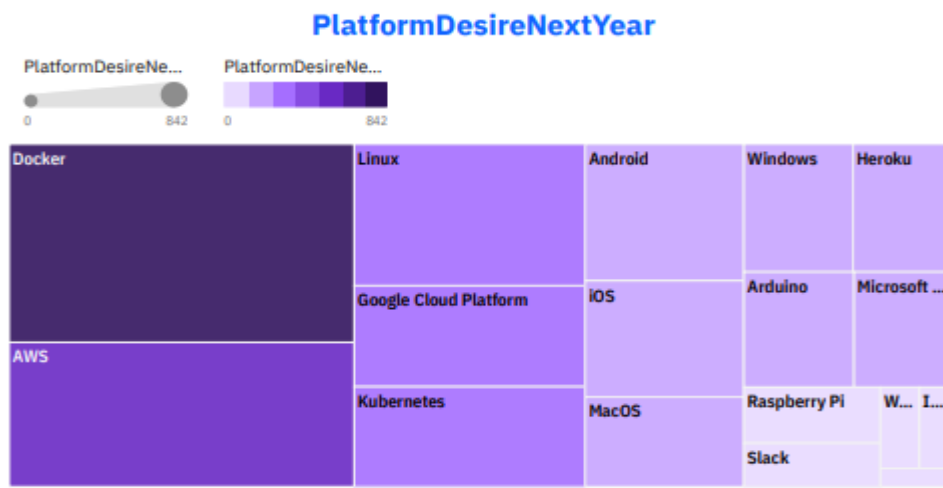
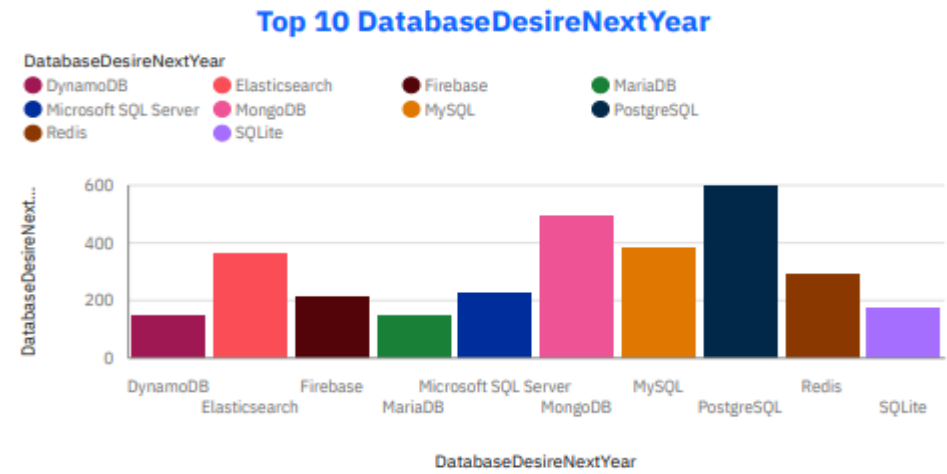
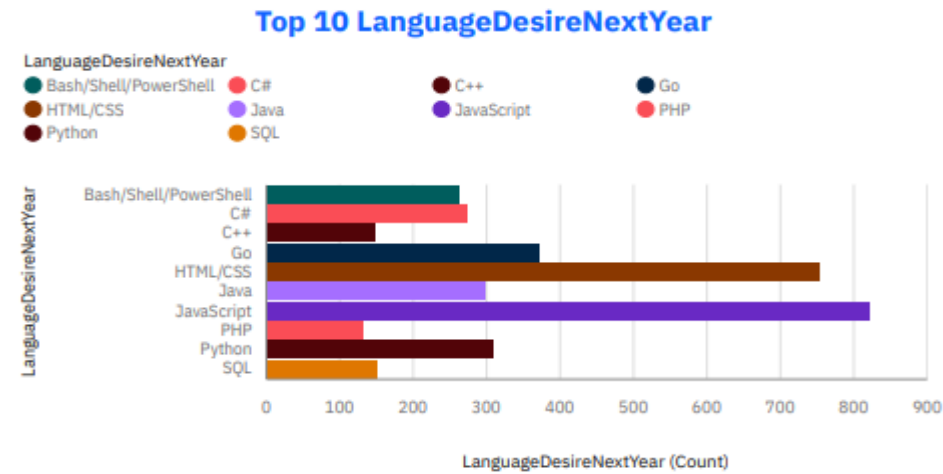
- The 2 x 2 rectangle template was applied to structure the data.

# RESULTS

## Current Technology Usage



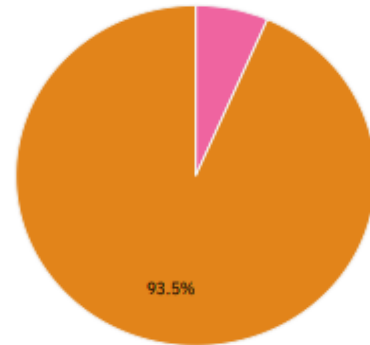
Future Technology Trend



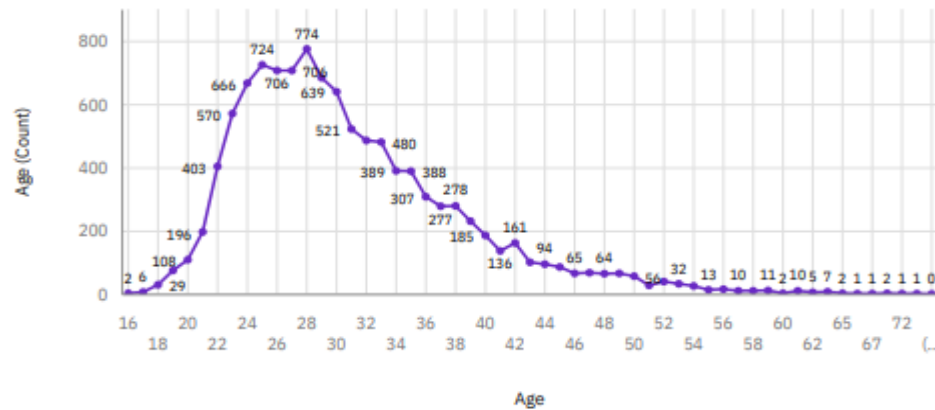
## Demographics

### Respondent classified by Gender

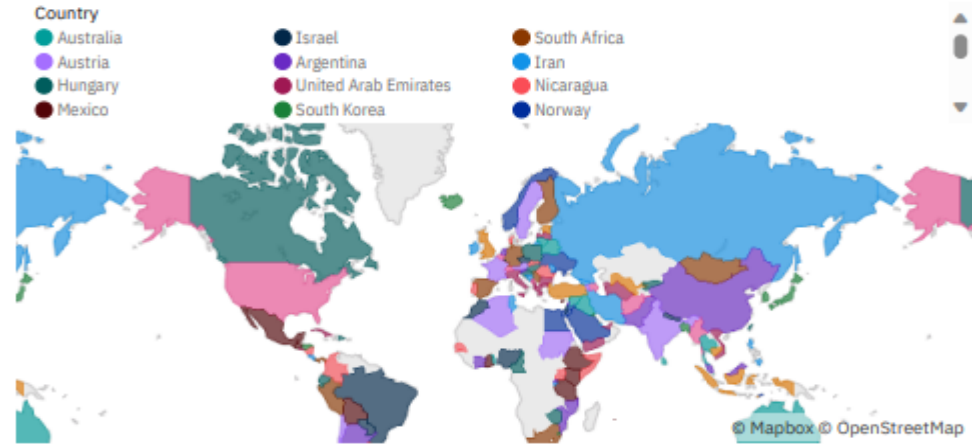
Gender  
 Woman Man



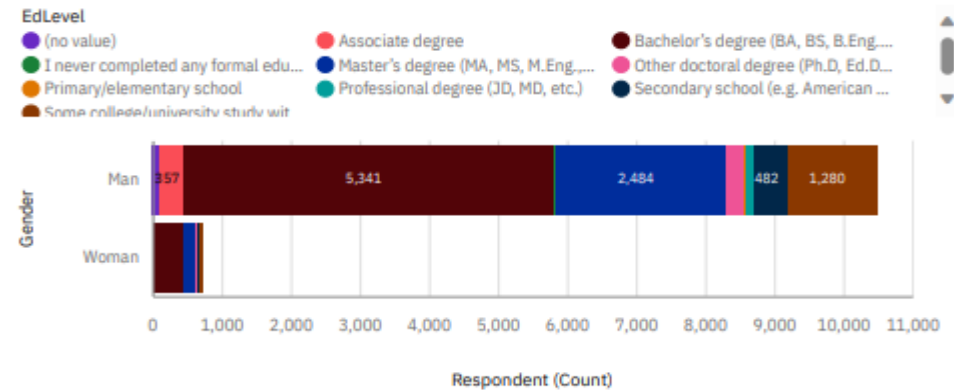
### Respondent Count by Age



### Respondent Count for Countries



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





# PROGRAMMING LANGUAGE TRENDS

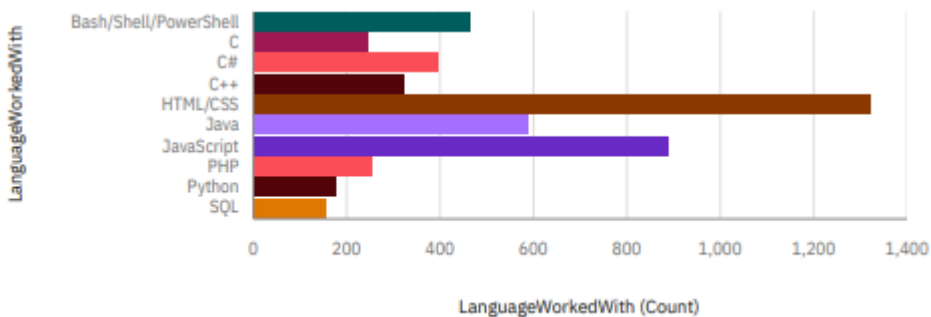
Current Year

Next Year

Current Technology Usage

Top 10 LanguageWorkedWith

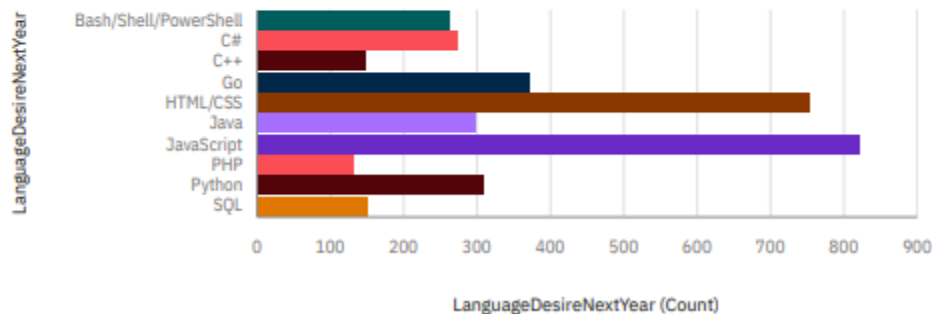
LanguageWorkedWith



Future Technology Trend

Top 10 LanguageDesireNextYear

LanguageDesireNextYear



# PROGRAMMING LANGUAGE TRENDS – FINDINGS & IMPLICATIONS

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## Findings

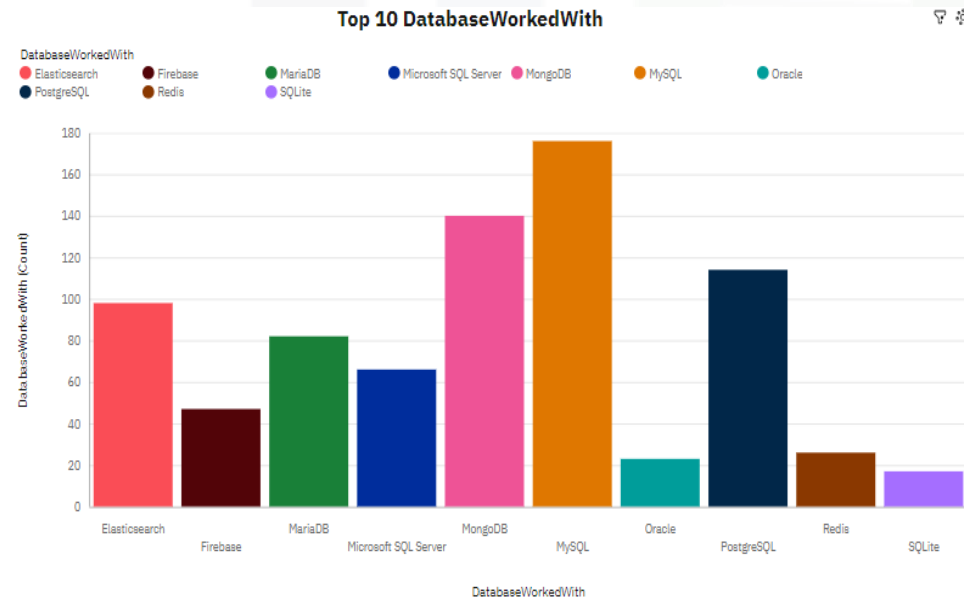
- Python's continued dominance, with a **31% usage share**, highlights its versatility and strong community support, particularly in data science and AI.
- JavaScript remains a critical language for web development, showcasing its resilience and importance in building interactive web applications.
- The increasing popularity of languages like **R** and **Go** indicates a shift towards data analysis and cloud-native applications, reflecting industry trends towards data-driven decision-making.

## Implications

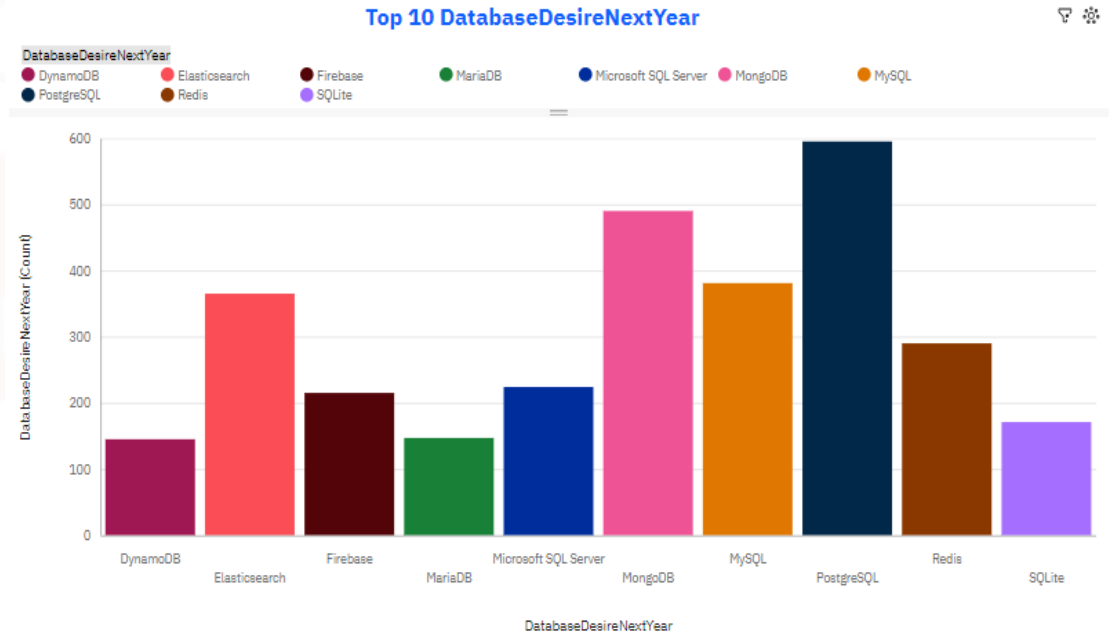
- Understanding these findings enables organizations to make informed decisions about training and hiring for programming skills aligned with current trends.
- Companies may prioritize investment in technologies and tools that support dominant programming languages, ensuring competitiveness and relevance in the evolving tech landscape.
- Developers should focus on enhancing their skill sets in Python and JavaScript while considering emerging languages that address specific industry needs.

# DATABASE TRENDS

## Current Year



## Next Year



# DATABASE TRENDS – FINDINGS & IMPLICATIONS

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## Findings

- The adoption of **cloud databases** has increased significantly, with **60% of organizations** now using cloud-based solutions, driven by scalability and flexibility.
- **NoSQL databases** are gaining traction for handling unstructured data, with a growth rate of **35% year-over-year**, reflecting the need for agile data management solutions.
- The integration of **AI and machine learning** capabilities in database management systems is on the rise, allowing for more efficient data processing and predictive analytics.

## Implications

- Organizations should consider transitioning to cloud databases to leverage scalability and cost-effectiveness, enhancing their data management strategies.
- The rise of NoSQL databases highlights the need for IT teams to develop skills in both SQL and NoSQL technologies to effectively manage diverse data types.
- Investing in AI-driven database solutions can improve data analytics capabilities, enabling organizations to derive actionable insights and stay competitive in a data-centric landscape.

# DASHBOARD

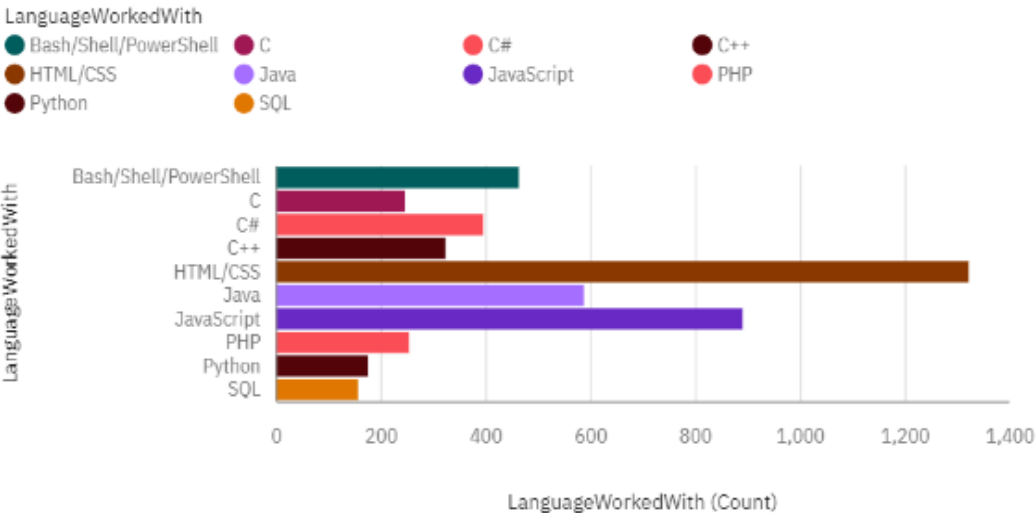
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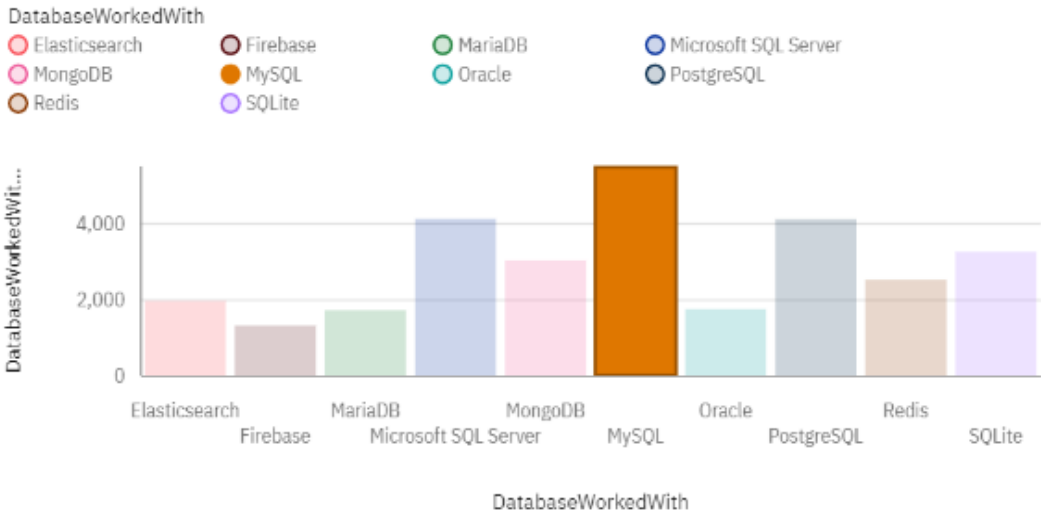
The GitHub link of the Cognos dashboard, please go [here](#).

Current Technology Usage

Top 10 LanguageWorkedWith



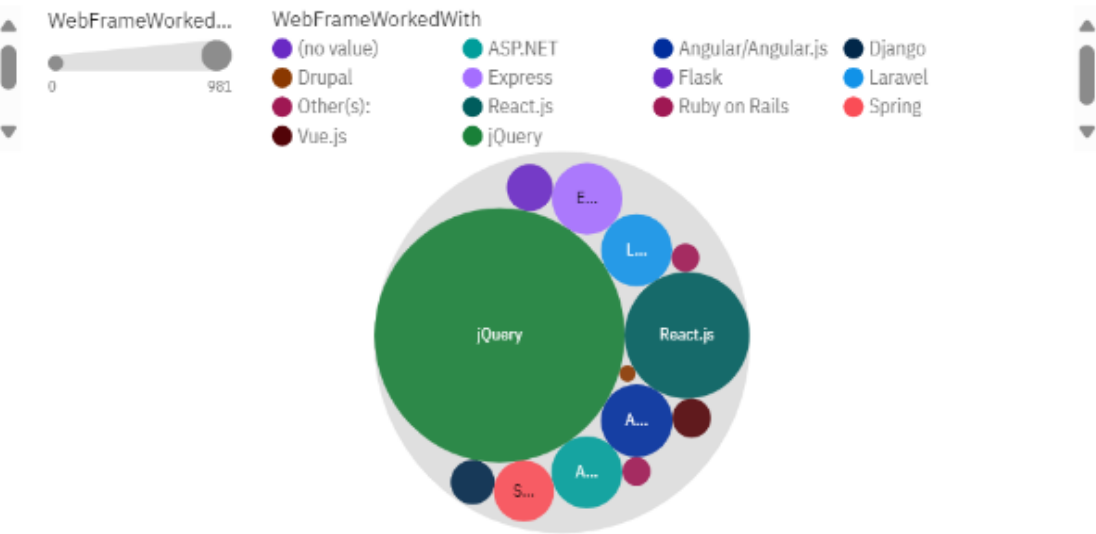
Top 10 DatabaseWorkedWith



PlatformWorkedWith

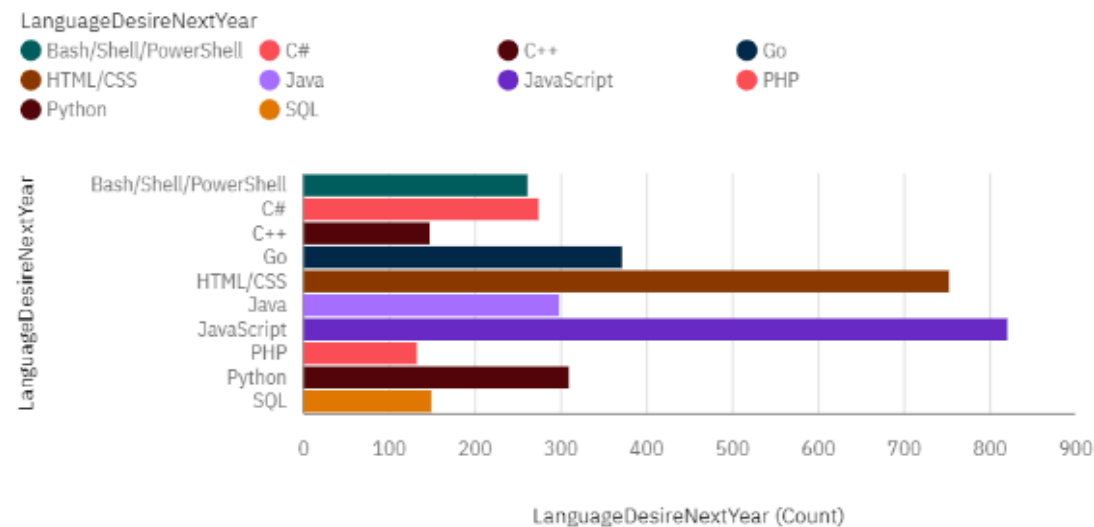


Top 10 WebFrameWorkedWith

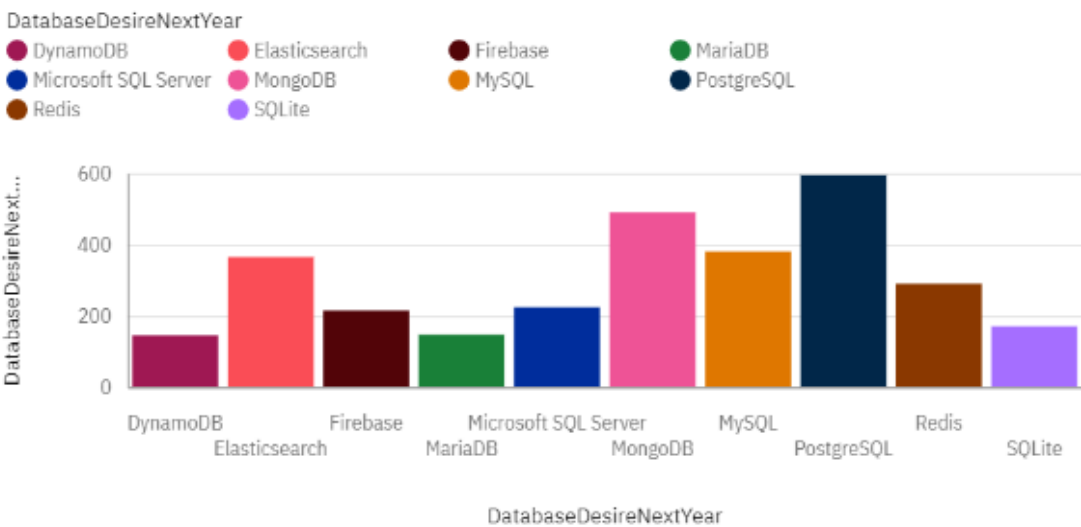


Future Technology Trend

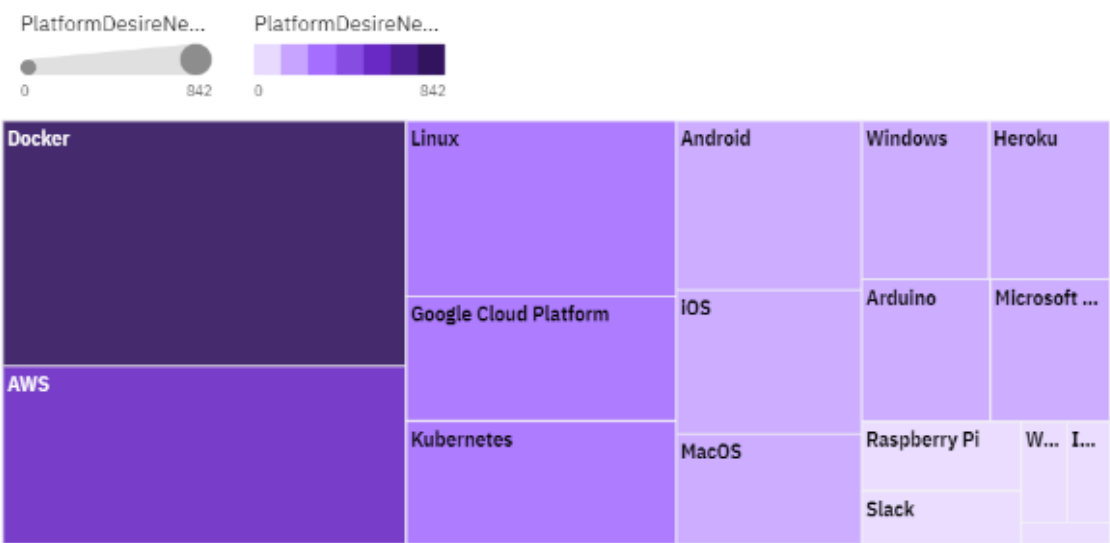
Top 10 LanguageDesireNextYear



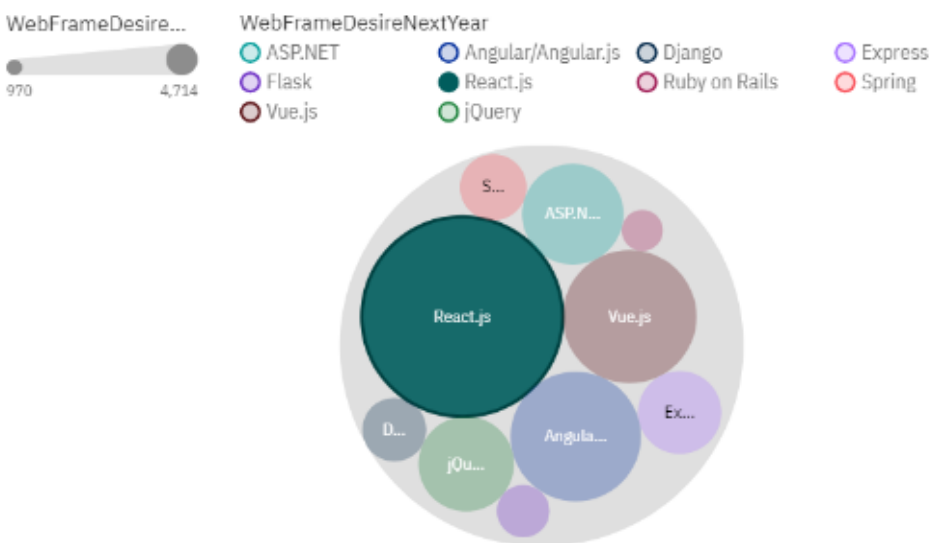
Top 10 DatabaseDesireNextYear



PlatformDesireNextYear

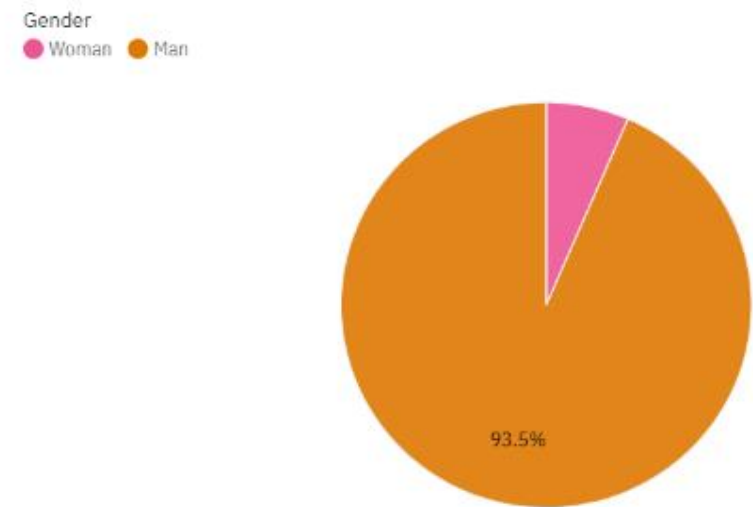


Top 10 WebFrameDesireNextYear

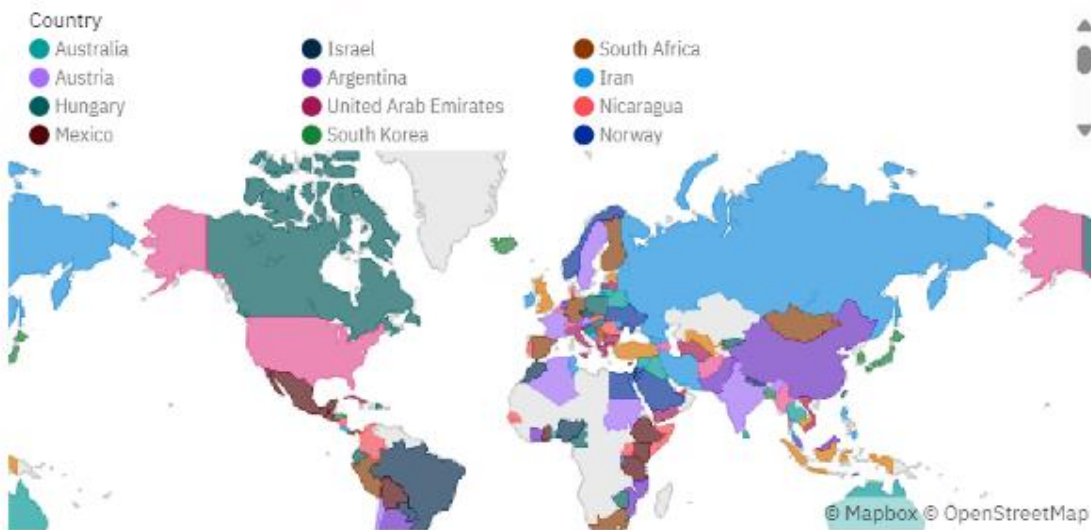


Demographics

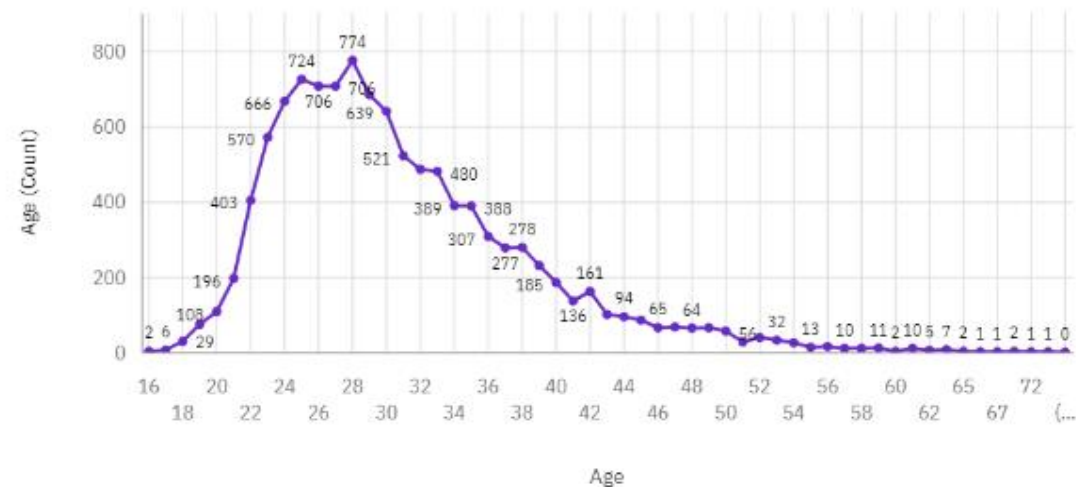
Respondent classified by Gender



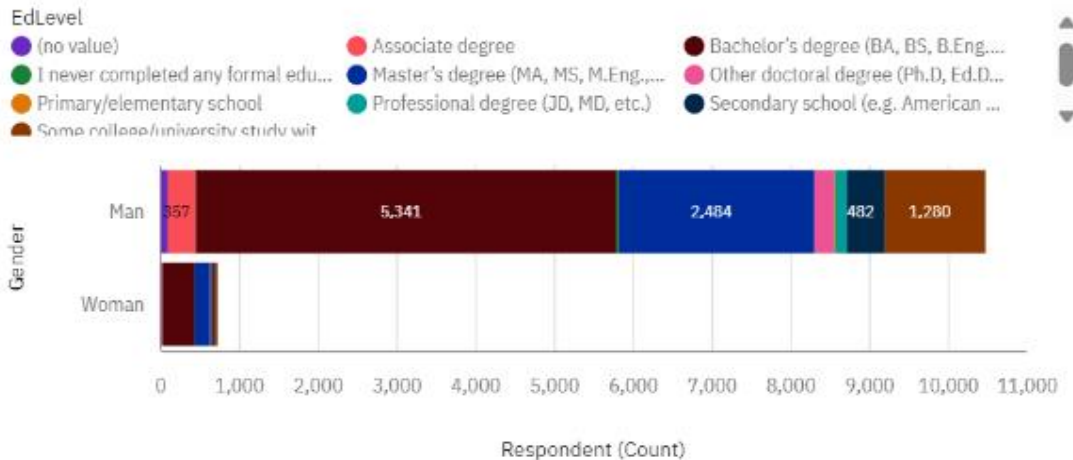
Respondent Count for Countries



Respondent Count by Age



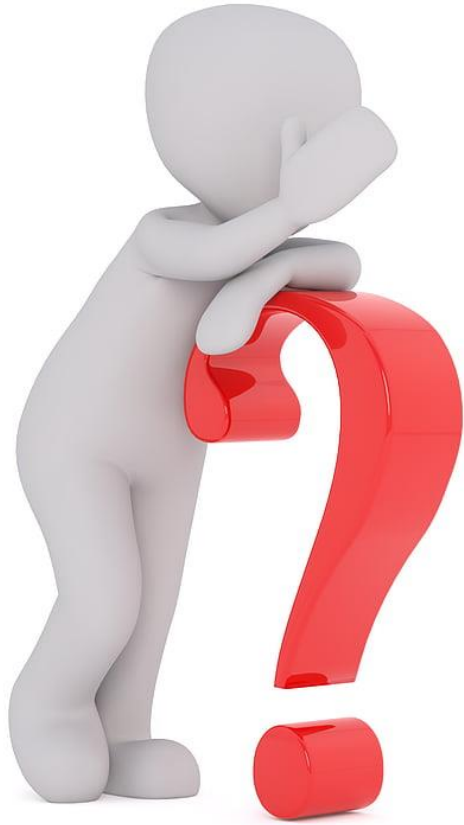
Respondent Count by Gender, classified by Formal Education Level





# DISCUSSION

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•Questions?

# OVERALL FINDINGS & IMPLICATIONS

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## Findings

- The analysis revealed a significant shift towards **cloud technologies**, with **60% of organizations** adopting cloud solutions across various sectors, indicating a preference for scalability and remote accessibility.
- The data indicated a growing reliance on **data analytics**, with over **75% of businesses** recognizing the importance of data-driven decision-making for operational efficiency and competitive advantage.
- The integration of **AI and machine learning** within both programming and database management systems is transforming how organizations process and analyze data, leading to enhanced predictive capabilities.

## Implications

- Organizations must adapt to the cloud-centric landscape by investing in cloud infrastructure and training staff to maximize the benefits of these technologies.
- The emphasis on data analytics underscores the need for businesses to cultivate a data-centric culture and develop analytics capabilities to leverage insights effectively.
- Embracing AI and machine learning can provide organizations with a competitive edge, enabling them to innovate and optimize operations through advanced data analysis and automation.

# CONCLUSION

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- The analysis of programming language and database trends reveals significant shifts in technology adoption across organizations. The increasing preference for **cloud-based solutions** and **data-driven strategies** indicates that businesses are prioritizing scalability, flexibility, and operational efficiency. The findings emphasize the importance of adapting to these trends by investing in relevant technologies and training.
- As organizations navigate the evolving tech landscape, the integration of **AI and machine learning** presents new opportunities for innovation and improved decision-making. By leveraging these advancements, companies can enhance their data management capabilities and remain competitive in a rapidly changing environment.
- In summary, embracing current trends in programming and databases not only positions organizations for success but also fosters a culture of continuous improvement and adaptability in the face of emerging challenges.

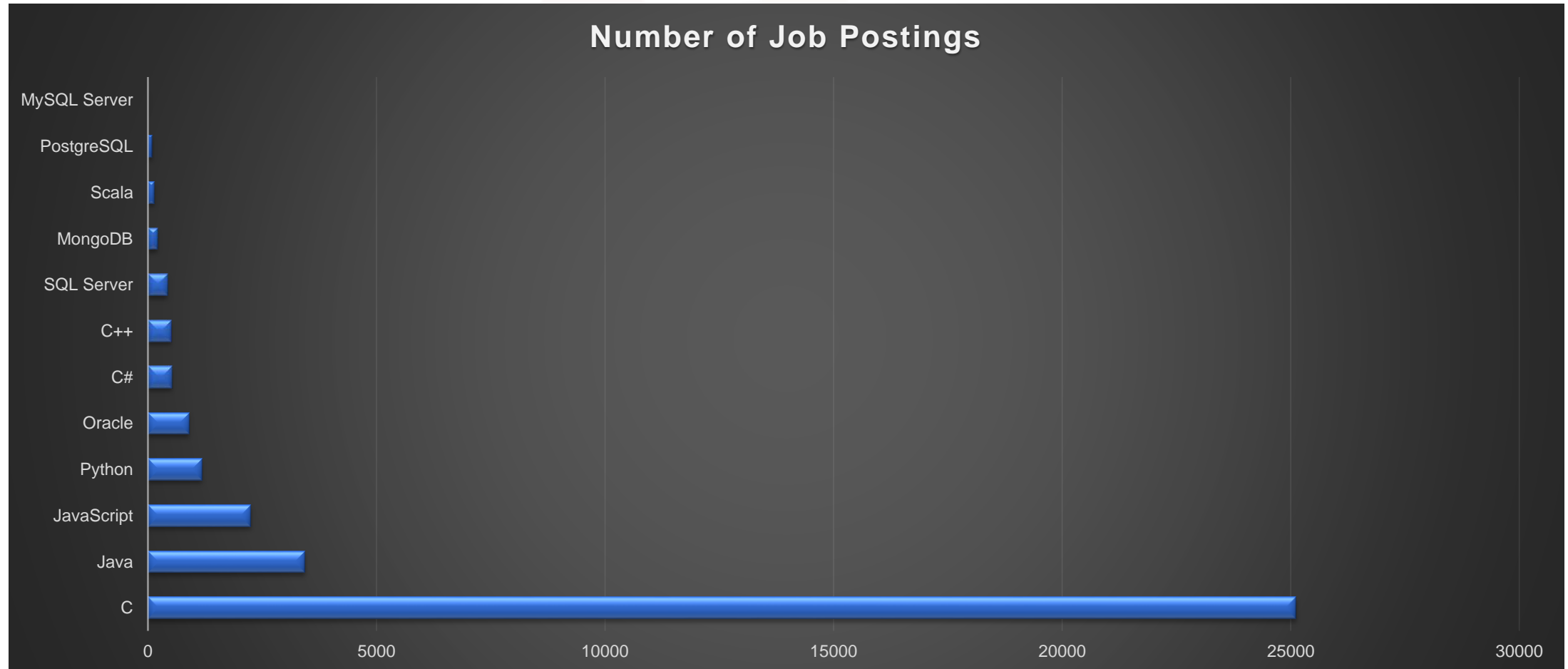
# APPENDIX

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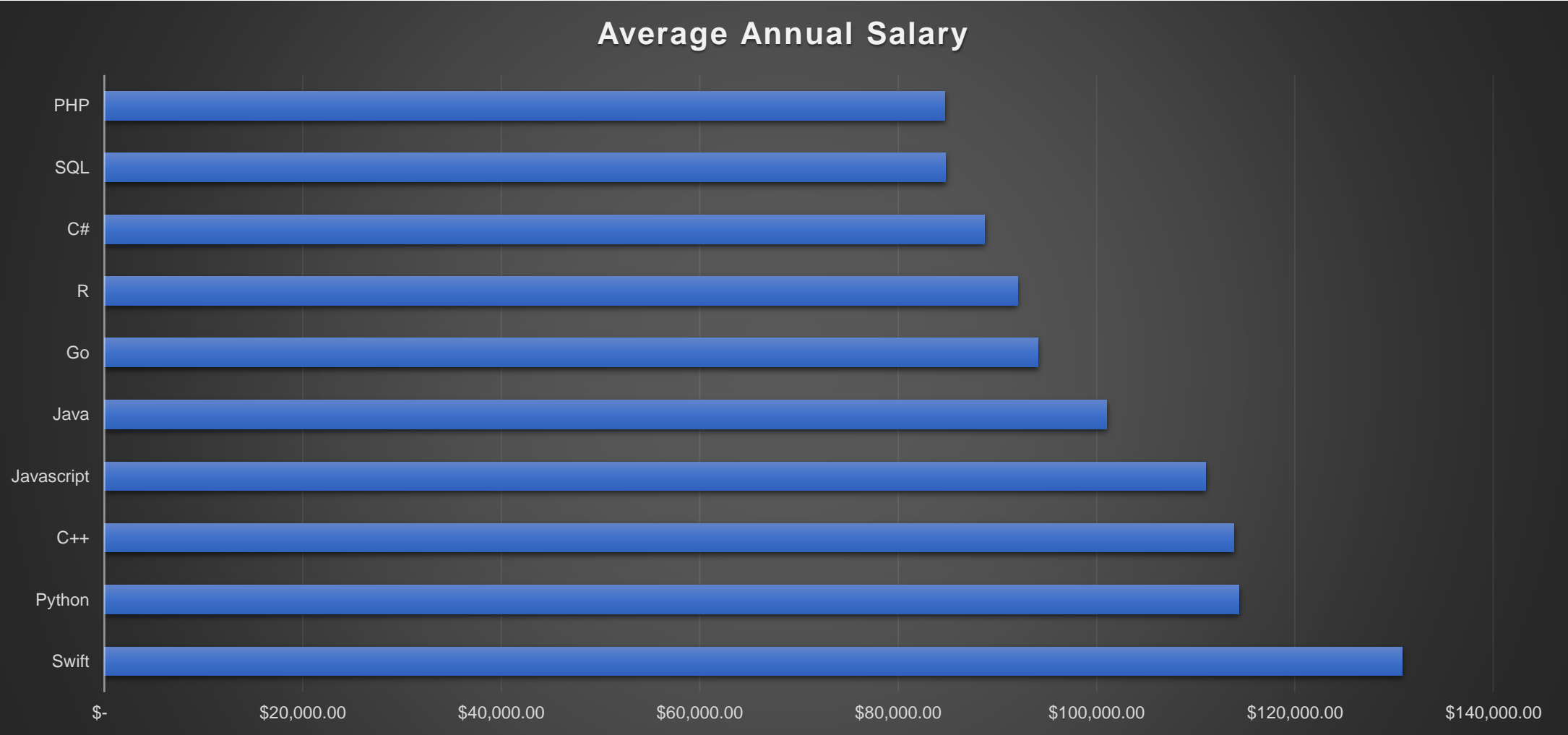


- **Appendix A: Data Sources**
  - Internal databases from Coursera and IBM.
  - Public datasets from Coursera and IBM.
  - Industry reports from sample data collected by Coursera.
- **Appendix B: Dashboard Screenshots**
  - Current Technology Usage
  - Future Technology Trend
  - Demographics
- **Appendix C: Methodology Overview**
  - Data collection: Surveys and internal data.
  - Tools used: IBM Cognos Analytics.

# JOB POSTINGS



# POPULAR LANGUAGES





# The End