

# Exploring Java Career Paths

**Presented to -**  
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**Lecturer (Senior Scale)**  
**Department of Computer Science and Engineering**  
**Daffodil International University**

**Get Started**



# OUR TEAM

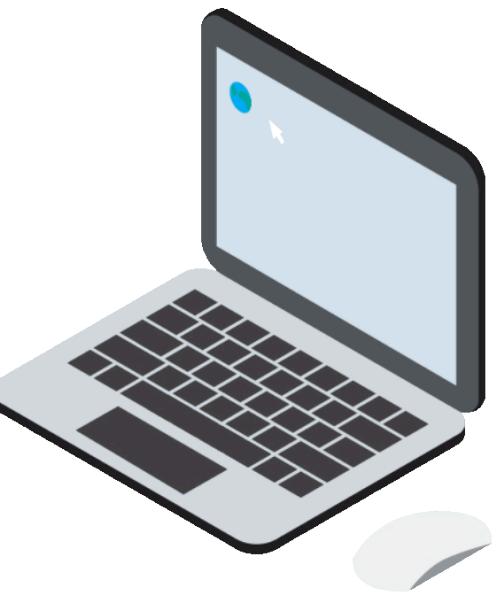
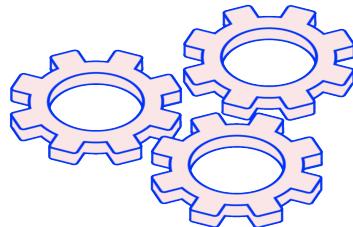
**MD. Shahinur Kabir Antor**  
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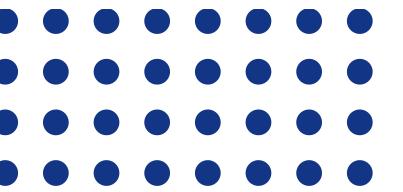
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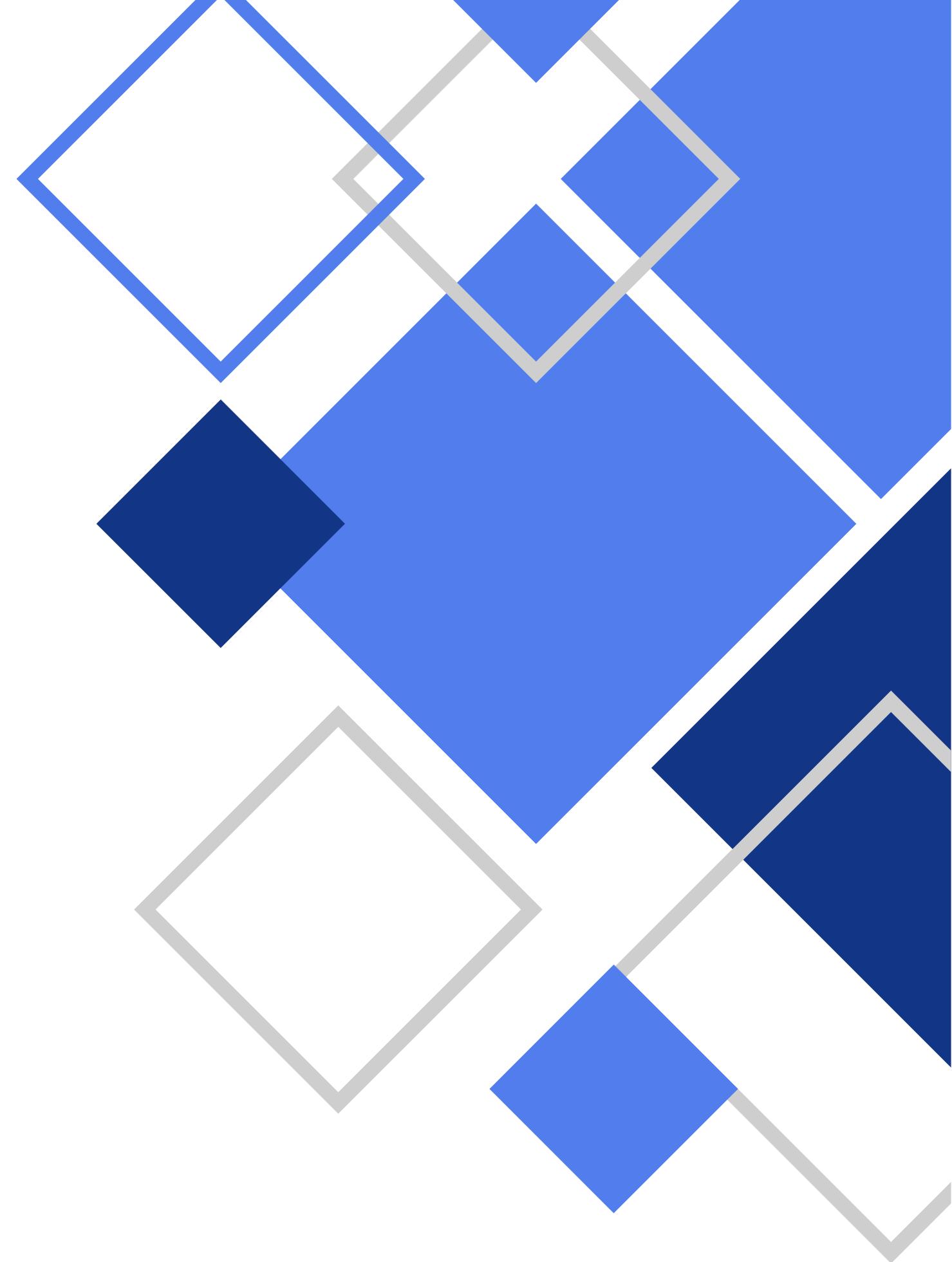
**Umme Arifa Zaman Nirjhor**  
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# Presenter 1

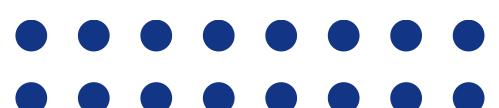
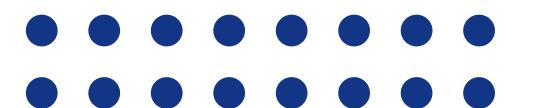


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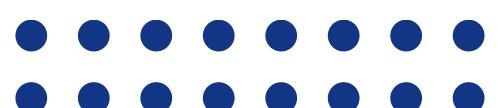
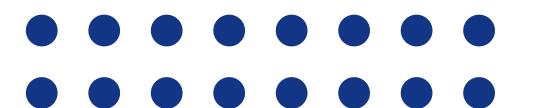
# Areas Covered in This Presentation

- Overview of key Java-related jobs in the tech industry.
- Detailed explanation of essential skills required for these jobs:
  1. Frameworks
  2. Database Management
  3. Cloud and Deployment Tools
  4. Open-Source Tools
  5. Programming Concepts
  6. Design and Problem-Solving Skills
- How to learn and practice each of these skills effectively.

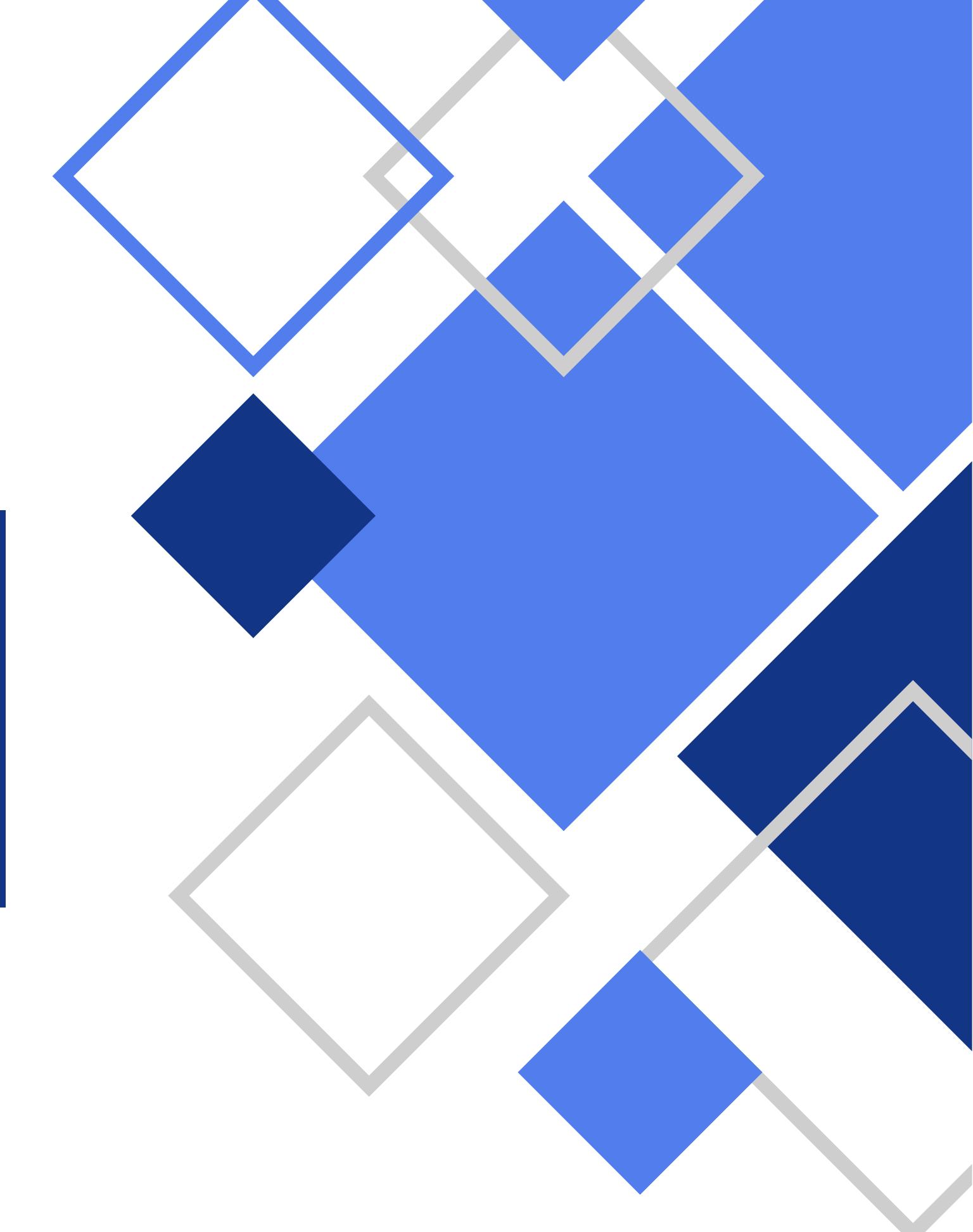
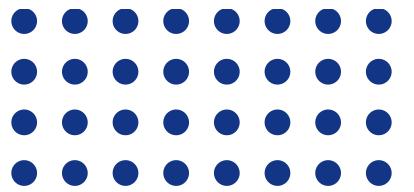


# Introduction

- Java is one of the most popular programming languages globally.
- It powers everything from web applications to enterprise systems.
- In Bangladesh and worldwide, Java-related jobs are in high demand.
- This presentation focuses on 5 key Java jobs and the skills required for them.



# Presenter 2



**SUPAN ROY  
ID: 232-15-716**

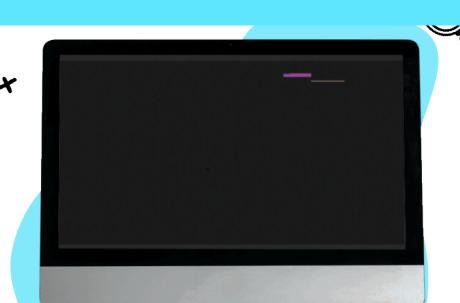
# Required Frameworks

1. **Spring Boot:** Helps developers create web applications and backend systems quickly.

*How to Learn:* Take online courses on Spring Boot basics and try building a simple blog or e-commerce app.

2. **React JS:** A tool for building modern and dynamic user interfaces.

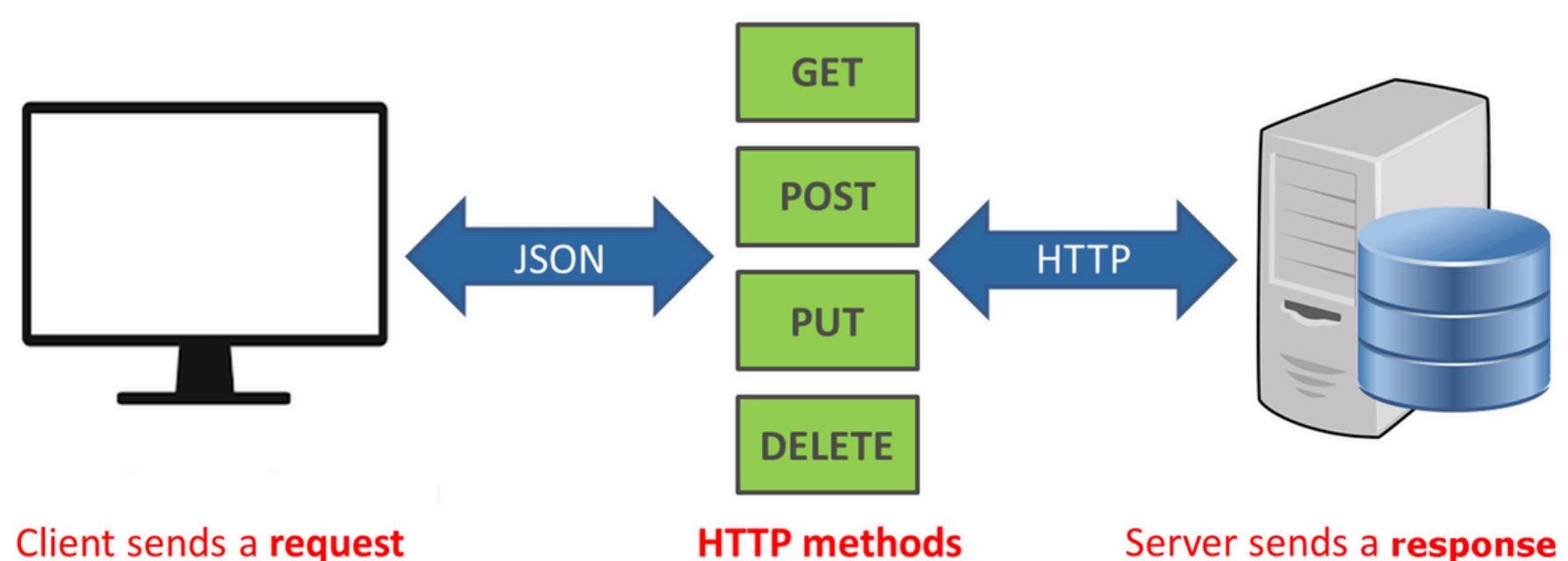
*How to Learn:* Start with free tutorials, then build small projects like a task manager.



# Required Frameworks

3. **REST API:** Lets different applications communicate and share data effectively.

How to Learn: Learn HTTP basics, then practice creating APIs in Java.



# Cloud and Deployment

1. **aws /Azure:** Cloud services that allow hosting and scaling applications without needing physical servers.

Getting Started: Get AWS free tier account, experiment with deployments.

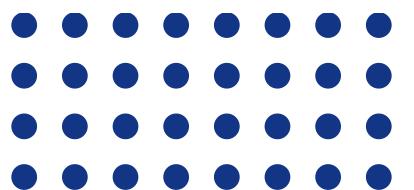


2. **CI/CD (Continuous Integration/Continuous Deployment):** A way to automate testing and deploying software updates.

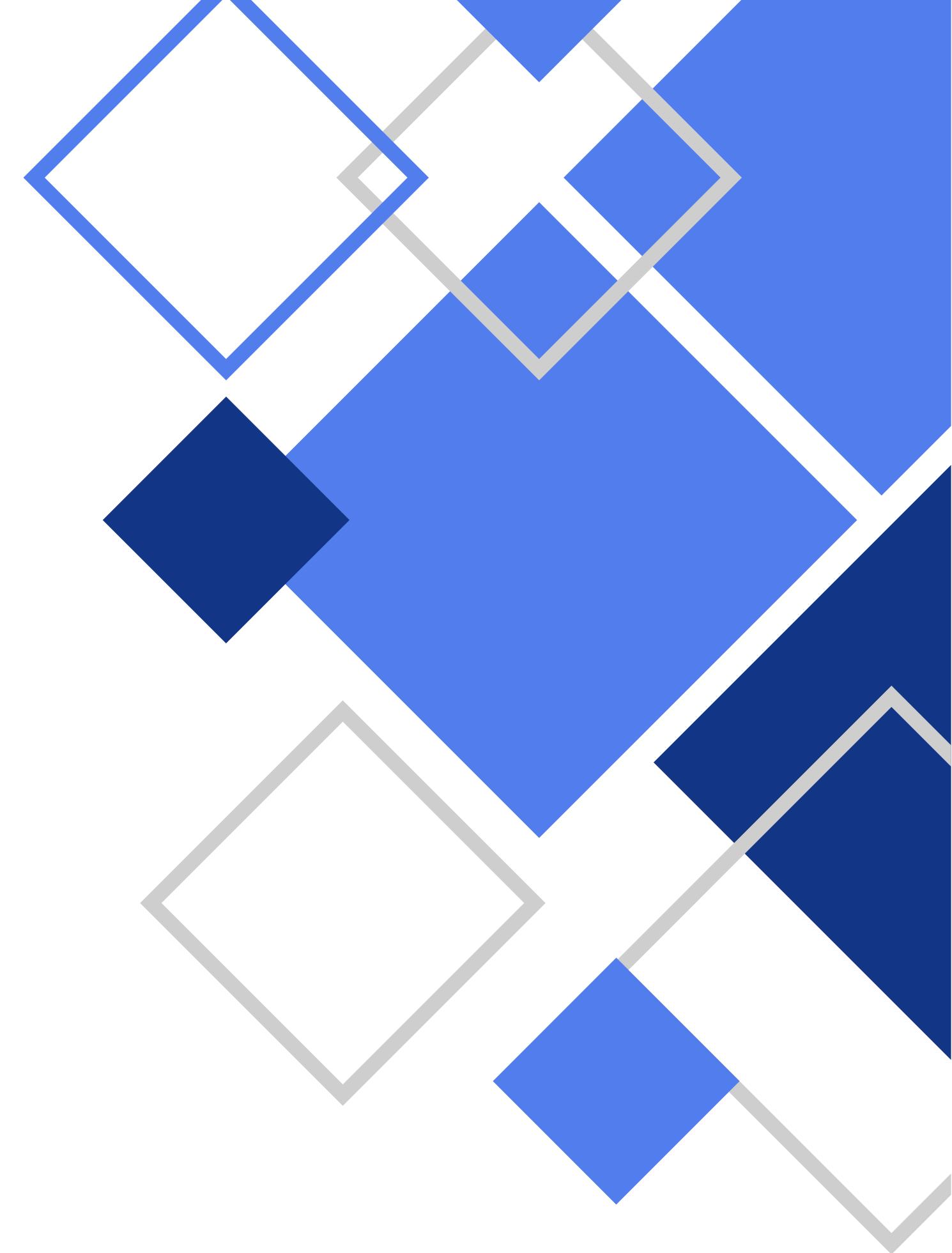
Beginner Steps: Explore tools like Jenkins or GitHub Actions and set up a simple CI/CD pipeline.



# Presenter 3



Pallab Debnath  
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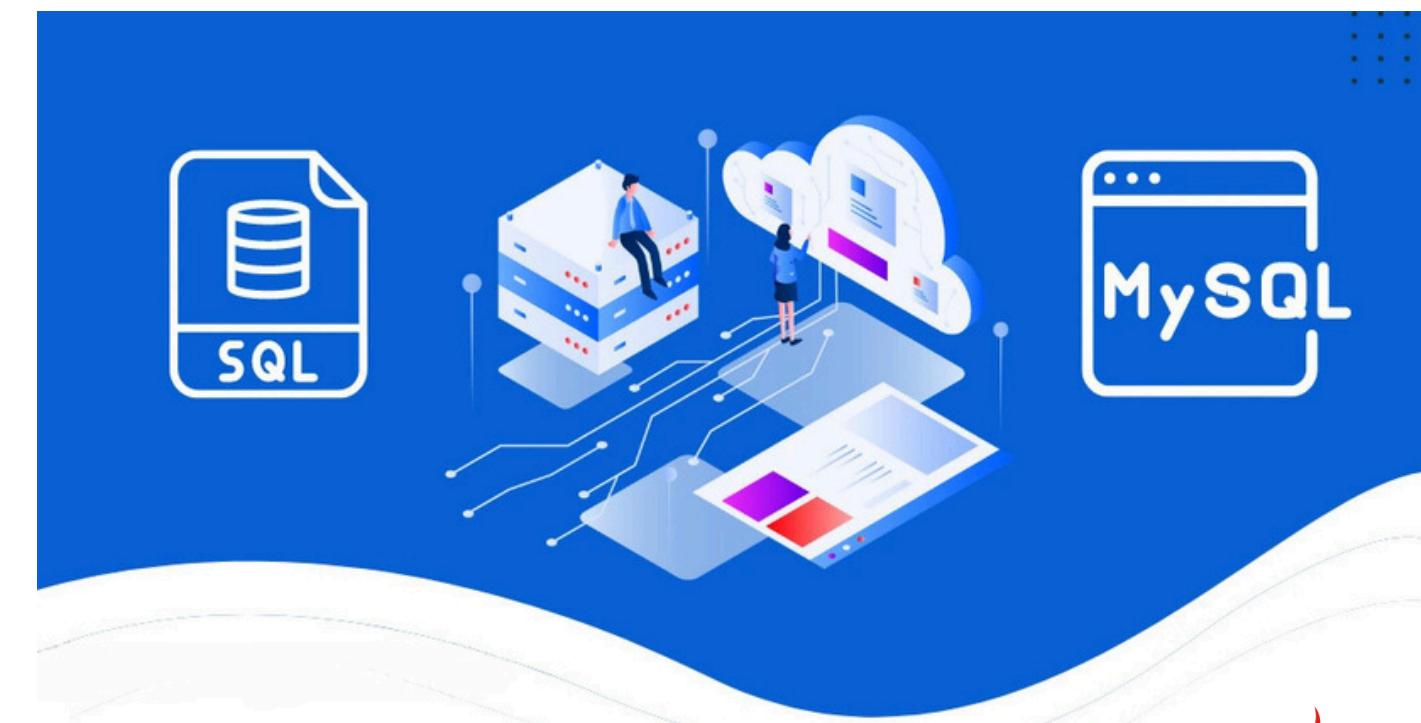
# Database Management

1. **SQL & MySQL:** Used to store and manage structured data in a database.

*How to Learn:* Practice with free tools like MySQL Workbench and learn query writing step by step.

2. **NoSQL & PostgresSQL:** Works with large or flexible datasets, such as for analytics or mobile apps.

*How to Learn:* Start with MongoDB for NoSQL and simple tutorials for PostgreSQL.



# Open-Source Tools

1. **Docker**: Docker is a tool that helps package applications and their required components into small containers, ensuring they work the same on any system.

**Next Steps:** Start by installing Docker, then try creating and running containers using simple Java applications, like a REST API, to get familiar with it.



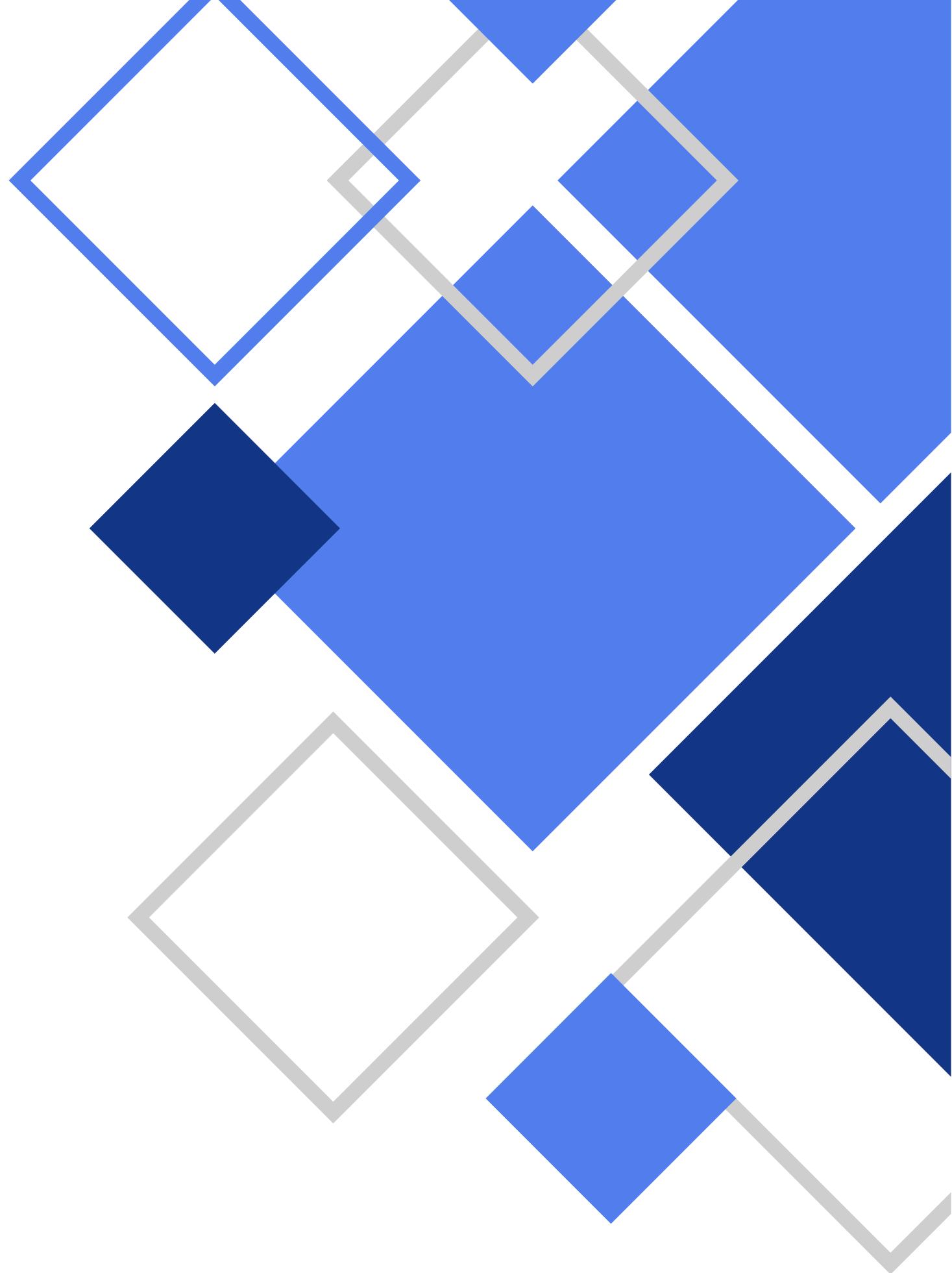
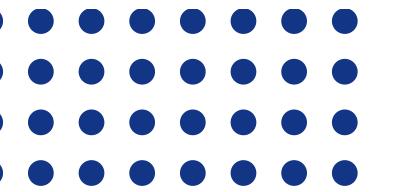
# Open-Source Tools

**2. Kubernetes:** Kubernetes helps manage and scale applications in containers. It automatically handles things like balancing the load and keeping apps running smoothly.

**Best Approach:** Try *interactive tutorials* or use *online tools* to practice deploying containers and managing them in Kubernetes. You can also experiment with scaling and organizing resources.



# Presenter 4



**Abdullah Al Noman  
ID: 232-15-797**

# Programming and Algorithms



## OOP (Object-Oriented Programming):

- OOP is a programming paradigm that uses objects and classes to structure code. It focuses on reusability, modularity, and clear organization.
- Understanding OOP is essential for Java developers as Java is an OOP-based language. Key concepts include encapsulation, inheritance, polymorphism, and abstraction.



## First Steps:

Practice OOP by creating small projects like inventory systems or games where you define and reuse objects. Look for real-life scenarios to apply OOP principles.



# Programming and Algorithms



## Data Structures and Algorithms:

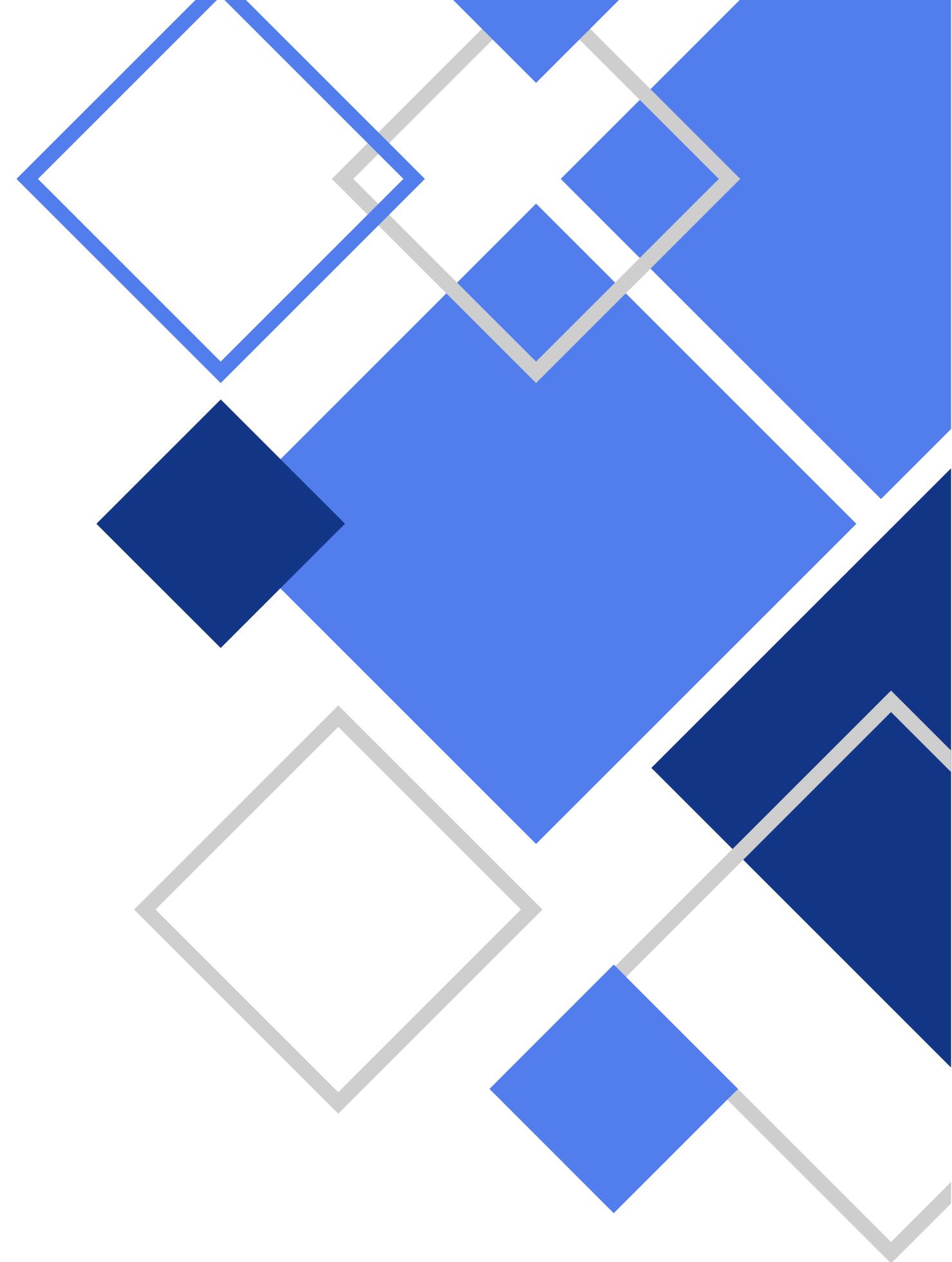
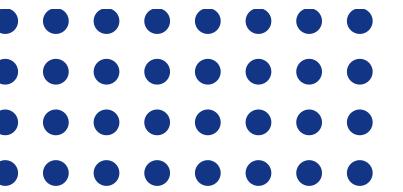
- Data structures like arrays, linked lists, trees, and graphs help organize data efficiently. Algorithms are step-by-step instructions to solve problems using these structures.
- Mastering them is critical for optimizing code performance and succeeding in technical interviews.



## Suggested Practice:

Dedicate time daily to solving problems on competitive programming platforms like Codeforces or HackerRank. Participate in contests to improve your speed and understanding of algorithms.

# Presenter 5



**Umme Arifa Zaman Nirjhor  
ID: 232-15-695**

# UI/UX and Analytical Skills



## UI/UX (User Interface and User Experience):

- Focuses on creating attractive designs and ensuring smooth, user-friendly application experiences.



**How to Learn:** Start by learning design tools like Figma or Canva to create simple layouts. Study good design principles and apply them by redesigning existing websites or apps with better visuals and user flow.



# UI/UX and Analytical Skills



## Analytical Skills:

- These skills help you think logically to find and fix errors, optimize code, and create efficient solutions for real-world problems.



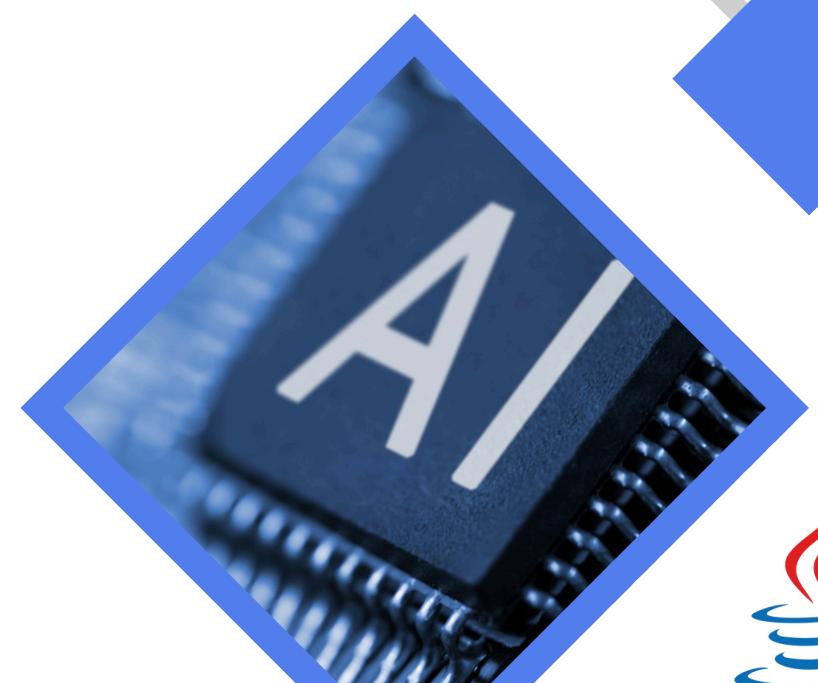
## How to Build These Skills:

- Practice coding regularly to develop logical thinking.
- Work on small, real-life projects to understand common issues and find solutions.
- Solve puzzles, coding challenges, or logic-based questions to sharpen your thinking process.



# Conclusion and Future Outlook

In this presentation, we explored essential skills for Java-related jobs, like frameworks, databases, and cloud tools. We learned the importance of adapting to technologies like Docker and Kubernetes while improving coding, problem-solving, and design skills. By staying committed to learning and working on projects, we can achieve success in the tech industry.





# Thank You

For your attention!

