



# **Software Development Life Cycle (SDLC)**

SDLC is a structured approach to software development, ensuring quality and efficiency. It consists of several phases:

- 1. Requirement Analysis Gather and analyze project needs.
- 2. Planning Define scope, cost, and timeline.
- 3. Design Create architectural and UI/UX designs.
- 4. Development Write and implement the code.
- 5. Testing Identify and fix bugs, ensuring quality.
- 6. Deployment Release the software to production.
- 7. Maintenance Provide updates and fixes post-deployment.

### **Docker**

Docker is a containerization platform that allows developers to package applications and dependencies into lightweight, portable containers. It ensures consistency across environments, making deployment faster and more reliable.

#### **Jenkins**

Jenkins is an open-source automation tool for continuous integration and continuous delivery (CI/CD). It automates building, testing, and deploying applications, improving development efficiency.

## **Docker Nginx**

Docker Nginx refers to running the Nginx web server inside a Docker container. Nginx is commonly used as a reverse proxy, load balancer, or web server, ensuring efficient handling of web traffic in containerized applications.

### **Docker Commands:**

docker ps
docker run -itd -P <img\_id>
docker images
docker ls
docker cp <s.f> <c.i>:<path>
docker exec -it containerid bin/bash