

Syllabus :

Comprehensive Java Programming with Azure Cloud Integration

Topics Covered as Follows

Introduction to Java Programming

Overview of Java

- Introduction to Java and its key features
- Java Virtual Machine (JVM) and platform independence

Basic Syntax and Data Types

- Variables, data types, and operators
- Control flow statements (if, switch, loops)

Object-Oriented Programming (OOP) in Ja

- Classes and objects
- Inheritance, polymorphism, encapsulation, and abstraction
- Interfaces and abstract classes

Exception Handling

- Understanding exceptions and error handling
- Try-catch blocks, throw, and throws keywords

Advanced Java Programming

Collections Framework

- Lists, Sets, and Maps
- Iterators and comparators

File Handling in Java

- Reading and writing files
- File I/O streams

Multithreading and Concurrency

- Creating and managing threads
- Synchronization and thread safety

Java Database Connectivity (JDBC)

- Connecting to databases
- Executing SQL queries with Java

Java and Azure Cloud Integration

Introduction to Azure Cloud Services

- Overview of Azure services and their significance
- Creating an Azure account

Azure Virtual Machines and Networking

- Deploying Java applications on Azure VMs
- Configuring networking for Java applications

Azure Storage Services

- Using Azure Blob Storage for data persistence
- File and Queue storage for Java applications

Azure Functions

- Creating serverless functions in Java
- Integrating Java applications with Azure Functions

Azure DevOps and CI/CD for Java Applications

- Setting up continuous integration and deployment for Java projects
- Monitoring and logging in Azure

Web Development with Java and Azure

Introduction to Java Web Development

- Servlets and JSP basics
- Setting up a simple Java web application

Integrating Java Web Apps with Azure

- Deploying Java web applications on Azure App Service
- Configuring custom domains and SSL

Microservices Architecture with Spring Boot and Azure

- Overview of Microservices Architecture
- Building Microservices with Spring Boot and deploying on Azure Kubernetes Service (AKS)

Securing Java Applications on Azure

- Implementing security features in Java applications
- Azure Active Directory integration for authentication and authorization