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Java Real-Time Project (30-JRTP)
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Tech Stack : Java + Spring Boot + microservices + React JS + linux + aws cloud + devops tools

1) Who is your trainer

2) Who can attend this course

3) What are the pre-requisites

4) What is course content & road map

5) What are the benefits if you attend this course

6) Q & A

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Trainer
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Mr. Ashok

IT Exp : 12+ Yrs

Banking Company (Hyd Location)

9+ Yrs Exp in Software Trainings

Ashok IT started in 2020

My Skills : Java Fullstack, Linux, AWS Cloud, DevOps Tools

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Who can attend this course
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1) Freshers (fullstack project based learning)

2) Experienced Ppl (fullstack developer)

3) Career Gap Students

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Pre-Requisites
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1) Core Java (upto 17v)

2) Adv. Java (JDBC & Servlets, MVC) (JSP not required)

3) Database (SQL & No-SQL)

4) Web Development (HTML, CSS, Java Script and Boostrap)

5) SpringBoot & Microservices (parallelly you can learn SBMS).

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Course Content
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Module-1 : Software Industry Details

- Types of companies
- Interview Process
- Types of software projects
- Types of Teams
- Roles & Responsibilities

Module-2 : Linux OS

Module-3 : AWS Cloud Services

- EC2
- S3
- RDS
- IAM
- Beanstack
- Lambdas
- Route53

Module-4 : DevOps Tools (20+ Real-Time Tools)

- Maven & Gradle (build tools)

- Junit & Mocking (Unit Testing)

- Jacocco (code coverage)

- Log4J (Logging)

- Log Monitoring (ELK & Splunk)

- Git Hub & BitBucket (repository servers)

- SonarQube (Code Review)

- JMETER (Performance Testing)

- Docker
- Kubernetes
- Jenkins CI CD

- POSTMAN (Api Testing)
- Swagger (API Docs)

- Kafka (message broker)
- Redis (cache)

- JIRA (Project mgmt & bug reporting)

Module-5 : Mini Projects (2)

1) SpringBoot + Data JPA + Web MVC + Thymeleaf UI

2) SpringBoot + Data JPA + REST API (no ui)

Module-6 : Major Project (E-Commerce Application)

Backend : JAVA Spring Boot + Microservices
Frontend : React JS
Database : MySQL
Cloud : AWS + DevOps Tools

Module-7 : React JS bootcamp

Module-8 : Interview Guidance

1) Resume Building

2) Interview Questions

3) Regular Technical Mock Interviews

4) Placement Assistance

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Course Details
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Course : Java Real-Time Project Development

Batch Code : 30-JRTP

Class Timings : 8:30 AM - 9:30 AM IST (Mon-Sat)

Duration : 3 months to 4 months

Start Date : Today

Course Fee :

Plan-1 : 9,000 INR (live classes + softcopy notes)

Plan-2 : 12,000 INR (live classes + softcopy notes + backup videos with 1 year validity)

Note: For Ashok IT JFSD ppl no fee

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Benefits
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1) 100% practical training

2) Realtime Tools and realtime scenarios

3) Doubts clarifications

4) Mock Interviews

5) Placement Assistance

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1) Linux OS Commands

2) AWS Cloud Services

3) DevOps Tools (20+ Real-Time Tools)

4) Two Mini Projects development

5) Major Project with Live coding

6) React JS Frontend

========== You are equal to 4 to 5 years experienced java developer ==========

Fullstack Developer = Frontend + Backend + Database

Fullstack Developer = Frontend + Backend + Database + Cloud + DevOps + Linux OS

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Why to learn Linux Commands ?
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Project development :: Windows Machines

DB Server :: Linux machine

App Deployment :: Linux Machine

App Log Files :: Linux machine

DevOps tools :: Linux Machine

Note: every software developer should have knowledge on Linux OS.

1) What is Linux & Why Linux OS

2) Linux Virtual Machine setup in AWS Cloud.

3) Linux Commands

- Files & Directories
- Text Filters
- Text Editors

4) User Management

5) File Permissions

6) Package Managers (softwares installation)

7) Application Deployment

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Why to learn Cloud Computing ?
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=> For real-time project development + For real-time project execution we need lot of IT infrastructure.

1) Machines

2) Database Servers

3) File Storage

4) Power

5) Network

6) Security

7) Backup

8) Monitoring

=> We can setup IT infrastructure in 2 ways

1) On-Prem Infrastructure

2) Cloud Infrastructure

=> On-Prem Infrastructure means "purchase + setup + manage + monitor" on our own.

=> We have below challenges with on-prem infrastructure

1) Lot of money investement.

2) Time investment

4) Hire Ppl to manage the things

5) Security for your systems

6) Power backup

7) Network backup

8) Scalability

=> To overcome above problems, companies are using Cloud Infrastructure / Cloud Computing.

=> Cloud Computing works based on Pay as you go model.

Ex: Credit Card bill, Post paid bill..

=> Cloud Infrastructure means we can take IT infrastructure for rent through internet.

=> The companies which are providing IT infrastructure for rent they are called as Cloud Providers.

1) Amazon (AWS)

2) Microsoft (Azure)

3) Google (GCP)

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1) AWS Cloud Introduction

2) AWS Cloud Free Account Setup

3) AWS Cloud Services Overview

4) EC2 (To create virtual machines)

5) RDS (Relational databases)

6) S3 (Unlimited storage)

7) Beanstack (web app deployment)

8) Lambdas (Serverless computing)

9) Route 53 (Domain Mapping)

10) IAM (access management)

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Why to learn DevOps tools as a Developer ?
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DevOps = Development + Operations

=> DevOps is a culture

=> DevOps is a process

=> DevOps means set of best practices.

=> DevOps is used to establish colloboration between Dev team & Ops Team.

========== Developer Roles & Responsibilities ==========

1) Understand the Requirements

2) Analyse the requirements (ask questions if any)

3) Database Tables Design

4) Design Java Components (Interfaces, Classes, Methods..)

5) Coding & Debugging

6) Unit Testing using JUnits

7) Code Review using SonarQube

8) Code Integration (Git Hub or BitBucket Repo)

9) Project build & deployment using Jenkins CI CD pipelines

10) Bug Fixing Support

11) Provide KT sessions for new joinees

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=> DevOps tools helps us to automate the entire software lifecycle from development to deployment.

=> Using DevOps tools we can achieve below things

1) Process Automation

2) Simplify Build and deployment using pipeline

3) Faster Releases

=> To adopt devops culture we will use some tools in our project those tools are called as DevOps tools.

1) Git Hub : Source code repository server (code integration)

2) Maven : Build Automation (download libs + compile + package)

3) SonarQube : Code review & identify developers mistakes

4) Nexus : For storing build artifacts (jar, war)

5) Docker : To execute application as a container

6) Kubernetes : To manage containers (orchestration)

7) Jenkins : CI CD Server

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Module-1 : software industry details
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1) Types of software companies

a) product based

b) service based

c) outsourcing

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Product Based Companies
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=> Develop and sell projects to customers directley.

Ex: Google, Microsoft, Apple, Netflix, Amazon, Oracle...

1) DSA

2) Problem Solving

3) System Design

4) Design Patterns

Package : years.of.exp * 10 lakhs

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Service Based Companies
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=> Develop projects based on client given requirements.

Ex: TCS, Infy, CTS, Accenture, Deloitte, TechM, Wipro, Capgemni, HCL...

a) Coding Round (DSA)

b) Backend Development (Java + SpringBoot + Microservices)

c) Frontend Development (Angular or React)

d) Database (SQL + No-SQL)

e) Cloud & DevOps Tools

Package : years.of.exp * 3 to 4 lakhs

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Outsourcing Companies
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=> The company which will supply employees to other companies on contract basis.

Note: Many service based companies doing this outsourcing business.

Package : years.of.exp * 3 to 4 lakhs

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Types of Projects
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What is Software Project : collection of programs

Why to develop Software Project :

1) To reduce human efforts

2) To simplify humans life

Ex :

1) Trains Tickets Booking ---------- IRCTC Application

2) Money Transfer --------- Net Banking App, Gpay, PhonePay, Paytm....

3) Shopping --------------- Flipkart, Amazon, Myntra.....

4) Grocerries --------- big basket, zepto, blinkit....

5) Transport ------ rapido, uber, ola applications

=> In a software company we can see 3 types of projects

1) Scratch Development projects

2) Maintenence Projects

3) Migration Projects

=> Scratch development means brand new project (green field project).

- everything we have to develop from zero level

=> Maintenence Project / Support Projects

- New Enhancements

- Change Requests

- Bug Fixing

=> Migration projects means change project from one technology to another technology.

Main Frames ----------> Java

Java 1.8v -----------> Java 17v

SpringBoot 2.x -------> SpringBoot 3.x

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Types of Teams
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1) Functional Team / Business Team

2) Development Team

3) Testing Team

4) Cloud & DevOps Team

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Functional Team Responsibilities
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=> Interact with Client

=> Understand client business model

=> Collect requirements from client

=> Analyze requirements (functionality wise)

=> Prepre BRD / FDD / SRS

- Business Requirements Document

- Functional Design Document

- Software Requirements Specification

=> Submit FDD to client get client approval.

=> After client approval, share FDD to dev & testing teams.

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Development Team Responsibilities
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=> Read FDD & Understand the requirements

=> Interact with Functional Team for FDD Doubts clarifications.

=> Effort Estimations (calculate time to complete the tasks)

=> Database Design (tables, columns, relationships)

=> Development (coding) & Debugging

=> Unit Testing with Junits & Mockito

=> Code Review using SonarQube

=> Code Integration in git repo

=> Send Request to DevOps team to create CI CD Pipeline to automate Project Build and Deployment process.

CI CD Pipeline = git + maven + sonar + nexus + docker + k8s + jenkins

=> Execute Jenkins CI CD Pipeline

=> Integration Testing

=> Support for Bug Fixing

=> Participate in Release calls

=> Provide KT sessions for new joinees

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Testing Team Responsibilities
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=> Read FDD & understand client requirements.

=> Interact with Functional Team for FDD Doubts clarifications.

=> Prepare Test Scenarios based on FDD

=> Prepare Test Cases for each Test scenario.

ex Test scenario : Test Login Page Functionality

- Test with invalid username and invalid pwd (case-1)

- Test with valid uname and invalid pwd (case-2)

- Test with invalid uname and valid pwd (case-3)

- Test with valid uname and valid pwd (case-4)

=> Test application using Test cases

=> Identify bugs and report bugs in JIRA.

=> Provide QA certification for the Project.

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DevOps Team Responsibilities
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DevOps = Development + Operations

=> Setup Infrastructure in cloud by using Terraform s/w.

Ex: machines, databases, storage, network, security, monitoring...

=> Configuration Managment using Ansible

Ex: install s/w, copy files, OS patchings...

=> Create + Manage Source Code Repositories for code integration

Ex : Git Hub

=> Create + Manage + Monitor CI CD Pipelines for project build and deployment.

Ex: Jenkins + Docker + K8S + Sonar + nexus

=> Monitor infrastructure and application.

ex: Grafana, promethues, ELK ...