

FULL-STACK DEVELOPMENT

1. Personal Skill Set

- Aptitude
- Arithmetic & Reasoning
- Communication

2. Technical Skill Set

Computing Fundamentals

- Computing Architecture
- Hardware Components
- Application Types

3. Operating System Fundamentals

- OS Concepts—Kernel, Shell, UI
- Windows Versions
- Unix & Linux variants
- Command Shell
- Basic Commands usage
- Installation of OS
- User & Group Management
- Security
- File System Commands
- Software/Package Management
- Services & Process Management
- System Administration
- Text Editors Usage, Filters and I/O Redirections

4. Networking Basic

- What is Networking?
- TCP/IP Protocol
- IP Address
- Subnetting
- Networking Devices
- LAN, WAN, Intranet and internet
- Networking Ports
- Telnet
- SSH
- FTP
- DHCP

- DNS
- HTTP Server
- Remote Desktop Servers
- Firewalls
- Active Directory & LDAP
- Network Troubleshoot Tools

5. Software Engineering

SDLC

- Waterfall Model
- Incremental Model
- Iterative Model
- V Model

○ Agile

- Why Agile
- The Triple Constraints in Agile
- Agile Approach to Planning
- Agile Manifesto
 - Agile Principles
- Agile Methodologies
 - Scrum Process
 - Kanban
- Agile Planning
 - Levels/Epics
 - User Stories
 - Release Planning
 - Product Backlog
 - Sprint Planning
- Estimations
 - Story Points
 - T-shirt Size
- Team Velocity
 - Metrics
 - Sprint Buntdown Chart
 - Sprint Velocity
 - Daily Scrum
 - Sprint Review
 - Demo
 - Sprint Retrospective
- Agile Frameworks: Scrum & Kanban
- Tools: UML, Visio

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6.Database Fundamentals

MySQL

- o CRUD – CREATE, READ, UPDATE AND DELETE
- o CONDITIONS AND OPERATORS
- o JOINS
- o FUNCTIONS
- o DATATYPES
- o DATABASE EXPORT AND IMPORT

MongoDB

- o Installation
- o CRUD – CREATE, READ, UPDATE AND DELETE
- o MongoDB Tools – NoSQL Manager, RoboMongo

7.Programming Fundamentals

- o Introduction
- o Understanding Programming
- o Values and Variables
- o Functions to repeat actions
- o Parameterized Functions
- o Variables and Scope
- o User Input Capture
- o Conditional Tests
- o Loops
- o Arrays
- o Linked Lists
- o Stacks and Queues
- o Trees
- o Heaps
- o Sorting Algorithms
- o Return Values
- o API
- o OOPS Introduction
- o Objects and Classes
- o Inheritance
- o Polymorphism
- o Debugging
- o Refactor Code
- o Coding Standards

8.Python

Python Basic

- o Python - Home
- o Python - Overview
- o Python - Environment Setup
- o Python - Editors / tools
- o Python - Basic Syntax
- o Python - Variable Types
- o Python - Basic Operators
- o Python - Decision Making
- o Python - Loops
- o Python - Numbers
- o Python - Strings
- o Python - Lists
- o Python - Tuples
- o Python - Dictionary
- o Python - Date & Time
- o Python – Functions
- o Python - Modules
- o Python - Files I/O
- o Python – Exceptions

9.Full-Stack Development

(End To End Training on Below Topics)

HTML5

CSS3

Javascript

Jquery Programming Techniques

Back-end Programming with Node.js

Front-end Programming with Angular

Express js

React js

10.Web technologies

- o HTML, CSS and JavaScript

FULL-STACK DEVELOPMENT

11. Development Tools

o Programming

IDEs(Eclipse,Netbeans,Pycharm)

o VCS (Version Control System - Git)

- o What is VCS
- o VCS Terminologies
- o Types Of VCS
- o GIT Quick Setup
- o GIT Areas & Workflow
- o GIT Operation
- o GIT Configuration

o CI Server(Continuous Integration - Jenkins)

- o Introduction to continuous integration.
- o Build & Release
- o Why Continuous integration
- o Jenkins introduction and setup
- o Jenkins projects/jobs
- o Jenkins plugins
- o Jenkins administration
- o Build and Release job/project setup
- o Nexus
- o Continuous integration job/project setup

o Build Tools

- o ANT
- o MAVEN
- o GRADLE

o Deployment Server

- o Apache Web server
- o Tomcat Web server
- o JBoss Web server

12. Live Project

o PROJECT-1

o B2C Realtime Project With:

- o Full-stack
- o Web Technologies
- o RDBMS
- o Backend Services etc....

13. Testing

- o Automation Testing (Selenium)
- o Staging Server (AWS Cloud)
- o JIRA

14.1 DevOps

Ansible

- o Configuration management & Automation
- o What is Ansible & its features
- o Ansible setup on local & cloud
- o Understanding Ansible architecture & Execution
- o Inventory
- o Adhoc commands
- o Playbook Introduction
- o Ansible configuration with ansible.cfg
- o Ansible documentation
- o Modules, modules & lots of modules
- o Writing playbook for webserver & DB server deployments
 - o Tasks
 - o Variables
 - o Templates
 - o Loops
 - o Handlers
 - o Conditions
 - o Register
 - o Debugging
- o Ansible Roles
- o Ansible Galaxy
- o Ansible Advanced Execution

FULL-STACK DEVELOPMENT

Docker

- o History of Docker / About Docker Inc.
- o Installation of Docker (all operating systems)
- o Working with containers
- o Working with images
- o Building images with Dockerfiles
- o Working with Docker Hub
- o Container networking
- o Docker local development workflow
- o Working with volumes
- o Connecting containers together (links)
- o Container orchestration
- o Using Docker for a Continuous Integration/Continuous Delivery pipeline
- o Securing Docker with TLS
- o Working directly with the Docker remote API
- o Docker Container Security
- o Docker in Production (ambassadors, service discovery, etc.)

14.2 Cloud

AWS

- o Introduction to Cloud Computing
- o Cloud Computing Deployment Models
- o Cloud Delivery/Service Models
- o Introduction to AWS Services
- o Elastic Compute Cloud (EC2) Essentials
- o Elastic Block Store (EBS)
- o Auto Scaling
- o Simple Storage Service (S3)
- o Identity and Access management (IAM)
- o Virtual Private Cloud (VPC)
- o Route 53
- o Cloud watch
- o Simple Notification Services (SNS)
- o Simple Queue Service (SQS)
- o Simple Email Services (SES)
- o Relational Database Service (RDS)
- o Use Cases

MS Azure

- o MS Azure Basics
- o IAAS
- o Building blocks
 - o Compute
 - o Network
 - o Storage
- o Identity and Access management
- o MS Azure Active Directory
- o MS Azure WebApps
- o MS Azure SQL Database
- o MS Azure Service Bus
- o MS Azure Traffic Manager
- o MS Azure CDN
- o Other Windows Azure Services

15. Live Project

o PROJECT-2

o Build n-tier architecture enterprise real-time project with:

- o Full-Stack
- o Web Technologies
- o RDBMS
- o Message Queues(Rabbit MQ)
- o Python
- o Web Services
- o Notification Services
- o Email Services
- o Vagrant
- o Ansible
- o Docker
- o Aws/Azure Cloud