

## HTML

- What is Markup Language
- Basic Structure of HTML
- Meta Tags
- External Link Tags
- HTML Structure Tags
- Difference between HTML & XHTML
- Introduction to HTML5
- Whats new in HTML5
- HTML5 Semantic Tag
- HTML5 Multimedia
- Create Table, Div, and Frame Tag
- Content and Header Tags
- Paragraph, Span, Pre Tags
- Anchor Links and Named Anchors
- Iframe and Image Tag Implementing iFrame in Realtime
- Working with Forms
- Form Tag and Attributes
- POST and GET Method
- Text Input, TextArea, Checkbox and Radio
- Password Field
- Select Option, Option Group
- File Field and Hidden Fields
- Submit, Reset, Image Buttons
- HTML 5 Forms
- Canvas & SVGs
- Converting svgs into font-icons
- HTML5 Apis

## CSS

- Introduction to CSS2 & CSS3
- Types of Style Sheets
- Media Type
- Default CSS Properties
- CSS Selectors
- Basic CSS Selectors
- Advanced CSS Selectors
- CSS properties
- Background Properties
- Block Properties
- Box Model Properties
- List Properties
- Border Properties
- Positioning Properties
- Flex
- Adding our own fonts to websites
- CSS Optimization and Compression Tips
- New CSS3 Properties
- CSS Rounded Corners
- Border Image
- Box and Text Shadow
- Multiple Backgrounds
- Background Origin
- Background Resize
- CSS Clip, Gradients, Opacity
- Transitions & Transform

## JAVASCRIPT

- Introduction to Client-Side Scripting
- Introduction to Java Script
- Javascript Types
- Variables in JS
- Operators in JS
- Conditions Statements
- Java Script Loops
- JS Popup Boxes
- JS Events
- JS Arrays
- JS Objects
- JS Functions
- Using JavaScript in Realtime
- Validation of Forms
- Related Examples

## JQUERY

- Introduction to jQuery
- jQuery Features
- Installing jQuery
- jQuery Syntax
- jQuery Ready Function
- jQuery Selectors
- jQuery Actions
- jQuery Custom Functionality
- jQuery Libraries
- jQuery Validation
- jQuery Slideshow

- **jQuery Dropdown**
- **JS Functions**
- **jQuery UI**
- **jQuery Accordions**
- **jQuery Tabs**
- **jQuery Tooltips**
- **jQuery Autocomplete**

## **JAVA PROGRAMMING**

- **Introduction**
- **OOPS (Object Oriented Programming & Systems)**
- **STRING Manipulation**
- **Array**
- **Packages**
- **Exception Handling**
- **I/O Streams**
- **Multithreading**
- **Wrapper Classes**

## **MySQL Database**

- **Understanding Basic SQL Syntax**
- **Querying Data with the SELECT Statement**
- **Filtering Results with the Where Clause**
- **Shaping Results with ORDER BY and GROUP BY**
- **Matching Different Data Tables with JOINS**

- **Creating Database Table stamp**

## **Spring Framework & spring Boot**

- **Spring Framework**
- **Java Spring Boot**

## **ReactJS**

- **React JS Basics**
- **React JS Features**
- **React JS Setup and Hello World Application**
- **React JS JSX**
- **React JS Component**
- **React JS State**
- **React JS Props**
- **React JS Constructor**
- **React JS Lifecycle**
- **React JS Events**
- **React JS Router**
- **React JS Forms**
- **React JS Tables**
- **React JS Portals**
- **React JS ES6**
- **React JS CSS**
- **React JS Hook**
- **React JS and Back End Integration**
- **React JS Using Back End CRUD Application**
- **React JS, JDK 1.8, Spring Boot, Hibernate, Maven, MySQL, Microservices,**

## Project Lombok- Project Implementation

### NodeJs

- Introduction
- Typescript
- Node Module
- Asynchronous Node.js
- Testing Application
- Routing

### MongoDB

- Rest Api
- Authentication and Authorization
- Mini project - Quiz App
- Mongo DB
- Introduction & Overview of MongoDB
- MongoDB Installation
- CRUD Operation in MongoDB
- Data Modeling
- Storage Classes
- Indexing and Performance Considerations
- Aggregation
- MongoDB Replication

# AWS Cloud

## 1 : Introduction to AWS

- Navigate the AWS Management Console
- Recognise AWS Global Infrastructure
- Describe the security measures AWS provides
- Create an Amazon EC2 instance
- Remotely connecting to an EC2 instance
- Setting up Amazon Linux and Apache web server
- Browsing Amazon Machine Images (AMI)
- Specifying security groups and key pairs
- Creating new images off of running instances

## 2: AWS Storage

- Identify key AWS storage options
- Describe Amazon EBS
- Use Amazon EBS with Amazon EC2
- Working with Volumes and snapshots
- Transmitting data in/out of the Amazon cloud

## 3: Installing Software in your Amazon Instance

- Implementing a Web server in an Amazon Linux/Windows Instance
- Configure the firewall to access a Web server

## 4: Security in Public Cloud

- Security issues in Public Cloud
- Securing the Access : Creating a RSA Public/Private Key for VMs
- Creating a software firewall
- Configuring firewall rules
- Securing the access with an Elastic IPs
- Managing users with Identity Access Management (IAM)

## 5: Alternate access

- Using EC2 Command Line APIs [from Windows/Linux machines]

## 6: Simple Notification Services [to be seen along with Auto Scaling

- Using SNS to send Notifications

## 7: Amazon S3 Basics

- Creating Buckets
- Creating Folders
- Uploading Objects
- Making Objects Public
- Creating Buckets
- Securing Bucket/Object access
- Configuring a Bucket as Static Web Page
- Controlling Life Cycle of a Bucket
- Accessing Amazon Buckets from Windows/Linux desktops/Servers

## 8: AWS-RDS

- Overview of AWS RDS
- Launching a MySQL Database in RDS
- Creating Backups/Snapshots and Read Only DBs
- Connecting to RDS-DB using local DB-Clients
- Terminating a DB instance



## 9: AWS-IAM

- **Creating Groups and Defining access policy**
- **Creating Users**
- **Login to AWS account using new users**

## 10: Installing Software in your Amazon Instance

- **Implementing a Web server in an Amazon Linux/Windows Instance**
- **Configure the firewall to access a Web server**

## 11 : DynamoDB

- **Overview of AWS DynamoDB**
- **DynamoDB Tables and Naming Conventions**
- **Data Types in DynamoDB**
- **DynamoDB Capacity Units**
- **Configuring Alarms**
- **Tacking Backup and Restore**

## DEVOPS

### 1: Introduction to Devops and Dev sec ops

- **Introduction to DevOps**
- **What is DevOps?**
- **SDLC models, Lean, ITIL, Agile**
- **Why DevOps?**
- **History of DevOps**
- **DevOps Stakeholders**

- DevOps Goals
- Important terminology
- DevOps perspective
- DevOps and Agile
- DevOps Tools
- Configuration management
- Continuous Integration and Deployment

## **2: Introduction to SDLC ,Software testing , Agile : Software testing lifecycle**

- Working with Block box testing
- Working with White box testing
- Working Grey box testing
- Working with Function testing
- Working with Regressing testing,smoke testing,System testing, Integration testing etc.

## **3: Agile Methodologies:**

- Process flow of Scrum Methodologies
- Project planning, scrum testing, sprint Planning and Release management
- Analysis
- Design,Execution and wrapping closure

## **4: LINUX Administration**

- Introduction to Linux Families (ex: Redhat & Debian Family)
- working with APT and YUM and Dnf
- Working with AWK and SED commands

## **5: Installation and Initialization:**

- Installation, Package Selection
- Anatomy of a Kick start File, Command line

- Introduction to Bash Shell
- System Initialization, Starting the Boot Process: GRUB.

## 6: Boot and Package Management:

- Securing single-user mode (su login)
- Shutting down and rebooting the system
- RPM Package Manager, Installing and Removing Software, Updating a Kernel RPM
- Yum Command set, Install packages by using yum.
- Apt-get command set, Apt-cache package management

## Version Control using Git

### Lesson: Using Git

- Overview of SVN, GIT , Clear case , perforce & Comparison
- Introduction of Git
- Selecting Git Client
- Creating Repository
- Working with Tag
- Creating and Merging Branches
- Executing Git Commands
- Git Logs , Git stash, Git rebase
- Merge conflict issues resolving
- Git pull , clone , fetch

## Docker Modules

### 1: Getting Started with Docker

- Introduction to Docker.

- **What's under the hood - Namespaces, Cgroups and OverlayFS**
- **Understanding Virtualization**
- **Virtualization vs Container**

## **2: Docker Installation**

- **Creating a Virtual Docker Host(CentOS) by using Vagrant**
- **Installing Docker on CentOS**
- **Introduction to Docker namespaces**

## **3: Docker Images**

- **Introduction to Docker Images**
- **Building a Docker Image with a Dockerfile**
- **Sharing Data in Your Docker Host with Containers**
- **Sharing Data Between Containers**
- **Copying Data to and from Containers**
- **Creating Docker Hub Account.**
- **Building Images using DockerFile.**
- **Pull and Push Images From/To Docker Hub.**

## **4: Docker Networking**

- **Introduction to Docker Networking**
- **Finding the IP Address of a Container**
- **Setting Up a Custom Bridge Network for Docker**

## **5: Container Operations**

- **Port Mapping for Docker**
- **Creating, Starting, Stopping, Renaming, Removing Containers**
- **Inspecting Containers**

- Limiting Resources Memory and CPU
- Prioritizing CPU Utilization

## 6: Docker Compose

- Introduction to Docker compose
- Creating Docker compose file
- Executing Docker Compose file

## Jenkins Modules

### 1: Introduction to Continuous Integration and Jenkins-CI/CD

- What is Continuous Integration
- Jenkins Continuous Integration
- What is Continuous Deployment
- Jenkins Vs Jenkins Enterprise

### 2: Jenkins Installation

- Downloading and Installing Jenkins using TomCat
- Creating Jenkins as a Service.
- Starting and Stopping Jenkins

### 3: Configure Jenkins and User Management.

- Secure Jenkins
- Create a new user
- Generate ssh key for Jenkins user
- Plug-in management

## 4: Jenkins jobs setup

- Setting up a Jenkins job (Freestyle, Pipeline, maven, MSBuild, Pybuild)
- Jenkins parametrized jobs setup (choice params,boolean params etc)
- Email notification jobs
- Parallel jobs configuration
- nodes (slaves) configuration

## 5: Jenkins Integration

- Git integration with Jenkins
- Maven Integration with Jenkins
- ansible , artifactory integration
- Docker and scanning tool integration
- AWS and code review tool

## 6: Jenkins User administration

- Role based administration
- Project based administration
- Metric based administration
- Slaves configuration
- Users and groups creation

## Kubernetes

### 1: Introduction to Kubernetes

- The need for a Container Orchestration Engine
- Battles of COEs, which one to choose
- Key Features of a COE.
- What makes Kubernetes the defacto COE choice.

- **Negatives of using Kubernetes**

## **2: Key Concepts of Kubernetes**

- **Namespaces**
- **Pods**
- **Replica Sets and Deployments**
- **Service Discovery and Load Balancing**
- **Configmaps, Storage, Network, RBAC**
- **Statefulsets, Crons and Jobs**
- **Kubernetes Architecture**

## **3: Setting up Environment**

- **Provisioning and configuring on AWS**
- **Initialise Cluster with Kubeadm**
- **Setting up Weave CNI**
- **Launching Kubernetes Dashboard**
- **Setting up a kubernetes Visualizer**
- **Resetting cluster created with kubeadm**

# Angular Js

## Module 1 - Introduction to Angular What is Angular?

- **Brief History of Angular Prerequisite for Angular Basic Understanding of CSS**
- **Basic Understanding on Javascript**
- **Introduction : Typescript**
- **Building Blocks of Angular**
- **What is Linting? Why does it matter to us?**
- **More on TSLint**
- **Exploring TSLint**
- **Playing With TSLint**

## Module 2 - Modules

- **Modules: What makes it so cool?**
- **Modules: What does a Module look like?**
- **Modules: What does import do?**
- **Modules: Why Declarations & imports?**
- **Modules: Why Providers & Bootstrap?**
- **Modules: What is Root Module?**
- **Creating new module in Angular Application...**
- **Creating new Component in new module...**



## Module 3 - Directives

- **Directives: What makes them so awesome?**
- **Directives: What really is a Directive?**
- **Directives: Types of Directives**
- **Directives: Flavours of Directives**
- **Directives: How to create Directives**
- **Directives: How does Directive look like?**

## Module 4 - Components

- **What makes the Component so cool?**
- **Component Lifecycle**
- **Components: Components in Components**
- **Components: Component Interaction**
- **Components: More on Components**

## Module 5 - Pipes

- **Pipes: What makes them so awesome?**
- **Pipes: What really is a Pipes?**
- **Pipes: Journey from filters to Pipes Syntax of Pipes and the Connection with**
- **Pipes: Types of Pipes**
- **Diving into Built-in Pipes**
- **Pipes: How to create Pipes**
- **Pipes: How does pipes look like? Using Multiple Pipes...**

## Module 6 - Services

- **Services: What makes them so awesome?**
- **Services: What really is a Services?**
- **Services: Types of Services**
- **Services: How to create Services**
- **Services: How does Services look like?**

## Module 7 – Routing

- **Routing: What does it take to do Routing ?**
- **Routing: What really is a Routing?**
- **Routing: Who does the real Routing?**
- **Angular Router: What is it?**
- **Routing: How to Create Routing**
- **Routing : How does Router look like**

## Module 8 - Testing In Angular

- **What is Test Driven Development(TDD) And Behavioral Driven Development(BDD)?**
- **Testing Frameworks in JS**
- **Why to test angular code?**
- **Types of Testing**
- **How to run test?**
- **Testing: Jasmine**
- **Testing: Fundamental Concepts Dependency Injection (DI)**
- **Testing: Karma**
- **Testing: Test Entry File**
- **Component Testing**

- **Service Testing**
- **Directive Testing**
- **Pipe Testing**
- **Test debugging**

## 10. **Introduction to forms in Angular**

## 11. **Mini Project**

- **Mini Project: User Dashboard**
- **Using Bootstrap 4 in Angular Project**

## **Express Js**

- **Nodemon**
- **Routes**
- **get, post, put, delete**
- **MVC introduction**
- **Controllers**
- **Models**

## **ECMA6**

- **modules**
- **async awaite**
- **promiss**
- **fetch**
- **spread operator**
- **rest operator**

## **MUI**

- **Installation**
- **Buttons**
- **Checkbox**

- **Radio-button ratings**
- **Dropdown**
- **Autofill**
  
- **GIT ( Control Version)**
- **Introduction**
- **Installation**
- **Repository**
- **github desktop**