# JAVA

- **Core Java Programming**
  - Classes
  - Object Oriented Features
  - Java Features
  - Methods, Fields
  - Access Modifiers
  - Setters and Getter methods
  - JDK, JRE, JVM
  - Encapsulation
  - Overloading
  - Constructors
  - String basics
  - This keyword
  - Inheritance
  - Overriding
  - Types of Inheritance
  - Constructor of Inheritance
  - Super keyword
  - Dynamic Method Dispatch
  - Final modifier
  - Abstract modifier
  - Static modifier
  - Interfaces
  - Packages
  - Command line arguments
  - Wrapper classes
  - Nested classes and interfaces
  - Blocks in classes
  - Basics of JVM
  - Exception handling
  - IO
  - Multi-threading
  - Collections framework
  - Garbage collection
  - Features of Java 8
- **Database**
  - MySQL
    - SQL
      - DDL, DML, DCL, TCL
      - Views
      - Joins
      - Subqueries
      - Aggregate Functions
    - PL/SQL
      - Cursors, Triggers, Functions, Procedures
- **UI development**
  - HTML

- Tags, Static Page Creation
- Doctype, Meta
- URLs
- Images
- Tables
- Input, Button, Form Fields
  - CSS
    - Style, Class Selectors
    - Font, Id Selectors, Text, Border, Padding, Positioning
    - HTML with CSS
  - JavaScript
    - Operators, Varibales
    - Loops, Arrays, Functions
    - Manipulations
    - Forms, Images
  - Bootstrap
    - Grid¸ Responsive design, Layout
    - Tables, Lists, Forms
    - Groups, Images, Buttons, Navbar
    - Panels, Breadcrumbs, Jumbotron, Dropdowns, Tabs, Carousel
  - Angular
    - Class Bindings
    - Style bindings
    - Event bindings
    - Components
    - Services
    - Component interaction
    - Routing
    - Observables
    - Input and output
    - Directives
    - Modules
- **Java Web Development**
  - JDBC
    - Drivers
    - Types
    - Statements
    - Prepared statements
  - Servlet
    - Life Cycle
    - Session Management
    - Config, Context
    - Request, Response
  - JSP
    - Tags
    - Implicit Objects
  - JSP MVC
    - MVC Architecture
- **Springboot Framework**

- o Spring vs Springboot
- o CLI, STS, Annotations
- o DI, AOP, JPA, Hibernate, with MySQL
- o With REST
- **ORM - Hibernate, JPA**
  - o Generator classes, Dialects, Log4j
  - o Mappings
  - o JPA vs Hibernate
- **MVC Architecture**
- **REST Services**
  - o Components, RS, WS
  - o RESTful services with SB
  - o SOAP vs REST
- **Microservices Introduction**
- **Methodologies – Agile**
- **Design Patterns**
  - o Singleton
- **Software Testing**
  - o Manual Testing
  - o Unit Testing, Regression, White-box, Component
- **Good to Know**
  - o LOG4J
  - o GitHub
  - o Maven
  - o Junit
  - o Eclipse