Android

History and platform-independence.

Introduction to Java, JSE, JEE, JME, Web services, Other technologies.

JVM, JRE and JDK

Simple Java Program Structure

- Documentation section
- Package statement
- Import statement
- Interface statement
- Class definition
- Main class method

Creating, compiling and running program

Command Line argument

Object Orientation

- Classes: Introduction, Definition, Field, Methods.
- Objects: Concept, Creation, Accessing Members.
- Constructors: Types, Overloading.
- Static Members

Java Beans: Concept, getters and setters.

- Inheritance: Subclassing, Constructor chain, Method Overriding.
- Final: Class, Variable, Methods.
- Abstract: Classes, Methods.
- Varargs Methods
- Visibility Controls.
- Interfaces: Defining, Extending, Implementing
- Package: naming, creating, accessing, usage.
- Understanding IS-A, HAS-A Relationship Polymorphism, Encapsulation, Abstraction, Inheritance
Arrays: Declaration, creation, initialization, 1-D, 2-D, n-D

String: Methods, Immutable Objects, Regex, toString(), StringBuilder, StringBuffer. Enumerations and Annotations JVM: Java Heap, Stack, Garbage collection, hashCode(), equals(). Wapper Classes and Static Imports Socket Programming

Exception Handling: Throwable, Errors, Exceptions, try ...catch.... finally, throws, Exception classes.

Multithreading: Thread creation by extending Thread and implementing Runnable, Life cycle, Thread Exceptions, Priorities, Synchronization.

IO: Stream Classes, Byte Stream, CharacterStream, File Handling, IO Exceptions, Serialization.

Generics: Concept, Generic Methods and Classes.

Inner Classes: Method-local inner classes, Anonymous inner classes, Static nested classes.

Collection: Set, List, Map, Collection Interface, Collections class, Sorted-Unsorted, Ordered-Unordered, Queue, Autoboxing with collections, Comparable Interface Event Handling with Swing.

Introduction to Android Programming
- Android OS
- Architecture
- Dalvik Virtual Machine
- Android SDK
- Android Development Tools (ADT)
- Android Virtual Devices (AVD)

Activities
- Activity Life cycle
- Style and Themes
- Activity Title
- Dialog Windows
- Progress Dialog
Intents
- Linking activities using intents
- Filter Collision
- Intent Object and usage.
- Calling built-in application.
- Intent object
- Intent filters

Notifications
- Displaying notifications

Fragments
- Life cycle
- Adding fragments Dynamically
- Fragment Interaction

User Interface
- Views and ViewGroups
- Layouts-Linear, Absolute, Table, Relative, Frame
- Scroll View • Display Orientation
- Managing Screen Orientation
- Action Bar
- Programatically creating UI
- Listening to UI Notifications

Basic Views
- TextView, Button, ImageButton, EditText, CheckBox, ToggleButton, RadioButton, RadioGroup, ProgressBar View, AutoCompleteTextView View
- Picker View-TimePicker and DatePicker
- ListView and Spinner View
- Specialized Fragments
Image Views

- Gallery and ImageView
- ImageSwitcher
- GridView

Menus

- Helper methods
- Options Menu
- Context Menu
- Additional Views-AnalogClock, DigitalClock, WebView

Persisting Data

- Saving and Loading Preferences
- Saving data to files
- Creating and Using Databases

Content Providers

- Data sharing
- Using a content provider.
- Creating content provider.

Messaging

- SMS Messaging
- Sending Email

Location Based Services

- Displaying Maps
- Location data
- Monitoring Location
Networking

- Consuming Web Service via HTTP.
- Consuming JSON Services.
- Socket programming

Android Service Development

- Creating service
- Services communication
- Activity and Service binding.
- Understanding Threading.

Publishing Android Application

- Preparing application for publishing.
- Deploying APK Files.