



NEXOGEN SDC

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1. Introduction to Android

- Brief history of Android
- What is Android?
- Why is Android important?
- What benefits does Android have?
- What is OHA?
- Why to choose Android?
- Software architecture of Android
- Advantages of Android
- Android features
- Android market
- Comparing Android with other platform
- Terms and acronyms



2. Installation and Configuration of Android

- Details about the software requirement
- Download and installation process of Eclipse
- Download and installation process of JDK
- Installation of ADT plug-in for eclipse
- Download and installation process of Android SDK
- Configuration of ADT plug-in for Eclipse

3. Getting Started

- Step to create new project
- How to select Android version?
- Running Your Application
- Creation of New AVD
- Creating run configuration
- Creating your first Android activity
- List of basic sample programs

4. Introductions to Application Components

- Activities
- Services
- Broadcast receivers
- Content providers
- Intents
- Notifications

- Activating and shutting down
- Components
- Brief idea about manifest file
- Brief idea about activities and Task

5. Android Component Life Cycle

- Activity Life Cycle with sample program
- Service Life Cycle with sample program

6. Android Layouts

- What are Views, Layouts and there classification?
- How Android Draws views and Layout?
- Classification
- Table Layout In detail with Example
- Linear Layout In detail with Example
- Frame Layout In detail with Example
- Relative Layout In detail with Example
- Grid Layout In Detail with Example

7. Android Views

- Grid View In detail With Example
- List View In detail with Example
- Cont. Sub Topical Views
- Web View In detail with Example
- Spinner In detail with Example
- Gallery In detail with Example
- Google Map View In detail with Example
- Introduction to creating activity user interfaces with views
- Different ways of creating views Using xml

8. Styles and Themes

- Providing resources
- Different resource file location
- Providing alternative resources
- Android finds the best matching resource
- Accessing resources
- Accessing platform resources
- Handling runtime changes

9. Introduction to Menus

- How to create menus?
- Types of Android Application Menus
- Option Menu—(a) Icon and (b) Expanded - In detail with Example
- Context Menu In detail with example
- Sub Menu—In detail with example

10. Handling User Interaction Event

- Handling user events
- Different types of event listener
- `OnClick()`
- `OnLongClick()`
- `OnFocusChange()`
- `OnKey()`
- `OnTouch()`
- `OnCreateContextMenu()`
- Different types of event handler
- `OnKeyDown (int KeyEvent)`
- `OnKeyUp (int KeyEvent)`
- `OnTrackballEvent (MotionEvent)`
- `OnTouchEvent (MotionEvent)`
- `OnFocusChanged (Boolean, int, Rect)`



11. Creating Dialogs

- Introduction to dialogs
- Showing and dismissing of dialog boxes
- Alert dialog—In detail with example
- Progress dialog In detail with example
- Threading and handler
- Creating running applications—Events
- Creating running applications—Dialogs

12. Notifications

- Notifying Users
- Status bar Notification
- Toast Notification
- Dialog Notification

13. Intents, Broadcast Receivers, Adapters and Internet

- Different types of Intent
- Launching sub-activities
- What is intent filter
- Intent objects -In detail with example
- Using intents to take pictures
- Handling sub activity results

14. Data Storage

- Android techniques for data storage
- Creating and saving shared preferences
- Retrieving shared preferences
- Storing in files
- Loading from files
- Storing in databases

15. Working with SQLite

- Introducing SQLite database
- Working with Android databases
- Using SQLiteOpenHelper
- Cursors and content values
- Opening and closing Database

16. Working in Background

- Introducing services
- Creating and controlling services
- Registering a service in the manifest
- Starting controlling and interacting with a service

17. Using the camera, taking pictures and the media API

- Controlling the camera and taking pictures
- Playing audio and video
- Introducing the media player
- Preparing audio for playback
- Packaging audio as an application resource
- Initializing audio content for playback
- Preparing for video playback

- Playing video using the video view
- Setting up a surface for video playback
- Initializing video content for playback
- Supported video formats
- Controlling playback
- Managing media playback output
- Multimedia Supported audio formats
- Recording Audio and Video
- Using Intents to record Video
- Configuring and Controlling Video Recording
- Previewing Video Recording
- Reading and Writing JPEG EXIF Image Details
- Adding new media to media storage
- Using the Media Scanner
- Inserting Media into the Media Store
- Raw video manipulation
- Recording Sound with Audio Record
- Playing Sound with Audio Track
- Speech recognition
- Creating and Running and Testing

18. Maps, GEO coding and location based services

- Using Location Based Services
- Working with the location manager
- Configuring the Emulator to Test Location Based Services
- **Web Services**
 - JSON
 - XML
 - SAX

19. About ADB (Android Debug Bridge)

- DDMS: Dalvik debug monitor Service
- Trace View

20. Data security and permission

- Security Architecture
- User IDs and File Access
- Using Permissions
- Declaring and Enforcing Permissions

21. Drawing 2D and 3D Graphics

- Rolling your own Widgets
- Drawables
- Bitmaps
- Paint

22. Using Bluetooth and managing and Monitoring Wi-Fi

- Accessing the Local Bluetooth Device Adapter
- Managing Bluetooth Properties and State
- Managing Device Discoverability
- Discovering Remote Devices
- Monitoring Active Connection Details
- Scanning for Hotspots
- Managing Wi Fi Configurations
- Creating Wi Fi Network Configurations
- Device Vibration
- Controlling device vibration

Long Term Courses

- Android / IOS
- .NET (C# , ASP, VB)
- JAVA (Core /Adv.)
- PHP, MySQL
- Web Designing
- Web Designing
- E - Accounting
- H/W & Networking
- Tally.ERP, BUSY
- PL/SQL, ORACLE

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