Certified Android App Developer Certification Course Agenda

Lesson 0: Introduction

- Why Android?
- Key Advantages
- Course Overview
- Interesting Facts about this Course
- Evolution of Android Application Development
- Establishing the Need
- Market Trends and Predictions for Android Apps
- Objectives
- Course Breakdown

Lesson 1: Introduction to Android Development

- Installing Android SDK and Android studio
- Android Architecture
- Key Features of Android 6.0 Marshmellow
- Creating Android Project
- Simple App Demo to take input and say “hello + name”
Lesson 2: Android Activity and Intents

- Activity LifeCycles
- Intents, Passing data, Launching activities
- Supporting different devices
- Adding Action Bar
- Saving data

Lesson 3: Layouts and Controls

- Android Layouts
- Menus
- Input controls
- Settings
- Dialogs
- Toasts
- Drag and Drop

Lesson 4: List Views and SQLite

- List Views
- Loader
- Methods to manage SQLite database

Lesson 5: Services

- Bound services
- Creating a bound service
- Managing a lifecycle of bound service
- Communicating with remote service
Lesson 6: Content Providers

- Content provider basics
- Creating content providers
- Calendar provider
- Contact provider

Lesson 7: UI and Fragments

- Fragments
- Dynamic UI with Fragments
- Loaders
- Tasks and back stack

Lesson 8: Location and Sensors

- Getting a current location
- Using maps with location
- Location strategies
- Sensors overview
- Motion sensors
- Position sensors
- Environment sensors

Lesson 9: Multimedia Audio and video & camera

- Media playback
- Media router
- Media route provider
- Camera
Lesson 10: Introduction to Google Play

- Norms upload application
- Checklist

Lesson 11: Connecting Devices wirelessly

- Android Wireless APIs
- Network Service Discovery
- Registering the Service
- Discovering Services on Network
- Resolving a Service on the Network
- Unregistering a Service
- P2P Connections with Wi-Fi
- Wi-Fi P2P Connection Setup
- Wi-Fi P2P for Service Discovery

Lesson 12: Network Operations

- Connecting to the Network
- Sending a Request and Receiving a Response
- URL Connection
- Managing Network Usage
- XML Data
- Parsing XML
Lesson 13: Battery Optimization

- Optimizing Downloads
- Optimizing Downloads—Prefetching Data
- Minimizing Regular Server Updates

Lesson 14: Syncing with cloud/Server

- Syncing with Cloud
- Auto Backup in Android 6.0
- Supporting Older Versions of Android
- Sync Adapters
- Sync Adapters—Components
- Creating a Stub Authenticator
- Creating a Stub Content Provider
- Creating a Sync Adapter
- Creating Sync Adapter Class
- Create a Bound Service
- Create Sync Adapter XML Metadata File
- Declare Sync Adapter in Manifest
- Adding the Account
- Running the Sync Adapter
Lesson 15: Using Volley for Network Data interaction

- Volley—Introduction
- Getting Volley Library
- Using Volley
- Setting up a Network Queue
- Standard Requests
- Implementing Custom Request

Lesson 16: Building App for enterprise

- Android for Work
- Managed Profiles
- Compatibility with Managed profiles
- Testing Compatibility with Managed Profiles
- Android for work—Application Restrictions
- Implementing Externally Configurable Application Restrictions
- Defining Application Restrictions
- Reading Application Restrictions
- Device Policy Controller
- Creating a Managed Profile
Lesson 17: Google Play to distribute and monetize

- Selling In-App Products
- Preparing In-App Billing
- Creating In-App Products
- Query In-App Products
- Purchasing In-App Product
- Consuming In-App Purchased Product
- Testing In-App Billing Application
- Need for Multiple APKs
- Maintaining Multiple APKs

Lesson 18: Best practices for User Interface

- Adaptive UI Flows
- Handling Screen Configuration
- App Bar
- App Bar—Implementation
- Adding Actions
- Action Bar—Up Navigation
- Action Views
- Action Providers
- Snackbar
Lesson 19: Best practices for security & privacy

- Security and Privacy—Overview
- Storing Application Data in Files
- Storing and Sharing Application Data
- Using and Creating Permissions
- Security Tips for Networking
- Using HTTPS and SSL—Overview
- Using HTTPS and SSL
- Security with HTTPS and SSL
- Android Dynamic Security Provider

Lesson 20: Best Practices for Testing

- Test Project in Android Studio
- Android Application Testing—Overview
- Instrumentation—Overview
- Test Case Classes
- Assertion Classes and Mock Objects
- Running Tests and Getting Results
- Activity Testing
- Espresso for UI Testing
Lesson 21: Best Practices for User Input

- Detecting Common Gestures
- Detect and Handle Touch Gestures
- Tracking Movement
- Handling Multi-Touch Gestures
- Handling Drag or Scroll gesture
- Scaling
- Managing Events and Extending Touchable Area
- Handling Keyboard Input
- Handling Physical Keyboard Navigation

Lesson 22: Creating Wearable Apps

- Android Wear Introduction
- Android Wear User Interface principles
- Android Wear Application design principles
- Android Wear Application types
- UI Patterns for Android Wear - Cards
- UI Patterns for Android Wear - Pages
- UI Patterns for Android Wear - Action Buttons
- UI Patterns for Android Wear - Action Countdown and confirmation
- UI Patterns for Android Wear - Action on Cards
- UI Patterns for Android Wear - 2D Picker
- Building Android Wear Application
- Packaging Wearable Apps
• Wearable SDK limitations

Lesson 23: Custom UI for Wearables

• Defining Layouts
• Defining Layouts using WatchViewStub element
• Accessing Layout Views in WatchViewStub element
• Using Shape-aware layout
• Adding Cards
• Creating Lists
• Creating a 2D Picker
• Showing Confirmations
• Showing Confirmation timer
• Showing Confirmation animation
• Exiting full screen apps

Lesson 24: Adding wearable features

• Adding Wearable Features to Notifications
• Creating Notifications for Wearables
• Adding Buttons to Notifications
• Adding Big View to Notification
• Adding Wearable Features
• Receiving Voice Input in Notifications
• Receiving Voice Input as a String
• Adding Pages to the Notification
• Grouping Notifications
Lesson 25: Data Synching

- Accessing Wearable Data Layer
- Syncing Data Items
- Transferring Assets
- Sending and Receiving Messages
- Handling Data Layer Events

Lesson 26: Creating Watch Faces

- Designing Watch Faces
- Watch Face Design Considerations
- Building a Watch Face Service
- Drawing Watch Faces
- Showing Information in Faces
- Creating Interactive Watch Faces
- Providing Configuration Options
- Handling Miscellaneous Issue
- Optimizing Performance

Lesson 27: Location aware Android wear

- Location on Wear Device
- Getting Location on Android Wear
- Detecting On-Board GPS
- Handling GPS Location Disconnection Events
- Synchronizing Location Data with Handheld
Apps

✔ Stopwatch
✔ Simple Calculator App
✔ Location based Notification App
✔ Android Wear activity monitor app

Project

✔ Media Player App
✔ Weather App

For information on the course, visit: http://www.simplilearn.com/web-app-and-programming/android-app-development-training