



CAAD

Certified Android Application Developer

"Crafting Seamless Mobile Experiences: Elevate Your App with Expert Android Development"



COURSE CONTENT

Duration: 70 hours

Module 1: Introduction to Android Development

Introduction to Android

- Overview of Android OS
- History and Evolution
- Android Versions and Features

Setting Up the Development Environment

- Installing Android Studio
- Configuring the Android Emulator
- Setting up a Real Device for Development

Understanding Android Architecture

- Linux Kernel
- Android Runtime (ART)
- Application Framework
- Application Components

First Android App

- Creating a New Android Project
- Project Structure Overview
- Running Your First App

Module 2: Java/Kotlin Basics

Introduction to Java/Kotlin

- Syntax and Semantics
- Basic Programming Constructs

Object-Oriented Programming

- Classes and Objects
- Inheritance and Polymorphism
- Interfaces and Abstract Classes

Module 3: Android Fundamentals

Android Components

- Activities
- Intents
- Services
- Broadcast Receivers
- Content Providers

User Interface Design

- XML Layouts
- Views and ViewGroups
- Common UI Components (TextView, EditText, Button, etc.)
- RecyclerView and Adapters

Event Handling

- OnClickListener
- Touch Events

Resources and Assets

- String Resources
- Drawable Resources
- Layout Resources
- Accessing Assets

Module 4: Advanced UI Development

Material Design

- Principles of Material Design
- Using Material Components

Custom Views

- Creating Custom Views
- Custom ViewGroups

RecyclerView and Adapters

- Creating and Managing Lists
- Custom Adapters

Animations

- Property Animations
- View Animations
- Transition Animations

Navigation

- Navigation Components
- Fragment Management
- Deep Linking

Module 5: Data Storage and Management

SharedPreferences

- Storing Simple Data
- Retrieving Data

SQLite Database

- Database Creation and Version Management
- CRUD Operations
- Using SQLiteOpenHelper

Room Persistence Library

- Setting Up Room
- DAOs and Entities
- Database Migration

Content Providers

- Creating and using Content Providers
- Accessing Data from Other Apps

Module 6: Networking

HTTP and REST

- Understanding HTTP
- RESTful APIs

Networking Libraries

- Using Retrofit, Volley
- OkHttp for Network Operations

JSON Parsing

- Using Gson
- Manual Parsing

Background Tasks

- AsyncTask (deprecated)
- Using WorkManager
- JobScheduler

Module 7: Advanced Android Features

Multimedia

- Playing Audio and Video
- Capturing Photos and Videos
- Image Processing with Glide/Picasso

Location and Maps

- Using Google Maps API
- Location Services and GPS

Sensors

- Accessing Device Sensors
- Sensor-based Applications

Cloud Integration

- Firebase Realtime Database
- Firestore

Module 8: Performance Optimization and Security

Optimizing Performance

- Memory Management
- Battery Optimization
- Profiling Tools

RxJava and RxAndroid

- Reactive Programming Basics
- Using RxJava in Android

Security Best Practices

- Data Encryption
- Secure Communication (HTTPS)
- Implementing Authentication and Authorization
- Biometric Authentication

Module 9: Testing and Debugging

Testing Android Applications

- Unit Testing with Junit
- UI Testing with Espresso

Debugging Techniques

- Using Logcat
- Debugging Tools in Android Studio
- Crash Reporting and Analytics (Firebase Crashlytics)

Module 10: Google Play and App Distribution

Preparing for Release

- Code Signing
- ProGuard and R8

Google Play Store

- Creating a Developer Account
- Uploading and Publishing Apps
- Managing Updates

Monetization

- In-app Purchases
- Ads Integration (AdMob)

Module 11: Project-Based Learning

Mini Projects

- Simple Calculator App
- Weather App using Open API
- Note-taking App with Room

Capstone Project

- Planning and Designing a Full-fledged App
- Implementing Core Features
- Testing and Debugging
- Preparing for Release

About Expert



Snehal More

Lead Developer | +7 years Experience
Proficient in Java, Kotlin, Firebase, SQLite, & RESTful APIs

A skilled professional in delivering exceptional user experience and successfully launching multiple applications on the Play Store. Proficient in Java, Kotlin, Firebase, SQLite, and RESTful APIs, with a strong background in PHP development. Adept at full project life-cycle management, effective client communication, and an exceptional trainer providing enriched knowledge & known for practical based teaching.

ABOUT FOUNDER & CTO



www.rizwanonline.com

Rizwan Shaikh is a prominent figure in Information Security and Cyber Crime Consultancy, boasting 14 years of experience. Notable achievements include identifying vulnerabilities in SMS gateways and thwarting Cyberattacks. He's conducted workshops globally, training over 30,000 individuals. As a Cyber Security Researcher, he's uncovered critical vulnerabilities in major corporations and government portals, while also resolving Cyber Crime cases and advising organizations on secure cyber architectures.

Rizwan is the Founder and CTO of Pristine InfoSolutions Pvt. Ltd, specializing in Cyber Crime Investigations and Ethical Hacking. His mission is to create a safe Cyber world by protecting internet users from malicious hackers.



Achievements

1st

India's top cyber security company of the year 2014.

1000+

Websites been patched, made hack proof.

40000+

Students trained including corporate & college workshops.

150+

Corporate and educational clients.

2014

Awarded Top Most Cyber security Company in India in 2014 by Silicon India

2017

Awarded as fastest Growing tech Company-covers Story (2017) for Attaining the mammoth Of Success in the Shortest time Frame Possible.

2019

Awarded Training Institute of the year in 2019 by higher education Review.

2021

Honoured under "20 most Trusted Cyber security companies in India" By The Global Hues.

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