TECHNOCATION FREELANCING TRAINING INSTITUTE & SOFTWARE HOUSE

Professional React Native Course Outline

Module 1: Introduction to React Native

- What is React Native? Features & Advantages
- React Native vs. Native Development (Swift/Kotlin)
- Setting Up React Native Development Environment (Expo & React Native CLI)
- Understanding the React Native Architecture
- First React Native Application

Module 2: React Native Components & Styling

- Core Components (View, Text, Image, Button, ScrollView)
- Handling User Input (TextInput, Touchable Components)
- Styling with Flexbox & CSS in React Native
- Using Styled Components & Theme Management
- Working with React Native Paper & Material UI

Module 3: Navigation in React Native

- React Navigation vs. Native Navigation
- Setting Up Stack, Tab & Drawer Navigation
- Navigating Between Screens & Passing Parameters
- Handling Deep Linking & Dynamic Links
- Implementing Bottom Navigation with Custom Styles

Module 4: State Management in React Native

- Managing State with useState & useEffect
- Context API for Global State Management
- Redux Toolkit for Large-Scale State Management
- Handling Asynchronous Data with Redux Thunk & Redux Saga
- Using Recoil & Zustand for Lightweight State Management

Module 5: Handling Forms & User Input

- Controlled vs. Uncontrolled Inputs in React Native
- Form Handling with React Hook Form
- Input Validations & Error Handling
- Implementing Multi-Step Forms

Module 6: API Integration & Data Fetching

- Fetching Data with Fetch API & Axios
- Handling API Requests & Responses
- Implementing Pagination & Infinite Scroll
- Error Handling & Loading States
- Offline Data Storage with AsyncStorage & SQLite

Module 7: Authentication & Security

- User Authentication with Firebase Auth
- JWT Authentication with React Native
- OAuth (Google, Facebook, Apple Login)
- Biometric Authentication (Face ID, Fingerprint)
- Securing API Requests & User Data

Module 8: Working with Native Features

- Accessing Device Camera & Media Files
- Using Geolocation & Maps in React Native
- Push Notifications with Firebase Cloud Messaging (FCM)
- Working with Background Tasks & App Permissions

Module 9: Performance Optimization & Debugging

- Optimizing Images & Caching Strategies
- Debugging with React Native Debugger & Flipper
- Reducing App Size & Memory Usage
- Handling Performance Bottlenecks in React Native

Module 10: Testing & Quality Assurance

- Unit Testing with Jest & React Native Testing Library
- End-to-End Testing with Detox
- Debugging React Native Applications
- Handling App Crashes & Logging

Module 11: Deployment & Publishing Apps

- Building & Deploying Apps to Google Play Store & Apple App Store
- Setting Up CI/CD for Automated Builds (Fastlane, GitHub Actions)
- Managing App Permissions & Configurations
- Handling App Updates & Code Push with Microsoft App Center

Module 12: Final Project & Certification Preparation

- Building a Real-World React Native Application
- Best Practices for Scalable & Maintainable Code
- Preparing for React Native Certification
- Career Paths in React Native Development