COURSE TABLE OF CONTENTS

Ionic Capacitor Fundamentals

OEM: Ionic • Duration: 3 Days (24 hrs)

COURSE MODULES & TOPICS

Module 1: Hybrid App Landscape and Capacitor Overview

- Ionic, Capacitor, Cordova, native WebView comparison
- Capacitor architecture: web layer, bridge, native projects
- Capacitor configuration with capacitor.config

Module 2: Setting Up the Ionic Development Environment

- Install toolchain and create an Ionic app
- Run app in browser
- Add Android and iOS platforms
- Capacitor sync, run, and live reload on device

Module 3: Building Ionic User Interfaces

- Ionic UI toolkit: layout, lists, forms, modals, action sheets
- Platform-adaptive styles and theming with CSS variables
- Navigation, routing, tabs, and dark mode

Module 4: Developing a Multi-Screen App

- Build a multi-screen notes app UI
- Implement navigation and theming
- Run app on device or emulator

Module 5: Capacitor Plugins and Permissions

- Plugin model and official plugins overview
- Handling permissions on Android and iOS

Module 6: Accessing Native Device Features

- Camera and Filesystem: capture, save, display photos
- Geolocation, Haptics, Share, and Network status

Module 7: Data Persistence and Offline Storage

- Preferences and SQLite basics
- Offline-first data patterns

Module 8: App Lifecycle and Device Integration

- App lifecycle events and back button handling
- Keyboard, status bar, and splash screen management

Module 9: Notifications Overview

- Push notifications overview
- Local notifications demo

Module 10: Creating Custom Capacitor Plugins

- Build a custom Capacitor plugin

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- TypeScript API, Android and iOS stubs

Module 11: Debugging and Troubleshooting

- Debug with Chrome DevTools and Safari Web Inspector
- Use Android Studio logcat and Xcode console

Module 12: Native Project Configuration

- Configure icons and splash screens
- Edit manifests and Info.plist
- Set up deep links

Module 13: Performance and Security Considerations

- Optimize bundle size and WebView performance
- Implement secure storage and network security

Module 14: Building and Releasing Apps

- App signing and AAB/IPA generation
- Store submission checklist
- CI/CD overview

Module 15: Capstone Project and Assessment

- Finalize and demo app with native features
- Course assessment and next steps