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Sign up

Ionic training with Capacitor and Angular

3 days (21 hours)

Overview

Our training course introduces you to Ionic with Capacitor and Angular, a powerful solution for developing high-performance hybrid mobile applications. By combining Angular for application structure, Ionic for native UI components and Capacitor for access to phone features, you can create robust cross-platform applications, suitable for Android and iOS, with a single code base.

Our Ionic with Capacitor and Angular training course will enable you to master the creation of mobile interfaces with Angular/Ionic, the integration of native functionalities via Capacitor, local data management, testing and deployment on stores. You'll learn how to structure your projects and industrialize your developments using Angular best practices.

At the end of the course, you'll be able to design, develop and publish professional hybrid applications with Angular, while taking advantage of the latest features of Ionic and Capacitor.

Like all our training courses, this one uses the latest stable versions of the Ionic Framework, Angular and Capacitor tools.

Objectives

- Master the creation of hybrid mobile apps with Ionic/Angular
- Use Capacitor to access native functionalities
- Manage data storage and synchronization
- Set up CI/CD tests and pipelines
- Deploy an app on Google Play and App Store

Target audience

- Angular developers
- Mobile developers
- Application architects

Prerequisites

- Solid knowledge of Angular
- Basic knowledge of TypeScript and HTML/CSS
- Notions in mobile development appreciated

Ionic with Capacitor and Angular training program

[Day 1 - Morning]

Introduction to Ionic and Capacitor with Angular

- Presentation of the Ionic framework and Capacitor
- Angular + Ionic app architecture
- Differences with Cordova and other hybrid solutions
- Advantages of an Angular stack for mobile applications
- Demonstration of a typical application
- Practical workshop: Creating an Ionic + Angular project with Capacitor.

[Day 1 - Afternoon]

Angular basics applied to Ionic

- Reminders: components, modules, services
- Angular lifecycle and adaptation to mobile applications
- Managing templates and data binding
- Using RxJS and observables
- Code organization for a hybrid project
- Practical workshop: Building a first Angular/Ionic screen.

UI components and Ionic navigation

- Discovering Ionic UI components
- Navigation with Angular Router (stack, tabs)
- Theming and CSS variables
- Managing dark mode
- Optimization for mobile UX
- Practical workshop: Setting up a multi-page app.

[Day 2 - Morning]

Capacitor: native integration and plugins

- Capacitor architecture
- Official plugins: Camera, Filesystem, Geolocation
- Creating custom plugins
- Android Studio & Xcode configuration
- Differences between Capacitor and Cordova
- Practical workshop: Camera integration and image management.

[Day 2 - Afternoon]

Data storage and management

- Local storage with Storage API and SQLite
- Offline-first synchronization
- REST and GraphQL API consumption
- Local data security
- Persistence and caching strategies
- Practical workshop: Saving and reading local data.

Access to advanced native functions

- Push notification management
- Access to sensors (geolocation, biometry, gyroscope)
- Integration with contacts and system files
- Communication with native Android/iOS services
- Troubleshooting and native debugging
- Practical workshop: Adding push notifications.

[Day 3 - Morning]

Testing and

debugging

- Angular unit testing in an Ionic context
- Debugging with Chrome DevTools and simulators
- End-to-end testing with Cypress or Protractor
- Best practices for debugging Capacitor
- CI/CD strategies for hybrid apps
- Practical workshop: Writing and executing E2E tests.

[Day 3 - Afternoon] Multi-platform

deployment

- Compiling for Android and iOS
- Configuring and signing apps
- Publication on Google Play and App Store
- Performance optimization (lazy loading, tree-shaking)
- DEV/PROD environment management
- Practical workshop: Compiling the Android application and testing it in an emulator.

Best practices and industrialization

- Scalable project architecture with Angular/Ionic
- Using a monorepo
- Capacitor dependency management
- OTA (over-the-air) updates
- Capacitor + Angular roadmap
- Practical workshop: Structuring a complete production-ready app.

Companies concerned

This course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced IT technology, or to acquire specific business knowledge or modern methods.

Positioning on entry to training

Positioning at the start of training complies with Qualiopi quality criteria. As soon as registration is finalized, the learner receives a self-assessment questionnaire which enables us to assess his or her estimated level of proficiency in different types of technology, as well as his or her expectations and personal objectives for the training to come, within the limits imposed by the selected format. This questionnaire also enables us to anticipate any connection or security difficulties within the company (intra-company or virtual classroom) which could be problematic for the follow-up and smooth running of the training session.

Teaching methods

Practical training: 60% hands-on, 40% theory. Training material distributed in digital format to all participants.

Organization

The course alternates theoretical input from the trainer, supported by examples, with brainstorming sessions and group work.

Validation

At the end of the session, a multiple-choice questionnaire verifies the correct acquisition of skills.

Certification

A certificate will be awarded to each trainee who has completed the entire course.