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MAUI Training: .NET Mobile & Multi-Platform Apps

4 days (28 hours)

Presentation

[.NET MAUI](#) is a cross-platform framework for creating native applications for iOS, Android & Windows. It is the natural evolution of Xamarin.Forms (which continues to be used during the editor's transition phase).

Wanting to make mobile application development more accessible. The aim of .NET MAUI is to simplify development through a native cross-platform user interface included in a project within Visual Studio.

The program not only improves application performance, but also resource management (thanks to the use of a single project). This modern programming method is also much more enjoyable (Mvvm, RxUI, etc.).

Finally, thanks to .NET MAUI Blazor, it will be possible to host Blazor components in a .NET MAUI application, offering a new approach to creating hybrid applications: sharing components between a Blazor application and .NET MAUI Blazor.

Thanks to our cross-platform .NET MAUI training course, you'll explore the world of development with .NET MAUI and master the design of native mobile applications as well as its technical specifics, all based on concrete case studies through the creation of several mobile applications from A to Z.

OBJECTIVES

- Building cross-platform applications with .NET MAUI
- Develop robust, high-performance, cross-platform mobile applications
- Managing platform specificities
- Mastering application deployment
- Migrating from Xamarin.Forms to .NET MAUI

TARGET AUDIENCE

- .NET developers
- Mobile application developers
- Computer engineers
- IT analysts and consultants

PREREQUISITES

- Good knowledge of the .NET and C# environment

SOFTWARE PREREQUISITES (IN THE CASE OF INTRA-COMPANY PROJECTS)

- Latest OS updates (Mac)
- The latest versions of Visual Studio (including on Mac)
- Xcode updated (on the Mac)
- Visual Studio Code
- Updated Android SDKs

Program of our MAUI training course: .NET Mobile & Multi-Platform Apps

PRESENTATION OF THE .NET MAUI FRAMEWORK

- What is MAUI?
- What is its purpose?
- MAUI's advantages over other cross-platform frameworks
- Installing MAUI
- Reminder of XAML and C# languages
- Development tools

Differences between MAUI and Xamarin

- The basic structure of two projects
- Shared project/unique project
- Access to emulators and devices
- Sharing project resources
- Access to specific platforms

Migrate your Xamarin Forms apps to .NET MAUI

- How to use the .NET 6 wizard
- Change space/name/code
- Update dependencies
- Registering compatibility services

Building a .NET MAUI project

- Outbuilding installation
 - Discover dotnet tool
 - Find and solve problems with dotnet tool
- Developing an application with Visual Studio Code
- Creating a .NET MAUI application
- Programming in C# and XAML
- Start your application with Host Builder
- Combining .NET with Blazor
- Cross-platform development

Performance enhancement

- Control and properties
- Native integration enhancements
- Platform lifecycle events
- Application life cycle
- SwipeView
- Mobile SDK update

New application models

- Model-View-Update
- MVVM and XAML models
- Reactive UI

MAUI architecture

- Architectural enhancements
- Generic Host Builder
- Dependency injection
- MVVM support
- Manager model
- Manager registration

- User interface control
- Decoupling platform controls from the framework

Xamarin Forms

- Management in XAML
- Implementing MVVM in the MAUI project
- Platform specifics via XAML

Layout problems

- Types of problems in the application
- Show image
- Solving the number problem
- StackLayout vs VerticalStackLayout

Xamarin forms libraries

- Xamarin.Forms
- Xamarin.Essentials
- Evolution in .Net MAUI
 - System.MAUI
 - System.Devices
 - .NET libraries
 - APIs and enhancements
 - System.Text.JSON
 - Cycle creation

Companies concerned

This course is aimed at both individuals and companies, large or small, wishing to train their teams in a new advanced computer 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 course: 60% Practical, 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.

Sanction

A certificate will be issued to each trainee who completes the course.