

Updated 04/11/2024

Sign up

Xamarin training

4 days (28 hours)

Presentation

Xamarin is the "Cross Platform" mobile technology of the moment. Acquired in February 2016 and powered by Microsoft teams, its SDK is now open source.

In this course, you'll learn how to create a fast, cross-platform Mobile App: Android, iOS, Windows Phone. We'll give you an overview of its ecosystem, with a special focus on Forms, Natives and XAML.

As with all our training courses, this one will introduce you to all the latest stable versions of the Xamarin ecosystem, at the time of writing: [Xamarin Forms 5](#) for [Visual Studio 2022 17](#) and [Visual Studio 2022 for Mac](#).

Objectives

- Mastering the Xamarin Framework with Visual Studio
- Understand the concept of developing a Xamarin.Forms mobile application
- Be able to build multi-device applications
- Implement mobile architecture using the MVVM pattern
- Understanding the differences between all mobile platforms
- Be able to choose between Xamarin Native and Forms for a project
- Develop iOS on Windows with the MAC builder
- Make mobile interfaces "responsive" to different screen sizes
- Creating graphic components for mobile interfaces
- Leave with ready-to-use code
- Manage deployment
- How to test an application
- Manage access to local and remote data

Target audience

- Developers for mobility projects

- Lead Developer
- Mobility project managers

Prerequisites

Good knowledge of the .NET and C# environment

Software prerequisites (in the case of intra-company training)

- Latest OS updates (Mac)
- Xcode updated (on the Mac)
- Visual Studio Code
- Android SDK updated
- Microsoft previews [live editing functionality](#) (for XAML only, Xamarin.Forms approach)
 - I highly recommend it so you won't be frustrated when we do the TPs :-)

Pre-course reading recommendations

- I recommend [Kym Phill Pots' blog](#), which does some pretty interesting stuff and shows that there are no limits to what pretty apps you can make using Xamarin!
- Asynchronous programming (async await) & best practices
- HTTP clients and best practices ([John Thiriet](#) talks about this in his blog)
- Dependency injection & other Xamarin tips & tricks in [James Montemagno's](#) blog
- What's new in [C# 8](#). Take a look at what's new from 6 to 8.

Xamarin training program

XAMARIN FRAMEWORK PRESENTATION

- Introduction to mobile application development techniques
- Overview of the mobile technology ecosystem
- Best practices on mobile
- Xamarin and available platforms
- Xamarin.Forms integration in Visual Studio
- Installing and configuring emulators
- Structure of a Xamarin application

XAMARIN ANDROID

- Lifecycle of an android application
- Graphical interface editor

- The various graphics components
- Component/code interaction
- Using dynamic assets/static resources

XAMARIN IOS

- Pure navigation with Storyboard
- Graphics components
- Interaction with the code
- ViewController association in the storyboard
- XIB vs Storyboard

XAMARIN FORMS

- XAML LANGUAGE
 - Introduction to XAML for mobile interfaces
 - Language extensions (Markup Extensions)
 - Styles and resources
 - XAML interactions with C# code
 - Platform specifics via XAML
 - Introduction and implementation of the MVVM pattern
 - Data link

GRAPHIC INTERFACE TYPES

- Interface architecture overview (Pages)
- Layout control types
- Type of controls for view development
- Element types (Cells)
- Graphic layouts and Responsive Design
- Application lifecycle
- Incorporating native views into XAML

NAVIGATION IN MOBILE APPLICATIONS

- Setting up a navigation infrastructure
- Cell types and ListView control
- Image and bitmap carousel
- WebView and BoxView controls
- Gestures and special features

DATA ACCESS

- Using C# 10.0 and Visual Studio 2022
- Read and write operations
- SOAP Web services and REST Web services

- Data parser with JSON.Net

PLATFORM SPECIFICITY

- Specificities of Android, UWP and iOS platforms
- DependencyService
- Multimedia capture (sound, image and video)
- Geolocation

TESTING & DEPLOYMENT

- Application localization and languages
- Security
- Xamarin Test Cloud
- Deploying applications to stores

CUSTOMIZING XAMARIN FORMS COMPONENTS

- CustomRenderers, or how to customize everything in Xamarin Forms
- How to use Effects to simplify component customization
- Design your own components with SkiaSharp

XAMARIN FORMS - ADVANCED USE

- Structure of a Forms project
- Comprehensive presentation of graphic components
- Interface editor with Previewer
- Using VisualState Manager
- How to use triggers to simplify the modification of visual properties
- Displaying collections of UI elements with FlexLayout + BindableLayout
- Understanding Behavior to facilitate use of the MVVM pattern
- Easy access to hardware functions via Xamarin Essentials
- Using CSS on Xamarin Forms components
- Designing a "Repeater" when the ListView is unsuitable
- Databinding + Command: Interface data binding with action!
- Dependency Service: How to call a platform-specific service

TO FIND OUT MORE

- Easy push notifications with Azure Notification Hubs
- Testing your application
- Code sharing: Shared Project vs PCL
- Use of external libraries/components
- Memory management (Xamarin AppCenter / Xamarin Profiler)
- Mac OS and/or Universal Apps integration
- Continuous integration solutions

- Typical architecture of a Xamarin Forms application
- List of commonly used libraries

Flutter training

React Native training

Ionic training

Companies concerned

This training 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.

[Training Program Web page](#) - Appendix 1 - Training sheet

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