

Xamarin Mobile Development

Audience Course Xamarin Mobile Development

The <u>Xamarin</u> Mobile Development course is intended for developers who want to use the Xamarin Framework to create cross-platform mobile apps for iOS, Android and Windows.

Prerequisites course Xamarin Mobile Development

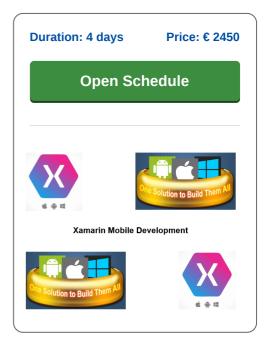
To participate in this course knowledge and experience with programming in C# or Java is required. Experience with Visual Studio and Mono for Android is desirable.

Realization Training Xamarin Mobile Development

The theory is discussed on the basis of presentations and is interchanged with exercises. Illustrative demos are used to clarify the concepts. Course times are from 9.30 to 16.30.

Certification Xamarin Mobile Development

After successful completion of the course participants receive an official certificate Xamarin Mobile Development.



Content Course Xamarin Mobile Development

In the course Xamarin Mobile Development participants learn to create cross-platform apps with the Xamarin Framework, the .NET framework and C#.

Xamarin Intro

With Xamarin native apps are developed for Android and iOS devices based on a shared code base in <u>C#</u>. Apps built with Xamarin use standard native user interface controls that not only look like the user expects, but also behave that way.

Xamarin Development

Xamarin apps can access the full API of the underlying platform including platform specific things such as Augmented Reality Kit from Apple and Android Multi-Window mode. In addition apps developed with the Xamarin Framework platform use specific hardware acceleration and are compiled to native code resulting in optimal performance.

Xamarin.Forms

The course starts with an introduction to the Xamarin tooling such as device emulators and the integration in Visual Studio. Next attention is paid to the principles of Cross Platform Development with App Navigation techniques, Xamarin. Forms and Portable Class Libraries. Markup in XAML, the various User Interface elements and layout options are also discussed.

Data Binding

Then the MVVM Architecture, the use of App lifecycle events and the data binding between user interface elements and the underlying code are treated. Page navigation is also covered here.

Triggers and Behaviors

Triggers and Behaviors are also part of the course program. Triggers allow you to declaratively specify actions in XAML that will be executed when certain conditions are met. Behaviors allow functionality to be added to User Interface Controls without subclassing them.

REST API Integration

Attention is also paid to the integration of REST services for displaying and changing data via remote calls from a device. Additionally asynchronous calls with the async and await mechanism are covered.

Database Access

Also part of the course is data access with a local SQLite data source. Finally dependency injection is treated and a number of advanced topics such as messaging and the Xamarin. Forms shell are discussed.

Tel.: +31 (0) 30 - 737 0661

Zwo



Modules Course Xamarin Mobile Development

Module 1 : Xamarin Intro	Module 2 : Xamarin Development	Module 3 : XAML Markup
What is Xamarin?	Xamarin Development	XAML Markup
Xamarin extends .NET	Visual Studio Integration	XAML Anatomy
Cross Platform Development	C# versus F#	Code Behind Files
Xamarin Features	App Class and Main Page	XAML Layouts
Xamarin Architecture	Android SDK and iOS SDK	XAML Tags
Xamarin Advantages	Android Emulators	XAML Attributes
MVVM Architecture	iOS Emulators	Property Elements
iOS API Coverage	Shared Project	Attached Properties
Android API Coverage	Xamarin Android	Markup Extensions
Xamarin Installation	Xamarin iOS	Shared Resources
NuGet Package Management	Real Device Connections	x:Static Extension
Module 4 : Xamarin Forms	Module 5 : App Lifecycle	Module 6 : Data Binding
Xamarin Controls	Lifecycle Methods	Bindable Infrastructure
Buttons and Labels	OnStart	MVVM Architecture
Entry Control	OnSleep, OnResume	BindableProperty and BindingBase
Editor Control	Page Navigation Events	LINQ Expression Object
Stacks and Grids	PageAppearing	BindingContext
Tab Pages	PageDisappearing	Binding Modes
CollectionView	Modal Navigation Events	SetBinding Method
ListView	ModelPushed, ModelPopped	INotifyPropertyChanged
ItemsSource	ModalPushing, ModelPopping	IValueConverter
Popups	Android Activity Lifecycle	x:Reference Binding
Custom Renderers	iOS Lifecycle	Binding Markup Extension
Module 7 : Page Navigation	Module 8 : Triggers and Behaviors	Module 9 : Database Access
Start Pages	Trigger Objects	Using SQLite in Android
Back Button Navigation	PropertyChanged Handler	Using SQLite in iOS
Modal Pages	Trigger Actions	SQLite and ORM
Modeless Pages	EventTriggers	SQLite Packages
PushAsync	ScaleUpAndDownAction	Using External Storage
PushModelAsync	Data Triggers and MultiTriggers	Synchronization to Cloud
Navigation Bar	Combining Conditions Behaviors	iOS location Manager Classes Using Maps op iOS
Task Objects		Using Maps on Android
PopAsync	BehaviorEntryValidation Behaviors with Properties	Translate Location Coordinates
PopModalAsync Dynamic Page Generation	Responding to Taps	Tracking Applications
Module 10 : Rest API Access	Module 11 : Dependency Injection	Module 12 : Advanced Topics
Public REST API	Inversion of Control	Messaging
Resource ID's	Dependency Service	Publish and Subscribe
Standard Methods	loC container	Loose Coupling
	Native Code Access	Scalability
Data Contracts	I Native Code Access	
	Platform Agnosticity	Mossaging Contor
Building proxies	Platform Agnosticity	Messaging Center
Building proxies Asynchronous patterns	Platform Registration	Unsubscribe
Building proxies Asynchronous patterns Async and await	Platform Registration Platform Resolution	Unsubscribe Xamarin.Forms Shell
Building proxies Asynchronous patterns Async and await REST in Android	Platform Registration Platform Resolution Interface Implementations	Unsubscribe Xamarin.Forms Shell Shell Navigation
Building proxies Asynchronous patterns Async and await	Platform Registration Platform Resolution	Unsubscribe Xamarin.Forms Shell