

# Xamarin.Forms Syllabus

**Overview:** Xamarin is a cross-platform development tool. It solves dilemmas many developers face when developing cross-platform apps: separate coding languages and UI paradigms. With Xamarin, you can use C# for iOS, Android, and Universal Windows apps. And with Xamarin Forms, interface design for all three platforms can be accomplished within its XAML-based framework.

## Course Objectives

- ❖ Understand and implement the Xamarin Forms Development KIT
- ❖ Utilize Xamarin Studio for developing cross-platform Native Apps for Android and iOS
- ❖ Understand the Xamarin functionality for designing the User Interface of the app
- ❖ Creating and managing fragments and specialized fragment classes
- ❖ Integration of Camera API and location/maps functionality
- ❖ Deploy and publish apps on the store

## Pre-requisite / Target Audience:

- ❖ Basic knowledge on programming language C#.
- ❖ Basic knowledge on WPF is added advantage.

## Module 1:- Introduction to Xamarin.Forms

Xamarin.Forms is a framework that allows developers to rapidly create cross platform user interfaces. It provides it's own abstraction for the user interface that will be rendered using native controls on iOS, Android, Windows, or Windows Phone.

- ❖ What Is Xamarin Forms?
- ❖ Cross-platform mobile development
- ❖ Xamarin vs. Xamarin.Forms
- ❖ Developing Environment
  - Visual Studio
  - Xamarin studio

## Module 2:- First Application on Xamarin.Forms

This module talks about how to create xamarin project step by step, difference between Shared project and PCL solution and Activity LifeCycle and how deploy the App in the Emulator

- ❖ Cross-platform options

- Shared Projects
- PCL Solution
- ❖ Activity Lifecycle

### Module 3:-Controls

This section serves as a reference showing many of the UI controls available for use with Xamarin.Forms. In this module, you can learn about the controls for designing the GUI in detail. These are the basic fundamentals that everyone should learn.

- ❖ Pages
  - ContentPage
  - Navigation Page
  - Tabbed page
  - master-details
  - carouselPage
- ❖ Layouts
  - The Kinds and Purposes of Layouts
  - StackLayout
  - RelativeLayout
  - AbsoluteLayout
- ❖ Views
- ❖ cells

### Module 4:-XAML

XAML is a declarative markup language that can be used to define user interfaces. The user interface is defined in an XML file using the XAML syntax, while runtime behavior is defined in a separate code-behind file.

- ❖ XAML Basics
- ❖ XAML Compilation
- ❖ XAML Namespaces

### Module 5:-user Interface

In this section we have many user interfaces available for the use with Xamarin.Forms. In this module you are going to learn how to work with different user interfaces

- ❖ Navigation

- ❖ Styles
  - Introduction
  - Explicit Styles
  - Implicit Styles
  - GobalStyles
- ❖ ListView
- ❖ Maps

### Module 6:-Themes

Xamarin.Forms Themes were announced at Evolve 2016. A theme is added to a xamarin.Forms application to change the look and feel of the application.This module will help you learn different Themes , control Apperance and Style Css .

- ❖ Light Theme
- ❖ Dark Theme
- ❖ Creating a Custom Theme

### Module 7:- Database Access

Xamarin.Forms applications can use the SQLite.NET PCL NuGet package to incorporate database operations into shared code by referencing the SQLite classes that ship in the NuGet.This module deals with how to connect to SQLite Database and how to store data permanently with a neat Employee example.

### Module 8:-Webservices

To function correctly, many mobile applications are dependent on the cloud, and so integrating web services into mobile applications is a common scenario. The Xamarin platform supports consuming different web service technologies, and includes in-built and third-party support for consuming RESTful, ASMX, and Windows Communication Foundation (WCF) services.

- ❖ Consuming Rest Service
- ❖ Working with network resources like HTTPs, JSON, Cloud Services

### Module 9:- App Deployment

This Module gives an overview of the distribution techniques that are available for Xamarin.iOS,Xamarin.Android applications and serves as a pointer to more detailed documents on the topic..Through this module you will learn how to generate .apk(android) ,ipa(iphone) app and how to deploy Android app in Google Playstore and Iphone app in Apps store .

**Module 10:-Xamarin UI Test and Xamarin Test cloud**

Xamarin.UITest, an Automated UI Acceptance Testing framework based on Calabash that allows programmers to write and execute tests in C# and NUnit that validate the functionality of iOS and Android Apps.

Mobile users are perhaps among the most demanding consumers of software today – they expect mobile apps to be responsive, bug free, and low cost. Apps that don't meet this expectation will be promptly uninstalled and given a very low rating.

**At the end of the course participants will be able to**

1. Build native mobile apps for Android, iOS and Windows using C#
2. Understand the fundamentals of Xamarin Forms and its architecture
3. Build user-interfaces with XAML and code
4. Work with images
5. Present data in beautiful, interactive lists
6. Implement multi-page apps with navigation, tabs, master/detail pages
7. Build forms and setting pages
8. Store and retrieve data from a variety of sources (file system, SQLite database and RESTful services)
9. Implement Model-View-ViewModel (MVVM) architectural pattern