

XAMARIN CORPORATE TRAINING AGENDA

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Hardware and Software requirements:

For hands on lab, client must have installed software machines. And it will also be helpful for time saving

Software:

- Visual Studio 2015 Community Update 3 or later (**VS 2019 Recommended**):
<https://visualstudio.microsoft.com/vs/older-downloads/>
- Step by Step Installation guidance for Windows Machines
<https://docs.microsoft.com/en-us/xamarin/get-started/installation/?pivots=windows>
- Step by Step Installation guidance for Mac Machines
<https://docs.microsoft.com/en-us/visualstudio/mac/installation?view=vsmac-2019>

Supported operating systems

- Mac OS X
- Windows OS (**Windows 10 Recommended**)

Hardware requirements (Windows)

- 1.6 GHz or faster processor
- 1 GB of RAM
- 4 GB of available hard disk space

Additional requirements (Windows)

For emulator support, required a processor that supports Client Hyper-V and Second Level Address Translation (SLAT) is also required.

Corporate training agenda:

Day 1	
Xamarin Introduction	
1. Xamarin Introduction	<ul style="list-style-type: none"> ✓ Mobile app development approaches ✓ Software & Hardware Requirements ✓ Programming for Xamarin ✓ Why C# is the best fit? ✓ Guidelines for Xamarin setup ✓ Xamarin Native vs Xamarin.Forms
Xamarin.Forms	
2. Create your first Xamarin.Forms app	<ul style="list-style-type: none"> ✓ Select your project template. ✓ Better to choose git versioning ✓ Target Platform (Android/iOS /Windows). ✓ Project Structure ✓ App Startup & Life Cycle. ✓ Live Demo
3. Debug and Testing app	<ul style="list-style-type: none"> ✓ Select Project to Run. ✓ Build Configurations ✓ Select Emulator/Device ✓ Bundle Identifier signing. ✓ Create Binaries (.APK, .IPA). ✓ Live Demo
4. XAML vs C# Code	<ul style="list-style-type: none"> ✓ Xaml Structure ✓ Naming Elements ✓ Page level events (OnAppearing, OnBackButtonPressed..etc.) ✓ Access UI elements from Code ✓ Create UI from Code ✓ Events ✓ Live Demo
5. Xamarin.Forms Pages	<ul style="list-style-type: none"> ✓ ContentPage. ✓ MasterDetailsPage ✓ NavigationPage ✓ TabbedPage ✓ CarouselPage ✓ Live Demo
6. Xamarin.Forms Layouts	<ul style="list-style-type: none"> ✓ Layouts with Single Content (ScrollView,Frame..etc.) ✓ Layouts with Multiple Childrens (StackLayout, Grid..etc.) ✓ Live Demo

Xamarin - Corporate Training (5 days)

7. Xamarin.Forms Controls	<ul style="list-style-type: none">✓ Views for presentation (BoxView, Label..etc.)✓ Views that initiate commands(Button..etc.)✓ Views for setting values (CheckBox, Slider.etc)✓ Views for editing text (Entry, Editor..etc.)✓ Views to indicate activity (ActivityIndicator, Progress Bar ..etc.)✓ Views that display collections (ListView, CollectionView, Picker..etc.)✓ Live Demo
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Day 2

8. Page Navigations	<ul style="list-style-type: none">✓ Navigation between pages✓ Different options for Passing data✓ Live Demo
9. Custom renderer	<ul style="list-style-type: none">✓ Why Custom Renderers are Necessary?✓ Creating a Custom Renderer Class✓ Renderer Base Classes and Native Controls✓ Live Demo
10. Dependency Service	<ul style="list-style-type: none">✓ Introduction✓ Registration and Resolution✓ Live Demo
11. Styles	<ul style="list-style-type: none">✓ Xaml Styles✓ Cascading Style Sheets Support✓ Working with different Styles✓ Live Demos
12. DataBinding	<ul style="list-style-type: none">✓ Databinding Basics✓ View-to-View Bindings✓ String Formatting Binding✓ Binding Path✓ Relative Bindings✓ Binding Fallbacks✓ Multi-Bindings✓ EventToCommand Behavior✓ Compiled Bindings✓ Native Bindings✓ Live Demos
13. ListView & CollectionView	<ul style="list-style-type: none">✓ Creating ListView, CollectionView✓ Clearing the Current Selection✓ Using ListView with Linq✓ Displaying a Custom Class in a ListView✓ ListView Binding✓ Multiline Display with TextCell✓ Live Demos

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14. MVVM	<ul style="list-style-type: none">✓ The MVVM Pattern✓ Connecting View Models to Views✓ Refer a View Model Declaratively and Programmatically✓ View Model Locator Advantage✓ UI Interaction using Commands and Behaviors✓ Live Demo
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Day 3

15. Triggers	<ul style="list-style-type: none">✓ Introduction✓ Working with different triggers✓ State triggers✓ EnterActions and ExitActions✓ Applying a trigger using a style✓ Live Demos
16. Behaviors	<ul style="list-style-type: none">✓ Creating Custom behavior✓ Attached behavior✓ Consuming a Xamarin.Forms Behavior with a Style✓ Live Demos
17. Converters	<ul style="list-style-type: none">✓ Create a converter class✓ Refer the converter in XAML✓ Binding Converter Properties✓ Binding Converter Parameters✓ When to use Converters vs Triggers✓ Live Demos
18. Custom Controls	<ul style="list-style-type: none">✓ Creating the Custom Control✓ Consuming the Custom Control✓ Custom Control with Custom Renderer✓ Live demo
19. Xamarin.Essentials	<ul style="list-style-type: none">✓ Introduction✓ Network Check✓ Application Properties✓ Calls/Emails✓ Permissions in Android and iOS✓ Launcher✓ File Picker✓ Version tracking✓ Secure Storage✓ Live Demo
20. Popular Opensource 3rd Party DLLs	<ul style="list-style-type: none">✓ Best Practices to use DLL✓ Rg.Plugins.Popup✓ Xamarin.FFImageLoading.Forms✓ Lottie Animations✓ Flexible ContextView✓ Plugin.Multilingual for Localization✓ Live Demo
21. File System	<ul style="list-style-type: none">✓ Accessing File System✓ Reading and Writing to Files✓ PDF viewers✓ Live Demo

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22. App center Analytics	<ul style="list-style-type: none">✓ Creating iOS App in App Center✓ Creating Android App in App Center✓ Tracking Analytics✓ Tracking Crashes✓ Live Demo
23. Azure DevOps	<ul style="list-style-type: none">✓ Creating iOS Pipeline✓ Creating Android Pipeline✓ Running pipelines✓ Deploy Pipeline builds to app center✓ Changing Info.plist, manifest with dynamic variables✓ Live Demo
24. Azure AD Login with MSAL	<ul style="list-style-type: none">✓ Create Azure AD?✓ MSAL Integration✓ Sing-In and Sing-Out from App✓ Request new Token✓ Live Demo
25. Accessibility Support	<ul style="list-style-type: none">✓ Accessibility Options✓ Automation Properties✓ Narration✓ Keyboard Accessibility✓ Live Demo
26. New Controls & Features in latest XF version	<ul style="list-style-type: none">✓ Beautiful Design with Brushes, Shapes, and Paths✓ Flyout Backdrop Color✓ Shell Improvements✓ More Interactive Controls with CarouselView, SwipeView, and Drag-and-drop✓ RadioButton Changes✓ Xaml Syntax Changes✓ Live Demo

Day 4	
Xamarin.Android	
27. Create your first Xamarin.Android app	<ul style="list-style-type: none"> ✓ Select your project template. ✓ Project Structure ✓ App Startup ✓ Life Cycle. ✓ Create new Activity Layout ✓ Live Demo
28. Debug & Testing	<ul style="list-style-type: none"> ✓ Build Configurations ✓ Select Emulator/Device ✓ Create Binary (.APK). ✓ Reducing APK Size ✓ Live Demo
29. UI Interaction with Code	<ul style="list-style-type: none"> ✓ Referring layout in Activity. ✓ Events ✓ Live Demo
30. Layouts	<ul style="list-style-type: none"> ✓ LinearLayout ✓ RelativeLayout ✓ TableLayout ✓ Tabbed Layouts ✓ Live Demo
31. ListView & Adapters	<ul style="list-style-type: none"> ✓ ListView Parts and Functionality ✓ Populating a ListView with Data ✓ Customizing a ListView's Appearance ✓ Using CursorAdapters ✓ Using a ContentProvider ListView
32. MasterDetailsPage	<ul style="list-style-type: none"> ✓ Navigation Drawer Layout Using Support Design ✓ Live Demo
33. Passing data with intents	<ul style="list-style-type: none"> ✓ Intent Introduction ✓ Passing data ✓ Receiving data ✓ Live Demo
34. Working with fragments	<ul style="list-style-type: none"> ✓ Fragments Overview ✓ Requirements ✓ Creating A Fragment ✓ Fragment Lifecycle ✓ Fragment State Management ✓ Live Demo
35. SharedCode with MVVMCross	<ul style="list-style-type: none"> ✓ MVVMCross Integration ✓ UI Interaction with ViewModels Binding ✓ Live Demo

Day 5	
Xamarin.iOS	
36. Creating First Xamarin.iOS App	<ul style="list-style-type: none"> ✓ Select your project template. ✓ Project Structure ✓ App Startup ✓ Life Cycle. ✓ Live Demo
37. Debug & Testing	<ul style="list-style-type: none"> ✓ Build Configurations ✓ Select Simulator/Device ✓ Create Binary (.IPA). ✓ Live Demo
38. Building User Interfaces with the iOS Designer	<ul style="list-style-type: none"> ✓ Creating Storyboards ✓ Introduction to Constraints ✓ Enable Auto Layout ✓ Size Constraints ✓ Center Constraints ✓ Modifying Constraints in Code ✓ Live Demo
39. UI Interaction with Code	<ul style="list-style-type: none"> ✓ Access UI elements in code. ✓ Events ✓ Live Demo
40. Working with Images	<ul style="list-style-type: none"> ✓ Displaying an Image ✓ Application Icons ✓ App Store Icon ✓ Alternate App Icons ✓ Launch Screens ✓ Custom Document Types
41. Importance of StackViews	<ul style="list-style-type: none"> ✓ StackView Introduction ✓ Positioning and Sizing the Stack View ✓ Common Stack View Uses ✓ Live Demo
42. Working UITableView and DataBinding	<ul style="list-style-type: none"> ✓ Creating UITableView ✓ Populating a Table with Data ✓ Working with Row Actions ✓ Live Demo
43. Passing Data between View Controllers	<ul style="list-style-type: none"> ✓ Delegate pattern ✓ Passing blocks (closures) around ✓ Target-Action pattern ✓ Publish/Subscribe message bus with NSNotificationCenter ✓ Live Demo