Microsoft Starter Kits for Partners

Assessment

Xamarin Scenario

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# Overview

The purpose of this document is to provide Microsoft Partners an assessment to identify key components in customer scenarios and serve as a guide to the available resources. This will help partner to build an efficient architecture for the customer scenario and have an accurate cost proposal based in the customer needs.

In this document, we will cover the following topics:

* Questionnaire
* Resources and Tools

# Xamarin Scenario Assessment

## Common Scenarios

### Xamarin

Microsoft offers tools that let developers choose the multi-device strategy best suited to their needs, enabling them to easily create native, hybrid or web apps for any device and any platform. With Xamarin, developers can tap into the power and flexibility of .NET on all major mobile platforms and easily build native mobile experiences that are indistinguishable from platform-native applications.

Xamarin is highly recommended for the scenarios where customer needs:

* Build apps with beautiful UX and native performance for Android, iOS & Windows
* High level of productivity and code reutilization across platforms

*Xamarin Native approach vs Xamarin.Forms approach*

Xamarin provides two ways to build great native apps: Xamarin Native and Xamarin.Forms.

With Xamarin Native you write separate UI code for each target platform: iOS, Android, and Windows. With this approach, you have direct access to platform-specific APIs allowing a customized UI experience per platform. You also have full access to the native designer and controls for each platform to help with building the respective UI.

Xamarin.Forms provides a generalized set of APIs that lets you write a shared UI layer for all platforms in a portable class library. Xamarin.Forms renders to native controls on each target platform to give a native look and feel. Rather than using a designer, with Xamarin.Forms, you build your UI using C# and XAML.

The following are high-level representations of a Xamarin application based on both approaches:

|  |  |
| --- | --- |
| Xamarin Native approach | Xamarin.Forms approach |
|  |  |

Xamarin Native approach is recommended for the following scenarios:

* Application require any platform-specific functionality
* Application has interactions that require native behavior
* Application require highly polished design
* Development team has a previous experience coding natively for Android or iOS

Xamarin.Forms approach is recommended for the following scenarios:

* Application is primarily oriented around data entry
* Code sharing is more important than custom UI for the application
* Development team is comfortable with XAML

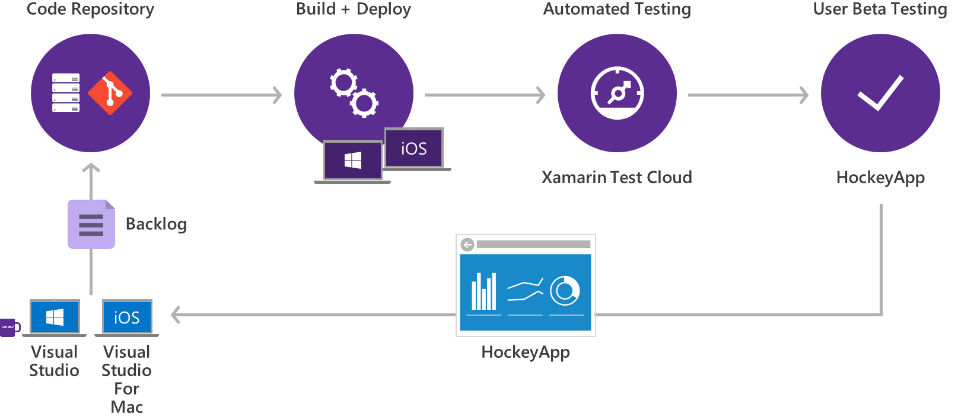
### Microsoft Mobile DevOps Solution

The Microsoft Mobile DevOps Solution is an end-to-end solution for creating state-of-the-art mobile experiences across any device (Android, iOS, and Windows), providing a comprehensive solution for developers to plan, build, test, deploy, operate, and monitor mobile applications.

Microsoft Mobile DevOps Solution is highly recommended for the scenarios where customer needs:

* Maximize output and shrink lead times for new apps and updates
* Ensure highest-quality user experience on any device
* Scale delivery by standardizing work, automating processes, and minimizing redundancy + waste

The following is a high-level representation of Microsoft Mobile DevOps Solution:



Visual Studio Team Services enables faster development cycles, bringing together teams working in different organizational silos (Dev and Ops), targeting multiple platforms, or using any development tool (including Android Developer Tools, Eclipse or Xcode) into one single collaboration environment that includes agile planning, portfolio management, developer collaboration, test case management, build, deployment, monitoring and more. In conjunction with Microsoft Azure, it also provides the ability for teams to create on-demand dev and test environments for pre-production development and test of application backend code without jumping through IT hoops and provides a cost-effective solution to test end-to-end solutions in a “production-like” environment. With the addition of Xamarin Test Cloud and HockeyApp, Visual Studio Team Services also provides an integrated device testing and distribution solution that enables automated testing for Android, iOS, and Windows apps on hundreds of device configurations, without requiring any hardware investment, as well as beta distribution and testing and user feedback collection.

### Mobile Services

Microsoft Azure Mobile Services is an Azure service offering designed to make it easy to create highly-functional mobile apps using Azure. Mobile Services brings together a set of Azure services that enable backend capabilities for your apps. Mobile Services provides the following backend capabilities in Azure to support your apps:

• Client libraries support mobile app development on various devices, including Windows 8, Windows Phone 8, Android, iPhone, and iPad.

• Simple provisioning and management of tables for storing app data.

• Integration with notification services to deliver push notifications to your app.

• Integration with well-known identity providers for authentication.

• Precise control for authorizing access to tables.

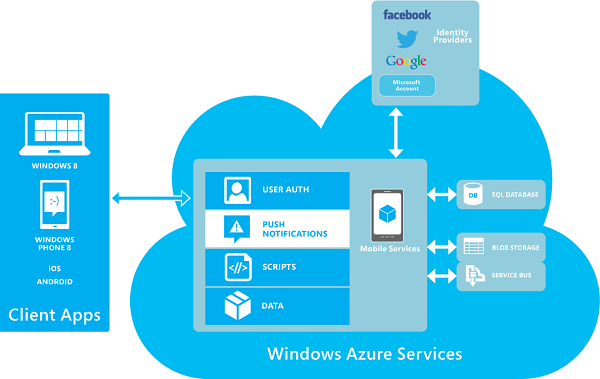
• Supports scripts to inject business logic into data access operations.

• Integration with other cloud services.

• Supports the ability to scale a mobile service instance.

• Service monitoring and logging.

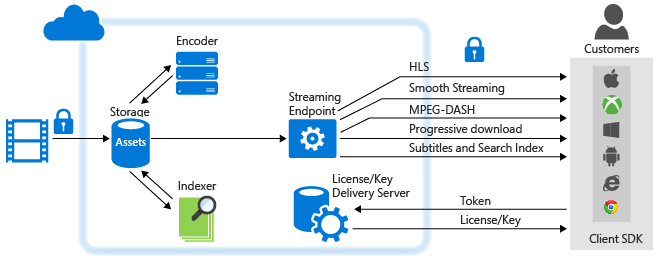
The following is a functional representation of the Mobile Services architecture.



### Media Services

#### Delivering Media on-Demand with Azure Media Services: common scenarios and tasks

This section describes common scenarios and provides links to relevant topics. The following diagram shows the major parts of the Media Services platform that are involved in delivering content on demand.



**Protect content in storage and deliver streaming media in the clear (non-encrypted)**

1. Upload a high-quality mezzanine file into an asset.

It is recommended to apply storage encryption option to your asset to protect your content during upload and while at rest in storage.

1. Encode to adaptive bitrate MP4 set.

It is recommended to apply storage encryption option to the output asset to protect your content at rest.

1. Configure asset delivery policy (used by dynamic packaging).

If your asset is storage encrypted, you must configure asset delivery policy.

1. Publish the asset by creating an OnDemand locator.

Make sure to have at least one streaming reserved unit on the streaming endpoint from which you want to stream content.

1. Stream published content.

**Protect content in storage, deliver dynamically encrypted streaming media**

To be able to use dynamic encryption, you must first get at least one streaming reserved unit on the streaming endpoint from which you want to stream encrypted content.

1. Upload a high-quality mezzanine file into an asset. Apply storage encryption option to the asset.
2. Encode to adaptive bitrate MP4 set. Apply storage encryption option to the output asset.
3. Create encryption content key for the asset you want to be dynamically encrypted during playback.
4. Configure content key authorization policy.
5. Configure asset delivery policy (used by dynamic packaging and dynamic encryption).
6. Publish the asset by creating an OnDemand locator.
7. Stream published content.

**Index content**

1. Upload a high-quality mezzanine file into an Asset.
2. Index content.

The indexing job generates files that can be used as Closed Captions (CC) in video playback. It also generates files that enable you to do in-video search and jump to the exact location of the video.

1. Consume indexed content.

**Deliver progressive download**

1. Upload a high-quality mezzanine file into an asset.
2. Encode to adaptive bitrate MP4 set or a single MP4.
3. Publish the asset by creating an OnDemand or SAS locator.

If using OnDemand locator, make sure to have at least one streaming reserved unit on the streaming endpoint from which you plan to progressively download content.

If using SAS locator, the content is downloaded from the Azure blob storage. In this case, you do not need to have streaming reserved units.

1. Progressively download content.

# Questions

## Xamarin

|  |  |  |
| --- | --- | --- |
| Question | Answer | Read more |
| 1. Does your Application require multiple mobiles devices as Windows Phone, IOs and Android? |  | * [**Learn about mobile development with Xamarin**](https://msdn.microsoft.com/en-us/em-us/library/mt488768.aspx) * [**Introduction to Mobile Development**](https://developer.xamarin.com/guides/cross-platform/getting_started/introduction_to_mobile_development/) |
| 1. Does your Application require any platform-specific functionality? |  | * [**Getting Started with iOS**](https://developer.xamarin.com/guides/ios/getting_started/) * [**Getting Started with Android**](https://developer.xamarin.com/guides/android/getting_started/) |
| 1. Does your Application require highly polished design? |  | * [**Getting Started with iOS**](https://developer.xamarin.com/guides/ios/getting_started/) * [**Getting Started with Android**](https://developer.xamarin.com/guides/android/getting_started/) |
| 1. Does anyone in your team has a previous experience coding natively for Android or iOS? |  | * [**Getting Started with iOS**](https://developer.xamarin.com/guides/ios/getting_started/) * [**Getting Started with Android**](https://developer.xamarin.com/guides/android/getting_started/) |
| 1. Is your Application primarily oriented around data entry? |  | * [**Getting Started with Xamarin.Forms**](https://developer.xamarin.com/guides/xamarin-forms/getting-started/) |
| 1. Code sharing is more important than custom UI for your app? |  | * [**Getting Started with Xamarin.Forms**](https://developer.xamarin.com/guides/xamarin-forms/getting-started/) |
| 1. Is your development team comfortable with XAML? |  | * [**Getting Started with Xamarin.Forms**](https://developer.xamarin.com/guides/xamarin-forms/getting-started/) |

## Microsoft Mobile DevOps Solution

|  |  |  |
| --- | --- | --- |
| Question | Answer | Read more |
| 1. Are you going to adopt continuous integration/continuous delivery practices for mobile application development? |  | * [**Building your Xamarin app with Visual Studio Team S**](https://www.visualstudio.com/en-us/docs/build/apps/mobile/xamarin)**ervices** * [**Continuous Integration for Android with Visual Studio Team Services**](https://blog.xamarin.com/continuous-integration-for-android-with-visual-studio-team-services/) * [**Continuous Integration for iOS Apps with Visual Studio Team Services**](https://blog.xamarin.com/continuous-integration-for-ios-apps-with-visual-studio-team-services/) * [**Deploying to HockeyApp from Visual Studio Team Services**](https://blogs.msdn.microsoft.com/dmx/2016/10/13/deploying-to-hockeyapp-from-vsts/) * [**Continuous Delivery to Google Play with Team Services**](https://blog.xamarin.com/continuous-delivery-to-google-play-with-team-services/) * [**Continuous Delivery of iOS Applications with Visual Studio Team Services**](https://blogs.msdn.microsoft.com/visualstudioalm/2016/08/25/continuous-delivery-of-ios-applications-with-team-services/) |
| 1. How are you going to test your application for different devices, OS versions, screen sizes? |  | * [**Introduction to Xamarin Test Cloud**](https://developer.xamarin.com/guides/testcloud/introduction-to-test-cloud/) |
| 1. Are you going to distribute your app to your beta users before publication into the stores? |  | * [**HockeyApp**](https://hockeyapp.net/) * [**Visual Studio Mobile Center**](https://www.visualstudio.com/vs/mobile-center/) |
| 1. Are you going to use telemetry data (user feedback, crash analytics, usage data) to improve the application? |  | * [**HockeyApp**](https://hockeyapp.net/) * [**Visual Studio Mobile Center**](https://www.visualstudio.com/vs/mobile-center/) |

## Mobile Services

|  |  |  |
| --- | --- | --- |
| Question | Answer | Read more |
| 1. Are you going to use SQL Database? |  | * [**Build a service using an existing SQL database with the Mobile Services .NET backend**](https://azure.microsoft.com/en-us/documentation/articles/mobile-services-dotnet-backend-use-existing-sql-database/) |
| 1. Are you going to use SQL On-Premise? |  | * [**Connect to an on-premises SQL Server from Azure Mobile Services using Hybrid Connections**](https://azure.microsoft.com/en-us/documentation/articles/mobile-services-dotnet-backend-hybrid-connections-get-started/) |
| 1. Are you going to use files in your application? |  | * [**Upload images to Azure Blob storage by using Mobile Services**](https://azure.microsoft.com/en-us/documentation/articles/mobile-services-javascript-backend-windows-universal-dotnet-upload-data-blob-storage/) |
| 1. Will your application handle offline Data? |  | * [**Get Started with Offline Data Sync in Mobile Services**](https://azure.microsoft.com/en-us/documentation/articles/mobile-services-ios-get-started-offline-data/) |
| 1. What type of Authentication are you going to use? | * Active Directory * Microsoft Azure Active Directory * Facebook, Google, Twitter | * [**Authenticate your app with Active Directory Authentication Library Single Sign-On**](https://azure.microsoft.com/en-us/documentation/articles/mobile-services-dotnet-backend-ios-adal-sso-authentication/) * [**Add Authentication to Existing App**](https://azure.microsoft.com/en-us/documentation/articles/mobile-services-ios-get-started-users/) * [**Get started with custom authentication**](https://azure.microsoft.com/en-us/documentation/articles/mobile-services-dotnet-backend-get-started-custom-authentication/) |
| 1. Does your application require Push Notifications? |  | * [**Add Push Notifications to iOS App and JavaScript Backend**](https://azure.microsoft.com/en-us/documentation/articles/mobile-services-javascript-backend-ios-get-started-push/) |

## Media Services

|  |  |  |
| --- | --- | --- |
| Question | Answer | Read more |
| 1. Which encoders are you going to use in your app? |  | * [**Overview and Comparison of Azure On Demand Media Encoders**](https://azure.microsoft.com/en-us/documentation/articles/media-services-encode-asset/) * [**Media Encoder Standard Formats and Codecs**](https://azure.microsoft.com/en-us/documentation/articles/media-services-media-encoder-standard-formats/) * [**Create Advanced Encoding Workflows with Workflow Designer**](https://azure.microsoft.com/en-us/documentation/articles/media-services-workflow-designer/) |
| 1. Will your application require Live Streaming? |  | * [**Working with Channels that are Enabled to Perform Live Encoding with Azure Media Services (Preview)**](https://azure.microsoft.com/en-us/documentation/articles/media-services-manage-live-encoder-enabled-channels/) |
| 1. Will your content be protected? |  | * [**Protecting Content Overview**](https://azure.microsoft.com/en-us/documentation/articles/media-services-content-protection-overview/) |
| 1. The content of your media files should be searchable and generate a full-text transcript for closed captioning and keywords? |  | * [**Indexing Media Files with Azure Media Indexer**](https://azure.microsoft.com/en-us/documentation/articles/media-services-index-content/) |
| 1. Which video players are you going to use? |  | * [**Playing your content with existing players**](https://azure.microsoft.com/en-us/documentation/articles/media-services-playback-content-with-existing-players/) * [**Develop video player applications**](https://azure.microsoft.com/en-us/documentation/articles/media-services-develop-video-players/) |
| 1. Are you going to have Ads in your media content? |  | * [**Inserting Ads on the Client Side**](https://azure.microsoft.com/en-us/documentation/articles/media-services-inserting-ads-on-client-side/) |
| 1. Your media services app needs to scale? |  | * [**How to Scale a Media Service**](https://azure.microsoft.com/en-us/documentation/articles/media-services-how-to-scale/) |

## Storage

|  |  |  |
| --- | --- | --- |
| Question | Answer | Read more |
| 1. What type of Storage do you require? | * Blobs * Tables * Queues | * [**Introduction to Microsoft Azure Storage**](https://azure.microsoft.com/en-us/documentation/articles/storage-introduction/) * [**How to use Blob storage from .NET**](https://azure.microsoft.com/en-us/documentation/articles/storage-dotnet-how-to-use-blobs/) * [**How to use Table storage from .NET**](https://azure.microsoft.com/en-us/documentation/articles/storage-dotnet-how-to-use-tables/) * [**How to use Queue storage from .NET**](https://azure.microsoft.com/en-us/documentation/articles/storage-dotnet-how-to-use-queues/) |
| 1. Are you using page blobs or block blobs when appropriate? |  | * [**Understanding Block Blobs, Append Blobs, and Page Blobs**](https://msdn.microsoft.com/library/azure/ee691964.aspx) |
| 1. How much storage do you require? |  | * [**Azure Storage Scalability and Performance Targets**](https://azure.microsoft.com/en-us/documentation/articles/storage-scalability-targets/) |
| 1. Are you using Azure Import/Export to transfer very large volumes of data? |  | * [**Use the Microsoft Azure Import/Export Service to Transfer Data to Blob Storage**](https://azure.microsoft.com/en-us/documentation/articles/storage-import-export-service/) |
| 1. Are you using the latest version of Microsoft provided client libraries and tools? |  | * [**Copy Blob**](https://msdn.microsoft.com/library/azure/dd894037.aspx) * [**Getting Started with the AzCopy Command-Line Utility**](https://azure.microsoft.com/en-us/documentation/articles/storage-use-azcopy/) |
| 1. What type of Storage account do you require? |  | * [**Azure Storage replication**](https://azure.microsoft.com/en-us/documentation/articles/storage-redundancy/) |
| 1. What type of authentication do you require for your storage account? |  | * [**Authentication for the Azure Storage Services**](https://msdn.microsoft.com/library/azure/dd179428.aspx) * [**Manage Access to Azure Storage Resources**](https://azure.microsoft.com/en-us/documentation/articles/storage-manage-access-to-resources/) |

## Azure Active Directory

|  |  |  |
| --- | --- | --- |
| Question | Answer | Read more |
| 1. Which edition should I choose? |  | * [**Azure Active Directory editions**](https://azure.microsoft.com/en-us/documentation/articles/active-directory-editions/) |
| 1. Do you require branding for your Sign In? |  | * [**Add company branding to your Sign In and Access Panel pages**](https://azure.microsoft.com/en-us/documentation/articles/active-directory-add-company-branding/) |
| 1. Do you require integration with your on-premises identities? |  | * [**Integrating your on-premises identities with Azure Active Directory**](https://azure.microsoft.com/en-us/documentation/articles/active-directory-aadconnect/) |
| 1. Do you have 3rd party applications? |  | * [**Authentication Scenarios for Azure AD**](https://azure.microsoft.com/en-us/documentation/articles/active-directory-authentication-scenarios/) |
| 1. Do you have Office 365, Microsoft Intune or other Microsoft services? |  | * [**Administer your Azure AD directory**](https://azure.microsoft.com/en-us/documentation/articles/active-directory-administer/#what-is-an-azure-ad-tenant) |

## SQL Database

|  |  |  |
| --- | --- | --- |
| Question | Answer | Read more |
| 1. Are you going to use SQL Database or SQL in VM? |  | * [**Understanding Azure SQL Database and SQL Server in Azure VMs**](https://azure.microsoft.com/en-us/documentation/articles/data-management-azure-sql-database-and-sql-server-iaas/) |
| 1. Which performance and size should you choose? |  | * [**Service Tiers**](https://azure.microsoft.com/en-us/documentation/articles/sql-database-service-tiers/) |
| 1. Do you require an elastic database pool? |  | * [**SQL Database elastic database pool**](https://azure.microsoft.com/en-us/documentation/articles/sql-database-elastic-pool-portal/) |
| 1. Which type of language are you going to use? | * .NET * Java * Node.js * PHP * Python * Ruby | * [**Connection Libraries for SQL Database and SQL Server**](https://azure.microsoft.com/en-us/documentation/articles/sql-database-libraries/) |
| 1. Are you migrating from on-premises to sql database? |  | * [**Migrating a compatible database using SSMS**](https://azure.microsoft.com/en-us/documentation/articles/sql-database-migrate-ssms/) * [**Update database in place then deploy to Azure SQL Database**](https://azure.microsoft.com/en-us/documentation/articles/sql-database-migrate-visualstudio-ssdt/) |
| 1. How are you going to secure your database? |  | * [**Securing your SQL Database**](https://azure.microsoft.com/en-us/documentation/articles/sql-database-security/#authentication) |
| 1. Do you require Business Continuity? |  | * [**Business Continuity Overview**](https://azure.microsoft.com/en-us/documentation/articles/sql-database-business-continuity/) |

# Resources

### Work with a JavaScript backend mobile service

This article provides detailed information about and examples of how to work with a JavaScript backend in Azure Mobile Services.

<https://azure.microsoft.com/en-us/documentation/articles/mobile-services-how-to-use-server-scripts/>

### MobileServices .NET backend library

The Windows Azure Mobile Services .NET Backend library enables the development of Mobile Services that use a .Net backend implemented with the Web API and Entity Framework. This topic provides a reference for the namespaces used in the .Net backend.

<https://msdn.microsoft.com/library/azure/dn632690.aspx>

### How to use a .NET client for Azure Mobile Services

This guide shows you how to perform common scenarios using a .NET client for Azure Mobile Services, in Windows Store apps and Windows Phone apps. The scenarios covered include querying for data, inserting, updating, and deleting data, authenticating users, and handling errors.

<https://azure.microsoft.com/en-us/documentation/articles/mobile-services-windows-dotnet-how-to-use-client-library/>

### How to use the Xamarin Component client for Azure Mobile Services

This guide shows you how to perform common scenarios using the Xamarin Component client for Azure Mobile Services, in Xamarin apps for iOS and Android. The scenarios covered include querying for data, inserting, updating, and deleting data, authenticating users, and handling errors.

<https://azure.microsoft.com/en-us/documentation/articles/partner-xamarin-mobile-services-how-to-use-client-library/>

### How to use the Android client library for Mobile Services

This guide shows you how to perform common scenarios using the Android client for Azure Mobile Services. The scenarios covered include querying for data; inserting, updating, and deleting data, authenticating users, handling errors, and customizing the client.

<https://azure.microsoft.com/en-us/documentation/articles/mobile-services-android-how-to-use-client-library/>

### How to Use iOS Client Library for Azure Mobile Services

This guide teaches you to perform common scenarios using the Azure Mobile Services iOS SDK.

<https://azure.microsoft.com/en-us/documentation/articles/mobile-services-ios-how-to-use-client-library/>

### Windows Azure Media Services SDK Class Library for .NET

This section contains the Windows Azure Media Services SDK documentation.

<https://msdn.microsoft.com/library/azure/jj856903(v=azure.10).aspx>

### Azure Media Services REST API Reference

The Microsoft Azure Media Services REST API reference section describes the entities and functions that are used when creating, processing, managing, and delivering Assets.

<https://msdn.microsoft.com/library/azure/hh973617.aspx>

# Tools

### Managing Media Workflows with the new Azure Media Services Explorer Tool

<http://azure.microsoft.com/en-us/blog/managing-media-workflows-with-the-new-azure-media-services-explorer-tool/>