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Building Microsoft Azure Mobile Services with Visual Studio

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I am familiar with Mobile Services

Agenda

Overview of Mobile Services

.NET Mobile Services

Build a Win Store app with .NET Mobile Services in Visual Studio

Storing and accessing data with SQL
Authentication using AAD
Storing files in blob storage
Offline Sync
Push Notifications using Notification Hubs
Scaling and Diagnostic

Overview

Mobile Backend as a Service

SDKs

Windows Store
iOS
Android
Xamarin
Phonegap
Sencha
Windows Phone
iOS
Android
HTML 5/JS

Offline Sync

REST API

Data Storage


SQL


Table Storage

Blob Storage


Mongo DB


Hybrid Connections

User Authentication


Facebook


Twitter


Microsoft


Google


Azure Active Directory

Push Notifications


WNS & MPNS


APNS


GCM


Notification Hubs

Node.js
Express

.NET
Web API

Source Control

Enable .NET developers to easily add a backend to their apps, use their preferred frameworks, tools, and processes

.NET Mobile Services

Web API for Mobile with minimal code for data, auth, and push notifications.

Data

Based on Web API
Supports various data stores:

- Azure databases
- Table Storage
- MongoDB

Auth

- Facebook
- Twitter
- Google
- Microsoft Account
- AAD

Push

Uses **Notification Hubs** integration for high-scale, cross-platform push

Tooling

- Client NuGet
- Runtime available on NuGet

Visual Studio support:

- Scaffolding
- IntelliSense
- Local F5
- In-browser test client
- Remote debugging
- Publish via Web Deploy
- Source control using TFS
- View runtime logs
- Send test messages
- View registrations

Demo App – Feedback Application

Feedback app to store feedback of sessions.

Attendees must log in with their AD credentials

Attendees are sent notifications for candidates in their discipline

Attendees can upload experiences as documents to blob storage

What if the services go down how can the application still work.

Demo Storing and accessing data with SQL

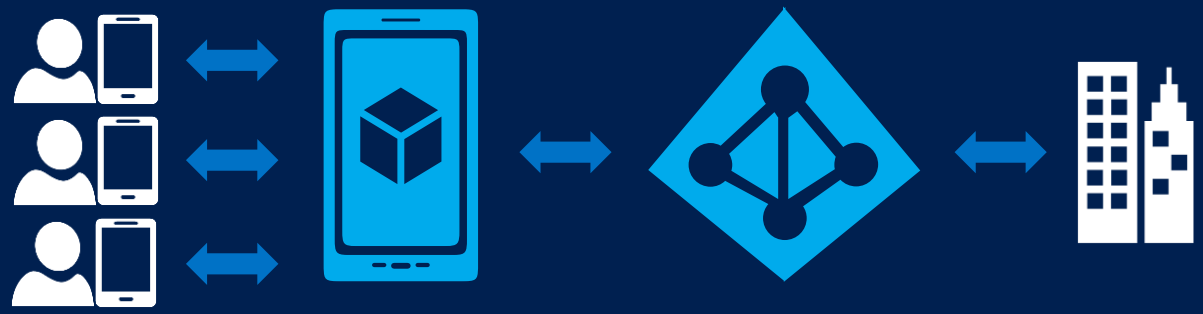
Authentication

Azure Active Directory and Mobile Services

Extend line-of-business to mobile

Bring turn-key login experience with corporate credentials to mobile developers

Enable applications built around organizational structures



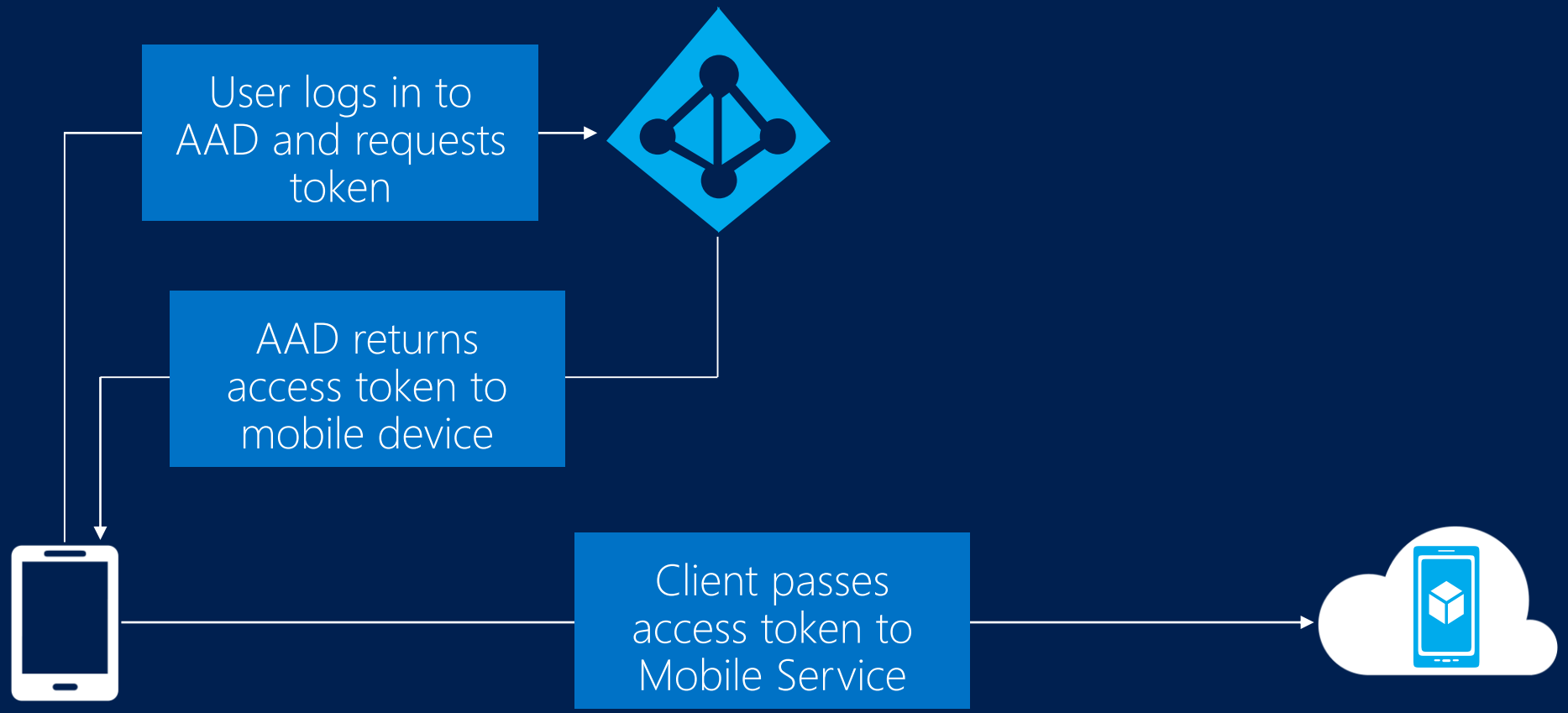
Active Directory Authentication Library (ADAL)

Facilitates login to AAD-protected resources

Provides single sign-on to multiple enterprise resources

Available for Windows Store, iOS, and Android

AAD and Mobile Services



Demo with AAD and Mobile Services

Blob Storage + Mobile Services

Store files using Azure Storage

Storing files in Azure Storage

Cost effective, scalable, and accessible from anywhere

Can’t burn secrets into your client app

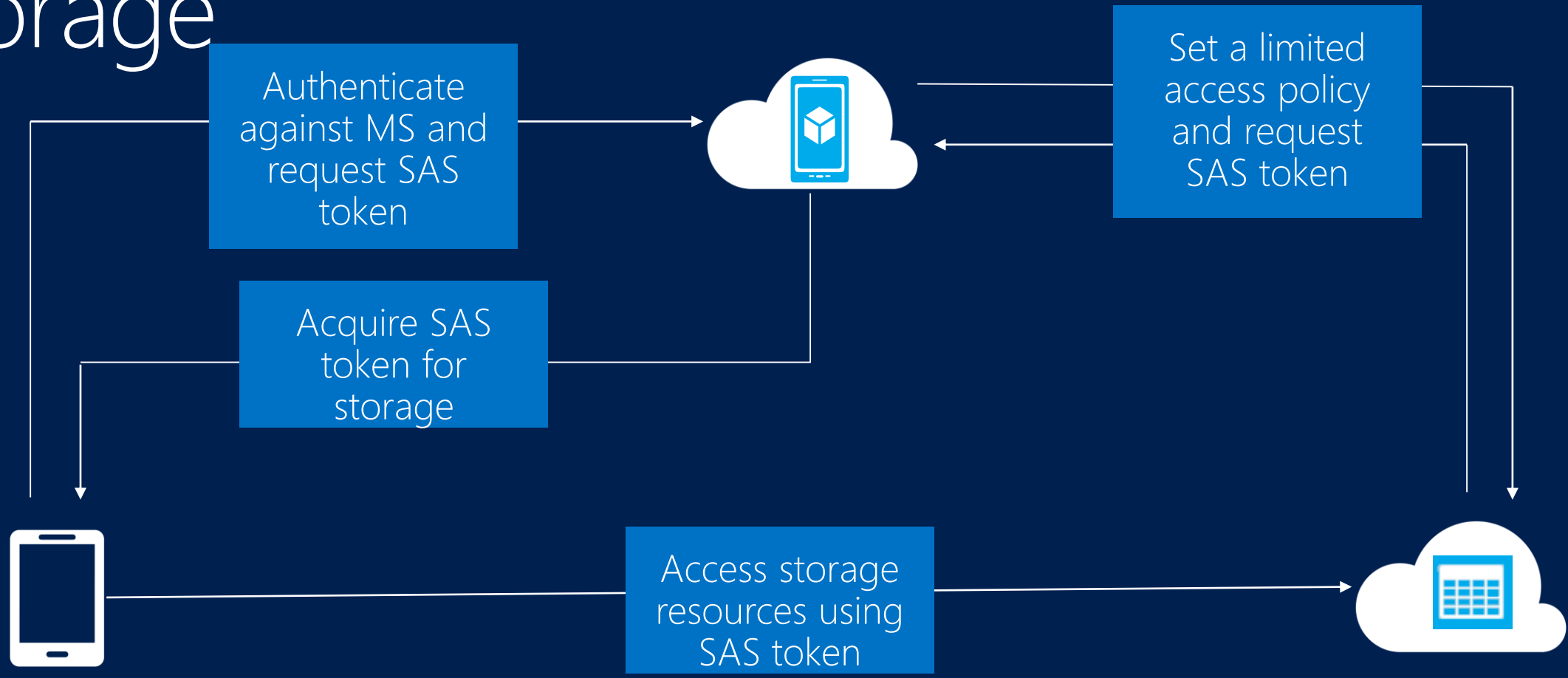
Imagine malicious users uploading random files to your storage account

Shared Access Signature

Allows clients to read/write/update data without a storage account key

Obtain a restricted token that allows you to access storage account for a short period of time

Mobile Services and SAS to Azure Storage



Storage with SAS

Need to install NuGet Packages – Azure Storage

```
CloudBlobClient blobClient = new CloudBlobClient(blobEndpoint,
        new StorageCredentials(storageAccountName, storageAccountKey));


CloudBlobContainer container = blobClient.GetContainerReference(item.containerName);
        await container.CreateIfNotExistsAsync();

SharedAccessBlobPolicy sasPolicy = new SharedAccessBlobPolicy()
        {
            SharedAccessStartTime = DateTime.UtcNow,
            SharedAccessExpiryTime = DateTime.UtcNow.AddMinutes(5),
            Permissions = SharedAccessBlobPermissions.Write
        };
String sasContainerToken = container.GetSharedAccessSignature(sasPolicy);
String SASUri = sasContainerToken ;
```

Offline Sync

Offline Sync

Lightweight and composable

Uses SQLite Backing Store, runs cross platform.

Manual push and pull and no auto sync

Conflict detection and management

Offline Sync

```
var table=App.MobileService.GetSyncTable<Feedback>();

 if (!App.MobileService.SyncContext.IsInitialized)
            {
                var store = new MobileServiceSQLiteStore("localsync12.db");
                store.DefineTable<Feedback>();
                await App.MobileService.SyncContext.InitializeAsync(store, new
MobileServiceSyncHandler());
            }
```

Push and Pull

```
await table.PullAsync();
var list = await table.OrderBy(a=>a.Id).ToListAsyn();
```

```
table.Insert(new TodoItem(..));
service.SyncContext.PushAsync();
```

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Diagnostics
Logging
Scale

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Summary

With .Net Mobile Services and Visual Studio, you can easily:

- store data in the cloud
- authenticate your users
- interact with Azure storage and other third party resources
- offline sync
- diagnostics and scale

Related sessions

Notification Hubs
Use Xamrain to develop cross platform applications

Resources

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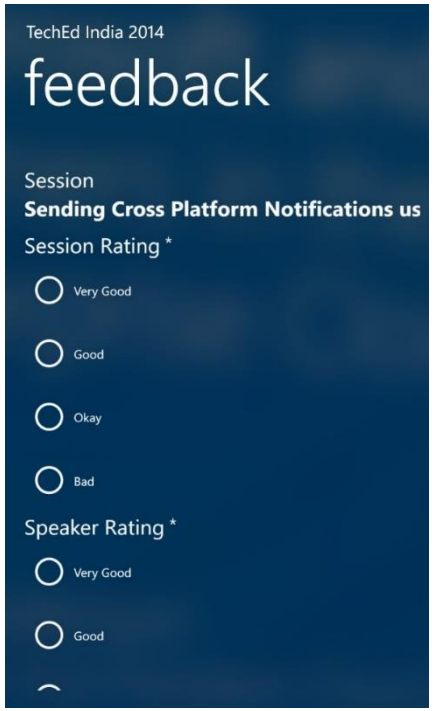

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