Microsoft Starter Kits for Partners

Hands on Lab

BikeSharing360





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Contents

[BikeSharing360 Overview 4](#_Toc477249107)

[Online Documentation 4](#_Toc477249108)

[Objectives 4](#_Toc477249109)

[BikeSharing360 – Microservices 4](#_Toc477249110)

[Prerequisites 4](#_Toc477249111)

[Steps 5](#_Toc477249112)

[BikeSharing360 – Websites 6](#_Toc477249113)

[Prerequisites 6](#_Toc477249114)

[BikeSharing360 Public Web Site (NetCore) 6](#_Toc477249115)

[BikeSharing360 Private Web Site (Netcore 1.1) 7](#_Toc477249116)

[BikeSharing360 – Mobile App 7](#_Toc477249117)

[Prerequisites 8](#_Toc477249118)

[Steps 8](#_Toc477249119)

# BikeSharing360 Overview

BikeSharing360 is a fictitious example of a smart bike sharing system with 10,000 bikes distributed in 650 stations located throughout New York City and Seattle. Their vision is to provide a modern and personalized experience to riders and to run their business with intelligence.

## Online Documentation

You can access the complete sample documentation and source code by visiting the following online repository. <https://github.com/Microsoft/BikeSharing360_MobileApps>. The rest of this documentation is a compilation of the referred repository.

## Objectives

In this hands-on Lab, how to use multiple tools, products, and our Microsoft application platform capabilities to unleash your productivity, help transform your businesses, and build deeply personalized apps for your customers.

In this demo scenario, we built several apps for both the enterprise and the consumer (bike riders).

# BikeSharing360 – Microservices

The backend microservices used in demos (mainly the Xamarin apps).

* Feedback
* Profiles
* Rides
* Events

## Prerequisites

* A Microsoft Azure subscription - [sign up for a free trial](http://aka.ms/WATK-FreeTrial)
* Visual Studio 2015 Update 3. Microservices code are in netcore and nodejs. Netcore microservices are based on project.json not on csproj, so don't use Visual Studio 2017. If you want to use VS2017 RC use the VS2017 branch.
* Azure SDK .NET (2.9.6)
* NodeJS tools for Visual Studio
* NodeJs installed.

### Steps

#### Deploying to Azure

Open the solution *BkeSharing.Services.Deploy.sln*. This solution contains the Microservices code and one ARM project to deploy them on any Azure Subscription.

Install the missing NPM packages for the project *BikeSharing.Services.Rides*. Go to *Solution Explorer* right click on the node *npm* of the *BikeSharing.Services.Rides* project, and select:

Install Missing npm Packages:

This will launch NPM and install all needed NPM packages for the project. Once this is completed just right click over the *BikeSharing.Services.Deploy* project and select Deploy -> New. A dialog box will appear, asking you for your account and allowing you to select the subscription to use.

Once you've finished setting the parameters you can just click the "OK" button and the Microservices and databases will be deployed on the choosen resource group.

*Note: Databases are created with no data. To add data to the database follow the steps in the next section.*

#### Adding data to databases

#### Once databases are created, you can run the SQL files to fill some sample data. You can use SQL Management studio or your preferred tool to run the SQL files provided.

#### The files are in /src/sql, and there is one sql file for each database (rides-data.sql, feedback-data.sql, profiles-data.sql, events-data.sql)

#### Azure Functions code

Function is not published to Azure by the ARM project.

If you publish the function, then update the AzureWebJobsStorage setting of the FunctionApp to use the storage deployed in the ARM project. This will ensure that photos uploaded by mobile app are processed by the Azure function.

Also you need to do two manual things in your Azure subscription:

1. [Add a Cognitive API Services to your Azure Subscription (Face API)](https://www.microsoft.com/cognitive-services/en-us/face-api/documentation/Tutorials/FaceAPIinCSharpTutorial)
2. Create an AppSetting in the FunctionApp named Vision\_API\_Subscription\_Key with the value of the API KEY of the Face API

# BikeSharing360 – Websites

Web App focused on bikes rentals and corporate users.

Include a dashboard powered by *PowerBI* with information about rides, bikes, breakdowns using both graphs and maps.

Set of listing containing information about station, rides and user subscriptions.

*Technologies*

Node.JS, Sequelize, ASP.NET Core MVC, ASP.NET Core, Docker, EF Core, SQL Server

## Prerequisites

The following is required to complete this hands-on lab:

* A Microsoft Azure subscription - [sign up for a free trial](http://aka.ms/WATK-FreeTrial)
* Visual Studio 2017 Release Candidate – [free download](https://www.visualstudio.com/es/vs/visual-studio-2017-rc/)
* Node >= v6.6.0 (You have this node version embedde with VS Dev15)

This repo contains the BikeSharing360 web sites.

* <https://github.com/Microsoft/BikeSharing360_Websites>

### BikeSharing360 Public Web Site (NetCore)

The solution *Public\_Web\_Site\_Core.sln* located in folder */PublicWebSite\_NetCore/* contains the BikeSharing360 Public Web Site.

#### Steps

* npm install
* npm run build or gulp build

#### Problems

* If is you first time with node v6.6.0 and node-sass, probably you need to run 'npm rebuild node-sass'

### BikeSharing360 Private Web Site (Netcore 1.1)

This project **is a netcore 1.1 website** and must be opened with **VS2017 RC** (no support for VS2015). Contains some of the new features of the netcore 1.1 as AppServices logs integration and View Components as Tag Helpers among others.

#### Steps

* This website needs a database. The *appsettings.json* has a connection string against a (local)\mssqllocaldb database named *bikesharing-private-web*.

Use the file \_/PrivateWebSite/sql/SampleDb.sql to fill the database with schema and sample data.

* Edit the *appsettings.json* file and update:

**The connection string** (Only if your database is located in any other SQL Server or has another name)

**The APIs endpoints** The private web site uses three microservices (rides, profiles and APIs). You need to provide the server on which these microservices run. Remember that those microservices are in the [BikeSharing360 Backend Repository](https://github.com/Microsoft/BikeSharing360_BackendServices).

*Once database is created you can login with any user with the password "Bikes360".*

# BikeSharing360 – Mobile App

Xamarin.Forms allows you to build native UIs for iOS, Android, and Windows from a single, shared codebase. You can dive into mobile development with Xamarin.Forms by following our free self-guided learning from Xamarin University.

This app is consumer focused and Intelligent features like event recommendations

* BikeRider: using Xamarin Forms for iOS, Android and UWP
* Maintenance: Cordova cross-platform mobile app

This repository contains the BikeRider consumer-facing mobile apps for renting bikes and the BikeSharing360 maintenance app built with Cordova.

Technologies: Xamarin Forms, Cordova.

## Prerequisites

* A Microsoft Azure subscription - [sign up for a free trial](http://aka.ms/WATK-FreeTrial)
* Windows 10
* [Visual Studio **2015**](https://www.visualstudio.com/en-us/products/vs-2015-product-editions.aspx) Update 3 (14.0 or higher) to compile C# 6 language features (or Visual Studio MacOS)
* Xamarin add-ons for Visual Studio 3.2.1.64 or higher (available via the Visual Studio installer)
* Android SDK Tools 25.2.3 or higher
* OpenWeatherMap Key*-* [Getting a OpenWeatherMap Api Key](https://openweathermap.org/appid)
* Bing Maps Key - [Getting a Bing Maps Key](https://msdn.microsoft.com/en-us/library/ff428642.aspx)

## Steps

Download or clone the repository. This is a solution with seven projects.

Rebuild the solution to get all neccesary NuGet packages.

Access to GlobalSettings.cs file available in the Portable Class Library to introduce your Azure endpoints and APIs keys.

#### Resources

Watch demos in action:

* [Watch James Montemagno demo Xamarin apps](https://channel9.msdn.com/Events/Connect/2016/Keynotes-Scott-Guthrie-and-Scott-Hanselman#time=38m00s)
* [Watch Stacey Doerr demo UWP + Appium](https://channel9.msdn.com/Events/Connect/2016/Keynotes-Scott-Guthrie-and-Scott-Hanselman#time=2h11m04s)
* [Watch Scott Hanselman demo Visual Studio Tools for Tizen preview](https://channel9.msdn.com/Events/Connect/2016/Keynotes-Scott-Guthrie-and-Scott-Hanselman#time=2h38m46s)