# Prerequisites

Students (and instructor) must have:

* Installed a web browser other than Internet Explorer (there is a bug with IE)
* Signed in to Power BI
* Upgraded to Power BI Pro trial
* Created an app workspace
* Added content (at least one dataset, report and dashboard) to the app workspace

# Retrieving the app workspace ID (Group ID)

Required to enumerate content and generate an embed token for the workspace

Open the **MySolution.txt** file

In the Power BI portal, switch to the app workspace created earlier (and which already contain content)

In the web browser URL, copy the Group ID value (GUID) found after <https://app.powerbi.com/groups/> and paste it into the **MySolution.txt** file

# Register application

*Required to provide the app an identity and to enable the delegation of suitable premissions*

Open a web browser, and navigate to <https://dev.powerbi.com/apps>

Sign in by using the workshop Power BI account

Create a **native app** of any name, using the provided Redirect URL provided in the **Snippets.txt** file

Delegate all permissions

Copy the **Client ID** to the **MySolution.txt** file

Sign in to <http://portal.azure.com>

Navigate to **Azure Active Directory**

Select **App Registrations**

Select the app registration (verify the Client ID matches)

Edit the **Required Permissions**

Select the **Power BI Service** API

Select any un-selected delegated permissions, and then click **Save**

In the **Required Permissions** blade, click **Grant Permissions**, and click **Yes**

# Create a web application

*Starting with an empty web application—it won’t be pretty, but there will be little mystery left as to what is required to embed a report*

Open Visual Studio 2015 (or 2017)

Create a new Visual C# ASP.NET Web Application, named **PowerBI-Embedding**

Template: **Empty**

Add folder for core references for: **Web Forms**

**Microsoft Azure: Host in the Cloud**: Unchecked

# Import packages

*Start by importing required packages*

Import three packages:

On the **Tools** menu, select **NuGet Package Manager | Package Manager Console**

Enter the following commands (see **Snippets.txt**):

* Install-Package Microsoft.PowerBI.Api
* Install-Package Microsoft.PowerBI.JavaScript
* Install-Package Microsoft.IdentityModel.Clients.ActiveDirectory

In the project **References** folder, verify they have been added, in addition to several dependencies:

* Newtonsoft.Json
* Microsoft.Rest.ClientRuntime

In the project **scripts** folder, verify that **powerbi.js** (and other files) have been added

# Configure Web.config

*Paste in the configuration values for the service, and the student resource IDs and app workspace admin credentials*

Open the **Web.config** file

Immediately beneath the **<configuration>** element, insert the snippet appsettings elements

In the **clientId** setting, add the **Client ID** value from the **MySolution.txt** file

In the **groupId** setting, add the **Group ID** value from the **MySolution.txt** file

In the **pbiUserName** and **pbiPassword** settings, add the workshop account and password

Save and close the **Web.config** file

# Add a web form

*The web form will consist of only an embedded report*

In **Solution Explorer**, right-click the project, and then select **Add | Web Form**

Name the web form **EmbedReport**

In **Solution Explorer**, right-click the **EmbedReport** item, and then select **Set as Start Page**

Notice that the web form opens

Directly beneath the **body** element, add the script element (Snippets)

Directly within the form element, replace the existing **div** element with the div element (Snippets)

# Develop the web form (code behind)

*Note that the snippets to be pasted in are commented*

In **Solution Explorer**, right-click the **EmbedReport** item, and then select **View Code**

At the top of the file, add: **using System.Configuration;** (Snippets)

Inside the class (but not inside a method), copy and paste the class-level declarations (Snippets)

At the top of the file, add (Snippets):

* using Microsoft.IdentityModel.Clients.ActiveDirectory;
* using Microsoft.Rest;

Inside the **Page\_Load** method, copy and paste the authenticate with Power BI service code (Snippets)

At the top of the file, add (Snippets):

* using Microsoft.PowerBI.Api.V2;
* using Microsoft.PowerBI.Api.V2.Models;

Rebuild the project to verify the code has been correctly entered

# Develop the web form (source)

Switch to the web form source (HTML)

Directly beneath the **div** element (inside the **form** element) pasted earlier, paste the client-side embed script (Snippets)

# Run the web app

(Do not run with Internet Explorer—known bug)

On the toolbar, click the **Start Debugging** dropdown list, and then select a browser (except Internet Explorer)

Click **Start Debugging**

All going well, the report is embedded ☺