

Esri Developer Summit

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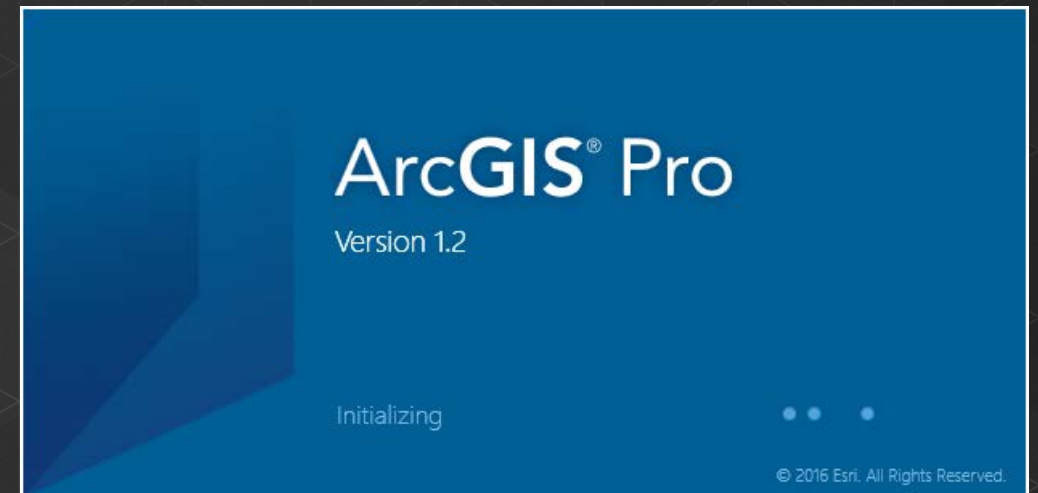


ArcGIS Pro SDK for .NET: Integration with ArcGIS Online

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Integration with ArcGIS Online - Overview

- **ArcGIS Pro integration with Portal and ArcGIS extended using the SDK for .Net**
- **Classes: EsriHttpClient, PortalManager, and Json.Net**
- **Retrieving content from AGOL**
- **Upload to ArcGIS Online**



Integration with ArcGIS Online – Classes provided by the API

- **Portal Manager**
 - Provides the connection information for the current portal
- **EsriHttpClient**
 - Modelled after `System.Net.WebRequest`
 - Manages your security context on portal queries.
 - Acquires and Inserts the token into the REST call
- **Json.Net classes used to convert JSON format returned by ArcGIS Online into classes**

Portal Self request

- Portal Self request is available as a “ProSnippet”
- Demo: Get the current connected user from AGOL using Portal Manager and EsriHttpClient:

```
UriBuilder searchUrl = new UriBuilder(PortalManager.GetActivePortal());

searchUrl.Path = "sharing/rest/portals/self";
searchUrl.Query = "f=json";

EsriHttpClient esriHttpClient = new EsriHttpClient();
EsriHttpResponseMessage response = esriHttpClient.Get(searchUrl.Uri.ToString());

dynamic portalSelf = JObject.Parse(await response.Content.ReadAsStringAsync());
// if the response doesn't contain the user information then it is essentially
// an anonymous request against the portal
if (portalSelf.user == null)
    return;
string userName = portalSelf.user.username;
```

Search Portal for web maps

- Portal Search request is available as a “ProSnippet”
- Demo: Get webmaps from AGOL using Portal Manager and EsriHttpClient:

```
searchUrl.Path = @"sharing/rest/search";
var webMaps = @"(type: ""Web Map"" OR type: ""Explorer Map"" OR type: ""Online Map"")";
searchUrl.Query = $"q=owner:{userName} {webMaps}&f=json";

var searchResponse = esriHttpClient.Get(searchUrl.Uri.ToString());
dynamic resultItems = JObject.Parse(await searchResponse.Content.ReadAsStringAsync());

long numberOfTotalItems = resultItems.total.Value;
if (numberOfTotalItems == 0)
    return;
```


Search Portal for web maps and add map in ArcGIS Pro

- Using the ItemFactory API class to create a web map item from the data returned by AGOL
- Using the MapFactory API class to create a web map from the web map item

```
List<dynamic> resultItemList = new List<dynamic>();
resultItemList.AddRange(resultItems.results);
//get the first result
dynamic item = resultItemList[0];

string itemID = item.id;
Item webMapItem = ItemFactory.Create(itemID, ItemFactory.ItemType.PortalItem);

if (MapFactory.CanCreateMapFrom(webMapItem))
{
    Map newMap = await MapFactory.CreateMapAsync(webMapItem);
    await ProApp.Panes.CreateMapPaneAsync(newMap);
}
```


ArcGIS Online vs. ArcGIS Pro

European_Thematic_Ma X +

← → ↻ | prosdk.maps.arcgis.com/home/item.html?id=2c9ee6639fc64bfc98f765c11bca8652

Home Gallery Map Scene Groups My Content My Organization

European_Thematic_Map



European Thematic Map: Population Density (NUTS3) for Netherlands

Web Map by wkaiser_prosdk2
Last Modified: October 30, 2015

★★★★★ (0 ratings, 89 views)

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Description

Map Contents

Population Density (NUTS3):

Add a Web Map
Plenary Demo 1

Contents


Australia Europe European_Thematic_Map X

Search

Drawing Order

- European_Thematic_Map
 - Imagery with Labels
 - Population Density (NUTS3)
 - POP_DENSIT
 - Over 1,000
 - 351 - 1,000
 - 201 - 350
 - 126 - 200
 - 76 - 125
 - 56 - 75
 - 36 - 55
 - 21 - 35
 - 11 - 20
 - 1 - 10
 - No Data
 - Imagery with Labels

What can EsriHttpClient do?

- **Make REST requests to ArcGIS Server including Portal and ArcGIS Online in order to make the rich REST APIs exposed by the server.**
 - **Gives an opportunity for users to write add-in's for the features not exposed in ArcGIS Pro**
 - **Useful for uploading and downloading resources from server.**
 - **Work with any portal and not just the active portal.**
- 

Why do we need our own http library?

- All request go through one common http pipeline.
- Many things like proxy server support (forward & reverse proxy), proxy scripts, client and server certificate validation is handled for user automatically out of box.
- Gives you more low level granular control over the http communication. Users can update HTTP request headers, view the response along with their header, configure timeout and lot of other properties.

Biggest Advantage

- **Security Token lifetime management**
- **Upload file size limit**



Organization of classes

- **All the classes are tightly integrated with Microsoft http library classes. No need to learn a new set of API's assuming users are already familiar with Microsoft .Net http library.**
- **Three main classes –**
 - 1. EsriHttpClient – Main class**
 - 2. EsriHttpRequestHeaders – Encapsulates http headers**
 - 3. EsriHttpResponseMessage – Encapsulates http response**

Demo

Putting all the blocks together



Coming soon...

- **More classes to get information from the portal**
- **Ability to listen to various event related to portal**
- **Ability to add, delete and enumerate the list of available portals**
- **Anything else you want , we are here to listen to you.**

ArcGIS Pro SDK for .NET Sessions

Tue March 8: 4:00 PM – 5:00 PM Primrose A (Palm Springs Convention Center)

ArcGIS Pro SDK for .NET: Programming Patterns

Tue March 8: 5:30 PM – 6:30 PM Primrose A (Palm Springs Convention Center)

ArcGIS Pro SDK for .NET: Editing and Geodatabase Integration

Wed March 9: 10:30 AM – 11:30 AM Catalina/Madera (Renaissance Hotel)

ArcGIS Pro SDK for .NET: Integration with ArcGIS Online

Wed March 9: 10:30 AM – 11:30 AM Mesquite C (Palm Springs Convention Center)

ArcGIS Pro SDK for .NET: Solution Based Configuration of ArcGIS (at 1.3)

Wed March 9: 4:00 PM – 5:00 PM Primrose B (Palm Springs Convention Center)

ArcGIS Pro SDK for .NET: UI Design and MVVM

Thu March 10: 9:00 AM – 10:00 AM Primrose C/D (Palm Springs Convention Center)

ArcGIS Pro SDK for .NET: Animation and Map Exploration

Thank you

Questions?



