GOOGLE WMTS WITH ESRI JAVASCRIPT API

Introduction

- The following slides demonstrate how to add the Texas Google Imagery WMTS Service to your web application using the Esri JavaScript API.

ESRI JavaScript API Code

- Add these to the Require statement
  - "esri/layers/WMTSLayer"
  - "esri/layers/WMTSLayerInfo“
- Add the Proxy Call
  - esriConfig.defaults.io.proxyUrl = "/WMTS/AGS_Proxy/proxy.ashx";
    - Change the Proxy URL as needed to follow the folder path to the proxy file
  - You can download the ESRI proxy here - https://developers.arcgis.com/javascript/jshelp/ags_proxy.html.

“The proxy consists of server-side code that runs on your web server. Your browser based web application sends the request to the proxy and the proxy then forwards the request to the remote web server and relays the response returned by the remote server back to your application.” – Esri

ESRI JavaScript API Code Continued

- Set up the layerInfo properties to pass to the Options parameter

```
var layerInfo = new WMTSLayerInfo({
    identifier: "texas",
    tileMatrixSet: "0to20",
    format: "png"});
```

- Set up the Options

```
var options = {
    serviceMode: "KVP",
    layerInfo: layerInfo};
```

- Create a new WMTSLayer object and pass in the URL to your Google Service and pass in the Options Parameter

```
var wmtsLayer = new WMTSLayer("https://txgi.tnris.org/login/path/####-####-####-####/wmts", options);
```

- Add the wmtsLayer variable to the map

```
map.addLayer(wmtsLayer);
```

layerInfo Parameter Explained

- Information needed to populate the layerInfo parameter can be found in the service
  - Add **?SERVICE=WMTS&VERSION=1.0.0&REQUEST=GetCapabilities** to the service URL
    - https://txgi.tnris.org/login/path/####-####-####-####/wmts?SERVICE=WMTS&VERSION=1.0.0&REQUEST=GetCapabilities.
  - Opening the link will display an XML. Find the matching tags of the attributes. The following attributes are required for the Texas Google Imagery.
    - identifier: "texas“
      - <Capabilities><Contents><Layer><ows:Identifier>texas</ows:Identifier>
    - tileMatrixSet: "0to20“
      - <Capabilities><Contents><Layer><TileMatrixSetLink><TileMatrixSet>0to20</TileMatrixSet>
    - format: "png“
      - <Capabilities><Contents><Layer><Style><Format>image/png</Format>

options Parameter Explained

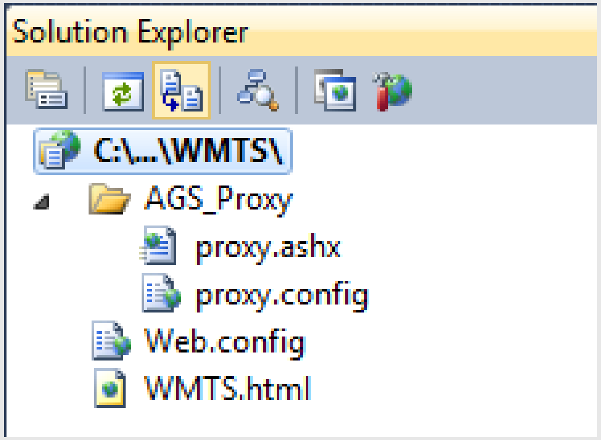
- The options parameter is also populated from the attributes of the service itself.
- Opening the link will display an XML; find the matching tags of the attributes
  - serviceMode: "KVP“

```
<Capabilities>
    <ows:OperationsMetadata>
        <ows:Operation name=“GetCapabilities”>
            <ows:DCP>
                <ows:HTTP>
                    <ows:Get>
                        <ows:Constraint>
                            <ows:AllowedValues>
                                <ows:Value>KVP</ows:Value>
```

File Configuration

- File configuration
  - – The Proxy needs to be on the same server as the application.
  - – Alternatively, if the Proxy is included in the application, the application will have to be web enabled.

  - – **WMTS.html** contains the actual JavaScript code.
  - – **Web.config** is added when running in debug mode; its not needed.
  - – **AGS_Proxy** folder
    - **proxy.ashx** contains the server side code that makes the necessary calls
    - **proxy.config** contains the calls to the AGS services
      - – In this case nothing is required: this is mainly populated when using secured services



Solution Explorer

C:\...\WMTS\
AGS_Proxy
proxy.ashx
proxy.config
Web.config
WMTS.html

Links & Help

- Using the Proxy
  - https://developers.arcgis.com/javascript/jshelp/ags_proxy.html
- ESRI JSAPI Documentation
  - https://developers.arcgis.com/javascript/jsapi/wmtslayer-amd.html#wmtslayer1
- Sample using WMTS without a Proxy
  - https://developers.arcgis.com/javascript/jssamples/layers_wmtslayerresourceinfo.html
  - Although this can be done it will require more attributes to be setup

- Feel free to contact AJ Balderaz for questions:
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Code Snippet

```
// Local proxy call.
        // You can download the ESRI proxy here - https://developers.arcgis.com/javascript/jshelp/ags_proxy.html.
        The Proxy runs on your web server. Your web application sends the request to the Proxy and the Proxy
        then forwards the request to the remote web server and relays the response returned by the remote
        server back to your application.
        esriConfig.defaults.io.proxyUrl = "/WMTS/AGS_Proxy/proxy.ashx";
        map = new Map("map");

// Google Service
        // The layerInfo is populated from the attributes of the service itself (Note: replace URL with your own service URL),
        https://txgi.tnris.org/login/path/####-####-####-####/wmts?SERVICE=WMTS&VERSION=1.0.0&REQUEST=GetCapabilities.
        Opening the link will display an XML; find the matching tags of the attributes.
        var layerInfo = new WMTSLayerInfo({
          identifier: "texas", //<Capabilities><Contents><Layer><ows:Identifier>texas</ows:Identifier>
          tileMatrixSet: "0to20", //<Capabilities><Contents><Layer><TileMatrixSetLink><TileMatrixSet>0to20</TileMatrixSet>
          format: "png" //<Capabilities><Contents><Layer><Format>image/png</Format>
        });

        var options = {
          serviceMode: "KVP", //<Capabilities><ows:OperationsMetadata><ows:Operation name="GetCapabilities"><ows:DCP><ows:HTTP>
                        <ows:Get xlink:href="https://txgi.tnris.org/login/path/pegasus-horizon-castro-comrade/wmts/1.0.0/WMTSCapabilities.xml">
                        <ows:Constraint name="GetEncoding"><ows:AllowedValues><ows:Value>KVP</ows:Value>
          layerInfo: layerInfo
        };

// Define Google Service and apply the options (Note: replace URL with your own service URL)
        var wmtsLayer = new WMTSLayer("https://txgi.tnris.org/login/path/####-####-####-####/wmts", options);
        map.addLayer(wmtsLayer);
```