

# Getting started with the LocalLayer custom Widget

Updated 10/11/2017 for WAB and LL 2.5 (note: any remaining 1.2 references should read 2.5)

- 10/11/2017 note: I'm having an issue adding LL to a 2.5 app created before adding the widget and doing the tweaks. I'm trying to track that issue down, but a new app and imported apps seem to be ok. Problem is the :: is showing in the on-screen/lower section instead of for just hidden.

*This custom widget is intended to allow the direct addition of ArcGIS for Server Map Services to be added directly to an ArcGIS Web AppBuilder application, without the need to wrap the desired services in an ArcGIS Online/Portal Web Map. [Note: however, a base map webID is still required, and the projection of your application will be determined by this basemap...for those of use that do not use Web Mercator Auxiliary (WMA)]*

**Widget author: Adam Drackley**

**This doc: Rebecca Strauch; (some text taken/modified from readme)**

- Go to <https://github.com/cmndrbensisko/LocalLayerWidget> to download the latest LocalLayer version.
- Go to [Web AppBuilder developers edition](#) for latest Web AppBuilder develop edition.
- For previous versions: <https://developers.arcgis.com/downloads/apis-and-sdks>

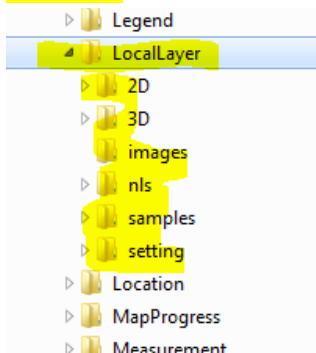
**NOTE: You must be logged in to download the software**

---

## Download and setup (WAB2.5 and LocalLayer 2.5 – updated Sept '17)

This document assumes [Web AppBuilder developers edition](#) (WAB) is already installed and working. For some additional tips for setup of WAB [Tips and Observations for getting Web AppBuilder Developer Edition Installed](#) and additional docs include with WAB that should be read.

- Go to <https://github.com/cmndrbensisko/LocalLayerWidget> to download the latest widget version.
  - If new to GitHub or WAB, and/or you do not currently plan to “collaborate” on the development of the widget, click on the “Download Zip” button on the right.
  - If you are more familiar with Git and plan to do additional work or collaboration, you have other options, including cloning/branching, etc. This document will not cover those steps.
- Find downloaded zip location. Unzip file. By default, if using an “unzip/extract here” option, the folder will be named “LocalLayerWidget-master” or similar. Rename folder to “LocalLayer”
- NOTE: Make sure the LocalLayer is the top folder name of the widget, and not repeated as a subfolder. It should look like this in the various widgets directories:



- **For new/future site creation**, copy the folder to (2.5 or version you are using)  
 <WAB install directory, e.g.: C:\WAB\arcgis-web-appbuilder-2.5>\client\stemapp\widgets
    - **NOTE:** future references in doc to <WAB> will reference your WAB install folder/directory, similar to the example shown above.
  - **For any existing sites**, determine the # for the application (this can be done by editing the app and taking note of the ?id= at the end, or launching from WAB and noticing number near the end of the URL), copy the folder to  
 <WAB> \server\apps\<#>\widgets
  - **Read the included Readme.md file for latest instructions** re: the version you downloaded and on the GitHub web page. These may contain tweaks to code and instructions that are not currently in this document.
  - **Code modifications required for WAB to recognize the widget** (from ReadMe.md, with modifications and additional detail):
    - **Please note that this is not an in-panel widget.**
      - **NOTE:** these changes can/should be done in the “default”  
 <WAB>\client folders and files, **HOWEVER**, keep in mind not all changes will automatically move to any existing applications in WAB. If having issues, check the applications’ <WAB > \server\apps\<#> structure and make changes there too if necessary. Doesn’t hurt to restart WAB and nodejs and test before making the <#> modification leap (i.e. some do seem to migrate over after an initial re-edit)
    - As mentioned above in unzip instruction, **add widget folder to your ArcGIS Web AppBuilder:**  
 <WAB > \client\stemapp\widgets
    - Then **add a reference to the widget** in the config.json file in each of the viewers: “basic\_viewer”, “default”, “editor” and “simple\_map\_viewer”. This will take care of the default Folded theme also. See steps further down re: adding same lines for all other themes,  
 <WAB >\client\stemapp\predefined-apps\<folder>\config.json  
 Full paths:
      - <WAB >\client\stemapp\predefined-apps\default\config.json
      - <WAB >\client\stemapp\predefined-apps\basic\_viewer\config.json
      - <WAB >\client\stemapp\predefined-apps\editor\config.json
      - <WAB >\client\stemapp\predefined-apps\simple\_map\_viewer\config.json
- under the widgetOnScreen section (near line 20-30). Highlighted “LocalLayer” should match the name of folder you copied to widgets folder. In example below, you will add the portion BETWEEN (not including) the “[” and the “...”. The rest should all be there.
- **NOTE:** Order of widgets does not seem to matter, so you can add it at start of list as shown, or at end, that is, before the “]” bracket, but if you do, make sure to remove the last comma at end of the added text, but to add a comma at the end of the previous widget code. That is, JavaScript formatting/structure applies.

Example:

```
"widgetOnScreen": {
  "widgets": [
    {
      "uri": "widgets/LocalLayer/Widget",
      "visible": false
    },
    ...
  ]
}
```

- **NOTE:** "visible":false will render the widget 'off' by default when building your applications, unless you wish to override the default WAB functionality and import your own layers directly from an ArcGIS Server instance.
- **For 1.2 and above: IMPORTANT:** The changes that need to be made for WAB 1.2 and above to make this tool operational have changed. ...**note** LayerInfos .....plural  
For **new** apps you only need to make this one change in the  
`<WAB>\client\stemapp\jimu.js\LayerInfos\LayerInfos.js`.  
For **existing/upgraded** apps you only need to make this one change in the  
`<WAB>\server\apps\[App#]\jimu.js\LayerInfos\LayerInfos.js`

Near or at line 439 653 (line numbers may change with future release(s) of WAB), change:

```
if (layer.url) {
```

To:

```
if (layer.url && !layer.noservicename) {
```

- To make tool visible in the All **other** themes (Foldable already done)

Example:

```
"widgetOnScreen": {
  "widgets": [
    {
      "uri": "widgets/LocalLayer/Widget",
      "visible": false
    },
    ...
  ]
}
```

Open the `<WAB>\client\stemapp\themes\<theme name>\layouts\default\config.json` in a text editor and add the code block above. Themes for 1.2 include: [BillboardTheme](#), [BoxTheme](#), [DartTheme](#), [FoldableTheme](#), [JewelryBoxTheme](#), [LaunchpadTheme](#), [TabTheme](#). Version 2.5 has additional themes [DashboardTheme](#) and [PlateauTheme](#). The [FoldableTheme](#) is already taken care of. There is a [DemoTheme](#) that can be changed, but is not loaded to WAB (sample for new themes I think).

- If you would like labels to display on your Feature Services by default, make sure to add "showLabels":true under the mapOptions setting of your config.json file located under `<WAB>\client\stemapp` (or at the root of your current app), in addition to checking the "Show Labels?" checkbox under the Feature Layer Settings Menu. Please note that there is currently

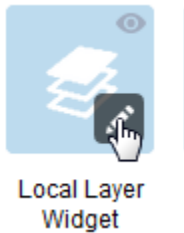
not sure if this has been fixed yet) an ESRI API bug preventing complex labelling expressions from being displayed on Feature Layers, such as expressions containing the CONCAT operator, and hopefully this will be addressed by esri in future releases. (around line 129.)

```
...
  "map": {
    ...
    "mapOptions": {
      "showLabels": true,
      "extent": {
        ...
      }
    }
  }
}
```

**The extension should now be functional in WAB. [See next section for getting started.](#)**

## Getting started with the LocalLayer widget (WAB 1.2 and above)

- If all was set up correctly (and never hurts to restart nodejs/WAB and/or reboot), when creating a new application, the LocalLayers widget should show in the widgets tab (and in some cases, should show up in existing WAB applications)



The pencil lets you edit/config the widget, that is, add your services and customize the pop-up, and add a proxy. The “eye” hides the widget.

- By default, the widget shows some sample layers. Once you have your services setup, these can be deleted.
- The base map you choose from AGOL/Portal will determine the projection/SR. This can be changed in the WAB’s map tab. Any tiled/cached services you add must be the same, dynamic/feature services can project on the fly, but for performance reasons, it’s always better if in the same projection. [note: these comments are from past experience, not tested and no time/performance tests are available at this time]
- If you have secured services, and have a proxy file already set-up, select the “Reverse Proxy Settings” config pencil. Check “Use Proxy?”, add the URL to your Web server (http or https, if web server is secure), and the folder and file name, click ok. [note: more will be added re: secured services and proxy files in future update to this documentation] **NOTE: I’m currently having issue with latest version 10/1/2015, see my comments <https://geonet.esri.com/message/556806#556806>** (still testing v2.5)

The image shows a dialog box titled "Reverse Proxy Settings". It has a close button (X) in the top right corner. Inside the dialog, there is a checkbox labeled "Use Proxy?" which is checked. Below this, there are two text input fields. The first is labeled "Address to Apply Prefix To" and contains the text "https://<your FQDN for server>". The second is labeled "Proxy Location" and contains the text "proxy/proxy.ashx". At the bottom of the dialog, there are two buttons: "OK" and "Cancel".

- Add your services. Currently you can add three types of services from your ArcGIS Server (AGS): base maps, dynamic services, and feature services. I typically would add them in that order. Each has slightly different capabilities, and at this point, it’s best to just get in there and see what you can do.
- The attribute widget should reflect any dynamic (and feature service??) services you add, so recommend you configure this widget, if you plan to include it in your application, so it displays only those layers and attributes you are interested in.
- Doug and Robert, and maybe others, plan on additional updates, as time allows. Some of that have been mentioned:
  - Additional GUI changes
  - Options for handling login screen when accessing secure services

- Ability to further tweak the format of fields thru the widgets, pop-up editor
- Tiled layers (i.e., beyond just base maps)
- ...more to be added

Additional resources:

- Long, involved thread [LocalLayerWidget and AccessifizrWidget](#)
- Geonet forums and info [note: generally “place”=esri, “group”=user-created]:
  - GeoNet Places (esri created) --- forums, etc.
    - [ArcGIS Online](#)
    - [Portal for ArcGIS](#) -- “onsite” version of ArcGIS Online for Organizations
    - [Web AppBuilder for ArcGIS](#)
    - [ArcGIS API for JavaScript](#)
    - [Developers](#)
    - [Esri Training](#) – good place to find “resource” documents and links from esri classes.
    - ...
  - GeoNet Spaces (user created) --- forums, etc.
    - [Web AppBuilder Custom Widgets](#)
    - ...
- Documents, blog posts, etc. (on Geonet or other)
  - Find this document again (to be determined)
  - [Building Applications Using the arcGIS API for JavaScript Resources](#)
  - When you setup WAB, in the <WAB>\client\stemapp folder, there are some docs that may be overlooked if you jump right in with both feet like I did. Checkout config-readme.txt and of course the readme.html at the very least.
  - [Proxy help](#) Good flow chart explaining order of the useProxy, rules, etc. (although I don’t have it working yet)

\*\*\*\*\*

**And please remember that this widget, and many other custom widgets, are created and provided by the generosity of the other users in the community, like you. Most have real jobs too. So, be patient and appreciative for the tools and advice they provide.**

\*\*\*\*\*