WORKING WITH WEB APPBUILDER FOR ARCGIS DEVELOPER EDITION

A guided deep dive into using Web AppBuilder Developer edition

SHEA LEMAR
AYAN MITRA

Geospatial Research & Solutions
https://gis.asu.edu

For folks on their own laptops

Link to download WebAppBuilder

https://bit.ly/1x37vtq

Link to download Visual Studio Code

https://bit.ly/2DlodOr

OVERVIEW

1. What is WebappBuilder (WAB)
2. Versions and capabilities of WebappBuilder
3. WebappBuilder Developer Edition configuration
4. Create a simple app with the near me widget
5. Structure of WAB and its internal architecture
6. Adding in Custom Widgets
7. Cloning & Modifying Existing Widget Fuctionality
8. Deploying WAB Applications
9. Deploying WAB in the enterprise
10. The Road Ahead
11. Questions

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What is WebappBuilder

Modular web application for data visualization and GIS workflows.

Web AppBuilder for ArcGIS includes built-in tools (widgets) so you can create 2D and 3D web apps

Developers can alter existing widgets or extend WAB Developer edition with custom widgets and themes.

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Versions and capabilities of WebappBuilder

Two flavors of WAB

1. Hosted WebappBuilder – Embedded into Arcgis Online or Arcgis Enterprise/Portal.

2. WebappBuilder Developer edition – Deployed on your local machine or a server.

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Hosted WebappBuilder

Hosted by Esri on the Arcgis Online Platform or hosted inside of your Arcgis Enterprise or Portal Instance.

Can create new applications using Esri's existing library of widgets.

Cannot add your own custom widgets or modify the existing widgets/ functionality on the AGOL version (but it is possible on Portal in newer versions)

Arcgis Enterprise / Portal example
https://grs.asurite.ad.asu.edu/portal/apps/webappviewer/index.html?id=f7478689c56e4730acf75bf78bcd669e

Arcgis Online example
https://asu.maps.arcgis.com/apps/webappviewer/index.html?id=d7b6cc586d314376ae2a7d9b1d9c78d5

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WebappBuilder Developer Edition

Typically installed on your workstation or a server of your choosing.

All the development is done on a workstation and then the app is hosted by your organization. Cannot be hosted on Arcgis Online.

Can create new applications using Esri's existing library of widgets.

Can add your own custom widgets or modify the existing widgets/ functionality. You have full control

Locally Hosted Webappbuilder Developer example URL
http://laptop-2dg0tgvu:3344/webappbuilder

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Configuring WebappBuilder Developer

Download WAB Dev from https://developers.arcgis.com/web-appbuilder/guide/getstarted.htm

Extract/ Unzip it, Then run the startup bat file.

Register / Create an entry for WAB Dev in your AGOL or Arcgis Enterprise/Portal instance.

Now grab your Agol or portal url and the App Id from the previous step and point WAB Dev to your Arcgis Online or Arcgis Enterprise/Portal Instance

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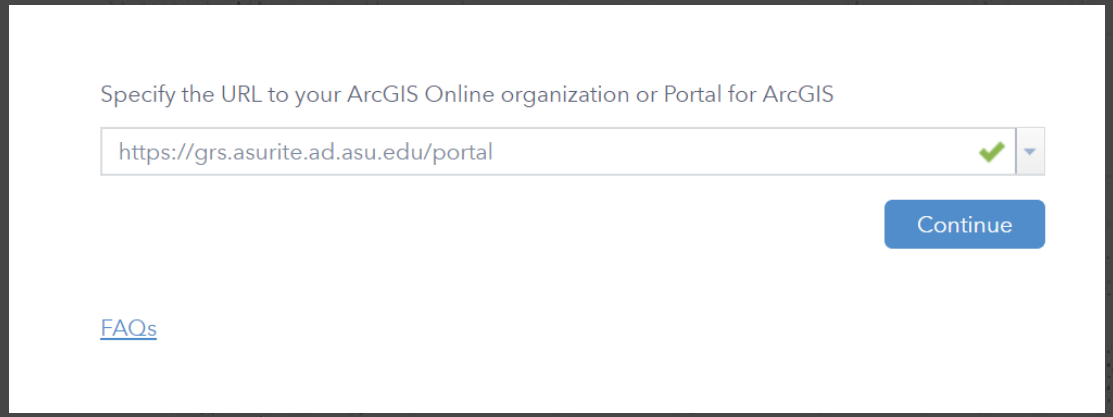
URL to AGOL or Portal and App ID



Temporary Portal Details

Portal url
https://grs.asurite.ad.asu.edu/portal

App ID - 0GXsEZgWrmYbME4o

UserName – Agic2019

Password – agicRocks1

Temporary Portal Details

https://bit.ly/2ojgUzt

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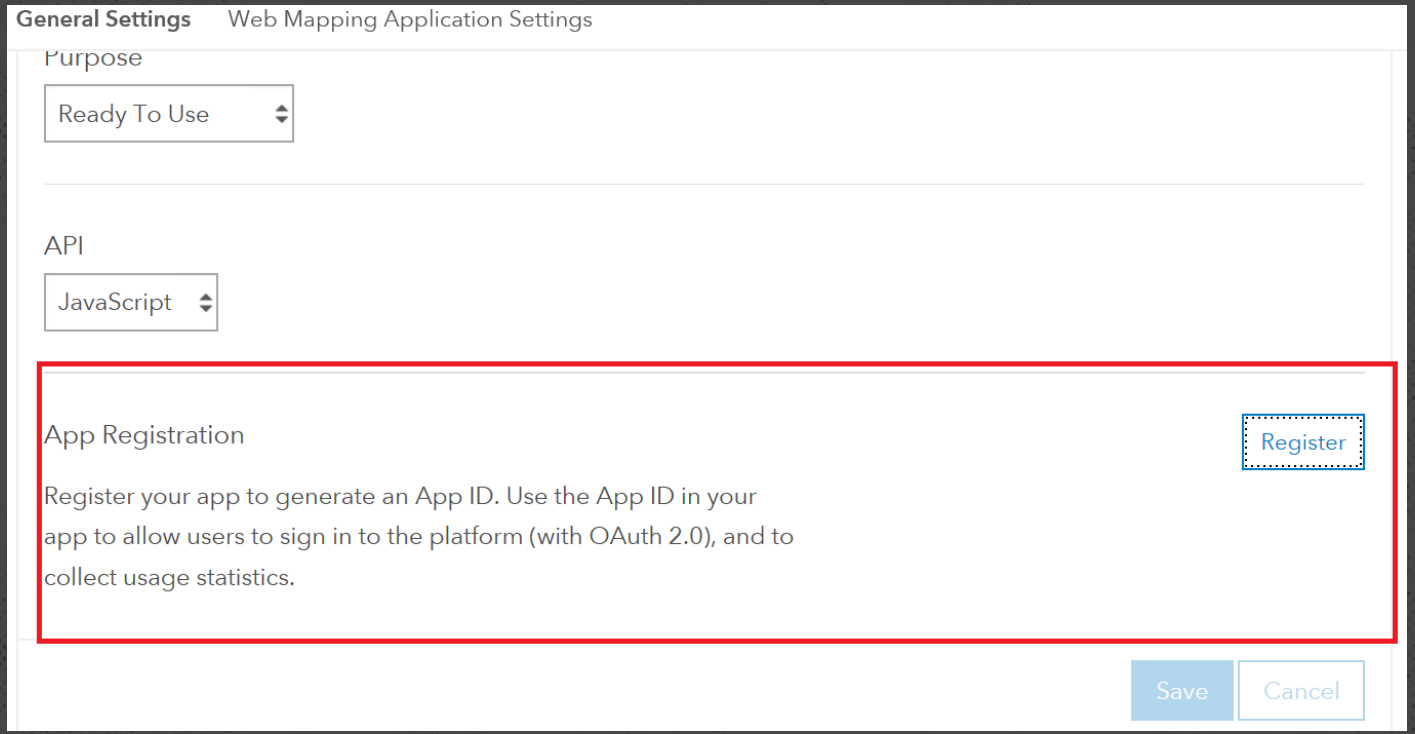
Register WAB Dev in your AGOL or Arcgis Enterprise/Portal instance.



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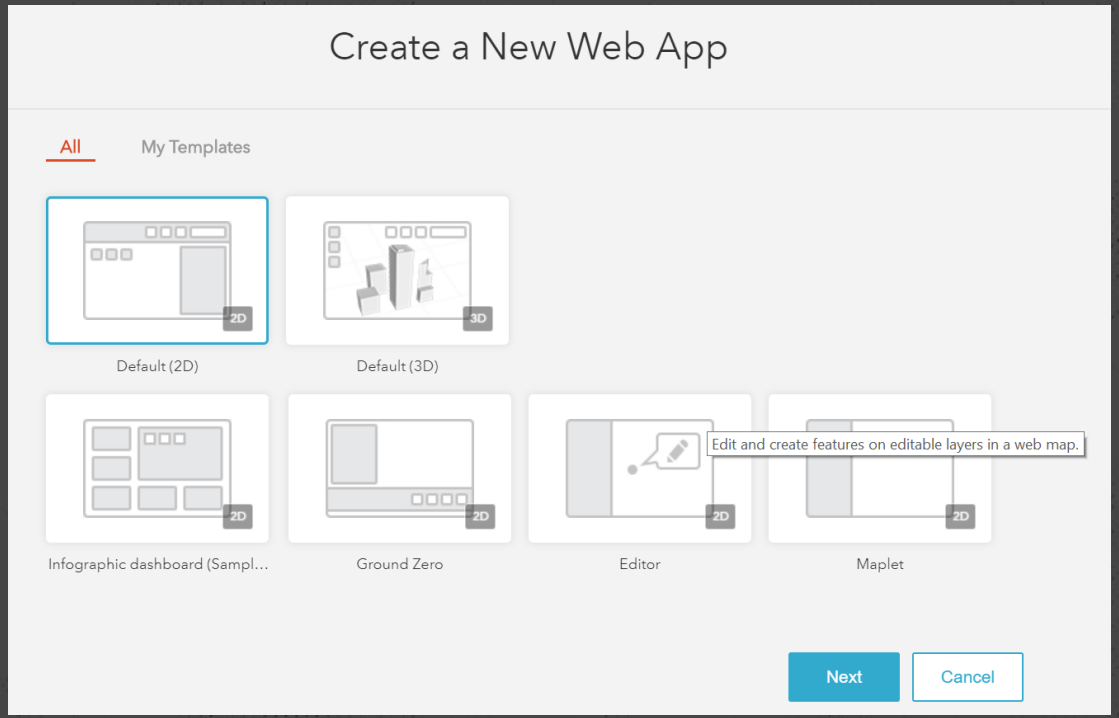
Creating a Webapp App with WAB Dev



Create a new 2d Webapp

Add the Near Me Widget

Configure the Near me Widget to search a layer in your web map

Folks using our portal – Choose My Groups Or My Content and then pick the web map called **Starbucks**

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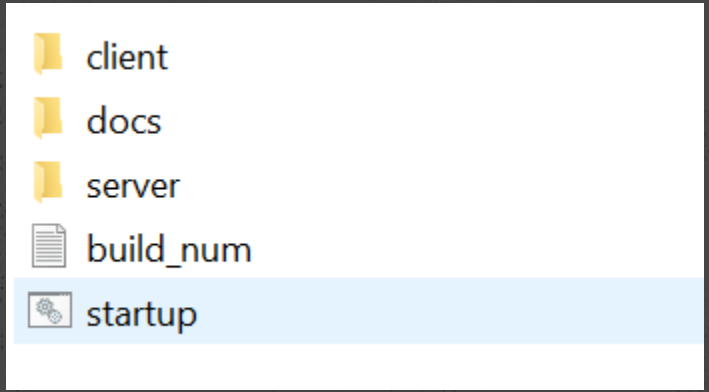
Structure / Architecture of WAB

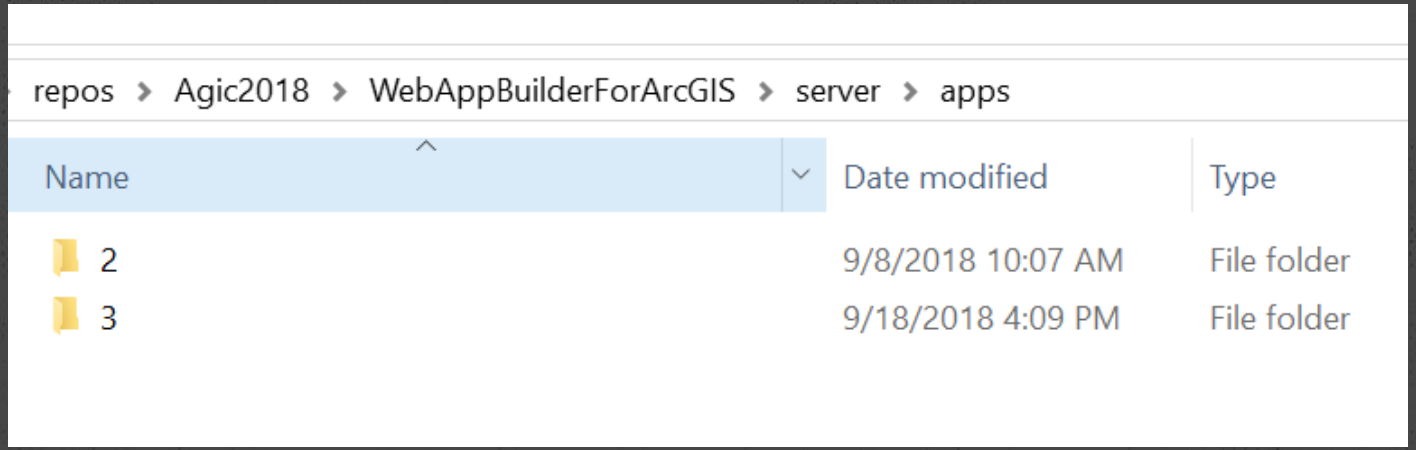
Client – contains stemapps for building 2d and 3d webapps (think templates) WebAppBuilderForArcGIS\client\stemapp

Server – the node app that represents the server side of WAB. Contains startup scripts that can be edited as well as the code for your individual apps in WebAppBuilderForArcGIS\server\apps

Docs – Contains WAB documentation.



Structure / Architecture of WAB



The stemapp is your template. Individual apps you create all use the stemapp as the template

When you create an app, the Server (Node) app essentially uses the stemapp as a template, picks the widgets you have selected and creates an individual app for you in the WebAppBuilderForArcGIS\server\apps folder

Structure / Architecture of WAB

Startup.bat file contains parameters that you can alter to tweak how WAB starts up. You can alter things like the port, url used, etc.

For Example – Want WAB to automatically open up in Chrome. You can change it in the bat file as below.

```
35
36  REM open the url in browser
37  START chrome http://%FQDN%:%port%/%wabVirtualPath%
38  EXIT 0
39
```

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Adding Custom Widgets

Do not start writing your own widget. Look at your options to see if an existing community widget meets your need.

Community Widgets
https://community.esri.com/blogs/myAlaskaGIS/2017/03/04/web-appbuilder-the-custom-widgets-list-332017

Robert's Custom WAB widgets
https://community.esri.com/thread/119278-roberts-custom-wab-widgets

Esri's Solutions Widgets
https://github.com/search?q=org%3AEsri+webappbuilder&unscoped_q=webappbuilder

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Adding Custom Widgets

Deploying a community created widget

We will pick Robert Scheitlin's Enhanced Search widget

Download it from https://bit.ly/2oeV5RD or https://gis.calhouncounty.org/WAB/V2.12/other/eSearch.zip

Extract it and then copy it to client\stemapp\widgets. This lets you use the widget in any apps you create.

To add it to just a single app, copy the widget to your app's \widgets folder and then edit the app config file to add in the new widget.

Creating a new Widget

We will clone the near me widget & make changes to this new cloned widget. We will then add a new function to sum the total count of features and then deploy the widget.

We will use a code snippet at the following url

https://bit.ly/2petzUT

To create a new widget, you will need to know some basic HTML, CSS & Javascript. A working knowledge of Dojo and the ESRI Javascript API is also very helpful.

https://developers.arcgis.com/web-appbuilder/guide/in-panel-and-off-panel-widget.htm

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Deploying a WAB App

You will need to download the zip file, then host the data on a web server.

You may optionally need to deploy a proxy. If so then the web server will need to be able to run the proxy application.

Esri provides three types of proxies, each targeting a specific server-side platform: ASP.NET, Java/JSP, and PHP

https://developers.arcgis.com/web-appbuilder/guide/xt-deploy-app.htm

Deploying WAB in your organization

You deploy WAB Developer Edition individually to workstations and then run it as a service to make sure it is always available.
You can also do this on a server. You may need to open the port used by node.
https://developers.arcgis.com/web-appbuilder/guide/getstarted-run-as-window-service.htm

We run WAB Dev as a service and use IIS and ARR as a reverse proxy. This is great for quick development and avoids us needing to run on a non standard port.
https://1757-5530-10.asurite.ad.asu.edu/webappbuilder/

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The Road Ahead

Arcgis Experience Builder
https://experience.arcgis.com

Not a strict drop in replacement for Webappbuilder, but will reach feature parity in a few years (think Arcgis Pro and Arcgis Desktop)

Uses 4.x of the Esri Javascript API, Typescript and React

Release version coming in 2020, Beta available now.

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Questions

Feel free to contact us at

SHEA LEMAR (ASU – GRS) - Shea.Lemar@asu.edu
AYAN MITRA (ASU – GRS) - Ayan.Mitra@asu.edu

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