



Printing in web applications

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Printing in web applications

There are several ways to generate a printable document from a web application. By default, ArcGIS for Server includes a geoprocessing service called PrintingTools. Web applications invoke the PrintingTools service and get a printable document in return. You can also create a custom print service using your own layouts, or use a Python script to convert the web map into an ArcMap document (MXD).

The PrintingTools service is stopped by default. You must use ArcGIS for Desktop or ArcGIS for Server Manager to start the service if you want to support printing workflows. Once the PrintingTools service has started, you can access it and run it via your web applications.

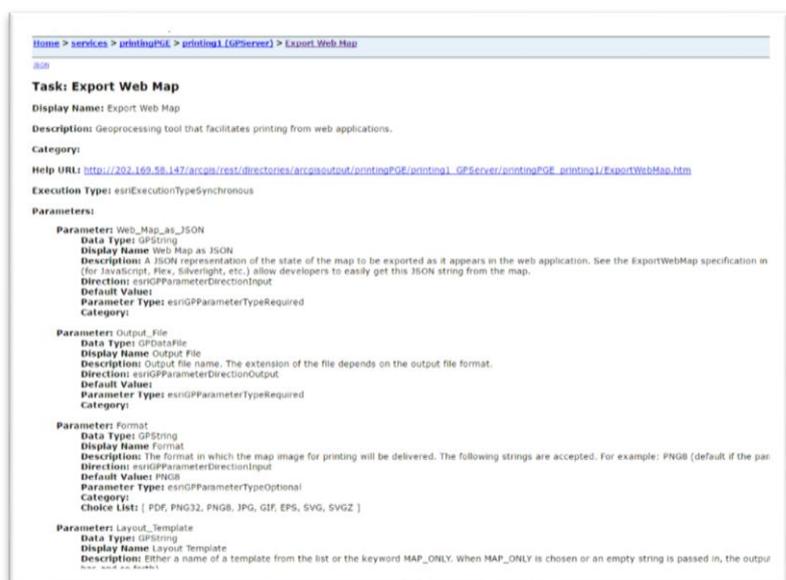


When your map service is cached, the PrintingTools service may use a resolution that is too low (for example, 96 DPI) for large format or high-quality printing. To print at higher resolutions, it is recommended you enable dynamic layers on your cached map service.

Custom print services

If you want to use your own map layouts, you can publish your own service for web map printing similar to PrintingTools. You can configure this service to reference your own folder of ArcMap documents (MXDs) that you've prepared with various map layouts.

Please note: there are additional considerations in this tutorial for publishing and consuming custom print services in Portal for ArcGIS. The custom print service must be published as a synchronous geoprocessing service and the URL for the print service must use HTTPS for the portal to accept it as its print service.



Custom print services can print layouts that use multiple data frames. The service only replaces the map in the active data frame

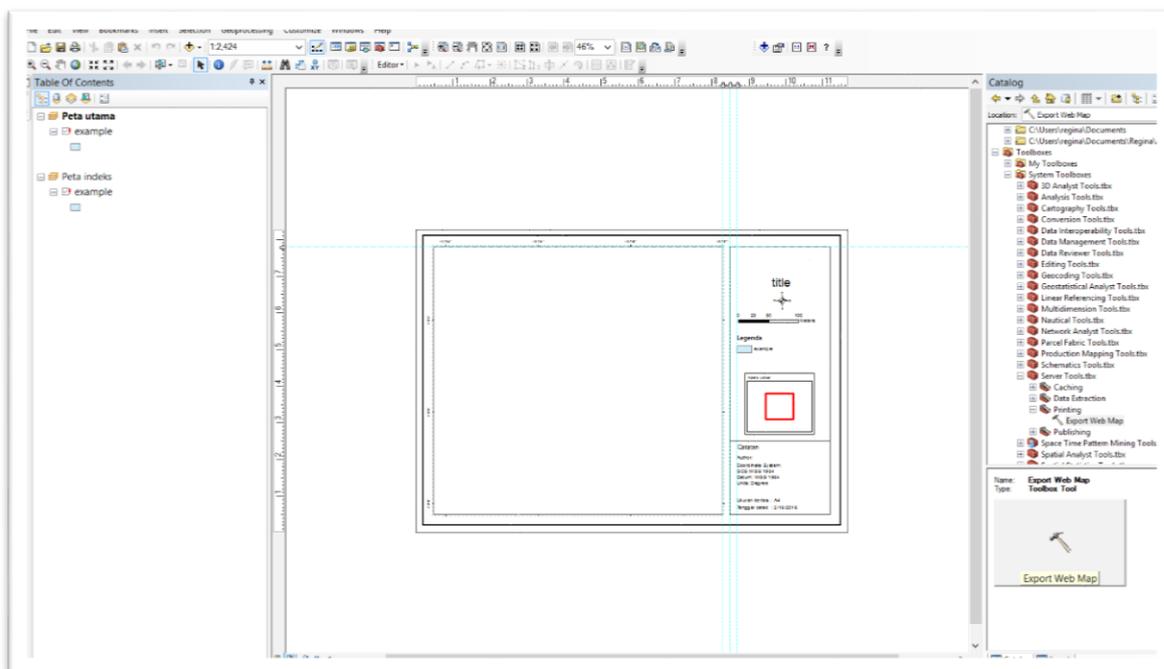
For example, suppose you have a layout with two data frames – a main map and an overview map. The overview map includes an extent rectangle showing the current extent of the main map. Before using this layout with your custom print service, you need to ensure the main map data frame is the active data frame. When a web user requests a map with your layout, the main map will show the current web map view, and the overview map's extent rectangle will display the extent of the main map as expected.

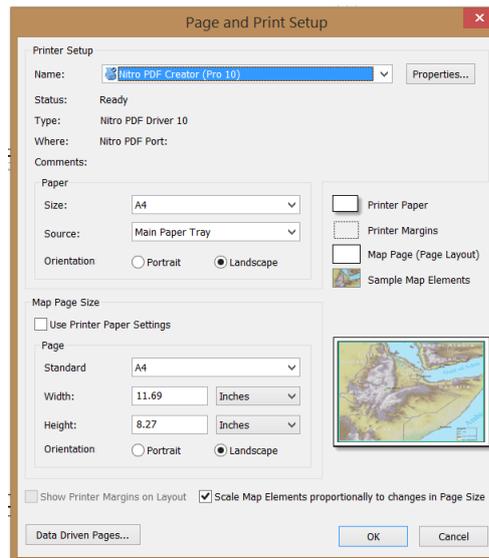
Legends

Whether you use PrintingTools or a custom print service, the legends in your printed output will behave similarly. When printing feature services, the legend in the printed document will only include entries for the features found in the map extent, whereas legends for other service types will include all legend entries for the features, regardless of the map extent.

Preparing and publishing the service

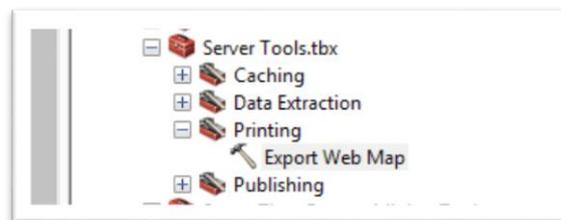
Before you start publishing, you need to set the print layout, display and title, symbol, legends, index map, and page and print arrangement.



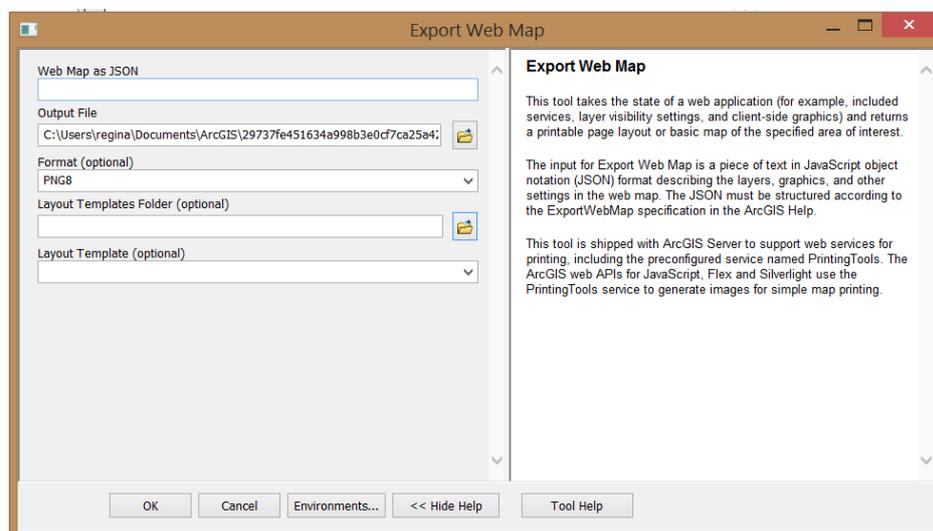


Run 'export web map'.

1. In ArcCatalog or the catalog window in ArcMap, select 'toolboxes' > 'system toolboxes' > 'server tools' > 'printing'.



2. Double-click 'export web map' to open it.

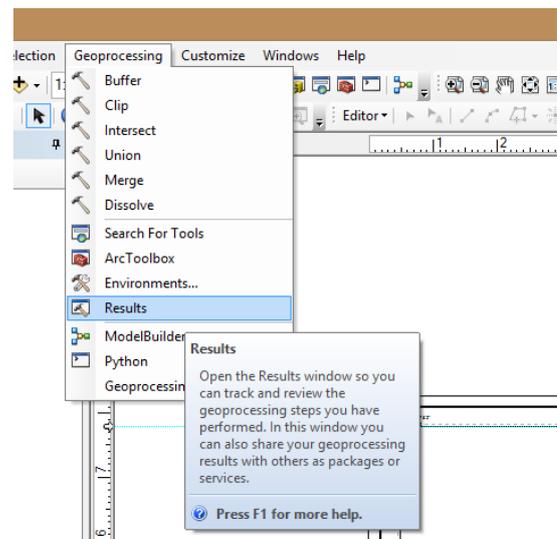


3. Leave the 'web map as JSON' textbox blank.

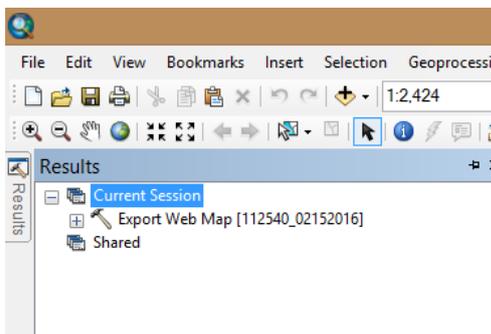
To get printable images, users of this service will have to submit their own web map JSON for this parameter. The printing widgets in the ArcGIS Web APIs, Portal for ArcGIS app templates and Web AppBuilder for ArcGIS generate this JSON behind the scenes.

4. Keep the default for the output file parameter. Once you publish this tool to the server, the output will be placed in the server jobs directory.
5. Set the layout templates folder parameter by clicking the browse button and locating your layouts. If you just want to reference the basic layouts installed with ArcGIS for Server, leave this parameter blank.
6. Optionally, set the layout template parameter by choosing one of the layouts from the drop-down list. This will be the default layout when users run your service.
7. Click 'OK' to run the tool.

8. Click 'geoprocessing' > 'results' to display the results window.

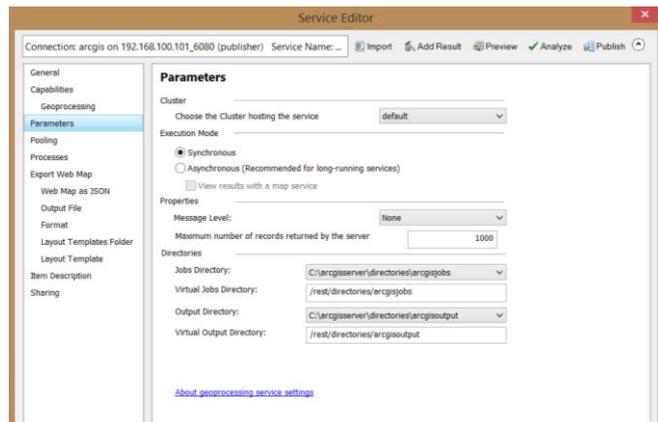


9. To expand the current session, right-click 'export web map' and click 'share as' > 'geoprocessing service'.

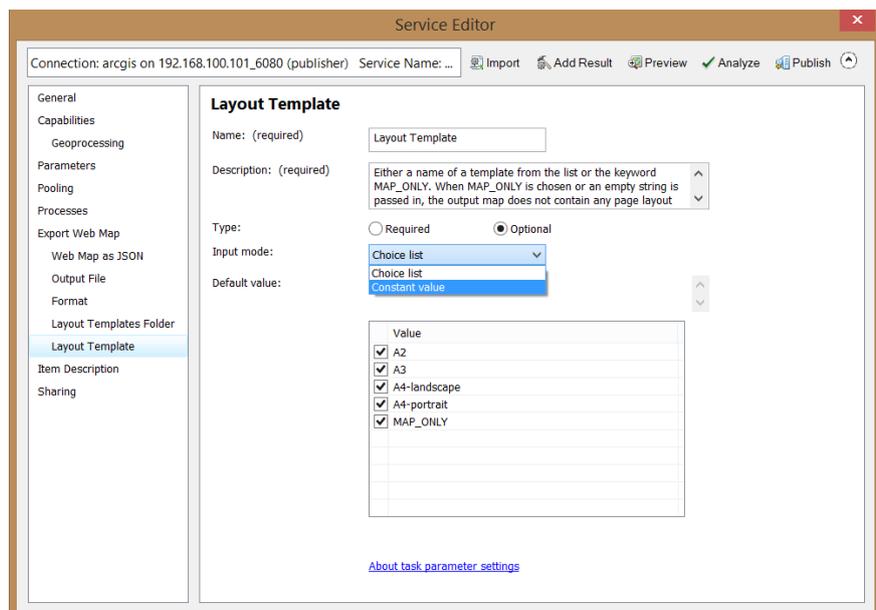


10. Choose 'publish a service' and click 'next'.
11. Choose a connection to ArcGIS for Server (or click the button to add a new one) and give your service a name. Click 'next'.
12. Choose the folder where this service will reside. You must use your own folder or the root folder. When you have finished selecting a folder, click 'continue'. You are now viewing the service editor, where you can do more preparatory work before publishing, such as setting available parameter choices for your service.

- Click 'parameters' and ensure the execution mode of the service is set to 'synchronous'. Print services to be used with Portal for ArcGIS must be synchronous.



- On the service editor, find the left panel where each tool parameter is listed (web map as JSON, output file, format, layout templates folder, layout template). Click each of these parameters and examine the defaults set. If you want to change the defaults, you need to go back to the 'export web map tool' dialog box and set the values there, as you did in the previous steps in this tutorial. You can hide a parameter completely from end users and force them to use the default by setting the parameter's input mode to 'constant value'.



- Click 'publish' to publish your service.

If you receive a warning about data being copied to the server, click 'OK'. This just copies the default output image, which is not a significant amount of data.

- Verify your service was published correctly by browsing the manager or services directory.