

Printing for Web Developers

Tanu Hoque
Noah Sager

```
Map map = new Map(BasemapStyle.ArcGISNavigation);  
map.InitialViewpoint = new Viewpoint(40.72,  
-73.995,  
72000);  
mapView.Map = map;
```

```
class MainActivity : AppCompatActivity() {  
    override fun onCreate(savedInstanceState: Bundle?) {  
        super.onCreate(savedInstanceState)  
        setContentView(  
            SampleAppTheme {  
                val map = ArcGISMap(NavigationStyle)  
                map.InitialViewpoint = Viewpoint(  
                    40.72,  
                    -73.995,  
                    72000.0
```



Printing for Web Developers



YOU ARE A PARTICIPANT

Friday, Mar 13 | 8:30 AM - 9:30 AM PDT

📍 Pasadena | Renaissance Hotel

This technical session focuses on printing as a collaborative technology for web developers. Speakers cover the entire printing workflow, starting with creating and sharing custom print layout templates in ArcGIS Pro, ArcGIS Online, and ArcGIS Enterprise. They then move on to printing in a variety of ArcGIS apps, including Map Viewer and configurable apps. Next, explore distinct printing experiences in ArcGIS Online and ArcGIS Enterprise and crucial troubleshooting tips. Finally, explore techniques for integrating these printing capabilities into your custom web apps built with the ArcGIS Maps SDK for JavaScript.

Session Type: Technical Session

Session Level: All Attendees

Access Type: In-Person, Recorded

Topic: Web

Esri Products: ArcGIS Enterprise, ArcGIS Online, ArcGIS Pro, ArcGIS Maps SDK for JavaScript

Capabilities: Map Output and Printing, Web App Development

Technologies: JavaScript, Map Viewer

Keywords: print, custom print service, web development, JavaScript

SPEAKERS



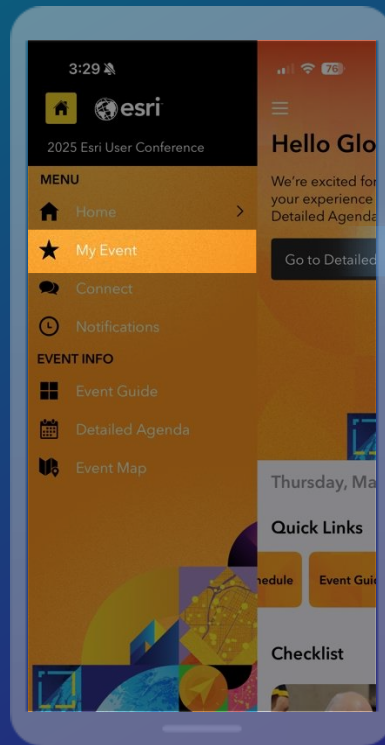
Noah Sager
Esri



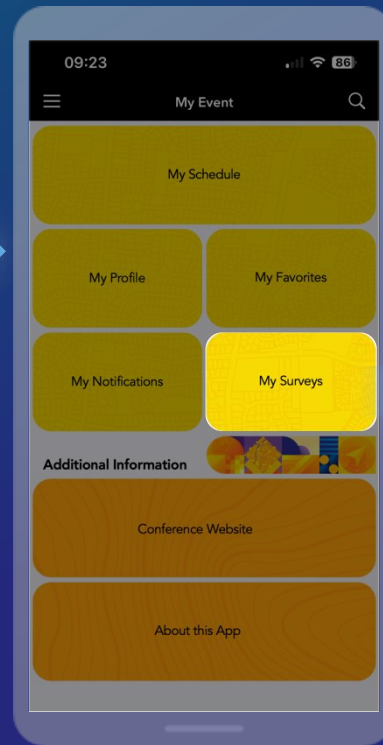
Tanu Hoque
Esri

Please share your feedback in the app

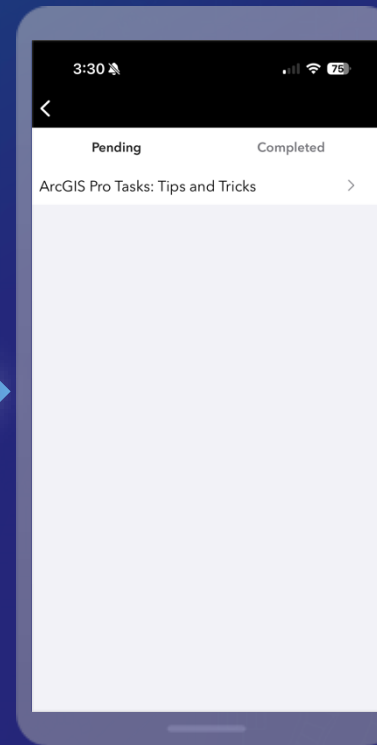
Select "My Event" in the event app main menu



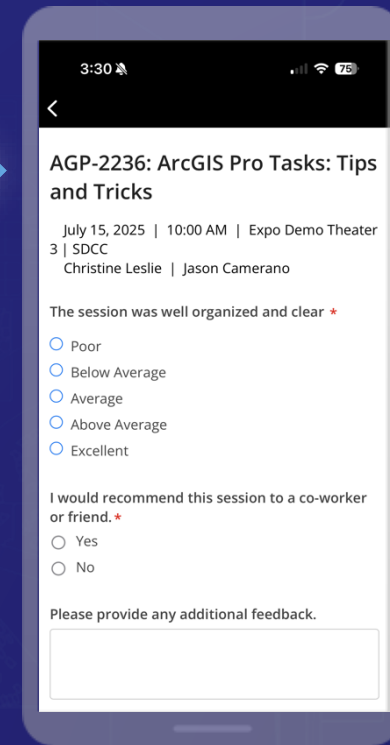
Select "My Surveys"



Select the desired survey



Complete the survey



Agenda



- Why printing?
- Where does printing come from?
- Does it print?
- Additional resources
- Questions

Why Printing?



Why Printing?



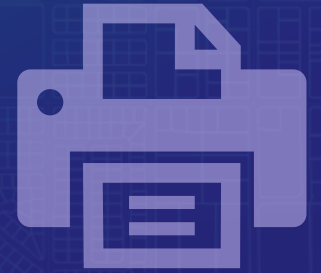
- [TODO] – **Noah**, come-up with several interesting and compelling use cases that help explain why web developers want to do printing...



Why Printing?

- [TODO] – Noah, come-up with several interesting and compelling use cases that help explain why web developers want to do printing...
- But really, we want to know, why do you print?
- We value your feedback.
- During this session, after this session. Send an email, post on Esri Community.

Where does Printing come from?



Where does Printing come from?



ArcGIS Pro



ArcGIS Pro

Printing begins with ArcGIS Pro

- Print pretty maps
- Make pretty layouts
- Desktop architecture / rules

- Export Webmap GP tool (Print service)
- Share Layout Template
- ArcGIS Online, ArcGIS Enterprise, ArcGIS Server

Publish



ArcGIS Pro



ArcGIS Server



ArcGIS Enterprise



ArcGIS Online



ArcGIS Pro

Publish



ArcGIS Server



ArcGIS Enterprise



ArcGIS Online



ArcGIS Pro

Publish



ArcGIS Server



ArcGIS Enterprise



ArcGIS Online

ArcGIS Enterprise supports

- Utility print service
- Custom print services
- Custom layouts

ArcGIS Online supports

- Utility print service
- Custom print service
- Esri premium print service*
- Custom layouts*



ArcGIS Pro

Publish



ArcGIS Server



ArcGIS Enterprise



ArcGIS Online

* = depends on user roles and organizational settings

ArcGIS Enterprise supports

- Utility print service
- Custom print services
- Custom layouts

ArcGIS Online supports

- Utility print service
- Custom print service
- Esri premium print service*
- Custom layouts*

Publish



* = depends on user roles and organizational settings

Note:

Printing from layout items is only available when a template group is configured. Printing from these items will always use the ArcGIS print service, even if you have a custom print service configured. Printing from layout items requires that the services behind the layers in the map are externally available. To print layers secured with web-tier authentication, you must use a custom print service configured to handle web-tier authentication.

Printing from custom layout templates is available to members assigned the Professional or Professional Plus [user type](#).

- Custom print service
- Esri premium print service*
- Custom layouts*

ArcGIS Online

ArcGIS P



Customize your print layout experience in ArcGIS Online

By [Zara Matheson](#)

The June 2024 ArcGIS Online update includes the option (beta) to print from layout template items published directly to ArcGIS Online. This enhancement means users can create and publish their own layout items from ArcGIS Pro to ArcGIS Online and use them without having to set up and maintain their own print server. This is especially useful if you want to add your organization's logo or branding to your print output or require more room to support a larger legend. Custom layout items can also add consistency and branding to the print experience for your organization.

This new capability will be available as a beta offering at this time for Professional and Professional Plus [user types](#). Printing from the default templates will continue to be available for all users. Along with this enhancement, the Map Viewer print tool itself has been updated with a cleaner look and we have introduced a print preview option to provide a better indication of the map area that will be included in your print output.



ArcGIS



ArcGIS Pro

Publish



ArcGIS Server



ArcGIS Enterprise



ArcGIS Online





ArcGIS Pro

Publish



ArcGIS Server



ArcGIS Enterprise



ArcGIS Online

Consume



Map Viewer



ArcGIS Experience Builder



ArcGIS for Developers



ArcGIS Instants Apps



ArcGIS Solutions



ArcGIS Pro

Publish



ArcGIS Server



ArcGIS Enterprise



ArcGIS Online

Consume



Map Viewer



ArcGIS Experience Builder



ArcGIS Maps SDK for
JavaScript



ArcGIS Instants Apps



ArcGIS Solutions



ArcGIS Pro

Publish



Consume

February 24, 2026 | [Yixuan 'Emily' Hu](#) | [Announcements](#)

ArcGIS Maps SDK for JavaScript: What's New in 5.0

The graphic features a central blue hexagon with the 'JS' logo. Surrounding it are four images: a line graph, a night cityscape, a 3D industrial facility, and a code editor window showing 'arcgis-assistant'.

ArcGIS Online



Map Viewer



ArcGIS Experience Builder



ArcGIS Maps SDK for JavaScript



ArcGIS Instants Apps



ArcGIS Solutions

Consume



ArcGIS Enterprise



ArcGIS Online



Map Viewer



ArcGIS Experience Builder



ArcGIS Maps SDK for
JavaScript



ArcGIS Instants Apps



ArcGIS Solutions

JavaScript Print component
Experience Builder Print widget



ArcGIS Enterprise

JavaScript Print component
Experience Builder Print widget



ArcGIS Online



Map Viewer



ArcGIS Experience Builder



ArcGIS Maps SDK for
JavaScript



ArcGIS Instants Apps



ArcGIS Solutions

JavaScript Print component
Experience Builder Print widget



ArcGIS Enterprise

Print component
Enterprise version
Latest Version



Map Viewer

Print widget
Enterprise version
Latest Version



ArcGIS Experience Builder

Print component
rest/print ()
Specific Version



ArcGIS Maps SDK for
JavaScript

JavaScript Print component
Experience Builder Print widget



ArcGIS Online

Print component
rest/print ()
Specific Version



ArcGIS Instants Apps

Print component
rest/print ()
Specific Version



ArcGIS Solutions

JavaScript Print component
Experience Builder Print widget



ArcGIS Enterprise

Print component
Enterprise version
Latest Version



Map Viewer

Print widget
Enterprise version
Latest Version



ArcGIS Experience Builder

JavaScript Print component
Experience Builder Print widget



ArcGIS Online

Print component
rest/print ()
Specific Version



ArcGIS Maps SDK for
JavaScript

Print component
rest/print ()
Specific Version



ArcGIS Instants Apps

Print component
rest/print ()
Specific Version



ArcGIS Solutions

Publish Custom Services

Publish Custom Services



ArcGIS Pro



ArcGIS Online



ArcGIS Server



ArcGIS Enterprise

Publish Custom Services



ArcGIS Pro



ArcGIS Server



ArcGIS Enterprise

Web map printing with arcpy.mp

ArcGIS Pro 3.6 | [Other versions](#) ▾ | [Help archive](#)

A common arcpy.mp workflow used in Portal for ArcGIS is web map printing, in which Python, [ArcGIS Experience Builder](#), [ArcGIS Maps SDK for JavaScript](#) and [ArcGIS Web AppBuilder](#) work together to create web apps that produce high-quality cartographic output.

Enable Utility Services



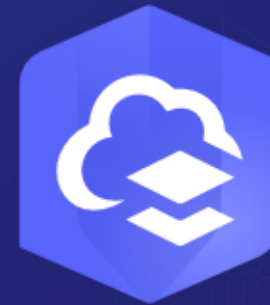
Enable Utility Services



ArcGIS Server



ArcGIS Enterprise



ArcGIS Online

(No Customization)

Fundamentals of configuring the organization

Best practices for organization maintenance

Site configuration groups

Configure general settings

Configure home page

Utility services

ArcGIS 11.4 (Windows) | [Other versions](#) | [Help archive](#)

Utility services enable specific functionality in your organization, for example, printing maps, locating addresses, calculating areas, finding directions, and performing analysis. Some utility services include default services, but you can also use custom services. To configure your organization to use utility services, see [Configure utility services](#).

> Introduction to services

> Publish services

> Work with services

> Edit services

> Migrate services

> Types of services

> Cache services

Printing in web applications

ArcGIS 11.4 (Windows) | [Other versions](#) | [Help archive](#)

There are several ways to generate a printable document from a web application. ArcGIS Enterprise 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 rather than those in the default PrintingTools service. For advanced printing, you can use a Python script to convert the web map into an ArcGIS Pro Project (.aprx), then export the map or layout inside the project to a variety of formats for printing.



> Manage subscription

> **Configure website**

Configure website

Configure general settings

Configure utility services

Members of the [default administrator role](#) and those in custom roles with the appropriate [privileges](#) can configure the website to use different utility services to perform printing, geocoding, and routing tasks.

Share Layout Templates

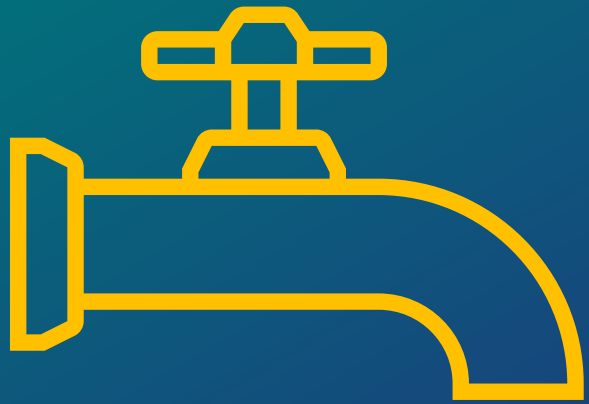
Share Layout Templates

The **Get Layout Templates Info** task provides the size of the layout page and the size of a map frame. It also shows whether the following layout elements are available:

- Legend
- Title text
- Copyright text
- Author text
- Custom text elements

You can also add this task to custom print services.

services



layouts

Get Layout Templates
Info Task

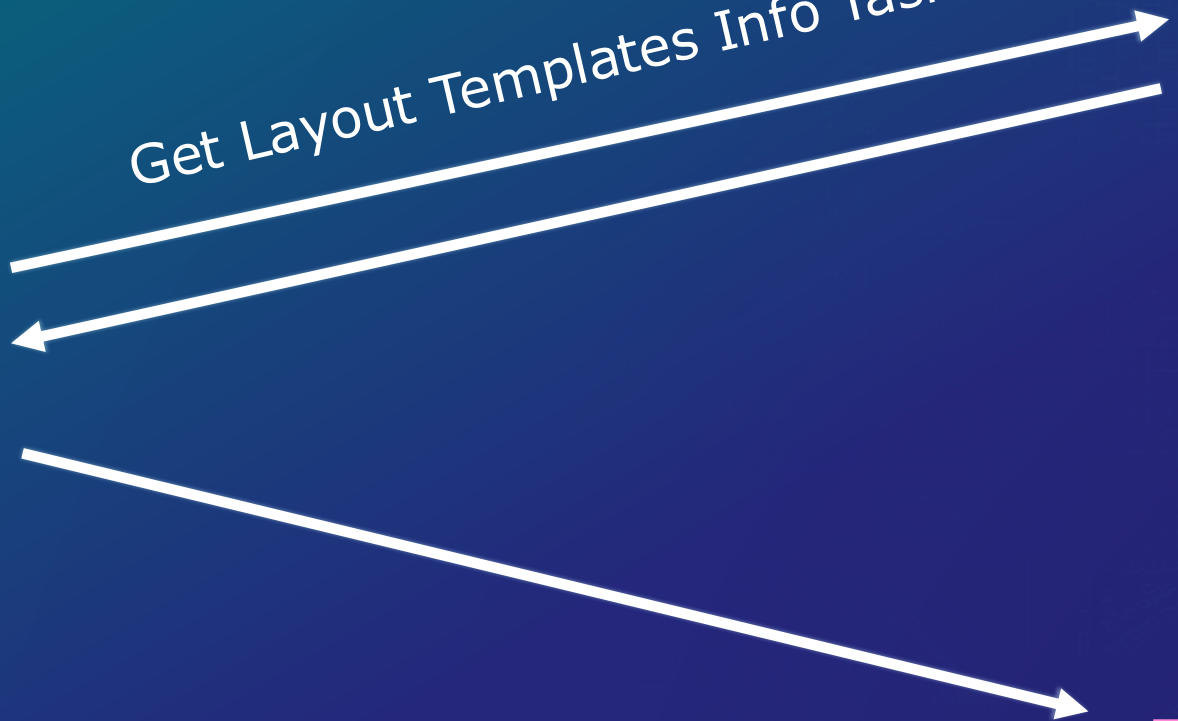
Custom layouts



apps



Get Layout Templates Info Task



Share custom layouts for printing from ArcGIS Pro

ArcGIS 12.0 (Windows) | [Other versions](#) ▾ | [Help archive](#)

When you need printing capabilities in ArcGIS Enterprise outside the scope of the default PrintingTools service, you can create custom layouts in ArcGIS Pro. You can either share these layouts to your portal as a web tool or publish them to a stand-alone ArcGIS Server site as a geoprocessing service. Geoprocessing services that enable printing are called print services.

Configure custom print layout templates (beta)

Print layout templates contain page setup information for creating printer-friendly documents for maps in Map Viewer. You can publish custom print layout templates as items to ArcGIS Online and share them with a group. You can then configure the group as the organization's layout template group ([beta](#)). All custom print layout templates shared with this group are available as template options when printing in Map Viewer.

You can access custom print layout templates that have been published as items to ArcGIS Online and shared with a layout template group ([beta](#)) without configuring a print service.

custom print service



free



Custom layouts

Get Layout Templates
Info Task



layouts

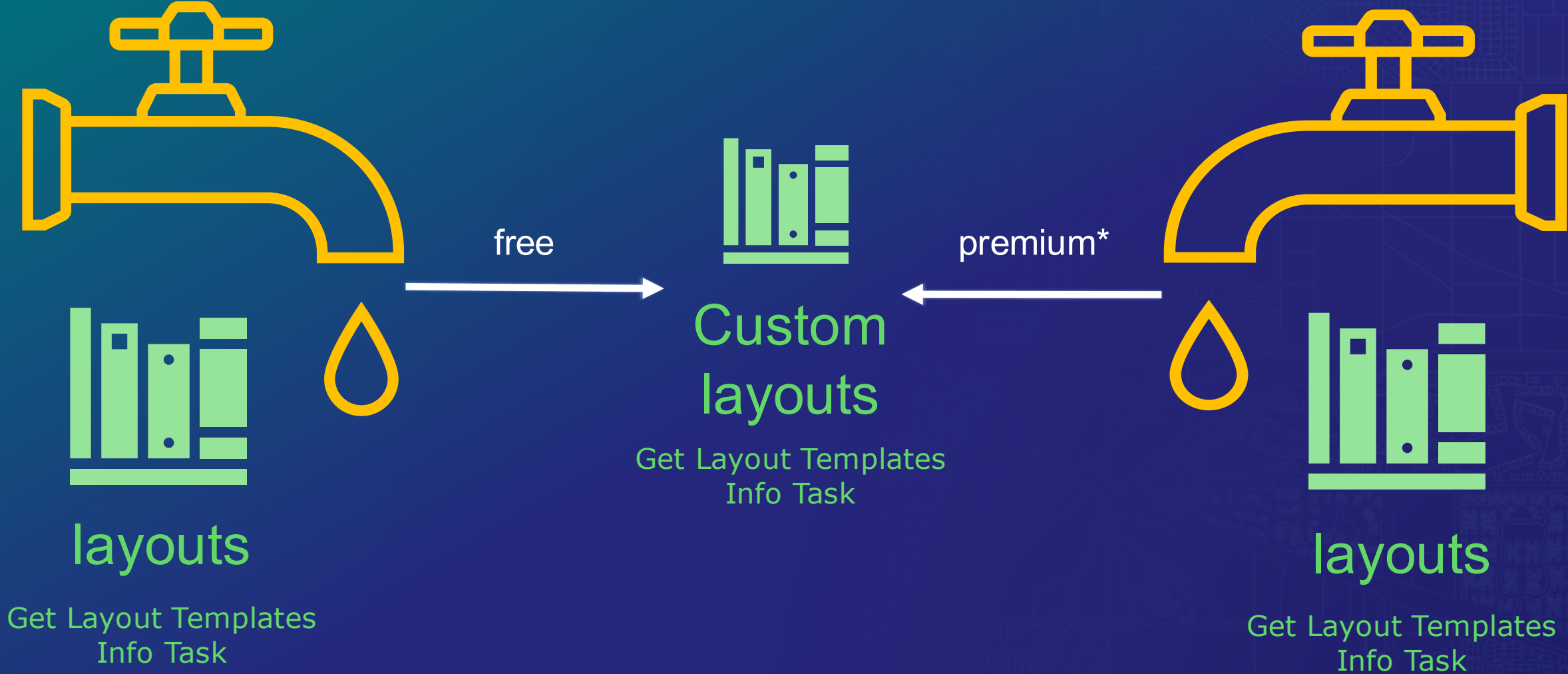
Get Layout Templates
Info Task

utility print service



custom print service

utility print service



Customize your print layout experience in ArcGIS Online

By [Zara Matheson](#)

Layout template group

Layout items contain page setup information for creating printer-friendly documents of your maps. Web apps like the Map Viewer can use these layouts as templates for printing web maps. Choose which group contains the layouts you want to use for printing in your organization.

M My Layout Template Group

Sort order

Title Ascending

Print

Layout | Map only | Exports

Title
US Wildfire Activity

Template
Letter ANSI A landscape
11 x 8.5 in

Show print area

File format
PDF

Advanced options

Export

Print

Choose template

Organization templates **Beta**

World Soils (Letter)

Landscape A4 with Org Logo

A4 Custom Layout with Legend
297 x 210 mm

Letter Landscape with Title Bar

Default templates

A3 landscape
42 x 29.7 cm

A3 portrait
29.7 x 42 cm

A4 landscape
29.7 x 21 cm

A4 portrait
21 x 29.7 cm

Letter ANSI A landscape
11 x 8.5 in

Date Printed: 6/11/2024 10:45 AM
Printed by: Zara Matheson

Current Incidents - ALL

300,000 or more

50,000-299,999

10,000-49,999

1,000-9,999

0-999

New (Past 24-hour)

Incident Complex

Prescribed Fire

Current Perimeters

Wildfire Daily Fire Perimeter

Prescribed Fire

0 1.5 3 6 Miles

US Wildfire Activity

Esri, NASA, NGA, USGS, Esri, TomTom, Garmin, SafeGraph, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS

How?



ArcGIS Pro

Tanu Hoque

Does it print?



Map Viewer



ArcGIS Experience Builder



ArcGIS Maps SDK for
JavaScript

Noah Sager

Does it print?



Map Viewer



ArcGIS Experience Builder



ArcGIS Maps SDK for
JavaScript

Demos



Printing for Web Developers

Additional Resources

```
Map map = new Map(BasemapStyle.ArcGISNavigation);  
  
map.InitialViewpoint = new Viewpoint(40.72,  
-73.995,  
72000);  
  
mapView.Map = map;
```

```
class MainActivity : AppCompatActivity() {  
    override fun onCreate(savedInstanceState: Bundle?) {  
        super.onCreate(savedInstanceState)  
        setContentView(  
            SampleAppTheme {  
  
                val map = ArcGISMap(BasemapStyle.ArcGISNavigation)  
  
                map.InitialViewpoint = Viewpoint(  
                    40.72,  
                    -73.995,  
                    72000.0
```

**DEV
&
TECH**

ArcGIS Enterprise: Printing Reports and Maps from ArcGIS Web Applications



LIVE IN 1 HOUR

Friday, Mar 13 | 10:00 AM - 11:00 AM PDT (12:00 PM - 1:00 PM CDT) | 📍 Primrose C | PSCC

📺 SCHEDULED

FAVORITED

📺 SCHEDULED

Friday, Mar 13 | 10:00 AM - 11:00 AM PDT (12:00 PM - 1:00 PM CDT) | 📍 Primrose C | PSCC | 📺 Available Online

Learn how to generate printable reports and maps from the ArcGIS Enterprise print service, which was enhanced at version 11.2. Reports can be generated from templates saved as portal items or referenced by the print service, and can include maps, attributes, attachments, related records and more. In this technical session, explore how you can configure layout and report templates in ArcGIS Pro, share your own print service with reporting capabilities, and use the service in Map Viewer, ArcGIS Experience Builder, or custom apps built with ArcGIS Maps SDK for JavaScript.

SPEAKERS



[Tanu Hoque](#)

Esri



[Jill Scholz](#)

Esri

Session Type: Technical Session

Session Level: Intermediate

Access Type: In-Person, Recorded, Live stream

Topic: ArcGIS Enterprise

Esri Products: ArcGIS Experience Builder, ArcGIS Pro, Map Viewer

Capabilities: Map Output and Printing

Technologies: Cross-Platform

Keywords: reports, printing, configure, templates



Print



Content

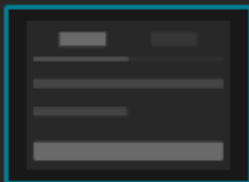
Style

Select a map widget with 2D data

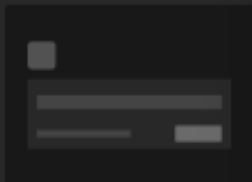
Map



Mode



Classic



Compact

Print template



Print service

Select utility



Click the "Select utility" button to add utilities for further configurations.

Experience Builder



Print



Content

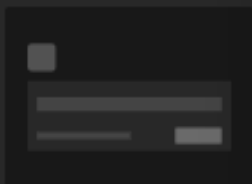
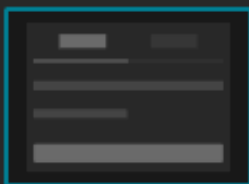
Style

Select a map widget with 2D data

Map



Mode



Classic

Compact

Print template



Print service

Select utility



Click the "Select utility" button to add utilities for further configurations.



Print



Content

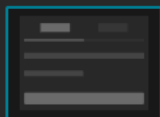
Style

Select a map widget with 2D data

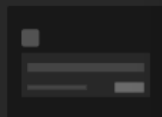
Map



Mode



Classic



Compact

Print template



Print service



Printing



+ New template

A3 Landscape



A3 Portrait



A4 Landscape



A4 Portrait



Letter ANSI A Landscape



Letter ANSI A Portrait



Tabloid ANSI B Landscape



Tabloid ANSI B Portrait



MAP_ONLY



Template common settings



Content Style

Select a map widget with 2D data

Map

Mode



Classic Compact

Print template ^

Print service

Select utility



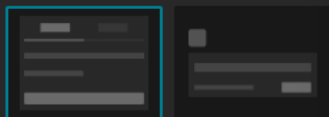
Click the "Select utility" button to add utilities for further configurations.

Content Style

Select a map widget with 2D data

Map

Mode



Classic Compact

Print template ^

Print service

Printing

+ New template

A3 Landscape ...

A3 Portrait ...

A4 Landscape ...

A4 Portrait ...

Letter ANSI A Landscape ...

Letter ANSI A Portrait ...

Tabloid ANSI B Landscape ...

Tabloid ANSI B Portrait ...

MAP_ONLY ...

Template common settings v

Template common settings ^

Set defaults

Title

Map printing extents

Output spatial reference

Print quality

Feature attributes



Select editable settings

- Title
- Map printing extents
- Output spatial reference
- Print quality
- Feature attributes

Show print area


Fill

Outline 4 px

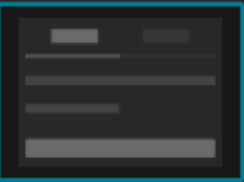
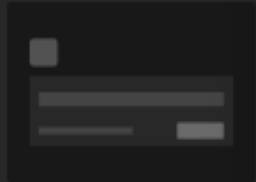
 **Print** 

Content Style


Select a map widget with 2D data

Map 


Mode


 

Classic Compact



Print template 

Print service






Click the "Select utility" button to add utilities for further configurations.

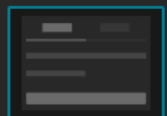
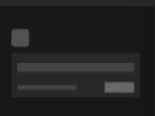
 **Print** 

Content Style


Select a map widget with 2D data

Map 



Mode

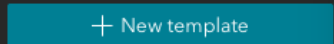
 


Classic Compact


Print template 


Print service


 





A3 Landscape 


A3 Portrait 


A4 Landscape 


A4 Portrait 


Letter ANSI A Landscape 


Letter ANSI A Portrait 

Tabloid ANSI B Landscape 


Tabloid ANSI B Portrait 


MAP_ONLY 


Template common settings 


Template common settings 


Set defaults

Title 

Map printing extents 

Output spatial reference 

Print quality 

Feature attributes 

Select editable settings


Title


Map printing extents


Output spatial reference


Print quality

Feature attributes

Show print area 

Fill 


Outline  4 px

Template configuration 


Template name

Printing for Web Developers

File format


pdf 


Layout


A3 Landscape 


Layout options


Set defaults

Author 

Copyright 

Legend 

Scalebar unit 

North Arrow 

Select editable settings


Author

Copyright

Legend

Scalebar unit

North arrow

Override common settings 

Community

Dedicated support



Esri Technical Support

Esri Technical Support is available using live chat, phone or email (with a paid subscription plan).

Additional support



Videos

Learn from the pros and the community.



Esri Community

Ask questions, share ideas, and collaborate with others on the [ArcGIS Maps SDK for JavaScript](#).



Certification exam

Validate your skills and expertise on the [ArcGIS Maps SDK for JavaScript](#). Demonstrate proficiency using the SDK for mapping, visualization, handling asynchronous events, and integrating with components.



Esri Academy

Check out the Getting Started with ArcGIS Maps SDK for JavaScript class on Esri Academy, designed for beginners in GIS and web development.



Stack Overflow

Join a large and growing community of developers to find the best answers to coding questions. When asking a question, remember to include the "ArcGIS" tag for others to find your questions about the [ArcGIS Maps SDK for JavaScript](#).



GIS Stack Exchange

A huge community of GIS professionals helping each other with Geographic Information System software questions.

<https://developers.arcgis.com/javascript/latest/community/>

Troubleshooting

Five triage steps

For issues that only occur when building applications locally on your computer, there are a few steps you can take to help isolate the cause:

Step 1 - Check for error messages. Look for any error messages or warnings in the terminal window when building the application, and in the browser's console when running the application. These messages provide important clues about where the problem is occurring, such as whether or not it is originating from inside an SDK module. Also, take note of when the error happens, such as during the build process or when the application is running, and you click on the map.

Step 2 - Search for existing issues. Before reporting a new issue, it's a good idea to search for existing issues on the [Esri Community site](#) or on the internet. Someone else may have already encountered and resolved a similar problem. Also, consider reviewing the SDK release notes for [breaking changes](#) and [bug fixes and enhancements](#).

Step 3 - Check the documentation. Make sure you are using the SDK's [API reference](#) to verify that you are using the API correctly. You may have missed a step or misconfigured something, such as a property or method.

Step 4 - Verify the project configuration. Compare your project configuration to the sample applications on the [jsapi-resources](#) GitHub repository. The samples can offer hints and suggestions on best practices. For example, there are examples of importing CSS and setting up TypeScript.

Step 5 - Update dependencies. Where possible, ensure that you have the latest version of the SDK and any other npm package dependencies being used in the project. Outdated dependencies can sometimes cause compatibility issues. Also, upgrading to the latest version of the SDK can frequently resolve functionality issues.

Complex vs. Complicated



Complex vs. Complicated

A cat is complex:
Interconnected, interdependent parts that
are unpredictable when put together



Complex vs. Complicated

A cat is complex:

Interconnected, interdependent parts that are unpredictable when put together



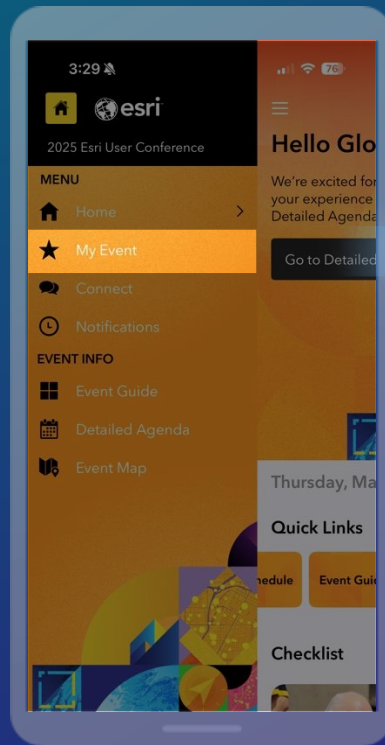
Printing is complicated:

Intricate, multi-layered system that is rewarding to understand and generally predictable

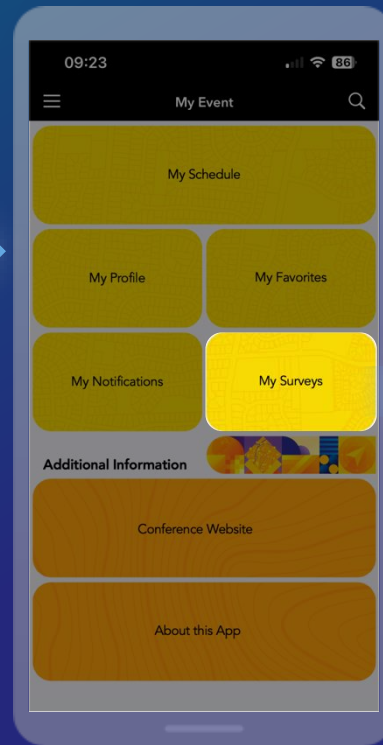


Please share your feedback in the app

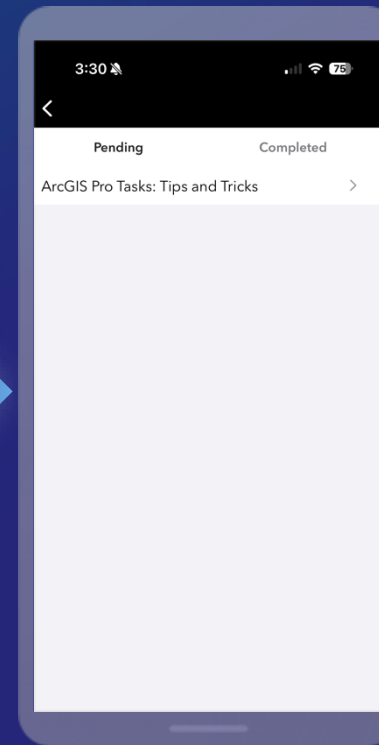
Select “My Event” in the event app main menu



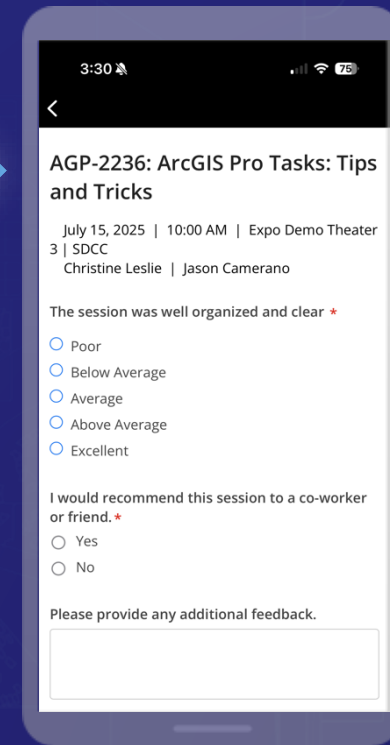
Select “My Surveys”



Select the desired survey



Complete the survey



Connect with us on social

Join the conversation using [#EsriDevTech2026](#)



x.com/EsriDevs



x.com/EsriDevEvents



youtube.com/@EsriDevs



links.esri.com/DevVideos



github.com/Esri



github.com/EsriDevEvents



links.esri.com/EsriDevCommunity





```
map = new Map(BasemapStyle.ArcGISNavigation);  
map.initialViewpoint = new Viewpoint(40.72,  
-73.995,  
72000);  
mapView.Map = map;
```



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```
struct ContentView: View {  
    @State private var map = {  
        let map = Map(  
            basemapStyle: .arcGISNavigation  
        )  
  
        map.initialViewpoint = Viewpoint(  
            latitude: 40.72,  
            longitude: -73.995,  
            scale: 72_000  
        )  
  
        return map  
    }()  
  
    var body: some View {  
        MapView(map: map)  
    }  
}
```