



ArcGIS Enterprise: Publishing Content and Services

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SEE
WHAT
OTHERS
CAN'T

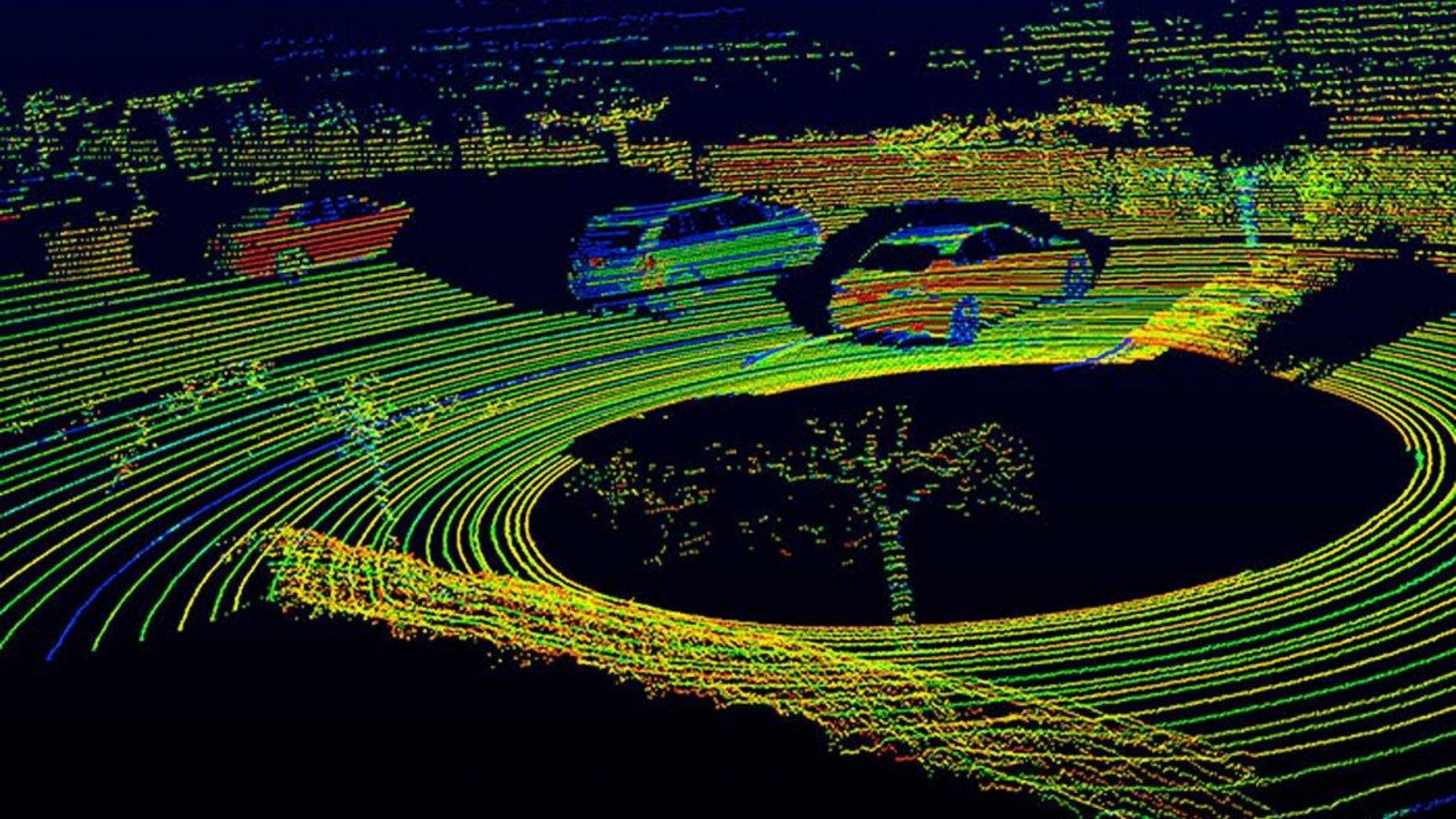


Agenda

- **The plumbing**
 - ArcGIS Enterprise
 - ArcGIS Server
- **Types of layers and service types**
 - Map and feature services
 - Vector tile layers
 - Geoprocessing services
 - Geocoding services
 - Scene layers
- **Bulk publishing**
- **Other sessions**







Related sessions

WORKSHOP	LOCATION	TIME FRAME
<ul style="list-style-type: none">• Caching Maps and Vector Tile Layers: Best Practices	<ul style="list-style-type: none">• SDCC - Ballroom 01 A/B• SDCC - Ballroom 06 E	<ul style="list-style-type: none">• Wednesday, 8:30-9:30 am• Thursday, 2:30-3:30 pm
<ul style="list-style-type: none">• ArcGIS Pro: Mapping and Visualization	<ul style="list-style-type: none">• SDCC - Ballroom 06 E• SDCC - Ballroom 06 F	<ul style="list-style-type: none">• Tuesday, 4.00-5.00 pm• Thursday, 4:00-5:00 pm
<ul style="list-style-type: none">• ArcGIS Enterprise: Best Practices for Layers and Service Types	<ul style="list-style-type: none">• SDCC - Ballroom 06 B• SDCC - Room 33 A/B	<ul style="list-style-type: none">• Tuesday, 2:30-3:30 pm• Thursday, 10:00-11:00 am



The plumbing

ArcGIS Enterprise and ArcGIS Server

ArcGIS
Enterprise



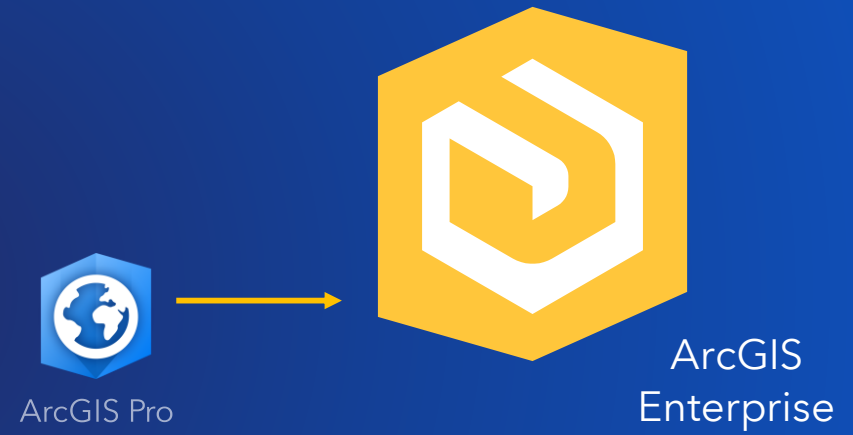
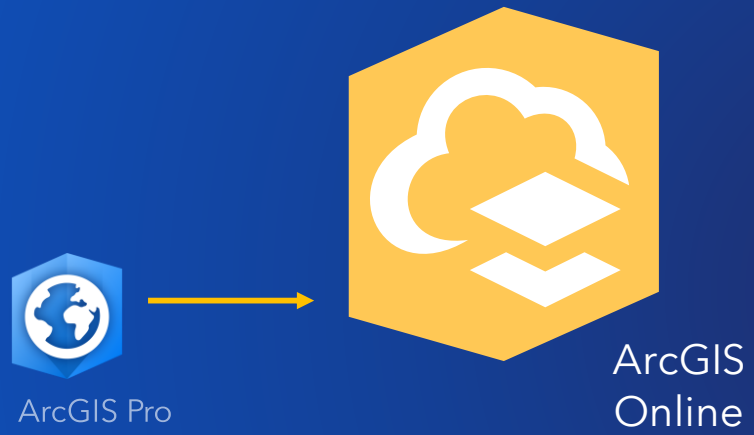
ArcGIS
Pro



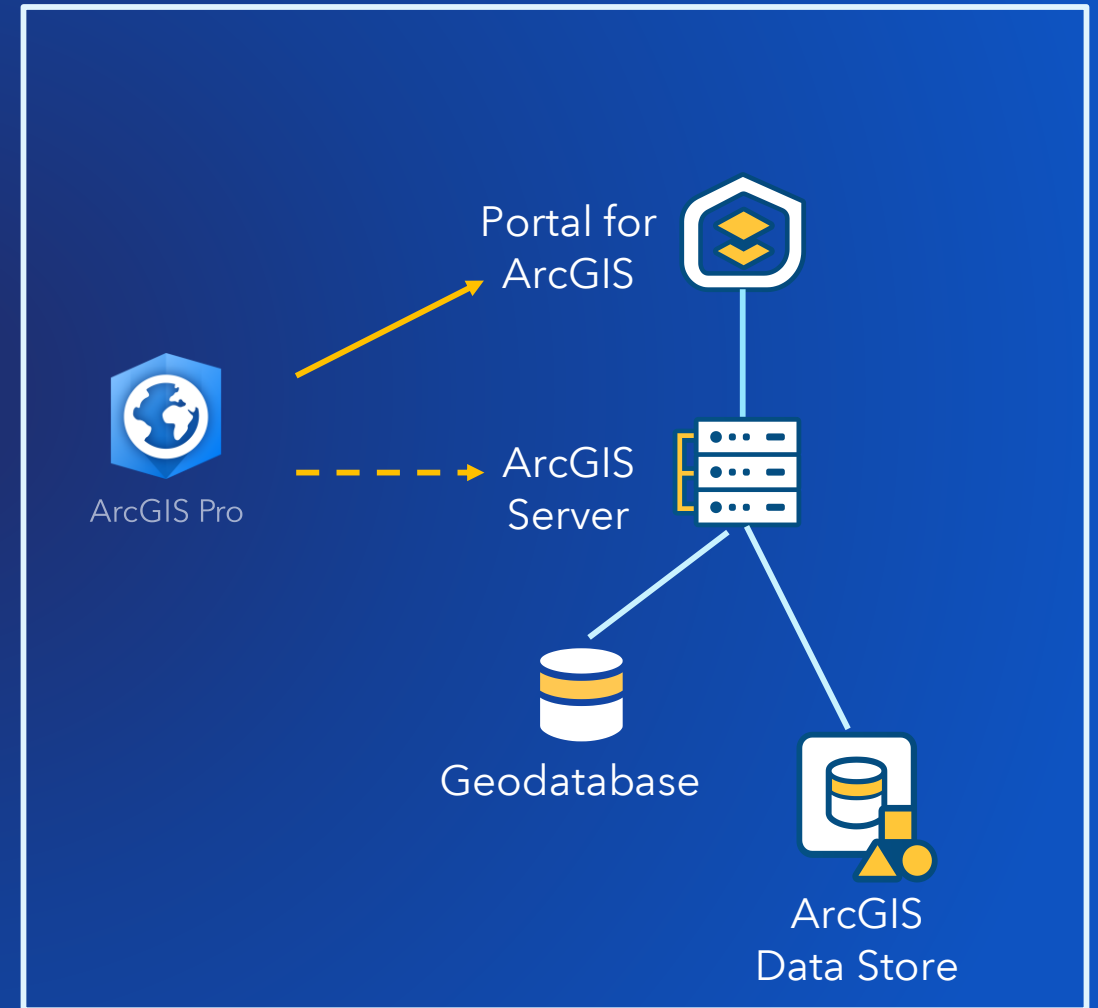
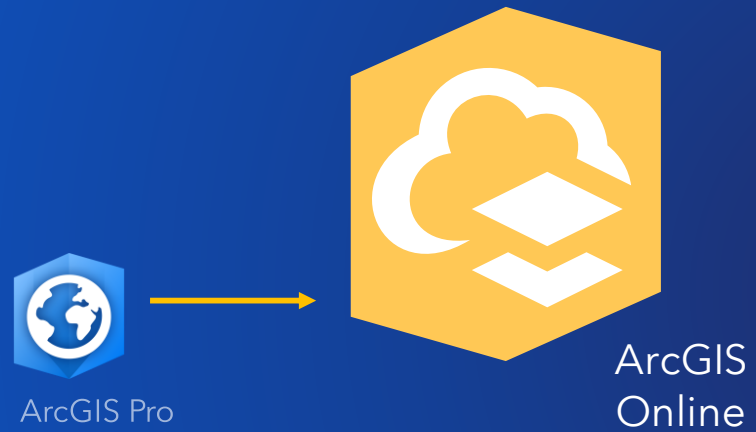
ArcGIS
Online



Sharing from ArcGIS Pro



Sharing from ArcGIS Pro



Concept Review: Base Deployment and Federated Servers

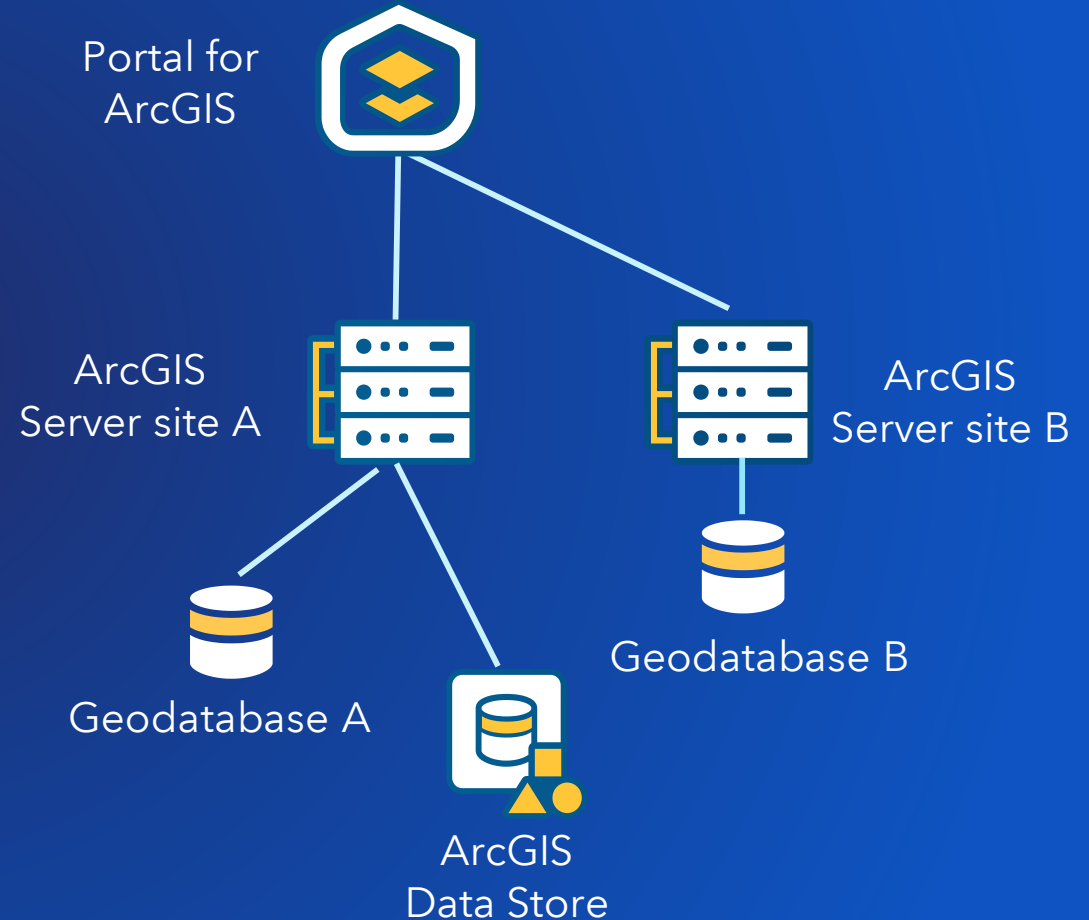
- **ArcGIS Enterprise Base Deployment**

- Consists of a federated ArcGIS Server site
- ArcGIS Data Store has been registered with the site as the registered managed database
- The site is designated as the *hosting server*

- **Some organizations may also have additional ArcGIS Server sites that are federated with the same Enterprise Portal**

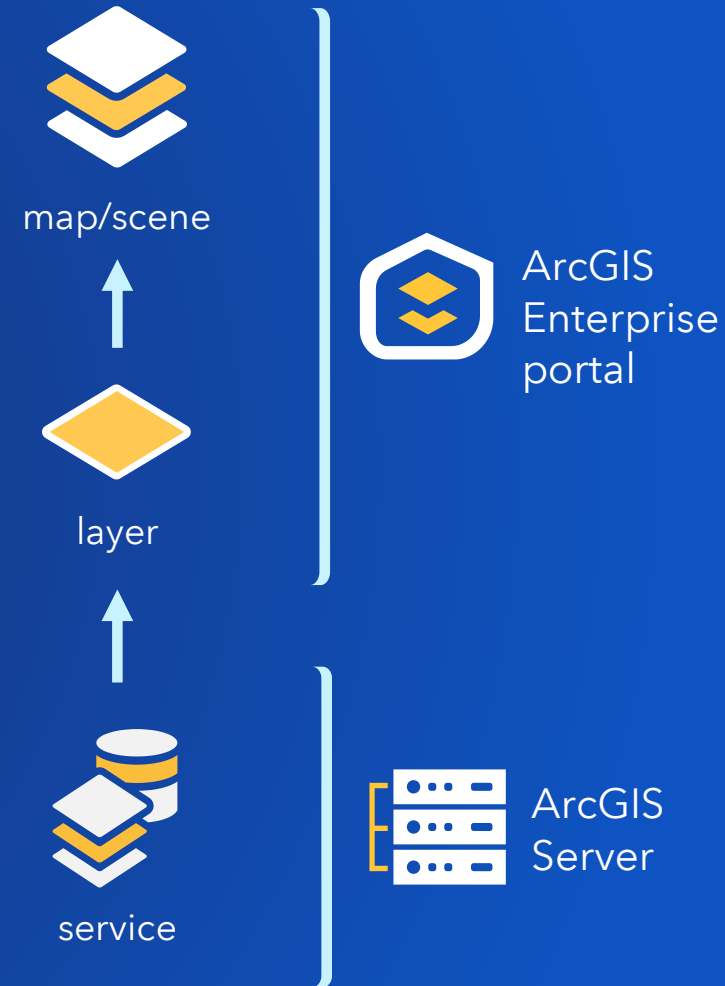
- **When sharing from ArcGIS Pro, you decide which federated server site you want to share content to.**

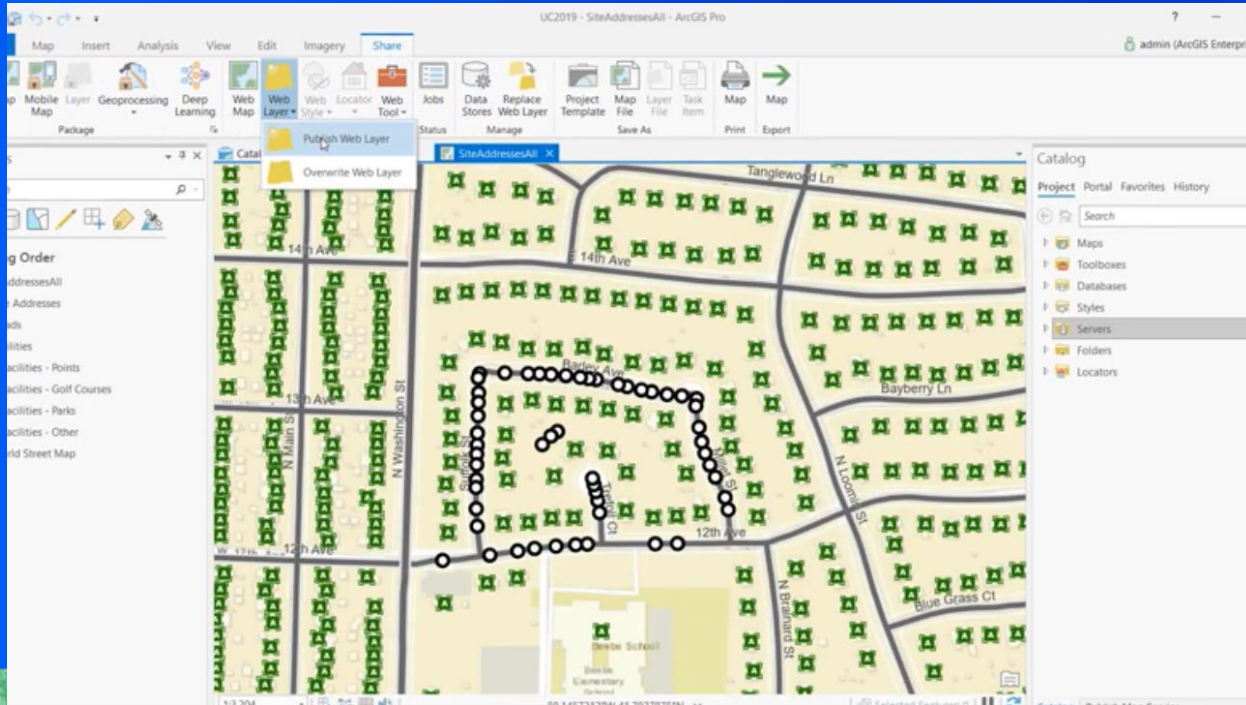
- **More information see *ArcGIS Enterprise: Architecting Your Deployment* session.**



How Web Maps, Layers, and Services Work Together

- **Web Map (2D) or Web Scene (3D)**
 - collection of web layers and mapping functionality
- **Web Layer**
 - portal item that exposes a service
 - references a service and can configure attribute pop-ups, symbology, etc.
- **Web Service**
 - exposes a URL for web clients to access data
 - data can be copied to the server or referenced from a shared location or enterprise geodatabase



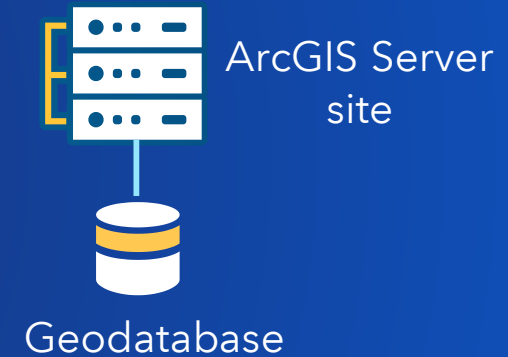


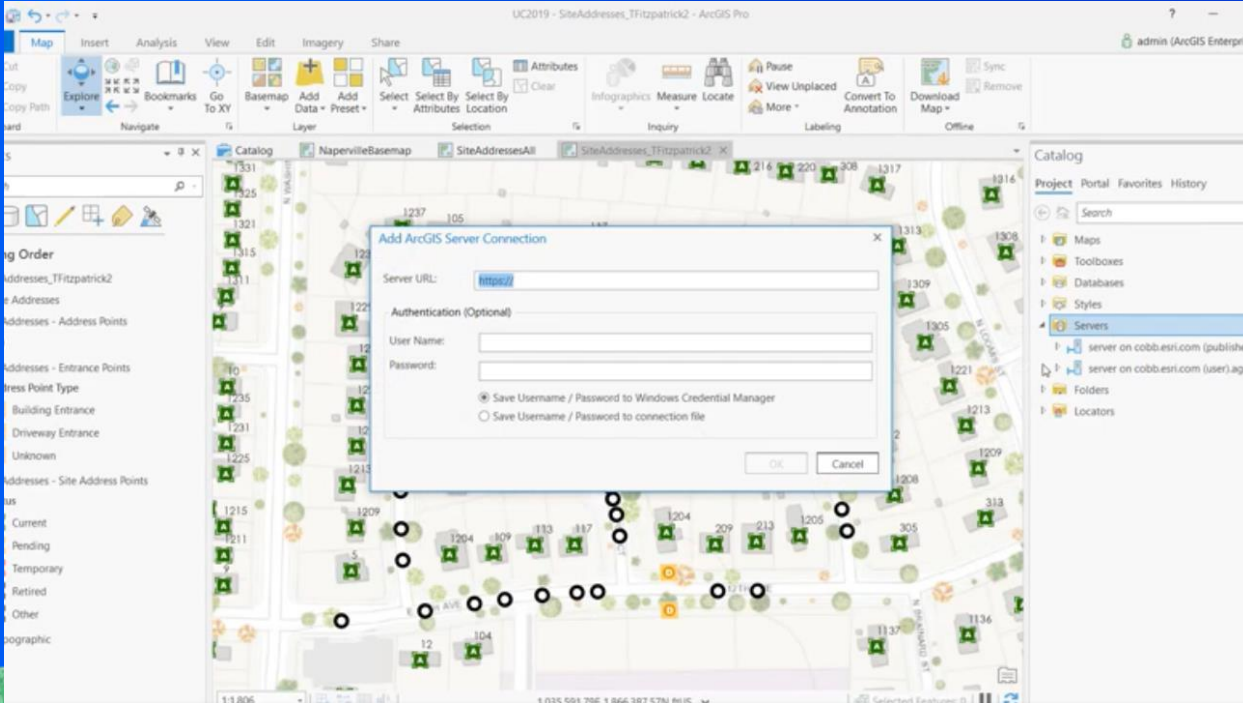
Map image layer + feature layer

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Publishing to standalone ArcGIS Server sites

- **Standalone ArcGIS Server sites**
 - Site is not *federated* with a portal
- **Common pattern for long time deployments. Not recommended for new installations except for pure data dissemination scenarios.**
- **New: ArcGIS Pro 2.4 supports publishing directly to standalone ArcGIS Server 10.6+ sites !**
 - All traditional service types are supported including map, feature, image, geocoding, and geoprocessing services.
 - Newer service types require the full ArcGIS Enterprise stack (e.g. vector tile layers).





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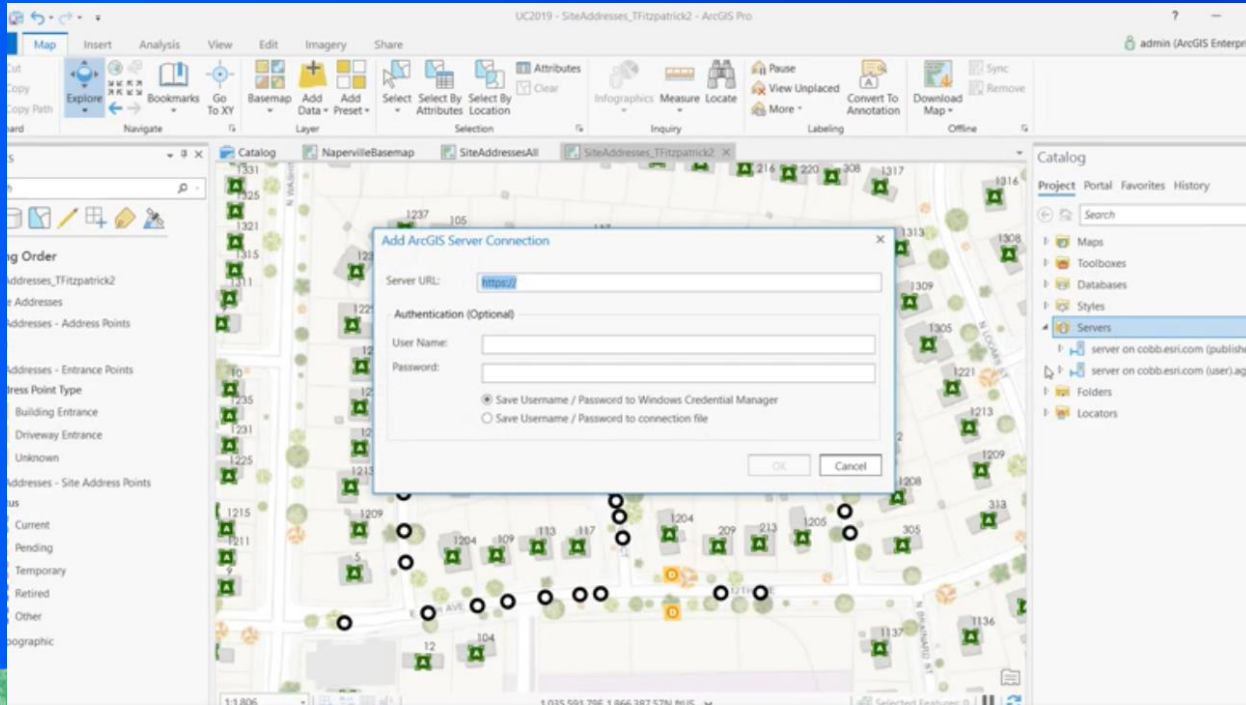
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Publishing map and feature services to a standalone server

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Updating Ideas.Esri.Com

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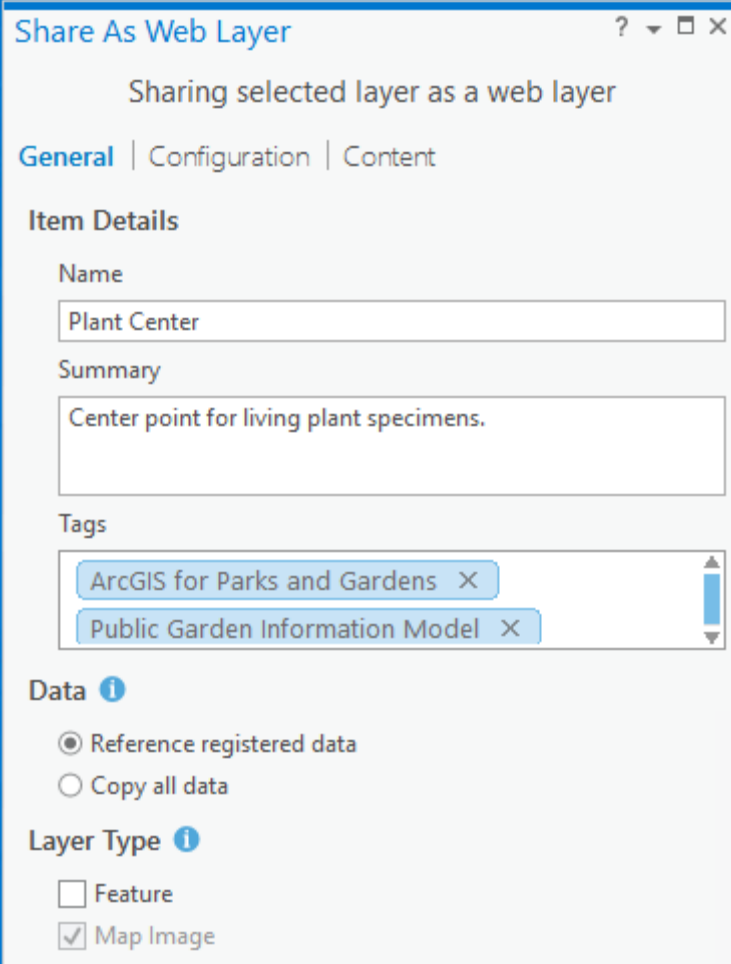
Data

What happens to your data when you share with ArcGIS Pro?



Sharing Data Options

1. **Reference registered data**
 - Registered data will be referenced, unregistered data will be copied
2. **Copy all data**
 - Both registered and unregistered data will be copied



Share As Web Layer

Sharing selected layer as a web layer

General | Configuration | Content

Item Details

Name
Plant Center

Summary
Center point for living plant specimens.

Tags
ArcGIS for Parks and Gardens ×
Public Garden Information Model ×

Data ⓘ

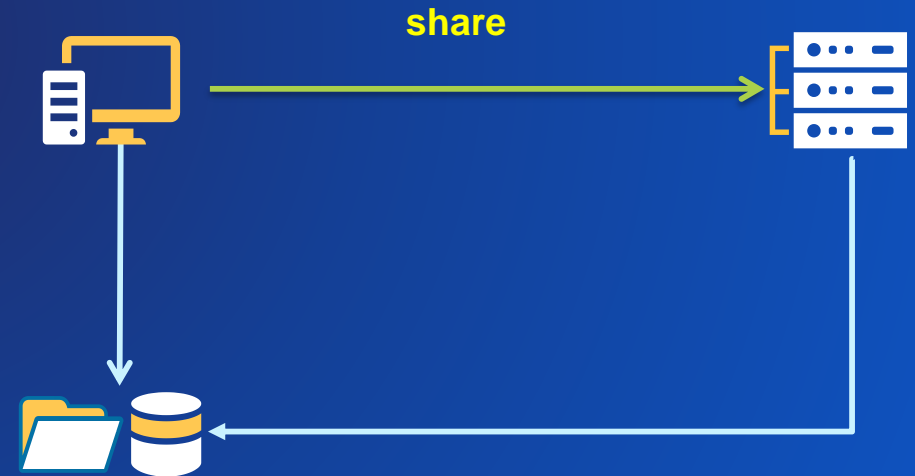
Reference registered data
 Copy all data

Layer Type ⓘ

Feature
 Map Image

Working with Registered Data

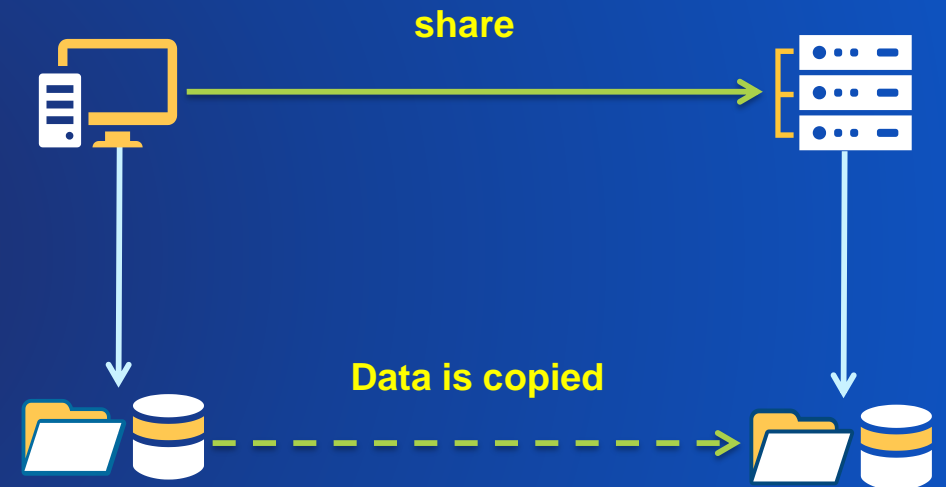
- Designed to support enterprise editing workflows
- Data sources are registered with the federated server
- Source data is referenced, not copied



Working with Unregistered Data

- Source data is copied to the server machine
- Does not support enterprise data updates
- Maintains a static copy of your data

- *Copy all data* option in ArcGIS Pro
 - All source data is treated as unregistered data



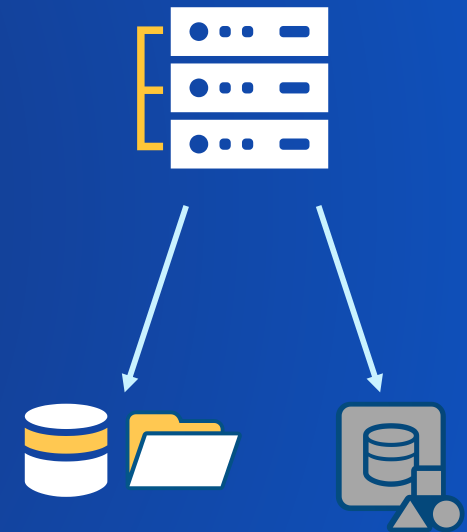
Understanding Data Stores

- **Data store items**

- Locations registered with the server that contains data used by services: can be folders and database connections
- Operating System account that is running ArcGIS Server must have read/write access

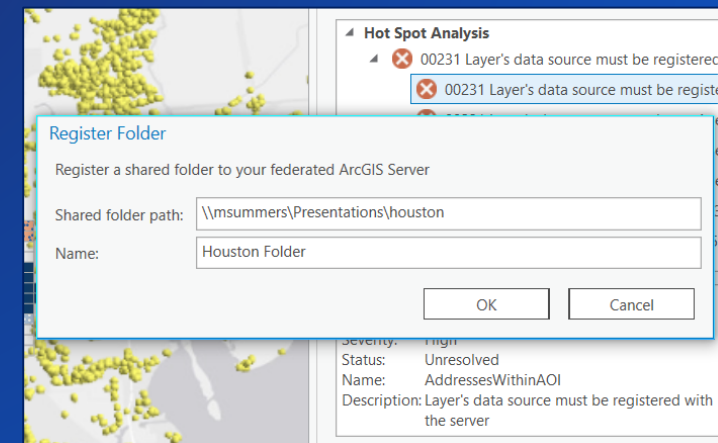
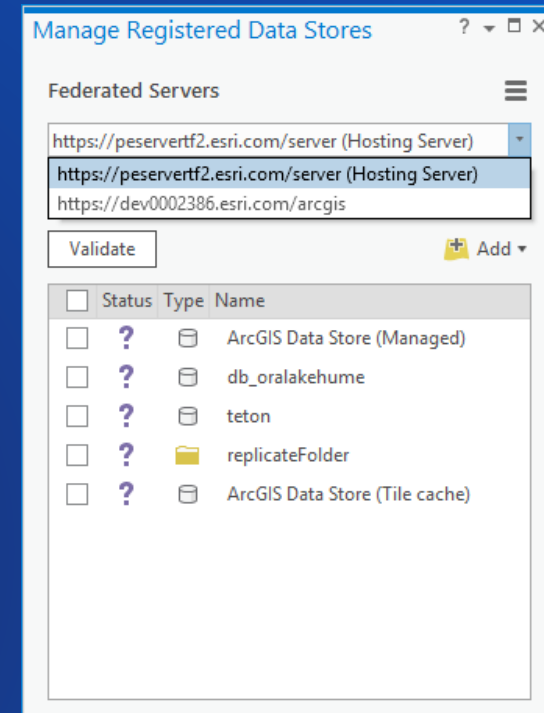
- **ArcGIS Data Store**

- Part of the base ArcGIS Enterprise deployment
- Database is managed by the server
- Not a general purpose database. It's used to store data copied to the server for hosted services, and data that is the result of analysis run within the Enterprise portal



Data stores

- Valid data source locations accessible by server
 1. Databases
 2. Folders
- Two ways to define
 1. Ahead of time:
 - "Manage Registered Data Stores" pane in ArcGIS Pro
 - Via ArcGIS Server Manager
 2. While sharing: Resolve analyzers





Scripting publishing workflows


[arcpy.sharing](#) and [arcpy.mp](#)



arcpy.sharing

- Introduced with ArcGIS Pro 2.2
 - Designed to be more efficient, intuitive, and allow for future enhancements
- More Pythonic: Map image, feature, and tile layers are split into separate objects and methods.
- Common parameters are exposed as properties (no need for modifying internal XML files directly)
 - Overwrite existing service
 - Portal folder and server folder
- arcpy.mp workflow is still supported for backwards compatibility

arcpy.sharing workflow

1. Create a map object using **arcpy.mp**
2. Create a draft of the map or specific layers using the **getWebLayerSharingDraft** function
 - FeatureSharingDraft
 - TileSharingDraft
 - MapImageSharingDraft

Depends on the service_type parameter
3. Export the draft as a service definition draft using the **exportToSDDraft** function
4. Stage using **arcpy.server.StageService**
5. Upload using **arcpy.server.UploadServiceDefinition**



Other layer and service types

Vector Tile Layers, Scene Layers, Geocoding, Geoprocessing, oh my!



Web Layer and Web Service Terminology

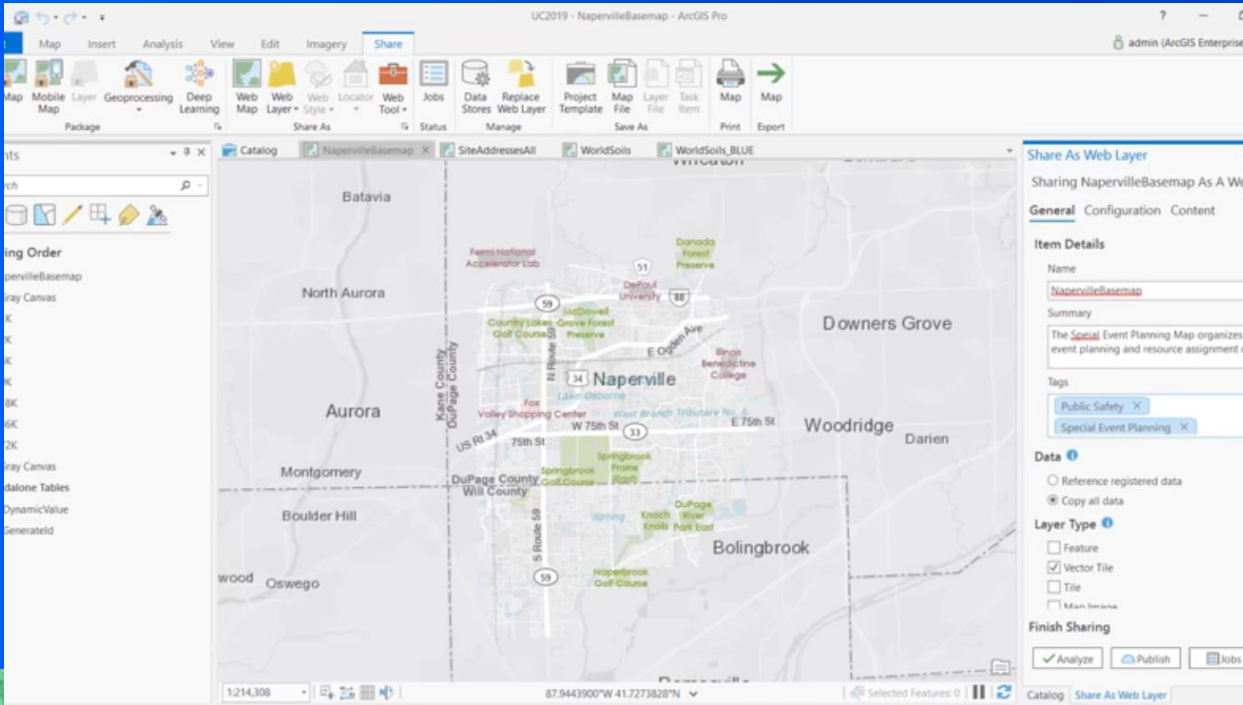


ArcGIS
Enterprise portal



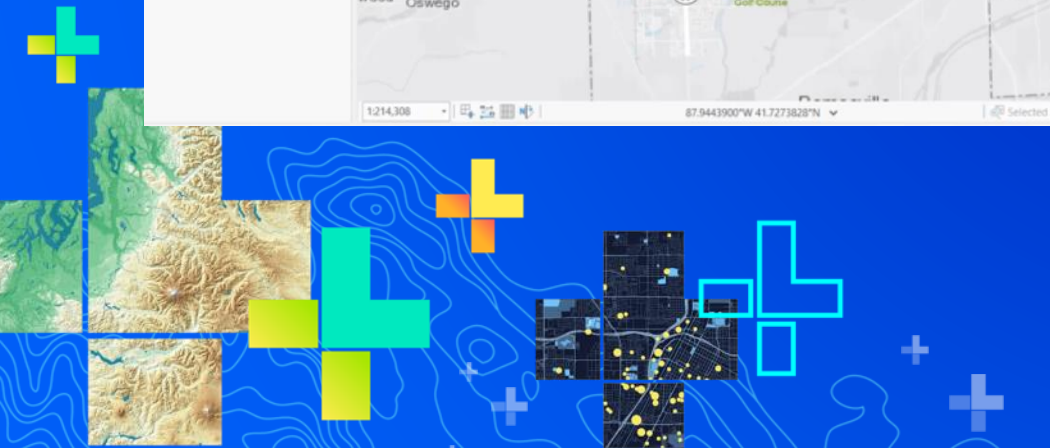
ArcGIS
Server

Web Layer	Web Service
Map Image Layer	Map service
Feature Layer	Feature service
Tile Layer	Cached map service (hosted)
Vector Tile Layer	Vector tile service
Scene Layer	Scene service
Web Tool	Geoprocessing service



Creating and publishing vector tile layers

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Bulk publishing

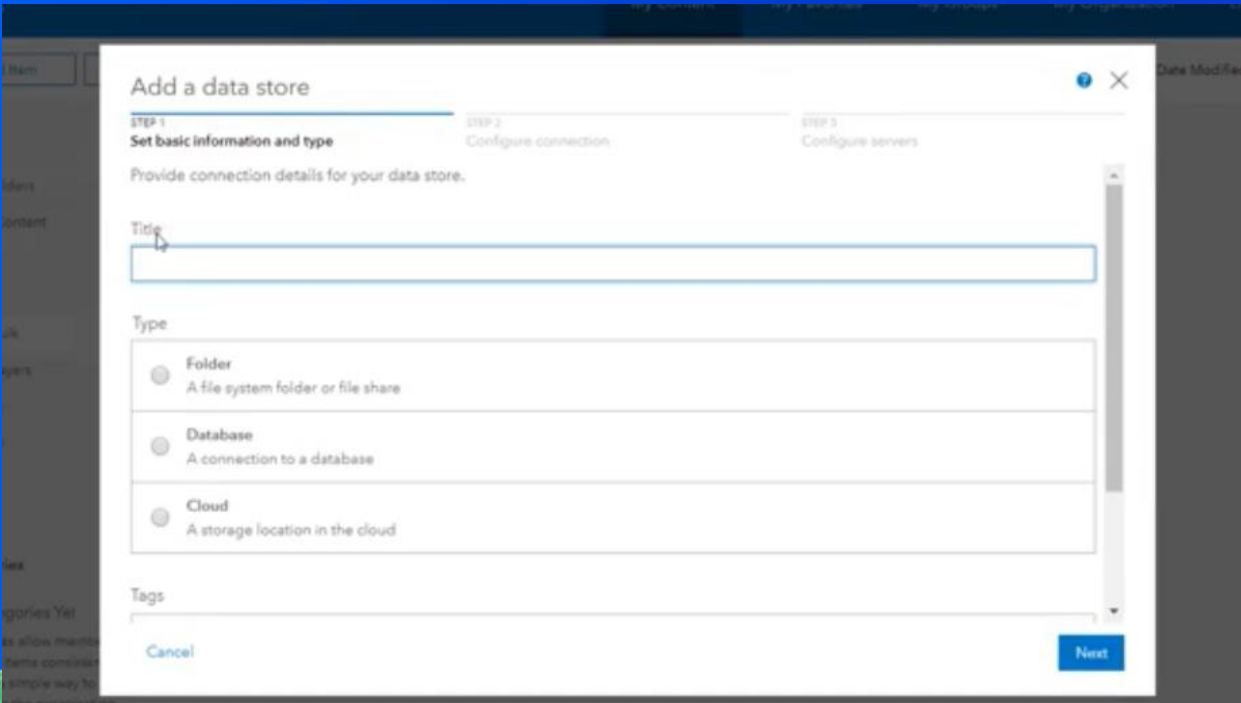
Make enterprise geodatabase feature classes available to everyone



New ways of publishing content

- ArcGIS Enterprise 10.7.1 introduces *bulk publishing* of feature classes from an enterprise geodatabase via the Enterprise portal
- Designed to help quickly expose GIS datasets (feature classes) as layers that can be used by the entire organization (and not just those with ArcGIS Pro and direct access to the geodatabase.
- Uses new *shared instances* model: no memory impact on your server!



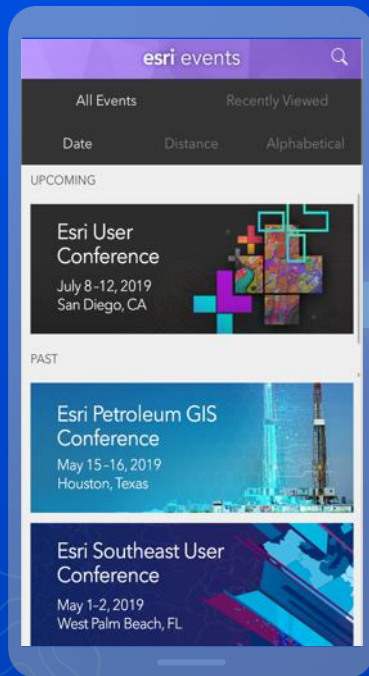


Bulk publishing from the Enterprise portal

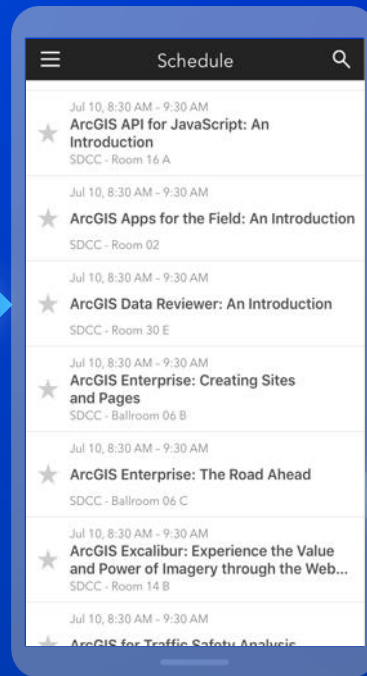
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Please Share Your Feedback in the App

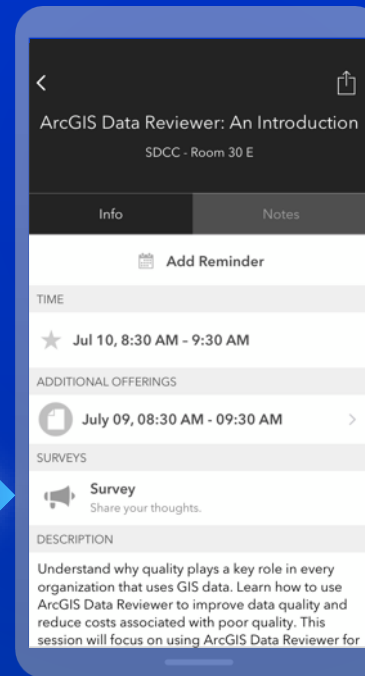
Download the Esri Events app and find your event



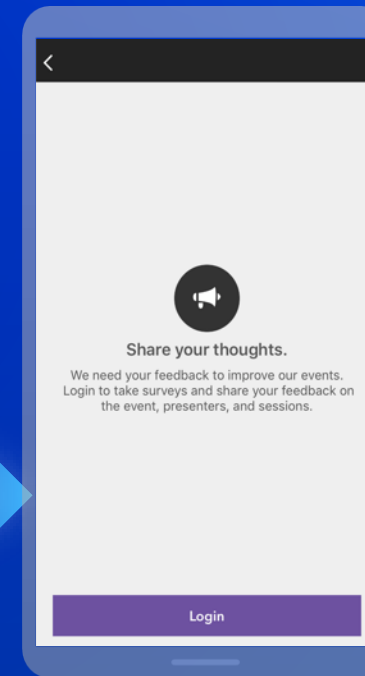
Select the session you attended



Scroll down to "Survey"



Log in to access the survey



Complete the survey and select "Submit"

