Publishing GIS Services to ArcGIS for Server

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Agenda

- Introduction
- Publishing workflow
  - Configuring services
  - Registering data with the server’s data store
- Consuming services
- Automating publishing workflows using Python
Introduction
Sharing GIS content on the web

- Share geographic information using the web
- Make geographic data available instantly across
  - Devices
  - Platforms
- Work on projects collaboratively
Map service layers

• Basemap service layers
  - Reusable background service
  - Provide context for operational layers

• Operational service layers
  - Interactive
  - Provide functions that meet a business need
Publishing a simple map service
Publishing workflow
Service publishing workflow

1. Share as service
2. Configure Properties
3. Analyze
4. Errors
   - Yes: Fix
   - No: Stage
   - No: Publish
5. Service deployed and started
6. Exit
7. Save an sd draft or discard

Service Editor
Choosing a server

ArcGIS Online

ArcGIS Server Cloud

ArcGIS Server On-Premises

ArcGIS for Portal

Desktop
## Server Characteristics

<table>
<thead>
<tr>
<th>Server</th>
<th>Characteristics</th>
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<tbody>
<tr>
<td>ArcGIS for Server</td>
<td>• Ability to publish a variety of GIS resources&lt;br&gt;• Supports all capabilities&lt;br&gt;• Ability to register data with the server</td>
</tr>
<tr>
<td>ArcGIS Online</td>
<td>• No server to buy, install or maintain&lt;br&gt;• Scales automatically as user base increases&lt;br&gt;• Only supports Tiled Map and Feature services&lt;br&gt;• Data is private to each service</td>
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<tr>
<td>Portal for ArcGIS</td>
<td>• ArcGIS for Server + ArcGIS Online&lt;br&gt;• Publish hosted services on premise</td>
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<tr>
<td>ArcGIS for Server on the Cloud</td>
<td>• Ability to publish a variety of GIS resources&lt;br&gt;• Supports all capabilities&lt;br&gt;• Ability to register data with the server&lt;br&gt;• Configurable&lt;br&gt;• No maintenance</td>
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Service capabilities

• Depend on server and licensing

- Mapping
- Tiled Mapping
- Feature Access
- Network Analysis
- Mobile Data Access
- Open Standards
Common service capabilities

- Mapping
  - Dynamic
    - Server needs to retrieve data
  - Option to cache
- Tiled Mapping (cached)
  - Pre-rendered tiles at different scales
  - Improved performance
- Feature Access
  - Serve feature geometry and symbology
  - Allows for editing and querying
Sharing items

- Must be signed into ArcGIS Online or your portal

My Content

Organization*

Everyone

Groups
Analyzers

• Help to
  - Identify critical errors
  - Create optimized map services

• Three types
  - Errors
  - Warnings
  - Information Messages

• Provide access to the help and solutions
Service Definition

Desktop

ArcGIS Online/ ArcGIS Server

Service Definition

Map

Data (optional)

Service Configuration

Publishing

Service
Consuming services

GIS Server

Web Apps

Desktop

Mobile Apps

ArcGIS Online
Publishing a cached map service from a service definition file
Data Stores
Data Stores

- Determine how published services access data
- Register data directories and databases
- Three registration options:
  - Referenced
  - Replaced
  - ArcGIS Server’s Managed Database
Data Store Registration: referenced

- **Publisher and server reference the SAME**
  - Database connection
  - Folder path
- **Publishing using shared data**
Data Store Registration: replaced

- Publisher and server reference DIFFERENT
  - Database connections
  - Folder paths
- Data sources are replaced during publishing
Data Store Registration: managed

- Used only when publishing a Feature service or a Web Feature Service-Transactional (WFS-T) by not referencing the data
- Must be an enterprise geodatabase
Publishing a feature service
Automating publishing using Python scripts
Arcpy library

- CreateMapSDDraft()
- StageService_server()
- UploadServiceDefinition_server()

```
import arcpy

# Setting the variables
mxd = arcpy.mapping.MapDocument(r'c:\temp\MapDemo.mxd')
conn = r'c:\temp\myserver.ags'
sddraft = r'c:\temp\service1.sddraft'
sd = r'c:\temp\service1.sd'

analysis = arcpy.mapping.CreateMapSDDraft(mxd, sddraft, service, 'ARCGIS_SERVER', conn)

arcpy.StageService_server(sddraft, sd)

arcpy.UploadServiceDefinition_server(sd, conn)
```
Publishing using Python
Tips & Tricks

- If you get a consolidation error, check:
  - There’s enough space on the publisher/server machine
  - Path names are not too long
  - The appropriate extension is enabled

- If publishing services that reference enterprise data
  - Ensure you install the appropriate database client libraries on both the client and server machines
  - Be sure the ArcGIS Server account has the appropriate permissions to the database

- Videos
  - [http://video.arcgis.com/series/40/server](http://video.arcgis.com/series/40/server)
Summary

• Publishing allows you users:
  - To share and use gis resources via the web

• Publishing workflow is the same
  - Configure the service
  - Analyze the service
  - Publish/Stage the service

• Data store ensures data is accessible to the server

• Ability to automate the publishing workflow
Thank you…

Please fill out the session evaluation

First Offering ID: 1208
Second Offering ID: 1318

Online – www.esri.com/ucsessionssurveys
Paper – pick up and put in drop box
# Wrap-up & Questions

- **Related presentations**

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