Publishing GIS Services to ArcGIS Server

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Agenda

• Introduction
• Publishing workflow
  - Configuring services
  - Service definition files: What are they and how to use them?
  - Registering data with ArcGIS Server 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 multiple devices and platforms
- Allow simultaneous editing of geographic data irrespective of their physical location
- Work on projects collaboratively
Map service layers

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

• Operational service layers
  - Interactive
  - Visual representation of GIS data
  - Provide functions that meet a business need

Publishing GIS Services to ArcGIS Server
Publishing a Simple Map Service
Publishing Workflow
Service publishing workflow

Publishing process

- Share as service
- Configure Properties
- Analyze
- Errors (No)
  - Publish
  - Stage
- Fix
- Exit
  - Save an sd draft or discard

Service deployed and started
Choosing a server

ArcGIS Online

Desktop

Portal

ArcGIS Server In Cloud

ArcGIS Server On-Premises
Service capabilities

• Depend on server and licensing
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
Analyzers

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

• Three types
  - Errors (×)
  - Warnings (!)
  - Information Messages (i)

• Provide access to the help and solutions
Sharing items

Must be signed into ArcGIS Online or your portal

- My Content
- Organization*
- Everyone
- Groups
Service Definition File

Desktop

ArcGIS Online/ ArcGIS Server

Service Definition

Map

Data (Optional)

Service Configuration

Publish

Service

Map
Consuming services

ArcGIS Server

Web Apps

Mobile Apps

Desktop

ArcGIS Online
Publishing a Cached Map Service From a Service Definition File
Managing Service Data
Managing Service Data

• **Method 1:**
  - Data is copied to server when publishing

• **Method 2:**
  - Register your data folders and databases with the server
Managing Service Data

**Method 1:**
- Data is copied to server when publishing
Managing Service Data
Data Store Registration

• **Method 2:**
  - Register your data folders and databases with the server
  - Three registration options:
    - Referenced
    - Replaced
    - Managed Database
Publishing a Service with Referenced Data
Referenced
Data Store Registration

- Publisher and server work with the SAME data
- When to use:
  - To avoid having a copy of data placed on server
Registering a Replaced Data Store
Replaced

Data Store Registration

- Publisher and server work with DIFFERENT data
- When to use:
  - To maintain a separate copy of the data on server
Managed Database
Data Store Registration

- **Service data is managed for you**
- **When to use:**
  - Publishing a Feature Service or a transaction-enabled Web Feature Service (WFS-T)
  - Must be an enterprise geodatabase
Managing Service Data
Data Store Registration

• Referenced
  - Publisher and server work with same data

• Replaced
  - Publisher and server work with different data

• Managed Database
  - Publishing service type requires an enterprise GDB
Automating Publishing Using Python Scripts
Arcpy library

1. CreateMapSDDraft()
2. StageService_server()
3. UploadServiceDefinition_server()

Set up the variables

Configure the service

Stage into a SD file

Publish as service

Set up the variables

Configure the service

Stage into a SD file

Publish as service
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
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...

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