



Explore the Power of the ArcGIS API for Python

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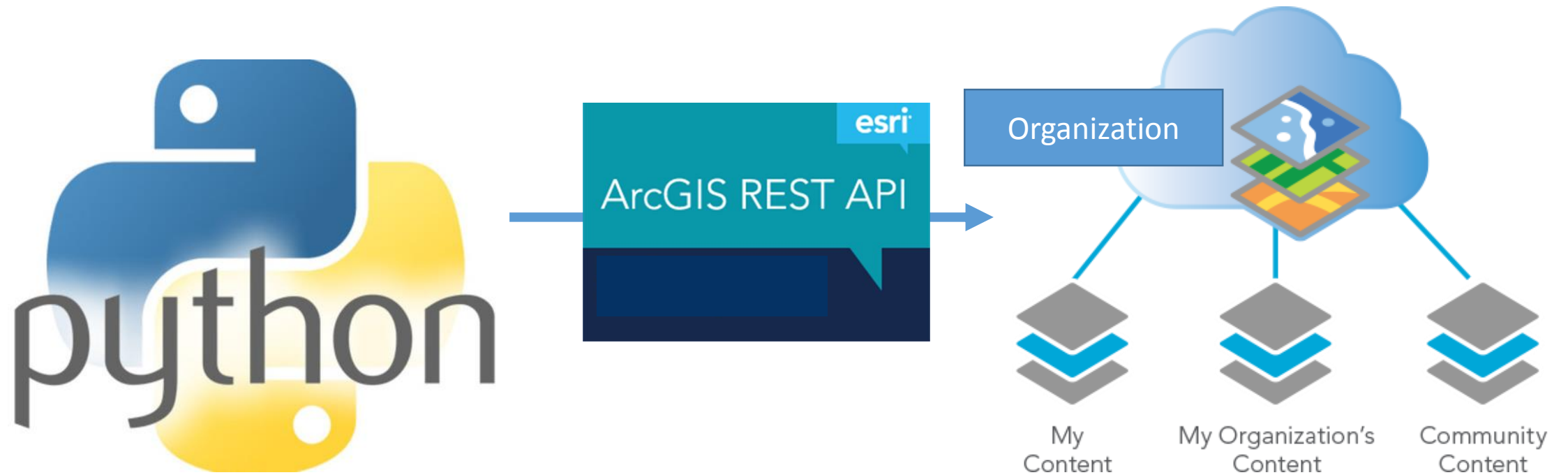
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Topics Covered

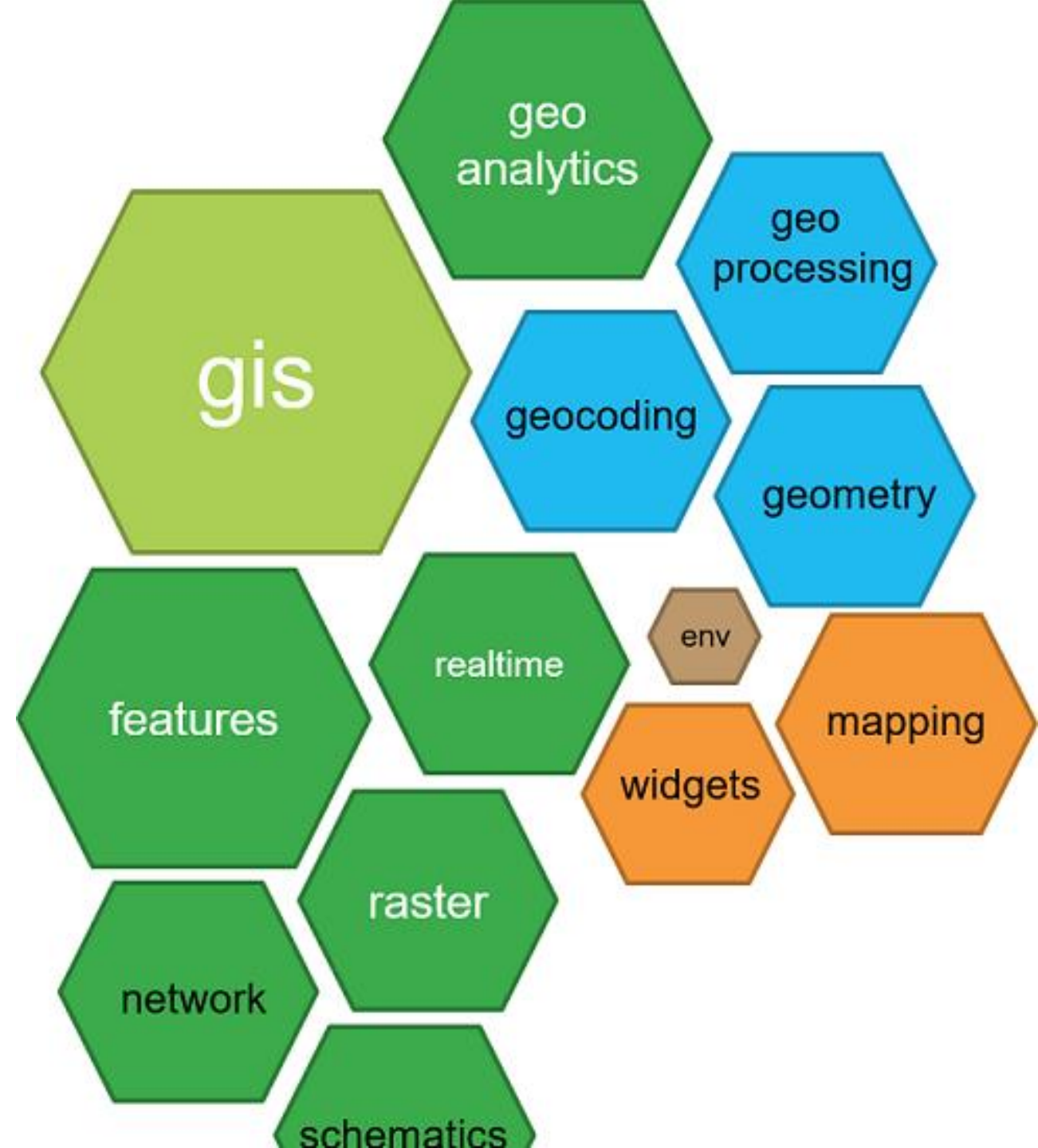
- What is the ArcGIS API for Python?
- What can you do with it? (functionality)
- GIS Module
- Scripting workflows for
 - Org Administrators
 - Content Publishers
 - GIS Analysts and Data Scientists
 - Power Users and Developers
- Install

What is the ArcGIS API for Python?



Overview of the ArcGIS API for Python

- A Pythonic GIS API
 - Corresponds to best practices
 - Uses standard Python constructs
 - Data structures with clean, readable idioms
- Easy for a Python programmer to use ArcGIS
- Easy for an ArcGIS user to script and automate their GIS



ArcGIS API for Python vs ArcPy

ArcGIS API for Python

- Script against a portal
 - ArcGIS Online or ArcGIS Enterprise
 - Python 3.x
- Analysis, Portal Admin, Content Creation, Big Data Analysis

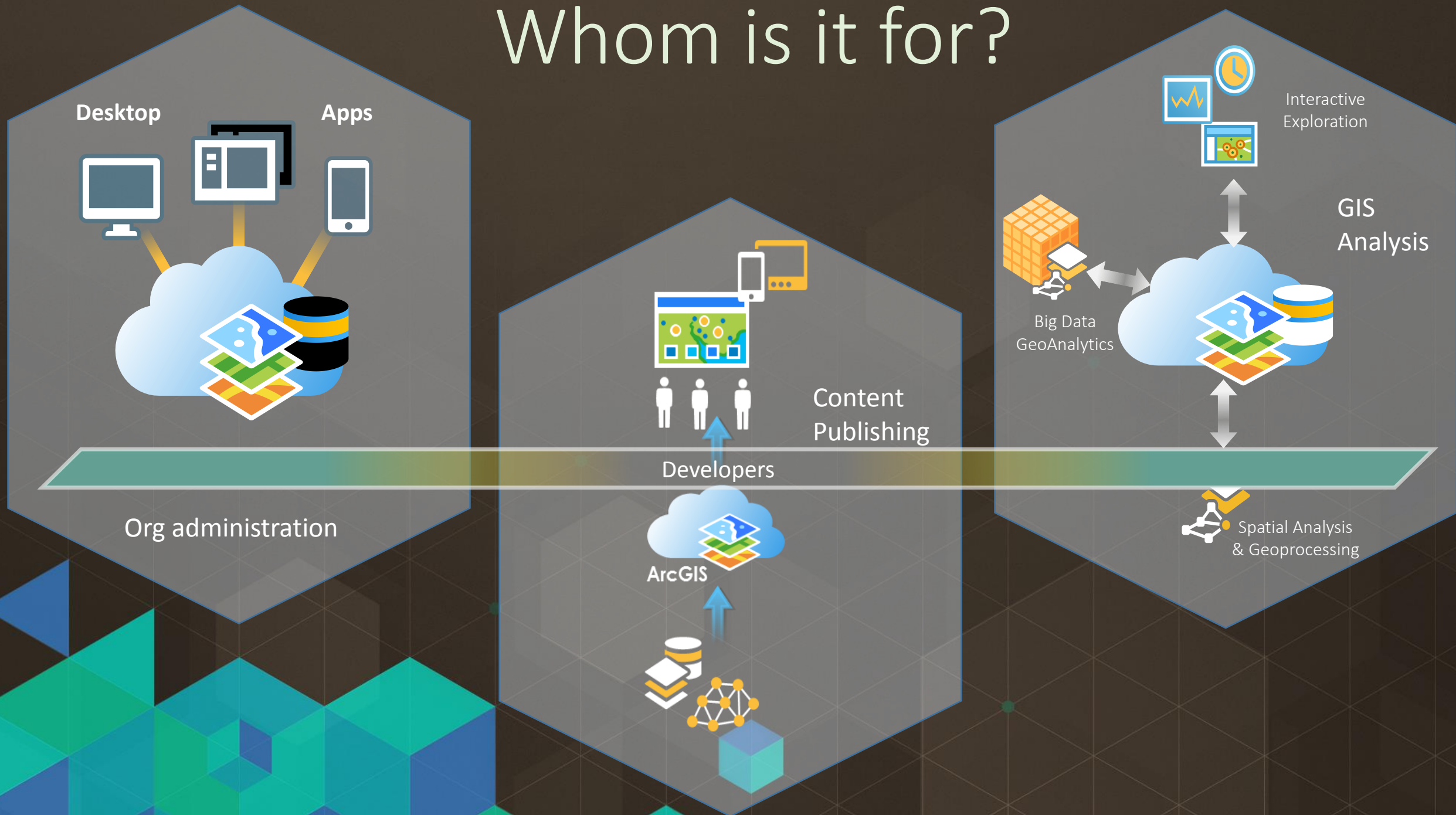
ArcPy

- ArcGIS Desktop
 - ArcMap – Python 2.x
 - ArcGIS Pro – 3.x
- Mostly geoprocessing
- Some map automation

Four different groups working with the ArcGIS API for Python

- Org Administrators
- Content Publishers
- GIS Analysts and Data Scientists
- Power Users/Developers

Whom is it for?



Automate Web GIS management

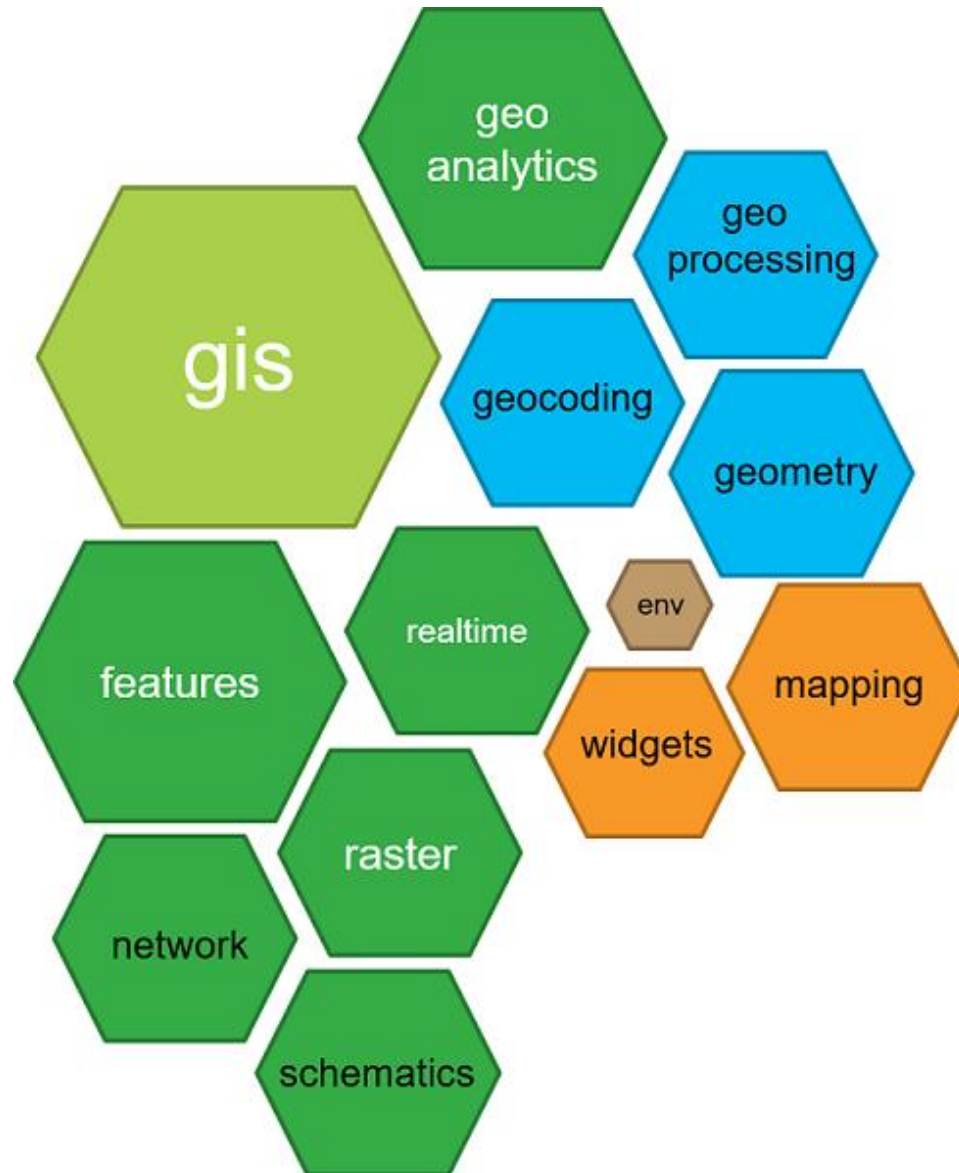
- Populate portal with users, groups
- Clone portals
- Re assign user content
- Perform comprehensive content search
- Determine item relationship
- Create reports of users, their items

Automate content creation

- Automate content publishing during off peak hours
- Update tiles and features from a known database
- Replicate development environment content to production
- Inspect and update items with broken service links

- Access big data tools programmatically
- Utilize rich 3rd party Python packages for data analysis
- Create rich charts, graphs, embed 2D and 3D maps in Jupyter Notebook environment
- Share your research with data and notes with peers

Reproducible research



Demo:

Try it live!!!

@

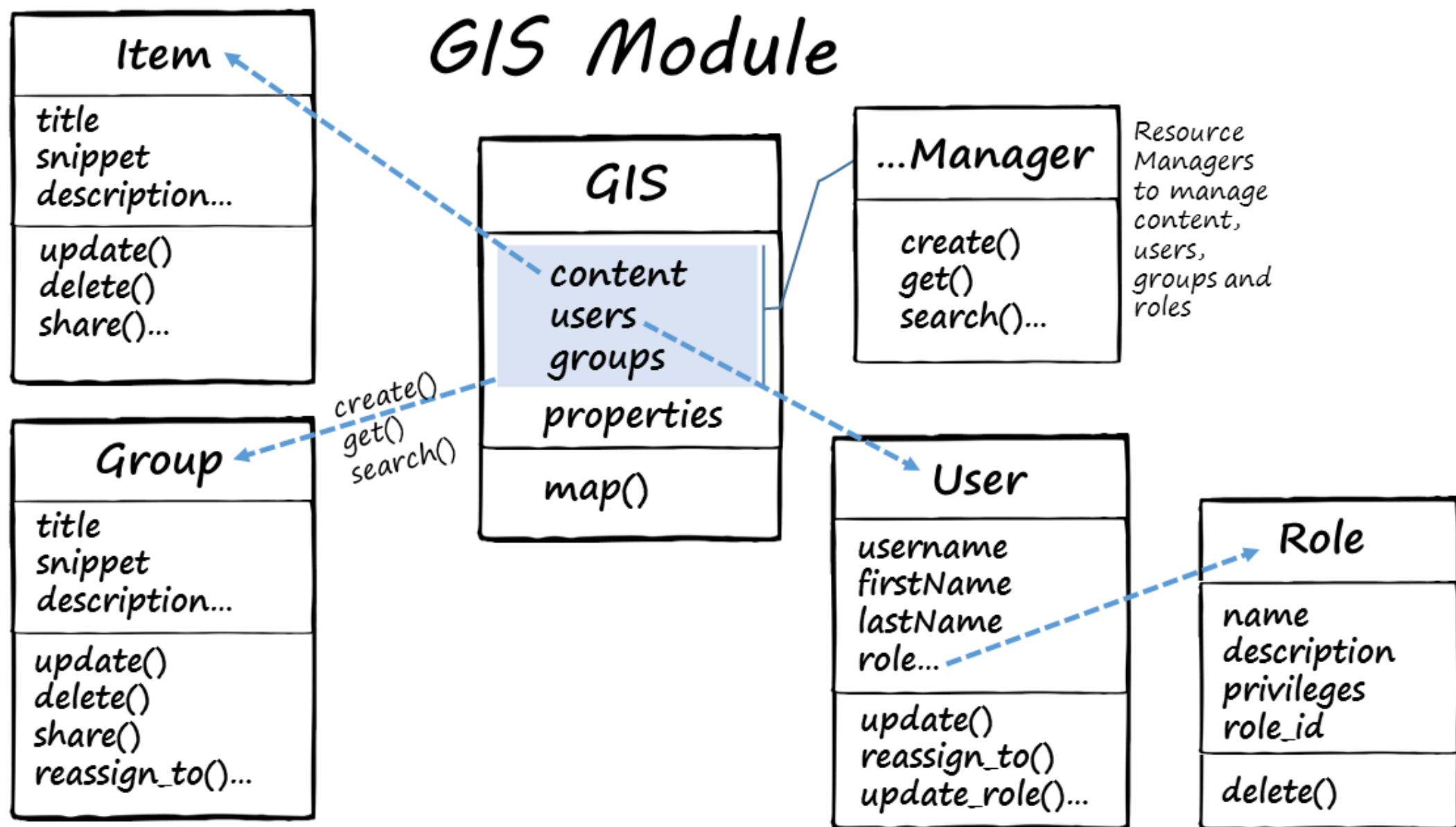
[http://notebooks.
esri.com](http://notebooks.esri.com)



Introducing the GIS Module

Your gateway to scripting a Web GIS

GIS Module



Demo:

Connecting to the
GIS Module



Different authentication schemes

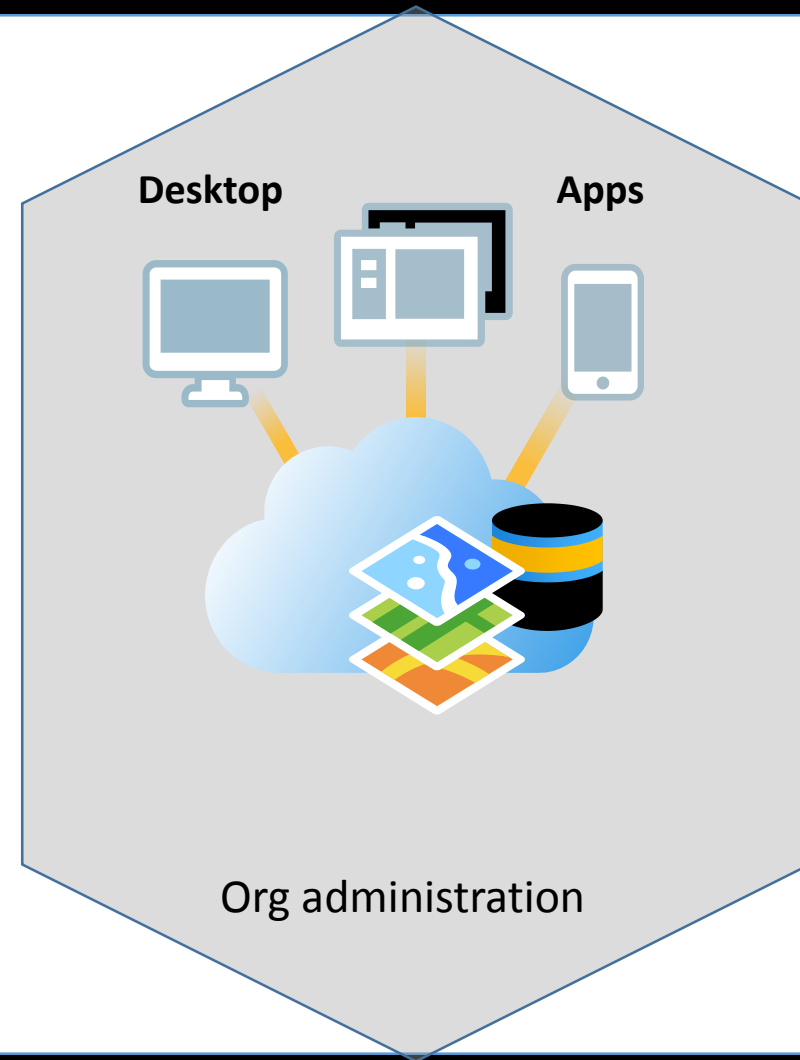
- anonymous users
- built-in users
- users using LDAP, via
 - Basic authentication
 - Portal tier authentication
- users using Integrated Windows Authentication (IWA) through NTLM or Kerberos
- smart card users / PKI authentication using certificate and key files
- users connected to an ArcGIS Enterprise instance using ArcGIS Pro

User
Workflows:

Org Administrators

Demo:

Workflows for
Org
Administrators



User
Workflows:

Content Publishers

Demo:

Workflows for Content Publishers



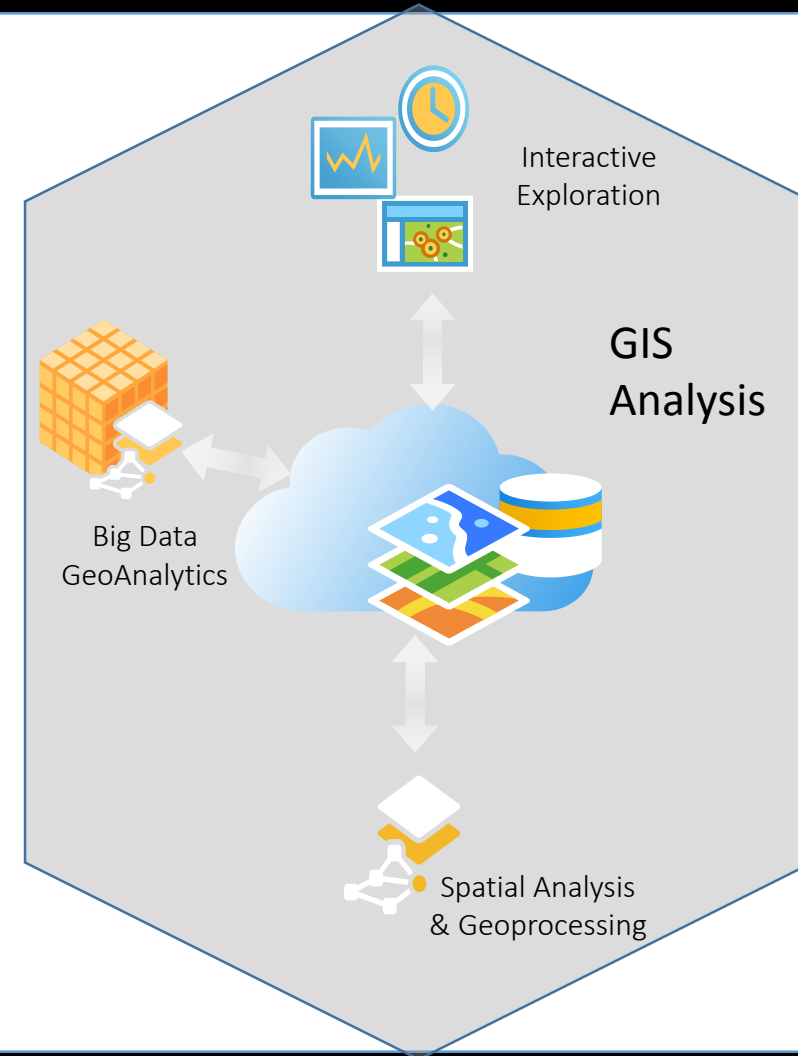
User
Workflows:

GIS Analysts and Data
Scientists

Demo:

Workflows for GIS Analysts and Data Scientists

California forest fires
sample



User
Workflows

Power Users/Developers

Demo:

Workflows for
Power
Users/Developers

[Jupyter Dashboard](#)
[Sample](#)



Developers

Installing the API

- You will [install the API](#) using [Conda](#)
 - Popular package and environment manager application
- First need to get Conda
 - ArcGIS Pro - YES
 - Conda is already on your computer
 - ArcGIS Pro – NO
 - Install the latest version of [Anaconda for Python](#)
- Install arcgis package
 - In a command prompt: `conda install -c esri arcgis`
- Start jupyter notebook
 - Test the install

- Online Documentation



Q and A Session with

Atma Mani

Product Engineer – ArcGIS API for Python



esri

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