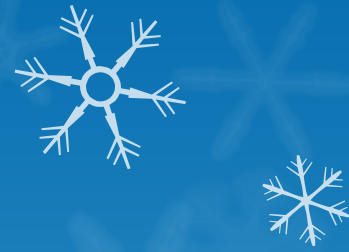


# Loading Custom Python GP Tools into a Python Addin Toolbar

Rebecca Strauch

ADFG-DWC

Alaska Dev Meetup (2013??)



# My needs:

- Several different workflows with custom py script tools
- Scripts (about 10/workflow) run from 10 secs – 7 days
- Workflows are often repeated
- Scripts tools stored in ArcGIS Toolbox
- Scripts take advantage of the built in parameter GUI

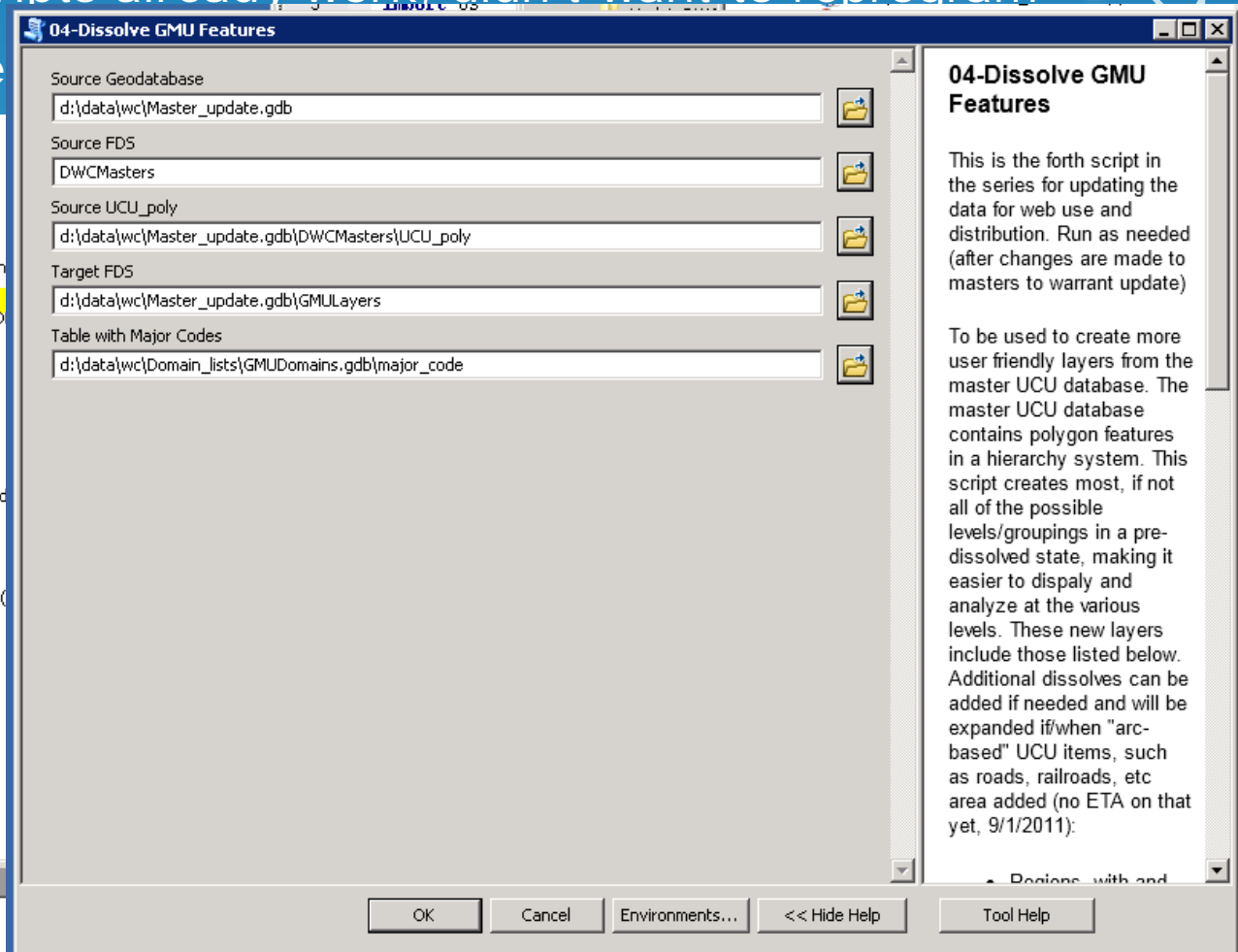
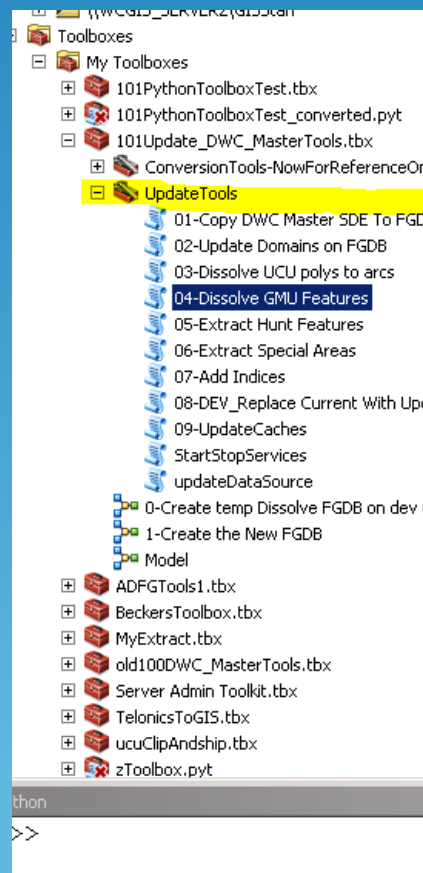
# Why Move Tools to an Addin

- Easier access on the toolbar vs. navigating Catalog
- Addin allows easy deployment on other machines
- Easy to create and modify



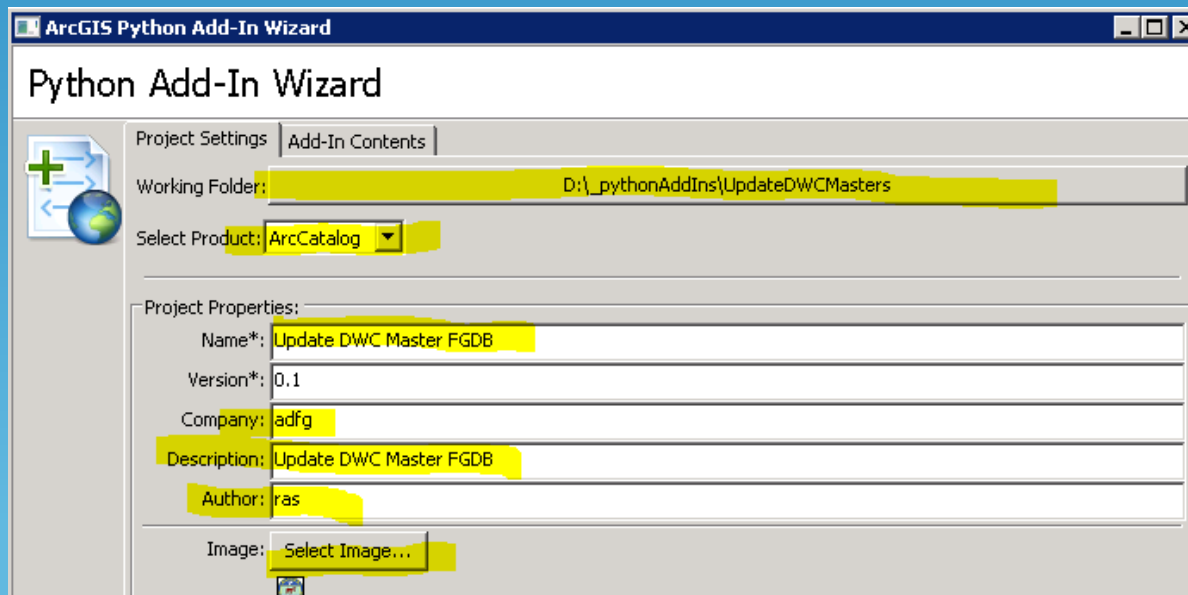
# My Challenge:

- My .py scripts already work, didn't want to reprogram
- Addin doe



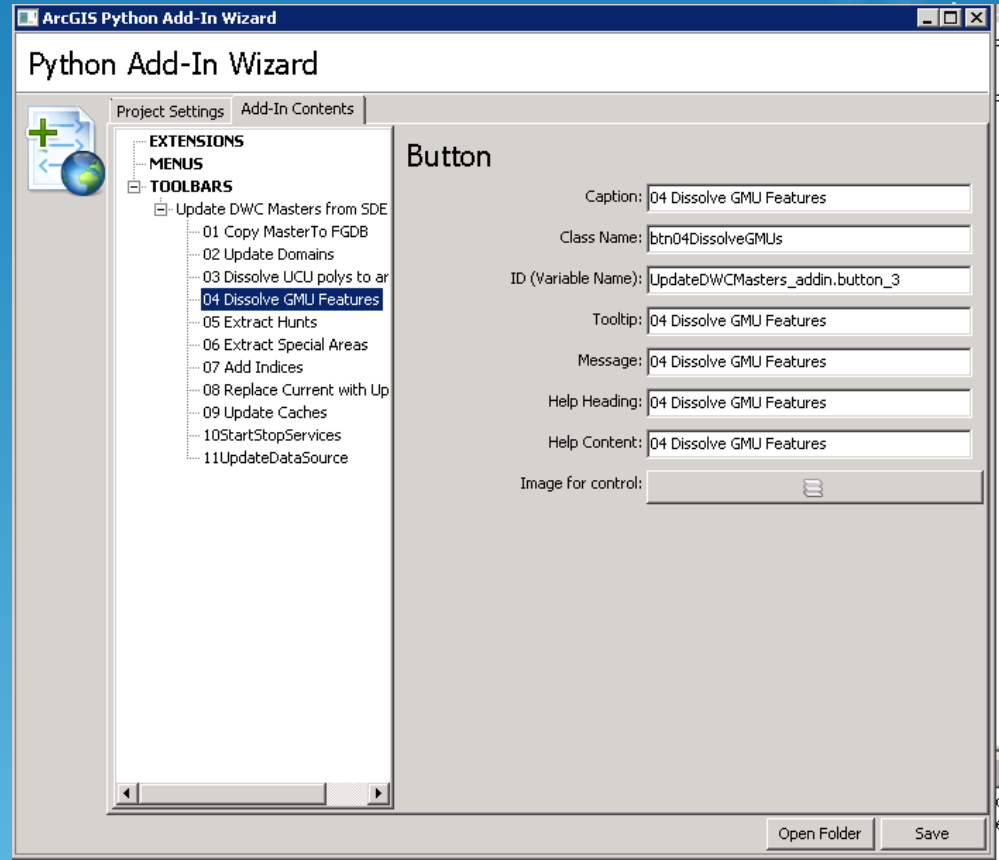
## After downloading/unzipping the Wizard...

- Double-click `\addin_assistant\bin\addin_assistant.exe`
- Select an empty folder name for the Addin workspace
- Determine if this will be run in ArcCatalog or ArcMap
- Replace "Project Properties" as needed
- Select a new icon (optional)
- Hit Save - - this creates the folder and puts the initial addin structure



# Wizard (cont).....

- Move to Add-in Contents tab
- Right-Click on TOOLBARS, add a new toolbar, modify name and any other properties
- Right-Click Toolbar and add as many buttons as desired; modify fields; modify properties
- Save – this creates the stubbed out structure
- Click - Open Folder



# Once the folder is open....

- **Copy or Move your Toolbox (.tbx) to the workspace's "Install" folder**
- Then modify the <workspace>\_addin.py file located in the "Install" folder..

- At the top add (after import pythonaddins):

```
import os
```

```
relPath = os.path.dirname(__file__)
```

```
For each button, under def onClick(self):
```

```
→ replace pass with (using GISInventoryTools.tbx as example)
```

```
toolPath = relPath + r"\GISInventoryTools.tbx"
```

```
pythonaddins.GPToolDialog(toolPath, <toolname>)
```

- save

# Next create/update the .addin ....then install:

- In workspace root directory, doubleclick `makeaddin.py` which creates `<workspace>.esriaddin`
- Double-click on `<workspace>.esriaddin` to install addin.
- Open Catalog or ArcMap (which ever type was created)
- Test.
- Modify, repeat process if needed



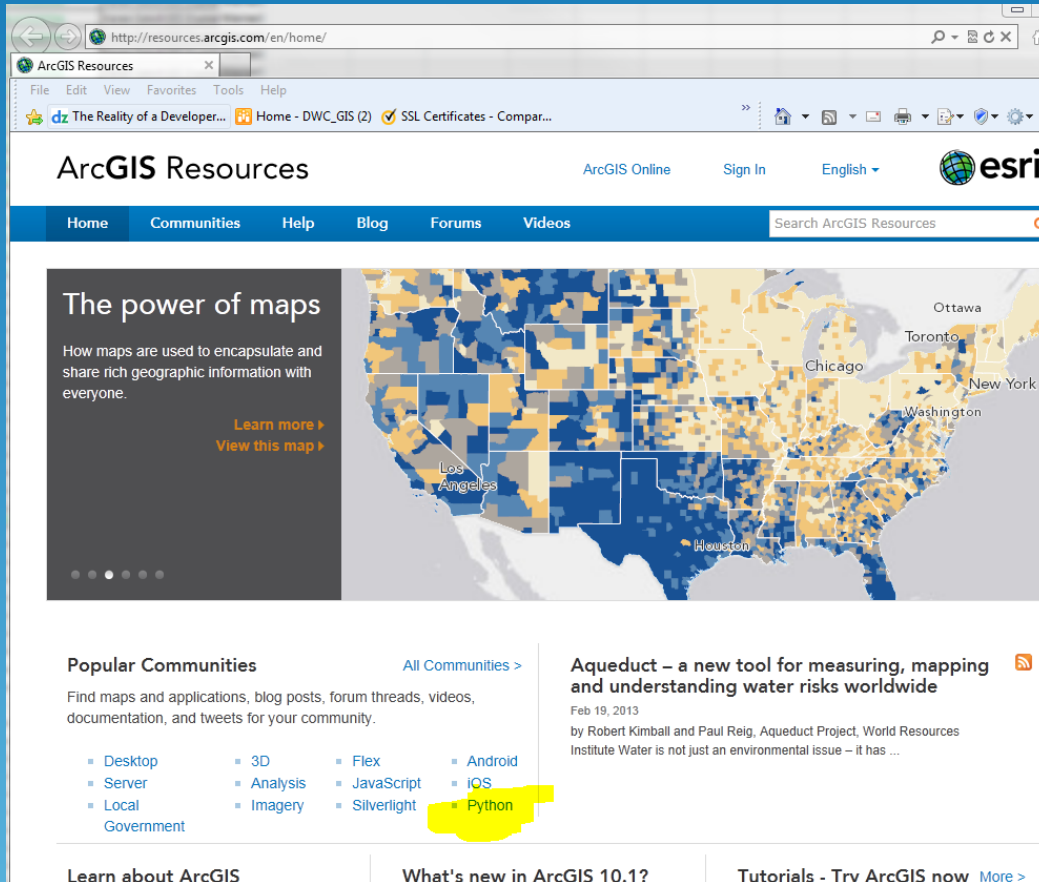
Demo:



# Some GPToolDialog Resources

- [http://resources.arcgis.com/en/help/main/10.1/#/The\\_pythonaddins\\_module/014p00000021000000/](http://resources.arcgis.com/en/help/main/10.1/#/The_pythonaddins_module/014p00000021000000/)
- <http://forums.arcgis.com/threads/41135-Sample-Code-Embedding-gp-tools-or-data-inside-of-a-python-addin-file?highlight=pythonaddins.GPToolDialog>
- <http://forums.arcgis.com/threads/69244-Launch-python-toolbox-from-toolbar-can-it-be-done?highlight=pythonaddins.GPToolDialog>

# Step 1 – Download the Addin Wizard



The screenshot shows the ArcGIS Resources website. The main heading is "The power of maps" with a sub-heading "How maps are used to encapsulate and share rich geographic information with everyone." Below this is a map of the United States with various cities labeled: Los Angeles, Houston, Washington, New York, Chicago, Toronto, and Ottawa. The map is overlaid with a grid of colored squares (blue and yellow). To the right of the map, there are links for "Learn more" and "View this map".

Below the map, there is a section for "Popular Communities" with a link to "All Communities". The text says "Find maps and applications, blog posts, forum threads, videos, documentation, and tweets for your community." Below this is a grid of community tags: Desktop, Server, Local, Government, 3D, Analysis, Imagery, Flex, JavaScript, Silverlight, Android, iOS, and Python. The "Python" tag is highlighted with a yellow box.

Below the "Popular Communities" section, there is a featured article titled "Aqueduct – a new tool for measuring, mapping and understanding water risks worldwide" by Robert Kimball and Paul Reig, dated Feb 19, 2013. The article is about the Aqueduct Project and its focus on water risks.

At the bottom of the page, there are three navigation links: "Learn about ArcGIS", "What's new in ArcGIS 10.1?", and "Tutorials - Try ArcGIS now More >".

# Step 1 – Download the Addin Wizard

The screenshot shows the ArcGIS Resources website for Python for ArcGIS. The page features a navigation bar with 'Home', 'Communities', 'Help', 'Blog', 'Forums', and 'Videos'. A search bar is located on the right. The main content area is titled 'Python for ArcGIS' and includes a 'Communities' section. A featured article titled 'USGS uses Python to deliver Water Quality Assessment tools' is accompanied by a map of the United States showing 'National Water-Quality Assessment (NAWQA) Study Units'. A 'Quick Links' section provides various resources, including 'ArcGIS Python Code Recipes', 'Learning Python', and 'Python for ArcGIS'. At the bottom, a 'Gallery' section displays several thumbnails, with the first one, 'Python Add-In Wizard', highlighted by a yellow circle.

Python for ArcGIS | ArcGIS ...

ArcGIS Resources ArcGIS Online Sign In English esri

Home Communities Help Blog Forums Videos Search Python for ArcGIS

## Python for ArcGIS

Communities

**USGS uses Python to deliver Water Quality Assessment tools**

USGS composed a collection of custom tools that implement geographic information system (GIS) techniques used by the NAWQA Program to characterize aquifer areas, drainage basins, and sampled wells.

[Read more](#)

**National Water-Quality Assessment (NAWQA) Study Units**

Study Units — Assessment schedule

- Begin 2001
- Begin 2004
- Begin 2007
- High Plains Ground Water Study

**Quick Links**

**ArcGIS Python Code Recipes**

- ArcGIS Python Recipes

**Learning Python**

- Python tutorial
- Python.org beginners guide
- Learn Python the Hard Way
- Dive into Python
- Popular Python recipes
- Python Module of the Week

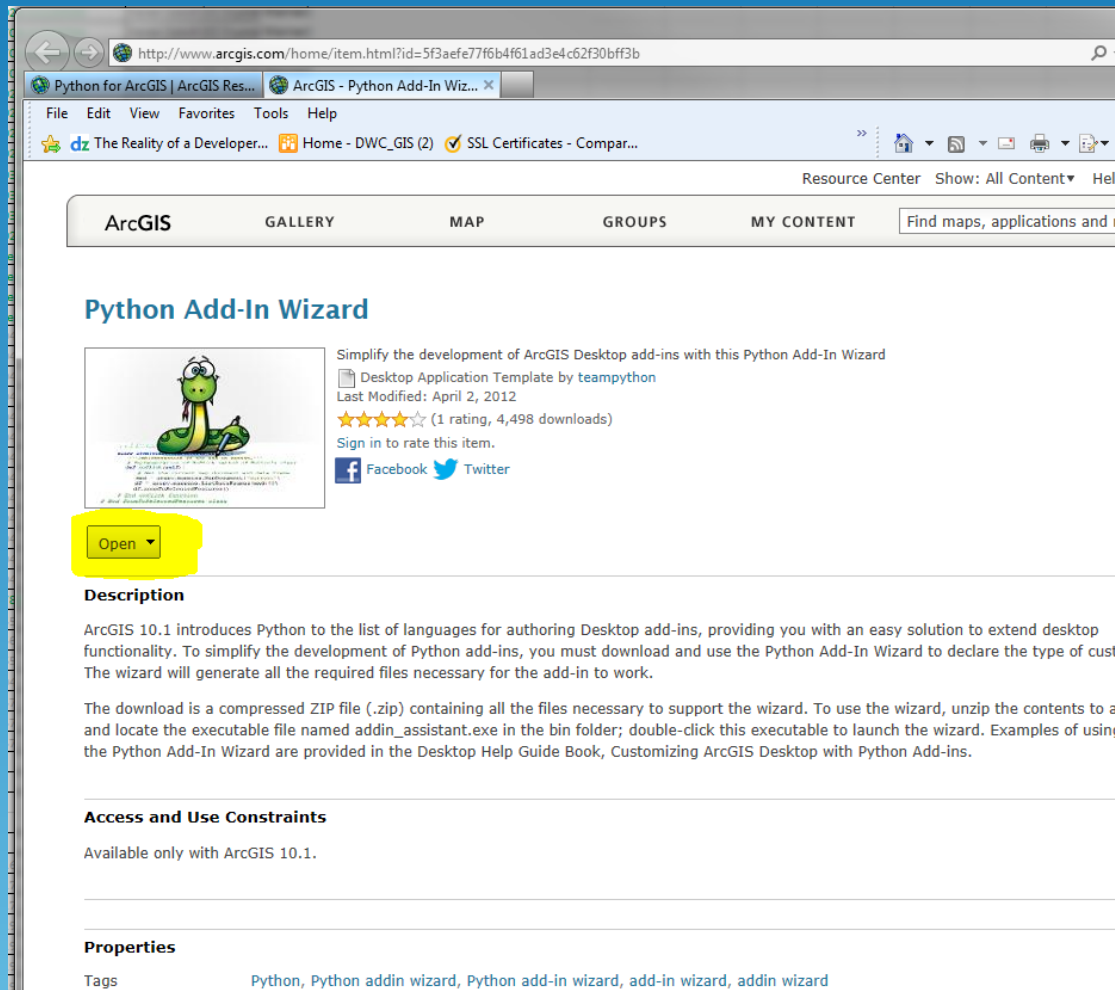
**Python for ArcGIS**

- New at 10.1 for Python and ArcPy
- A quick tour of ArcPy
- Extending ArcGIS with Python Tutorials

**Gallery** [More Gallery posts](#)

Python Add-In Wizard Python—Getting started A Whirlwind Tour of ArcGIS for Python ArcGIS 10.1 arcpy Wall Tutorial 10 Python

# Step 1 – Download the Addin Wizard



Python for ArcGIS | ArcGIS Res... ArcGIS - Python Add-In Wiz... x


File Edit View Favorites Tools Help

dz The Reality of a Developer... Home - DWC\_GIS (2) SSL Certificates - Compar...

Resource Center Show: All Content Help

ArcGIS GALLERY MAP GROUPS MY CONTENT Find maps, applications and m

## Python Add-In Wizard



Simplify the development of ArcGIS Desktop add-ins with this Python Add-In Wizard

Desktop Application Template by teampython  
Last Modified: April 2, 2012  
★★★★☆ (1 rating, 4,498 downloads)  
Sign in to rate this item.  
Facebook Twitter

Open ▾

### Description

ArcGIS 10.1 introduces Python to the list of languages for authoring Desktop add-ins, providing you with an easy solution to extend desktop functionality. To simplify the development of Python add-ins, you must download and use the Python Add-In Wizard to declare the type of custom. The wizard will generate all the required files necessary for the add-in to work.

The download is a compressed ZIP file (.zip) containing all the files necessary to support the wizard. To use the wizard, unzip the contents to a folder and locate the executable file named `addin_assistant.exe` in the `bin` folder; double-click this executable to launch the wizard. Examples of using the Python Add-In Wizard are provided in the Desktop Help Guide Book, *Customizing ArcGIS Desktop with Python Add-ins*.

### Access and Use Constraints

Available only with ArcGIS 10.1.

### Properties

Tags Python, Python addin wizard, Python add-in wizard, add-in wizard, addin wizard

# Step 1 – Download the Addin Wizard

ArcGIS 10.1 introduces Python to the list of languages for authoring Desktop add-ins, providing you with an easy solution to extend desktop functionality. To simplify the development of Python add-ins, you must download and use the Python Add-In Wizard to declare the type of customization. The wizard will generate all the required files necessary for the add-in to work.

The download is a compressed ZIP file (.zip) containing all the files necessary to support the wizard. To use the wizard, unzip the contents to a folder and locate the executable file named `addin_assistant.exe` in the `bin` folder; double-click this executable to launch the wizard. Examples of using the Python Add-In Wizard are provided in the Desktop Help Guide Book, *Customizing ArcGIS Desktop with Python Add-ins*.

## Access and Use Constraints

Available only with ArcGIS 10.1.

## Properties

Tags	Python, Python addin wizard, Python add-in wizard, add-in wizard, addin wizard
Credits	
Size	10 MB
Extent	

## Comments

The `addin_assistant.zip` download has completed.

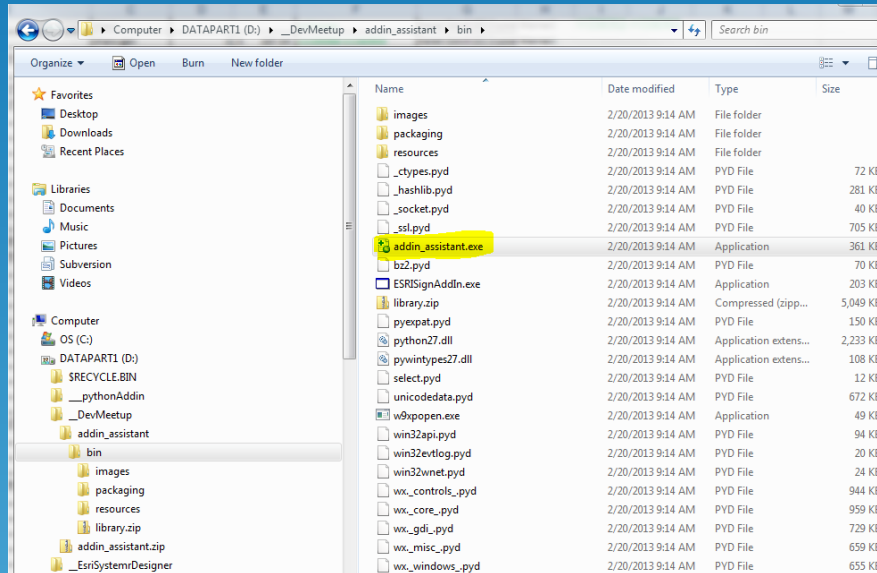
Open

Open folder

View downloads

100%

# Extract .zip, Pin Shortcut



- Double-click `\addin_assistant\bin\addin_assistant.exe` to start the wizard