BILT: Session 1.2

LAB: TAKE CONTROL OVER REVIT BY CREATING TOOLS WITH PYREVIT

Jean-Marc Couffin, BIM One Inc.

Class Description

This presentation will run you through the process and the tools for you to create a custom toolbar with a set of custom tools thanks to pyRevit, some python coding or a dynamo script. The idea is to empower advanced users of Revit and help them structure a toolbox to improve their productivity and get rid of the repetitive or tedious tasks.

- First part will cover the structure of pyRevit Framework, its capabilities, and its set of tools
- Second part will be about creating a simple toolbar
- Third part about the creation of a few scripts to populate our toolbar
- Finally, to show a way to distribute the toolbar across an organization

About the Speaker

Jean-Marc Couffin

Architect DPLG, Senior BIM specialist

Trained architect both in France and in the USA, Jean-Marc Couffin worked in Singapore, Vietnam, France, Czech Republic before working in Canada for Provencher Roy Architects as a BIM manager supporting teams in their efforts to create above standards building. Moving back in Europe in Czech Republic, he recently joined BIM One as a consultant to pursue his interests in BIM problem solving and automatization and explore all dimensions of BIM in relation to the construction world. His main area of focus for the past years has been developing and implementing company BIM standards and methods. He dedicates himself to build co-workers efficiency and is always on the look for innovative technologies that can improve design practice. Jean-Marc's experience includes creating and managing complex BIM models and projects for the Agence Métropolitaine de Transport, the Place des Arts, the Canadian Space Agency, TPSGC and many major clients.

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00_Prerequisites

Yourself 🧠

- Good mood
- 1 bit of knowledge of python or another programming language, basics like date types, …
- 1 bit of knowledge of Dynamo for Revit or the Revit API (or just understanding of what is an API 🙂) going through this 👇 would be an excellent start
  https://dynamopythonprimer.gitbook.io/dynamo-python-primer/4-revit-specific-topics/introduction-to-revits-api

Basics

- at least one Revit version installed (2020-2022 will be fine)
  https://www.autodesk.com/products/revit/free-trial
- pyRevit installed
  https://github.com/eirannejad/pyRevit/releases

Not Necessarly Basic

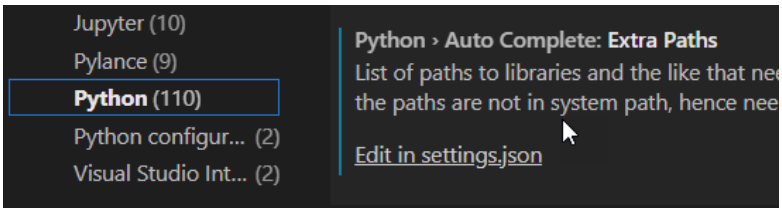
- Github desktop installed
  https://desktop.github.com
- VSCode or pyCharm (or notepad++ if you like pain)
  https://code.visualstudio.com/download
- Extensions to Vscode (CTRL+Shift+X in VSCode)
  - python
  - Github Pull requests
  - docs-yaml
  - yaml
  - prettier

- ⚠ a bit trickier **VSCode settings**:
  - add it to python autocomplete extrapaths in vscode settings
    Adding stubs file will allow you to use the auto-complete feature of VSCode with the Revit API and pyRevit references

  1. Download stubs files from (and unzip):
     a. https://github.com/gtalarico/ironpython-stubs/archive/master.zip
        or from
     b. https://github.com/BIMOpenGroup/RevitAPIStubs/releases/download/v1.0.0/stubs.rar
  2. File > Preferences > Settings > Python > auto-complete > ExtraPaths > Settings.json
  3. Add stubs file path to the extraPaths section of the settings.json
     - Beware of the file path format with the double \\

Mine looks like this:

```
{
"python.analysis.extraPaths": [
"C:\\Gits\\RevitAPIStubs\\stubs\\common",
"C:\\Gits\\RevitAPIStubs\\stubs\\revit\\2022",
"C:\\Users\\Jean-Marc\\AppData\\Roaming\\pyRevit-Master\\pyrevitlib"
],
"python.autoComplete.extraPaths": [
"C:\\pyRevit\\stubs\\revit\\2023",
"C:\\pyRevit\\stubs\\common",
"C:\\Users\\Jean-Marc\\AppData\\Roaming\\pyRevit-Master\\pyrevitlib\\pyrevit",
]
}
```

- 

Complete explanation and links:
https://discourse.pyrevitlabs.io/t/vscode-for-pyrevit-and-revit-api/413/5 or https://forum.dynamobim.com/t/intellisense-step-by-step-configuration-on-visual-studio-code/27085/2?u=jean-marc or https://sumptuous-rhubarb-de0.notion.site/LAB-TAKE-CONTROL-OVER-REVIT-BY-CREATING-TOOLS-WITH-PYREVIT-705cd44ad90e46fa8011fe4047637ad8

Account

a Github account
https://github.com/signup

Tool to investigate the Revit Document

⚠ Version specific
Revit Lookup Tool
Releases · jeremytammik/RevitLookup

ALL THE CODE WILL BE AVAILABLE HERE

https://github.com/jmcouffin/pyRevit-BILT_NA_2022

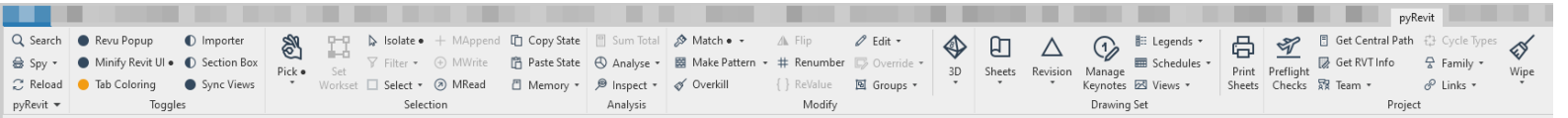
01_Getting to know the pyRevit Framework

pyRevit is a framework

pyRevit (with lowercase py*) is a Rapid Application Prototyping (RAD) environment for Autodesk Revit. It helps you quickly sketch out your automation and add-on ideas, in whichever language that you are most comfortable with, inside the Revit environment and using its APIs. It also ships with an extensive set of powerful tools that showcase its capabilities as a development environment. Download and install pyRevit, launch Revit, and note the new* ***pyRevit*** *tab that includes these tools. pyRevit also ships with a handy CLI utility for customized configuration and deployment of your tools, and a telemetry server to monitor pyRevit usage across your teams.*

That means it is not only a set of tools to do stuffs in Revit but also to build your own tools

pyRevit is a set of (growing) tools



pyRevit has a daddy

https://ein.sh/

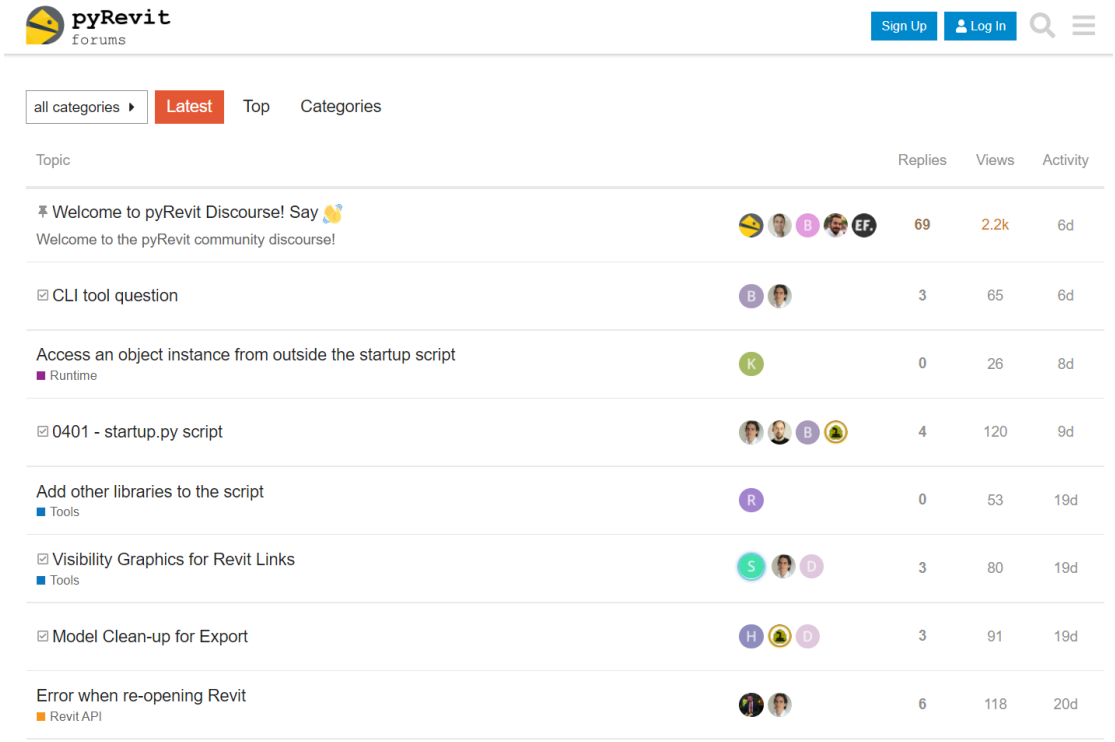
and lots of geeky heirs…

pyRevit is a community

with lots of people trying to go further than Revit

321 users

https://discourse.pyrevitlabs.io/



pyRevit relies on the RevitAPI

The original content for the RevitAPI is here:

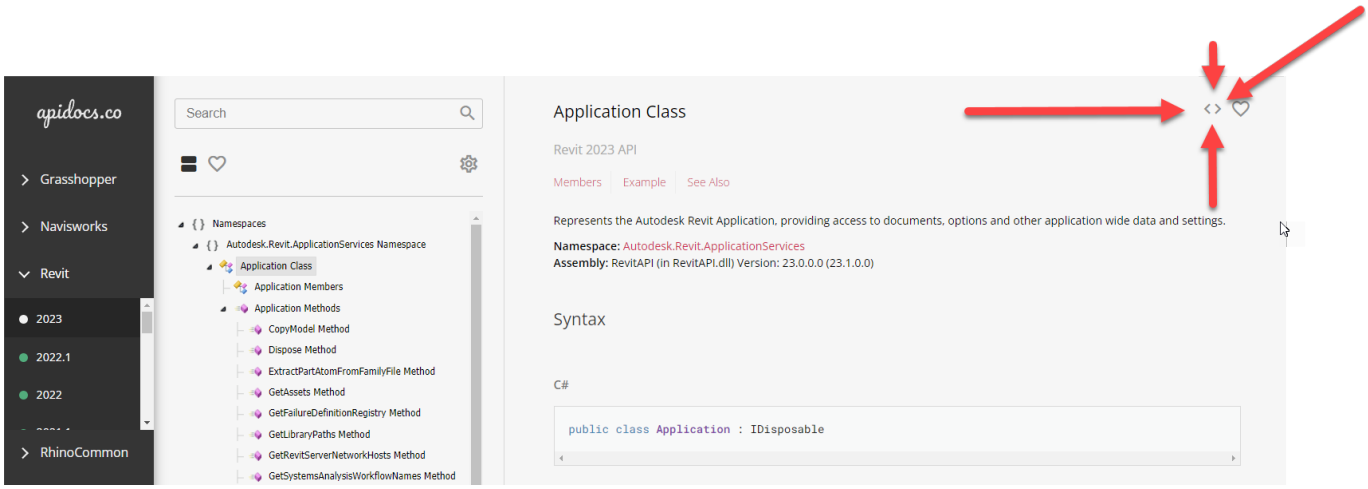
https://www.autodesk.com/developer-network/platform-technologies/revit

But a better way to navigate it is happening here:

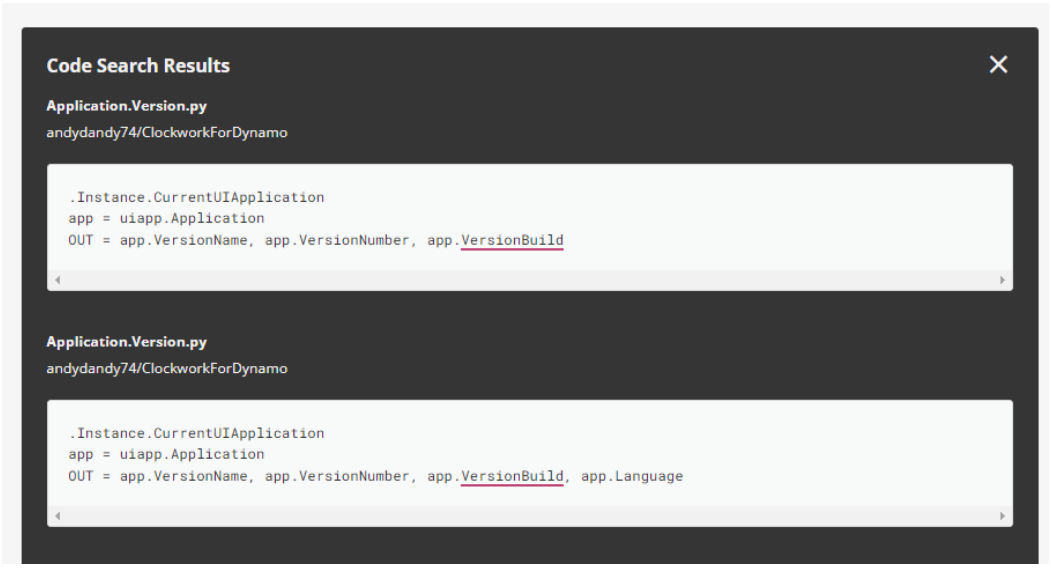
https://apidocs.co/

Thanks to https://gtalarico.com/

So if you want to know how to use the Revit API, this is the one stop with a special trick:

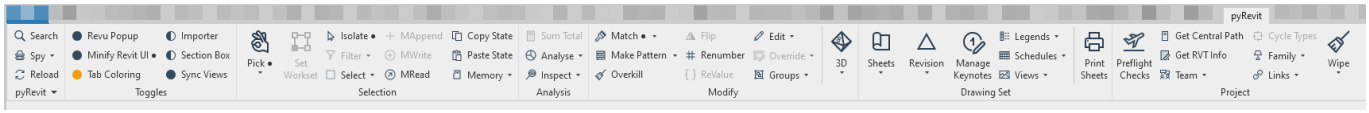


This button gives you access to samples of code, while not perfect as it is using a basic search method from the github API, it does provide you with samples in C# or Python to illustrate how to use a specific Revit API Method



pyRevit provides you with tools

Set of tools



Check out the preflight checks -> model checker

CLI

Command Line Tool with the **pyrevit** handle

```
C:\Users\Jean-Marc>pyrevit --help
Usage: pyrevit COMMAND [OPTIONS]

pyRevit environment and clones manager

    Options:
        -h --help               Show this help
        -V --version            Show version
        --usage                 Print all usage patterns
        --verbose               Print info messages
        --debug                 Print docopt options and logger debug messages
        --log=<log_file>        Output log messages to external log file

    Management Commands:
        env                     Print environment information
        update                  Update remote resources used by this utility
        clones                  Manage pyRevit clones
        extensions              Manage pyRevit extensions
        attached                Manage pyRevit attachments to installed Revit
        releases                Info about pyRevit releases
        revits                  Manage installed Revits
        caches                  Manage pyRevit caches
        configs                 Manage pyRevit configurations

    Commands:
        clone                   Create a clone of pyRevit on this machine
        extend                  Create a clone of a third-party pyRevit extension on this machine
        attach                  Attach pyRevit clone to installed Revit
        switch                  Switch active pyRevit clone
        detach                  Detach pyRevit clone from installed Revit
        config                  Configure pyRevit for current user
        run                     Run python script in Revit
        doctor                  Fix potential or real problems

    Help Commands:
        wiki                    Open pyRevit Wiki
        blog                    Open pyRevit blog
        docs                    Open pyRevit docs
        source                  Open pyRevit source repo
        youtube                 Open pyRevit on YouTube
        support                 Open pyRevit support page

Run 'pyrevit COMMAND --help' for more information on a command.


C:\Users\Jean-Marc>
```

Documentation to give you the basics and more

Here: https://www.notion.so/pyrevitlabs/pyRevit-bd907d6292ed4ce997c46e84b6ef67a0

Python Modules to interact with Revit

https://pyrevit.readthedocs.io/en/latest/

02_Setting up a pyRevit Extension the easy way

Revit should be closed (not entirely true 😉)

-01_*NOOB*_Install the finished toolbar

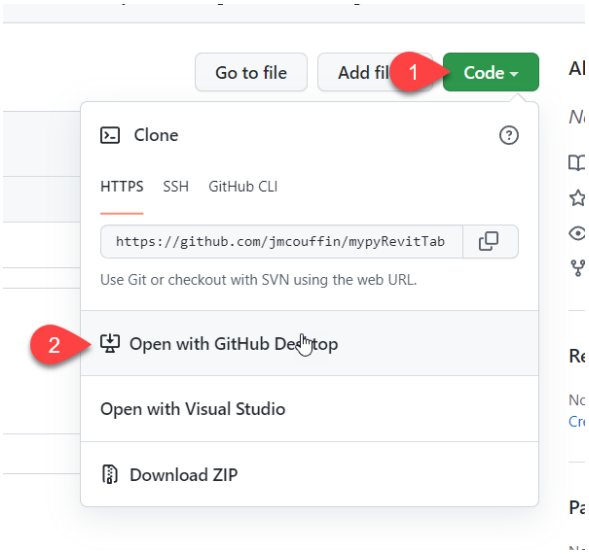
- in command line (WIN + cmd), we will install our toolbar

```
pyrevit extend ui pyBiltNA https://github.com/jmcouffin/pyRevit-BILT_NA_2022.git --dest="C:\pyRevit"
```

00_*Advanced*_Create a github repository (gitignore, licence, readme, ...)

main → master in github

and **open it with github desktop**



Then '**show in explorer**'

Note that we could also do that from the github website

01_ *Advanced*_A minimal set of files and folders:

- File ***extension.yaml***

```yaml
type: extension
rocket_mode_compatible: true
name: pyBiltNA # a name for your pyrevit extension
description: pyRevit tools creation workshop # a description of what it is
author: Jean-Marc Couffin # your name
author_profile: https://linkedin.com/in/jmcouffin # [optional] a link to your profile
url: https://github.com/jmcouffin/pyRevit-BILT_NA_2022.git # the link to your
extension's repository on github
website: http://eirannejad.github.io/pyRevit/ # [optional] a link to your website
image: https://ein.sh/pyRevit/pyRevitLogo.svg # [optional] a picture
```

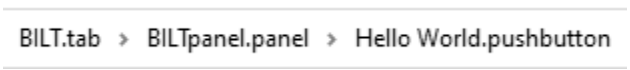
- a folder structure:

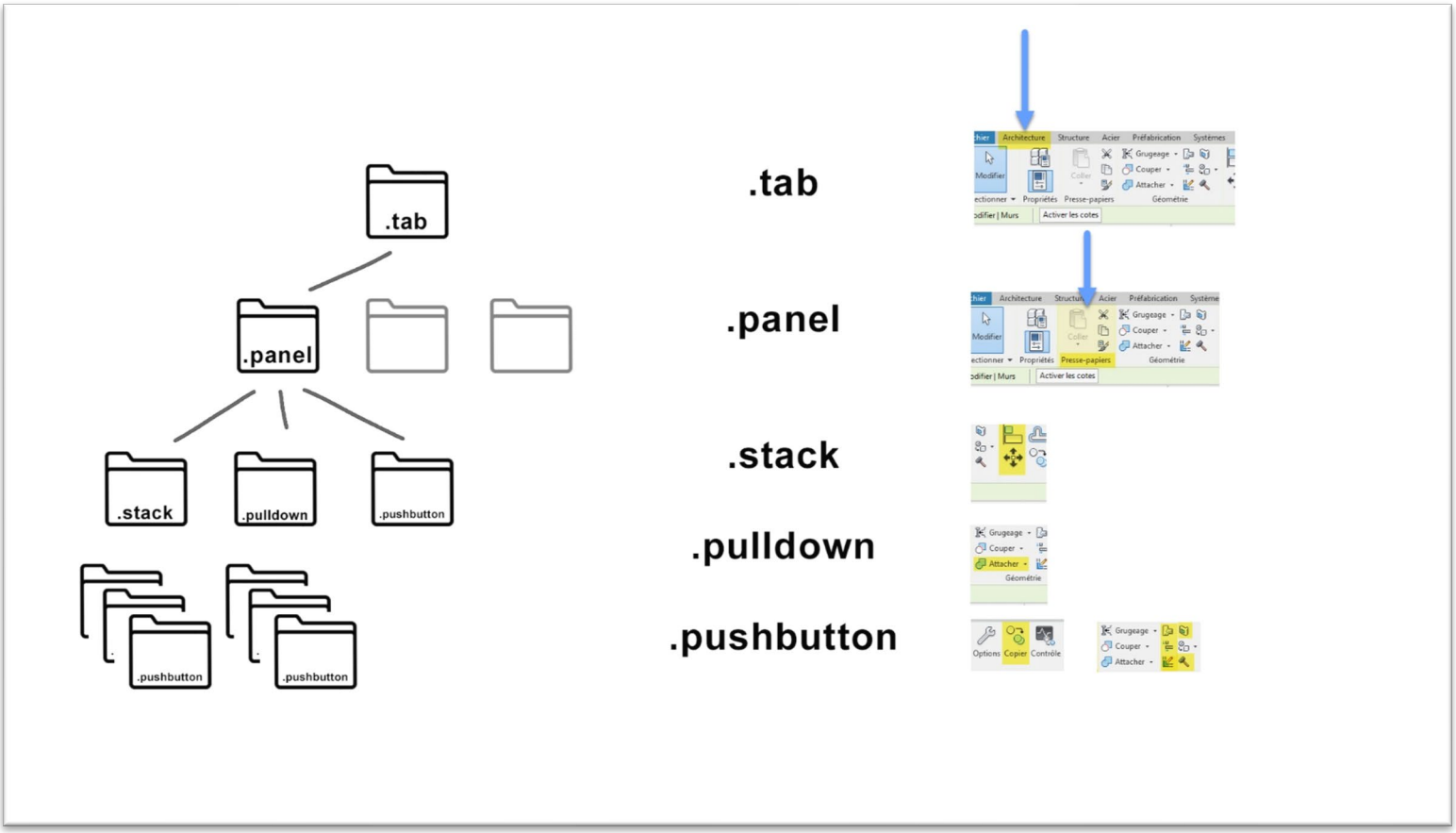
BILT.tab/BILTpanel.panel/Hello.pushbutton

.tab will identify the toolbar in Revit
.panel will help you group your buttons in sets
.pushbutton is your first button in your toolbar

The structure of your toolbar is aligned with your folder structure.

*Each folder extension in the form of .**variable** will be used to create: tabs, panels, pulldown, stacks, and so on.*



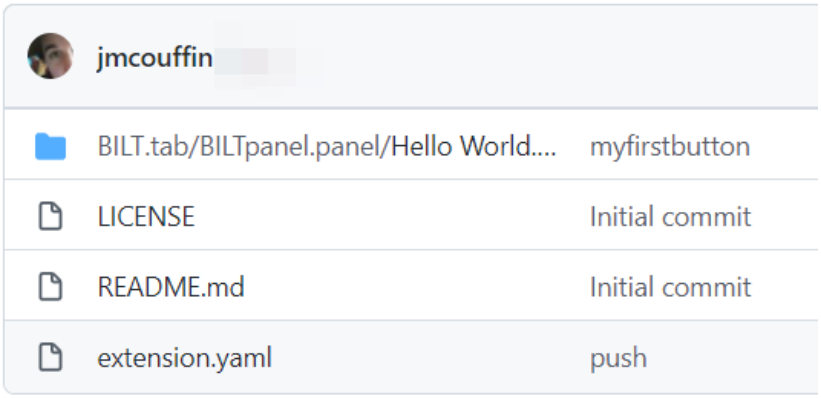

.tab
.panel
.stack
.pulldown
.pushbutton
.pushbutton
.pushbutton
.tab
.panel
.stack
.pulldown
.pushbutton

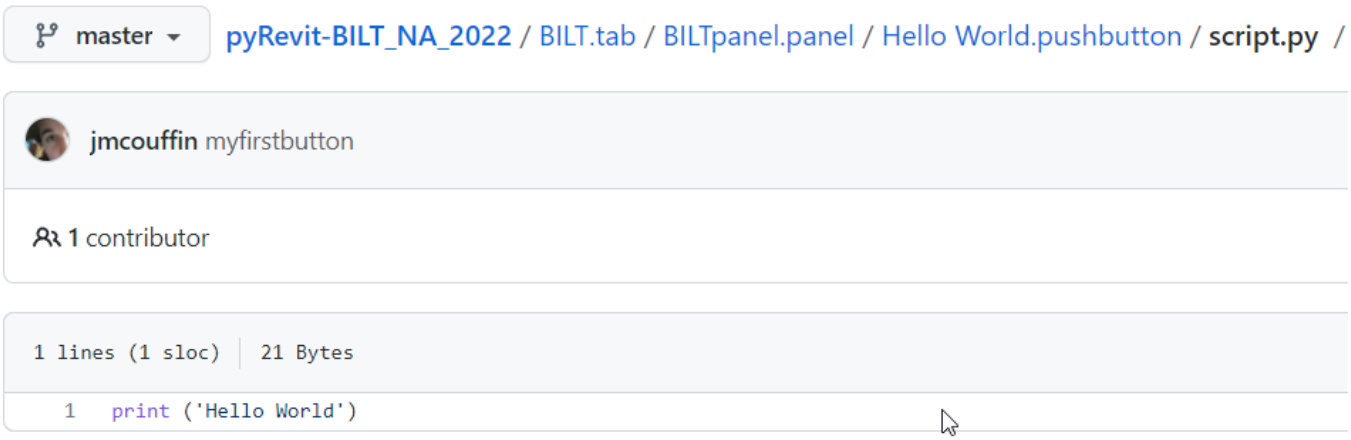
02_ *Advanced*_And a file:

script.py

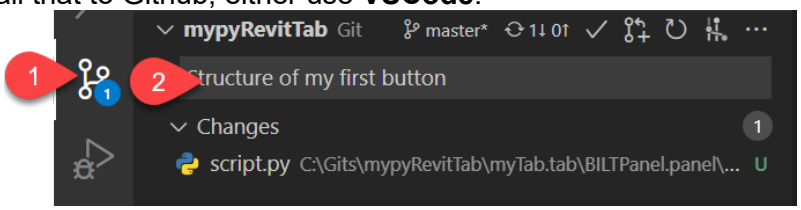
with the following content:

```
print ('Hello World hello le monde')
```

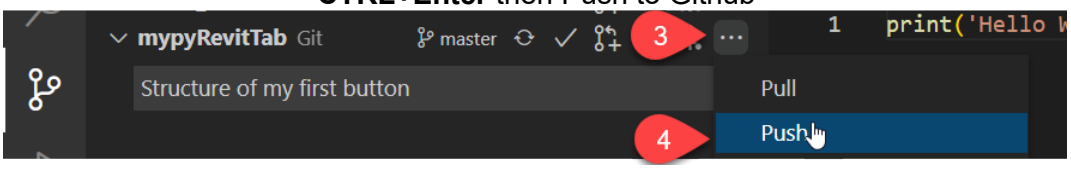




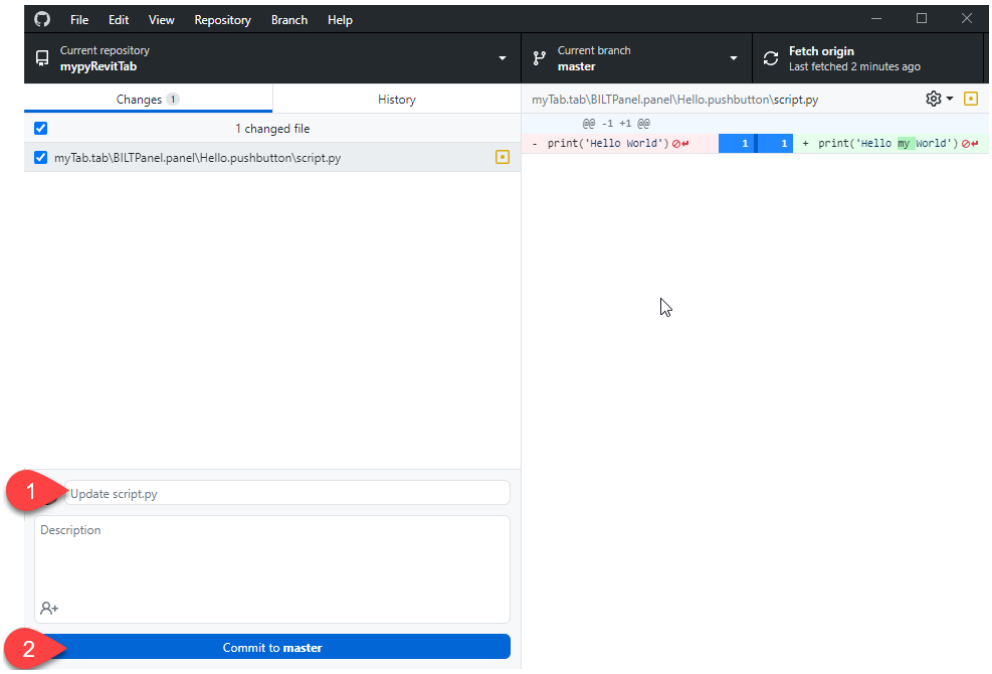
To commit and push all that to Github, either use **VSCode**:



CTRL+Enter then Push to Github



Or **Github Desktop**:



Then **CTRL+P** to push to github

Okay we have potentially a toolbar setup and a first button on github, where do we go from there?

03_ *Advanced*_Installation of the toolbar

We want to link the github repository to pyRevit. The command line will help us do it

- in command line (WIN + cmd), we will install our toolbar

```
pyrevit extend ui pyBiltNA https://github.com/jmcouffin/pyRevit-BILT_NA_2022.git --dest="C:\pyRevit"
```

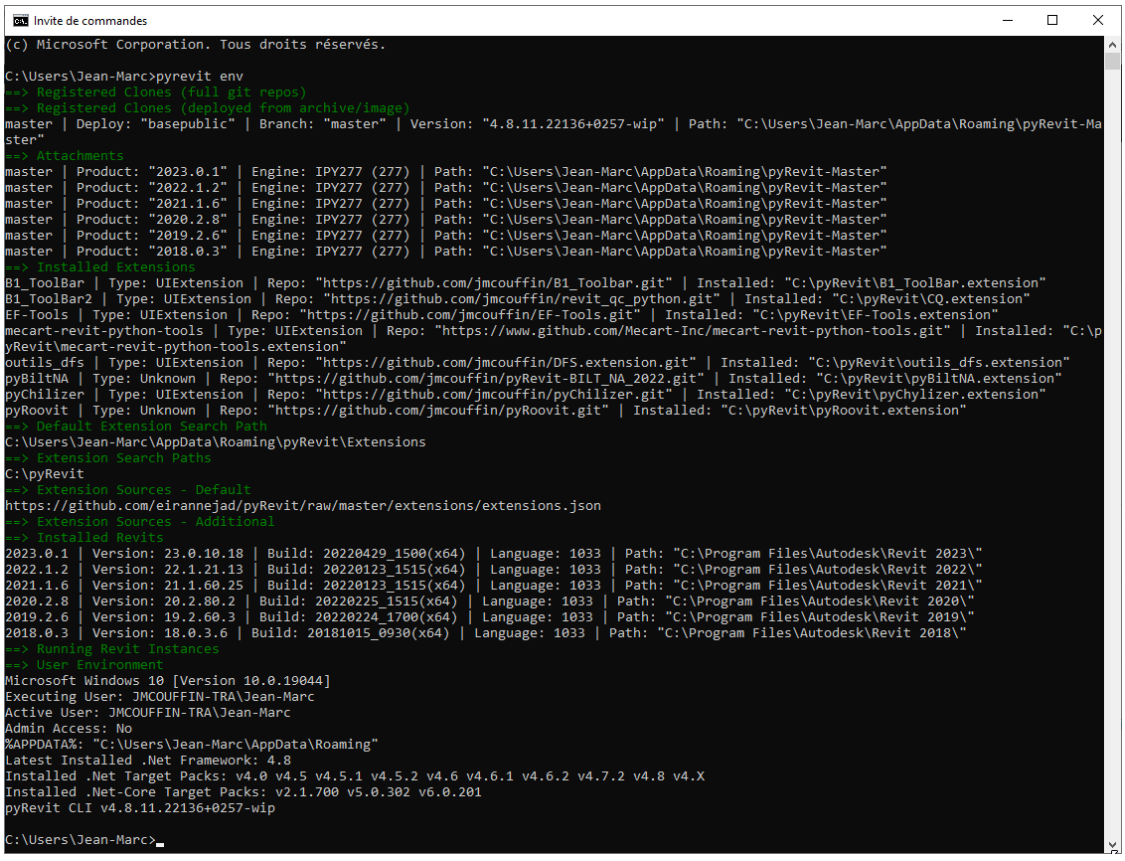
we want to install it to a different folder than the one we worked on previously as the pyRevit Command Line (CLI) will create an .extension folder to make things happen between pyRevit and Revit

the pyrevit command is extremely powerful, try **'pyrevit --help'** *to see the possibilities*

- let's control everything went as planned, in the command line:

```
pyrevit env
```

it should list you: pyRevit clones, installs, extensions, and Revit installs as well



04_*Everyone*_Update Tools

Update

A way to update an extension is to use the following command line:

```
pyrevit extensions update pyBiltNA
```

In the form of a python script

```
# -*- coding: UTF-8 -*-

import os
os.system('cmd /c "pyrevit extensions update
pyBiltNA"')
```

Reload

If you just changed the code, you don't need to refresh the UI

But if you changed the UI, pyRevit has a definition for that:

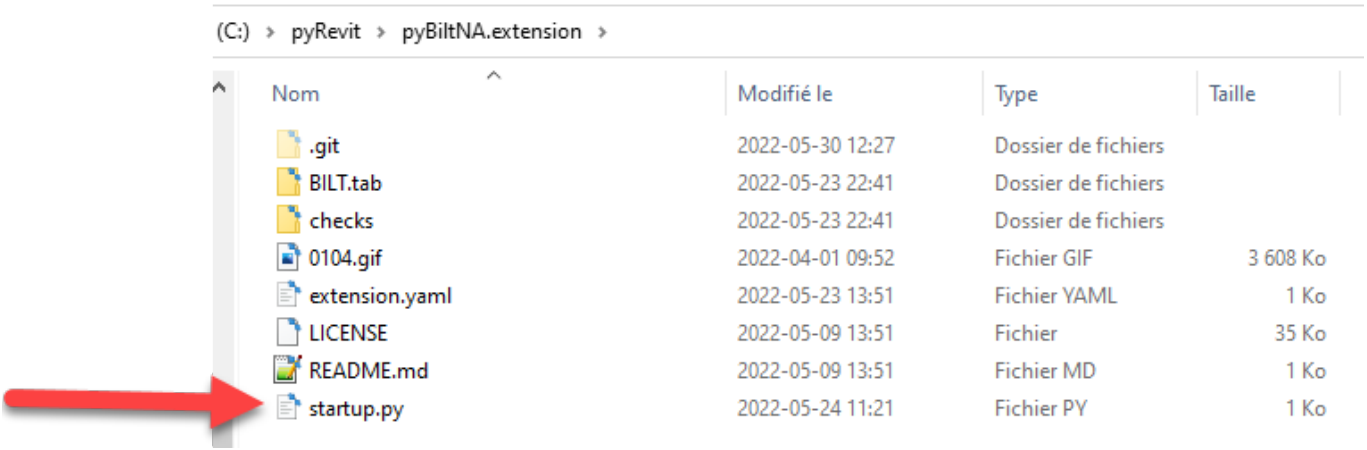
```
sessioninfo.get_session_uuid()
```

Directly from pyRevit Core tools:
https://github.com/eirannejad/pyRevit/blob/master/extensions/pyRevitCore.extension/pyRevit.tab/pyRevit.panel/tools.stack/Reload.pushbutton/script.py

```
"""Reload pyRevit into new session."""
# -*- coding=utf-8 -*-
#pylint: disable=import-error,invalid-name,broad-except
from pyrevit import EXEC_PARAMS
from pyrevit import script
from pyrevit import forms
from pyrevit.loader import sessionmgr
from pyrevit.loader import sessioninfo


res = True
if EXEC_PARAMS.executed_from_ui:
    res = forms.alert('Reloading increases the memory footprint and is '
                      'automatically called by pyRevit when necessary.\n\n'
                      'pyRevit developers can manually reload when:\n'
                      '    - New buttons are added.\n'
                      '    - Buttons have been removed.\n'
                      '    - Button icons have changed.\n'
                      '    - Base C# code has changed.\n'
                      '    - Value of pyRevit parameters\n'
                      '      (e.g. __title__, __doc__, ...) have changed.\n'
                      '    - Cached engines need to be cleared.\n\n'
                      'Are you sure you want to reload?',
                      ok=False, yes=True, no=True)

if res:
    logger = script.get_logger()
    results = script.get_results()

    # re-load pyrevit session.
    logger.info('Reloading....')
    sessionmgr.reload_pyrevit()

    results.newsession = sessioninfo.get_session_uuid()
```

05_*Everyone*_startup.py

Do stuffs at Revit startup:



- Update your toolbar with:

```
# -*- coding: UTF-8 -*-

# auto update at startup
import os
os.system('cmd /c "pyrevit extensions update
pyBiltNA"')
```

- From there you could
  - Display a company message,
  - new tools information,
  - or good practices, …

03_Building some more tools

-02_ *Everyone*_pyRevit modules

```
from pyrevit import …
```

pyRevit comes with a set of modules that help you deal with Revit stubbornness; the documentation can be found here: https://pyrevit.readthedocs.io/en/latest/

The code itself is heavily commented > easy to read and understand

https://github.com/eirannejad/pyRevit/tree/master/pyrevitlib

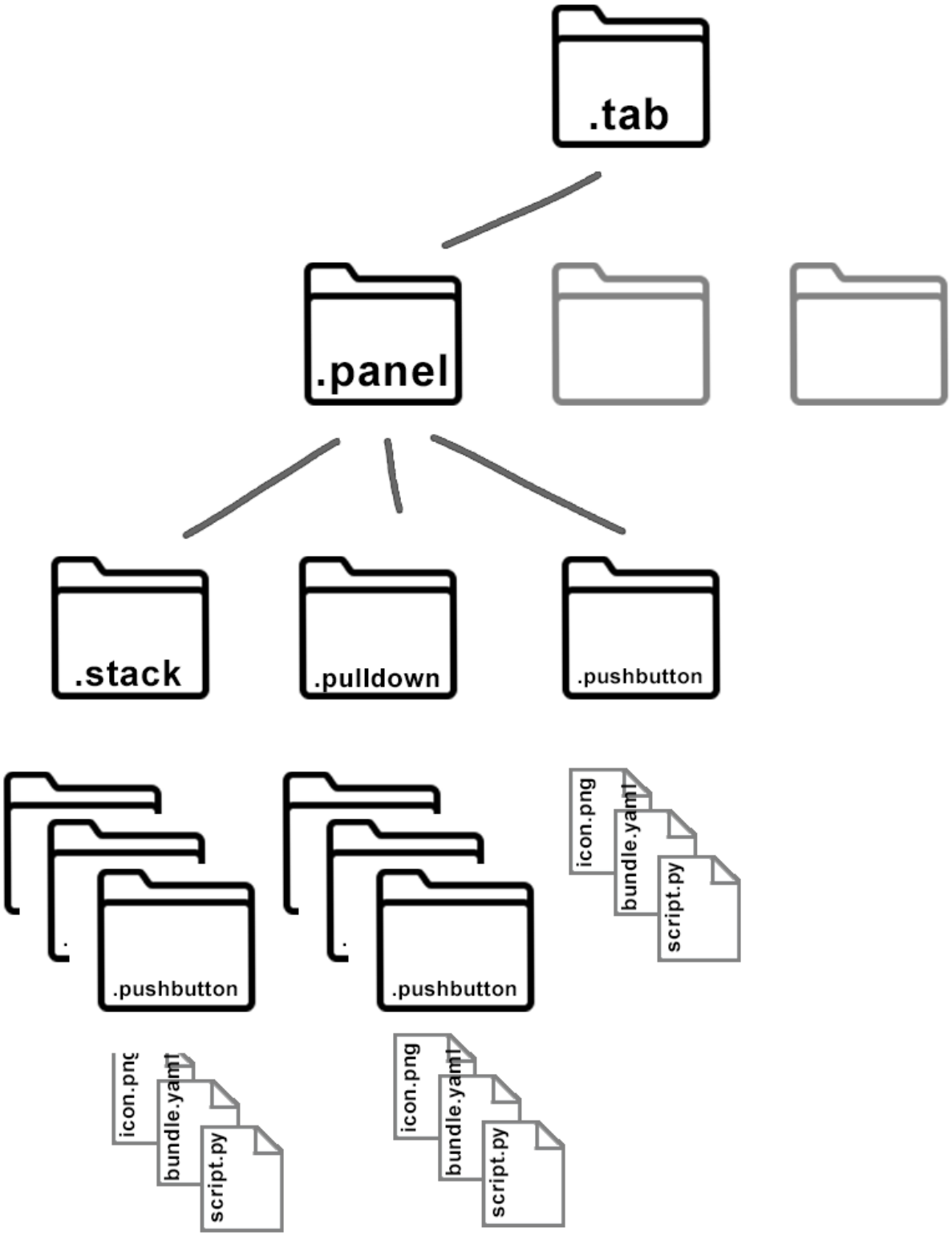
-01_ *Everyone*_Staples

- **Icon** file should be .png with a size of 96 x 96 pixels
  https://icons8.com/icons/set/pyrevit is a good source for icons and let's you combine, recolor them at will

- **bundle.yaml** file will help us personalize the user experience, it works for all types of button:

 # from the pyRevit documentation

```
# bundle title
title: "Make\nPattern"

# title can also be in various locales
# pyRevit pulls the correct name based on Revit language
title:
  en_us: Test Bundle (Custom Title)
  chinese_s: 测试包


# bundle tooltip
tooltip: Create new patterns in Revit
# tooltip can also be in various locales
# pyRevit pulls the correct tooltip based on Revit language
tooltip:
  en_us: Create new patterns in Revit
  chinese_s: 创建新模式

# bundle highlighting ('new' or 'updated')
# Revit UI will show a orange marker on the button and a border
around the tooltip
highlight: new      # highlight as new
highlight: updated  # highlight as updated

# bundle help url
help_url:
"https://www.youtube.com/watch?v=H7b8hjHbauE&t=8s&list=PLc_1PNcpnV
57FWI6G8Cd09umHpSOzvamf"
# help url can also be in various locales
# pyRevit pulls the correct help url based on Revit language
help_url:
  en_us:
"https://www.youtube.com/watch?v=H7b8hjHbauE&t=8s&list=PLc_1PNcpnV
57FWI6G8Cd09umHpSOzvamf"
  chinese_s:
"https://www.youtube.com/watch?v=H7b8hjHbauE&t=8s&list=PLc_1PNcpnV
57FWI6G8Cd09umHpSOzvamf"


# bundle author
author: Ehsan Iran-Nejad

# bundle author can also be a list of authors
authors:
  - John Doe
  - Ehsan Iran-Nejad
```


.tab
.panel
.stack
.pulldown
.pushbutton
.pushbutton
.pushbutton
icon.png
bundle.yaml
script.py
icon.png
bundle.yaml
script.py
icon.png
bundle.yaml
script.py

00_Everyone_.urlbutton

Recipe: folder ending with .urlbutton containing Icon.png + bundle.yaml > “hyperlink: ”

We will create a button that opens the internet browser to a specific URL

- Bundle file with the key “hyperlink: ” is the necessary syntax required by pyRevit to let you click on the button to go to this specific address.

```
hyperlink: https://theoatmeal.com/comics/working_home
```

01_ *Everyone_.pushbutton*

Recipe: folder ending with .pushbutton containing Icon.png + bunde.yaml + *script.py

We will create a button that Displays some text, a picture and also the revit build

- *script.py is a python file containing a command that can be directly related to Revit thanks to the Revit API (or) the pyrevit modules

```
from pyrevit import script
from pyrevit import revit

# grab existing windows
output = script.get_output()
# close them
output.close_others()
# center the new window
output.center()

# print a picture in a window
output.print_md('# No Revit was hurt in the
process!')
output.print_image("C:\pyRevit\pyBiltNA.extension\B
ILT.tab\Types of buttons.panel\\01_Push
Button.pushbutton\meme.jpg")

# let's do something with revit at the Application
Level
output.print_md('You are using the following revit
build {}'.format(revit.HOST_APP.build))

# automatically close the window
output.self_destruct(15)
```

If you need the picture file: https://github.com/jmcouffin/pyRevit-BILT_NA_2022/blob/master/BILT.tab/Types%20of%20buttons.panel/01_Push%20Button.pushbutton/meme.jpg

For more information: https://www.notion.so/pyRevit-Bundles-12323e3090904d9aa7cdc3d82095d3e3#32c67ca843c84d0684ea7f7e876b9737

02_ *Everyone_.pushbutton* Dynamo flavored

Recipe: folder ending with .pushbutton containing Icon.png + bundle.yaml (clean engine) + *script.dyn

---

The purpose of the lab is not to create a dynamo file, so let's just grab this one https://github.com/jmcouffin/pyRevit-BILT_NA_2022/blob/master/BILT.tab/Types%20of%20buttons.panel/02_Push%20Button%20DYN.pushbutton/script.dyn

This dynamo scripts let's you untick specific sections of view templates

---

Two items are of importance:

1. The .dyn file should be set to automatic:
    a. To do so, open it with a text editor
    b. CTRL+F search for "RunType"
    c. Type "Automatic" instead of "Manual"

```
"RunType": "Automatic",
```

2. The **bundle.yaml** file for this button should contain the key "engine" and subkey "clean" set to true if you want to restart the dynamo engine in the background for each run of the script. It will take longer to run but might be necessary depending on your dynamo script (the ones with a UI in particular).

```
engine:
  clean: true
```

For more info: https://www.notion.so/pyRevit-Bundles-12323e3090904d9aa7cdc3d82095d3e3#193440cef00048e7a62f4c541e3c83e7

03_ *Advanced_.content*

Recipe: folder ending with .content containing Icon.png + *content.rfa + *other.rfa + bundle.yaml

We will create a button that lets us load two families

- This one allows you to load two types of Revit family
    - The first one needs to be named ***.content.rfa**, and will be accessible clicking the button, you could use this one https://github.com/jmcouffin/pyRevit-BILT_NA_2022/blob/master/BILT.tab/Types%20of%20buttons.panel/03_Content%20Button.content/AT-AT_16488_content.rfa
    - The second one ***other.rfa**, and will be accessible by shift clicking the button, you could use this one https://github.com/jmcouffin/pyRevit-BILT_NA_2022/blob/master/BILT.tab/Types%20of%20buttons.panel/03_Content%20Button.content/Star_Wars_R2D2_4123_other.rfa

04_ *Advanced*_.nobutton

Recipe: folder ending with .nobutton containing Icon.png + bundle.yaml + *script.py

We will create a button to de-activate the analytical model for structural elements

- The script uncommented version:

```
from pyrevit import script, revit, DB, forms

output = script.get_output()
doc = revit.doc


param = DB.BuiltInParameter.STRUCTURAL_ANALYTICAL_MODEL
provider = DB.ParameterValueProvider( DB.ElementId(
param ) )
evaluator = DB.FilterNumericEquals()
rule = DB.FilterIntegerRule( provider, evaluator, 1 )
filter = DB.ElementParameterFilter( rule )

analyticalCollector = DB.FilteredElementCollector( doc
).WherePasses( filter ).ToElements()

processed_list = 0

with revit.Transaction('Set Analytical Model'):
    for i in analyticalCollector:
        object_param_AnalyticalModel =
i.get_Parameter(DB.BuiltInParameter.STRUCTURAL_ANALYTICA
L_MODEL)
        new_value = False
        try:
            object_param_AnalyticalModel.Set(new_value)
            processed_list += 1
        except:
            pass

output.close_others(all_open_outputs=True)

msg = str(processed_list) + ' processed elements'
forms.alert(msg, title='Turn of analytical model
property', ok=True)
```

The commented version can be found here: https://github.com/jmcouffin/pyRevit-BILT_NA_2022/blob/master/BILT.tab/Types%20of%20buttons.panel/04_No%20Button.nobutton/script.py

- The bundle file will have the following information:

```
title:
  fr_fr: Modèle Analytique OFF
  en_us: OFF Analytical model
tooltip:
  fr_fr: Permet  de désactiver tous les éléments ayant
le modèle analytique coché
  en_us: De-activates analytical model on structural
elements
```

05_ *Advanced*_.pushbutton with configuration

The black dot is for SHIFT+Click

Recipe: folder ending with .pushbutton containing Icon.png + bundle.yaml + *script.py + config.py

We will create a button that grabs a series of information from the current Revit file based on a configuration specified separately

- Config file named config.py will be run if the button is pressed with the SHIFT key

```
from pyrevit import script, forms
# -*- coding: utf-8 -*-
my_config = script.get_config()

def get_control_points():
    # grab token
    list_checks = ["Project Name", "Project
Number", "Warnings"]
    form = forms.SelectFromList.show(list_checks,
"Checks", 300,500, multiselect=True,
infopanel=True)
    if form:
        setattr(my_config, "BILT_tests", form)
        script.save_config()
    else:
        setattr(my_config,
"BILT_tests",list_checks)
        script.save_config()

if __name__ == "__main__":
    get_control_points()
```

- The script file, taking advantage of the configuration:

```
# -*- coding: UTF-8 -*-

import datetime
from pyrevit import script
from pyrevit import revit, DB

output = script.get_output()
output.close_others(True)
output.center()
output.set_title('Models Checker')


doc = revit.doc

# Grab data from config
my_config = script.get_config()
tests = getattr(my_config, "BILT_tests")

# Series of queries

def project_number(doc):
    project_number = doc.ProjectInformation.Number
    return project_number

def project_name(doc):
    project_name = doc.ProjectInformation.Name
    return project_name

def doc_warnings(doc):
    warnings = doc.GetWarnings()
    descriptions = []
    for warning in warnings:
        descriptions.append(DB.FailureMessage.GetDescriptionText(warning))
    if len(descriptions):
        return str(len(descriptions)) + ' Warnings in the project'

# set minimal value to empty string
pname, pnumber, warnings = "", "", ""

# check if queries requested in config file
if tests == [] or tests == None:
    pname = project_name(doc)
    pnumber = project_number(doc)
    warnings = warnings(doc)
if "Project Name" in tests:
    pname = project_name(doc)
if "Project Number" in tests:
    pnumber = project_number(doc)
if "Warnings" in tests:
    warnings = doc_warnings(doc)

# print the whole thing
output.print_md(pname + "\n\n" + pnumber + "\n\n" + warnings)
```

04_ *Advanced*_Distribute to the team

Install pyRevit, pyRevit CLI and the toolbar in one go

Powershell file **install_pyrevit.ps1**

```
#Declaring Path
#-------------------------------------------------
$basefilePath = "C:\pyRevit"
#Where pyRevit Installer are located
$pyRevit = $basefilePath + "\pyRevit_4.8.10.22040_signed.exe"
$pyRevitCLI = $basefilePath + "\pyRevit_CLI_4.8.10.22040_signed.exe"


#Installing pyRevit or pyRevit CLI
#-------------------------------------------------
Start-Process -Wait -FilePath $pyRevit -arg "/qn" -PassThru
Write-Host "pyRevit Installed"

Start-Process -Wait -FilePath $pyRevitCLI -arg "/qn" -PassThru
Write-Host "pyRevit CLI Installed"

#Extend pyRevit
#-------------------------------------------------
pyrevit extend ui pyBiltNA https://github.com/jmcouffin/pyRevit-BILT_NA_2022.git --
dest="C:\pyRevit"
```

+ a **install_pyrevit.bat** file

```
powershell -ExecutionPolicy Bypass -File "%~dp0\ install_pyrevit.ps1"
```

a more complete approach https://www.notion.so/pyRevit-For-Teams-ddc6c312d6f6488691eed2ec7704fd97

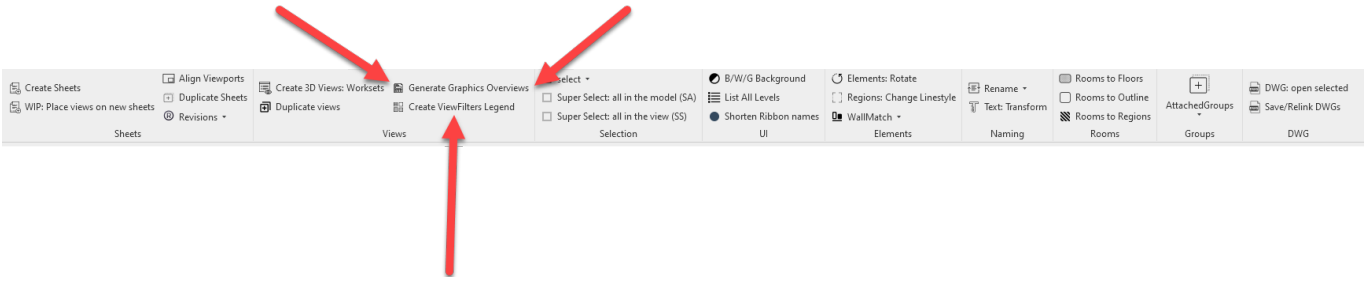
outro

All the code of pyRevit is open source and many extensions exist, so be curious, explore and don't forget:

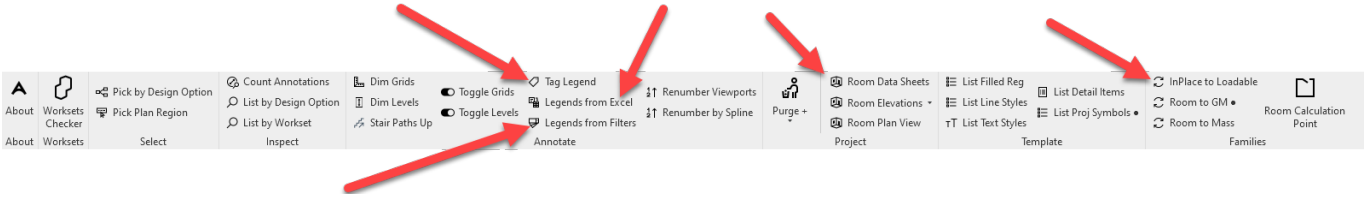
ALT+Click will open the folder containing the code of the button clicked

Cool extensions to look at:

EF-Tools and Erik does badass tutorials. The Generate Graphics Overrides is Huge…



pyChilizer Deyan and Daria are doing a great job. Legend from Filters… Inplace to Loadable!!!



And these ones in the extensions menu of pyRevit:

Name	Type	Author	Built-in	Rocket-Mode	Installed	Status	Last Commit
pyRevitDevHooks	Revit UI Tools	Ehsan Iran-Nejad	True	True	Yes	Disabled	
pyRevitDevTools	Revit UI Tools	Ehsan Iran-Nejad	True	True	Yes	Disabled	
pyRevitTags	Revit UI Tools	Ehsan Iran-Nejad	True	True	Yes	Disabled	
pyRevitTemplates	Revit UI Tools	Ehsan Iran-Nejad	True	True	Yes	Disabled	
pyRevitTools	Revit UI Tools	Ehsan Iran-Nejad	True	True	Yes	Enabled	
pyRevitTutor	Revit UI Tools	Ehsan Iran-Nejad	True	False	Yes	Disabled	
PyRevitPlus	Revit UI Tools	Gui Talarico	False	False	No	--	--
PyRevitMEP	Revit UI Tools	Cyril Waechter	False	True	No	--	--
pyApex	Revit UI Tools	Aleksey Melnikov	False	True	No	--	--
Revitron	IronPython Library	Marc Anton Dahmen	False	True	No	--	--
Revitron UI	Revit UI Tools	Marc Anton Dahmen	False	True	No	--	--
pyStructure	Revit UI Tools	Shahabaz Sha	False	True	No	--	--
MEPDesign	Revit UI Tools	André Rodrigues da Silva	False	True	No	--	--
pyTiBa	Revit UI Tools	Tillmann Baumeister	False	True	No	--	--
EF-Tools	Revit UI Tools	Erik Frits	False	True	Yes	Enabled	7bb6cfb
pyChilizer	Revit UI Tools	Archilizer	False	True	No	--	--
pySSG	Revit UI Tools	Kyle Bruxvoort	False	True	No	--	--