



# Session #2 and 3: Setting up for the workshop

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# Setting up for the workshop

- Sign up to GitHub account (<https://github.com/>) - we'll have detailed discussion about Git and GitHub tomorrow morning
- Sign up to MAP Slack group (<https://mesoscaleactivitymap.slack.com>)
  - Joint the public channel: #dj\_workshop2017
- Get database account for MAPS database server

# Setting up your work environment

Two routes:

- Use workshop JupyterHub at

<https://mapsworkshop.datajoint.io>

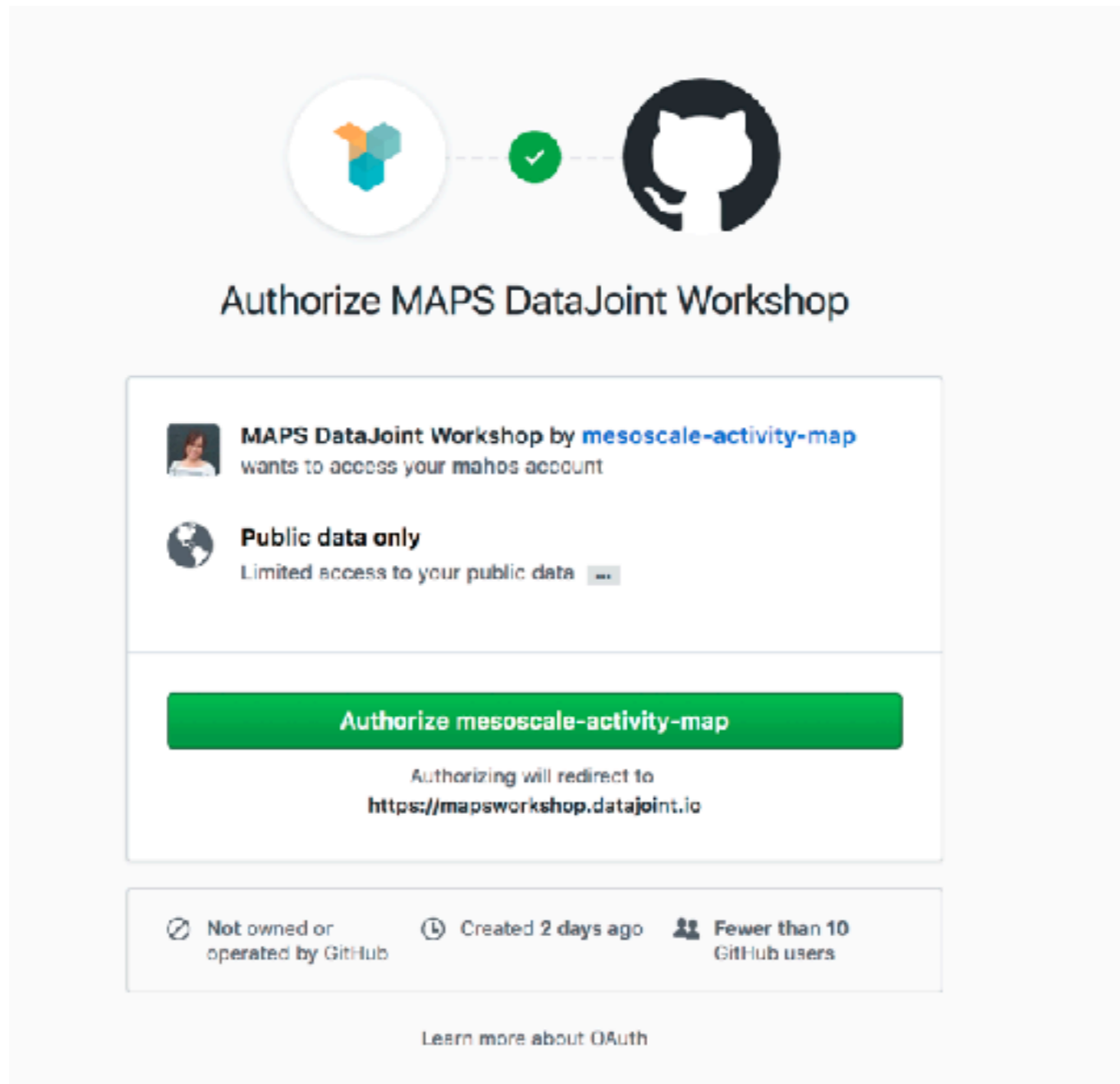
- Configure local DataJoint development environment

# Accessing Workshop JupyterHub

- Provides pre-configured working environment for the workshop
- Use your GitHub account credentials to login
- On MAPS Slack [#dj\\_workshop2017](#) channel, **post your GitHub username** and we'll grant you access to the JupyterHub


# Accessing Workshop JupyterHub


- Visit <https://mapsworkshop.datajoint.io>



The image shows a GitHub authorization page for the 'MAPS DataJoint Workshop'. At the top, there are icons for JupyterLab, a green checkmark, and the GitHub logo. Below this is the title 'Authorize MAPS DataJoint Workshop'. The main content area contains a user profile for 'mesoscale-activity-map' with a profile picture, stating they want to access the user's 'mahos' account. Below this, it specifies 'Public data only' with a globe icon and 'Limited access to your public data'. A large green button labeled 'Authorize mesoscale-activity-map' is prominent. Underneath the button, it says 'Authorizing will redirect to https://mapsworkshop.datajoint.io'. At the bottom, there are three informational icons: a lock icon for 'Not owned or operated by GitHub', a clock icon for 'Created 2 days ago', and a person icon for 'Fewer than 10 GitHub users'. A link 'Learn more about OAuth' is at the very bottom.




Authorize MAPS DataJoint Workshop

 **MAPS DataJoint Workshop** by [mesoscale-activity-map](#)  
wants to access your mahos account

 **Public data only**  
Limited access to your public data

**Authorize mesoscale-activity-map**

Authorizing will redirect to  
<https://mapsworkshop.datajoint.io>

 Not owned or operated by GitHub     Created 2 days ago     Fewer than 10 GitHub users

[Learn more about OAuth](#)

# Demo: Working in the JupyterHub notebook

# Configuring local work environment

- Better (and necessary) long term solution
- General instructions for installing DataJoint can be found in <https://docs.datajoint.io> and <https://tutorials.datajoint.io>
- If you would like to set it up now to use during the workshop, we'll help with the process.



## Session #2: Setting up for Python





**Goal 1:** Python3+DataJoint+Jupyter  
Notebook

# Step #1: Install Python 3



## Windows:

1) Get Python 3.6.3 Installer from:

<https://www.python.org/downloads/windows>

2) Install (**NOTE:** Make sure 'add Python to PATH' is selected)



## Mac:

1) Open Terminal.app (/Applications/Utilities/Terminal.app)

2) Install 'Homebrew': see <https://brew.sh/> for command to run

3) Install Python 3: `brew install python3`



## Linux (Ubuntu):

1) Open terminal (Ctrl+Alt+T)

2) Install Python 3: `apt-get install python3 python3-pip`

# Step #2: Install DataJoint



## Windows:

- 1) Start command prompt (`cmd` from start menu search)
- 2) `pip3 install datajoint`



## Mac:

- 1) Open Terminal.app (`/Applications/Utilities/Terminal.app`)
- 2) `pip3 install datajoint`



## Linux (Ubuntu):

- 1) Open terminal (`Ctrl+Alt+T`)
- 2) `pip3 install datajoint`

**Note:** Information about the many interesting packages in pip can be found at:

<http://pypi.python.org>

# Step #3: Install Plotting Tools



## Windows:

- 1) Latest 64-Bit Graphviz: <https://ci.appveyor.com/project/ellson/graphviz-pl238>  
(Official builds from [graphviz.org](http://graphviz.org) are out of date but may work)
- 2) In cmd: `pip3 install pydotplus matplotlib`



## Mac:

- 1) In Terminal.app: `brew install graphviz`
- 2) In Terminal.app: `pip3 install pydotplus matplotlib`



## Linux (Ubuntu):

- 1) In Terminal: `sudo apt-get install graphviz`
- 2) In Terminal: `pip3 install pydotplus matplotlib`

# Step #4: Install Jupyter Notebook



## Windows:

1) In cmd: `pip3 install jupyter`



## Mac:

1) In Terminal.app: `pip3 install jupyter`



## Linux (Ubuntu):

1) In Terminal: `pip3 install jupyter`

# Step #5: Test The Environment



**Windows:**

2) In cmd: `jupyter notebook`



**Mac:**

1) In Terminal.app: `jupyter notebook`



**Linux (Ubuntu):**

1) In Terminal: `jupyter notebook`

## **Goal 2:** Setup Git+Workshop Repository

# Step #1: Install Git



## Windows:

- 1) Get the Git Installer from: <https://git-scm.com/download/win>
- 2) Install (default options should be sufficient)



## Mac:

- 1) Open Terminal.app (/Applications/Utilities/Terminal.app)
- 2) Run **brew install git**



## Linux (Ubuntu):

- 1) Open terminal (Ctrl+Alt+T)
- 2) Install Python 3: **sudo apt-get install git**



# Step #2: Checkout Workshop Repository



## Windows:

- 1) Start `cmd` or the `'git bash shell'`
- 2) Run: `git clone https://github.com/mesoscale-activity-map/workshop-2017`



## Mac:

- 1) Open Terminal.app (`/Applications/Utilities/Terminal.app`)
- 2) Run: `git clone https://github.com/mesoscale-activity-map/workshop2017`



## Linux (Ubuntu):

- 1) Open terminal (`Ctrl+Alt+T`)
- 2) Run: `git clone https://github.com/mesoscale-activity-map/workshop-2017`

## Step #3 (Python only): View your Repository Clone in Jupyter



**Windows:**

2) In cmd: `jupyter notebook`



**Mac:**

1) In Terminal.app: `jupyter notebook`



**Linux (Ubuntu):**

1) In Terminal: `jupyter notebook`

# **Python Demo - Setting up connection**



## Session #3: Setting up for MATLAB



**Goal 1: MATLAB + DataJoint**

# Setting up for MATLAB

1. Navigate to DataJoint toolbox on MATLAB file exchange:  
<https://www.mathworks.com/matlabcentral/fileexchange/63218-datajoint>
2. Click on **Download** button and select **Toolbox**
3. Click on downloaded DataJoint.mltbx. This will launch MATLAB
4. Click on Install button and follow instructions

# Step #1: Install Git



## Windows:

- 1) Get the Git Installer from: <https://git-scm.com/download/win>
- 2) Install (default options should be sufficient)



## Mac:

- 1) Open Terminal.app (/Applications/Utilities/Terminal.app)
- 2) Install 'Homebrew': see <https://brew.sh/> for command to run
- 3) Run **brew install git**



## Linux (Ubuntu):

- 1) Open terminal (Ctrl+Alt+T)
- 2) Install Python 3: **sudo apt-get install git**

# Step #2: Checkout Workshop Repository



## Windows:

- 1) Start `cmd` or the `'git bash shell'`
- 2) Run: `git clone https://github.com/mesoscale-activity-map/workshop-2017`



## Mac:

- 1) Open Terminal.app (`/Applications/Utilities/Terminal.app`)
- 2) Run: `git clone https://github.com/mesoscale-activity-map/workshop2017`



## Linux (Ubuntu):

- 1) Open terminal (`Ctrl+Alt+T`)
- 2) Run: `git clone https://github.com/mesoscale-activity-map/workshop-2017`



## Step #3 (Python only): View your Repository Clone in Jupyter



**Windows:**

2) In cmd: `jupyter notebook`



**Mac:**

1) In Terminal.app: `jupyter notebook`



**Linux (Ubuntu):**

1) In Terminal: `jupyter notebook`

# **Python Demo - Setting up connection**