
# 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:

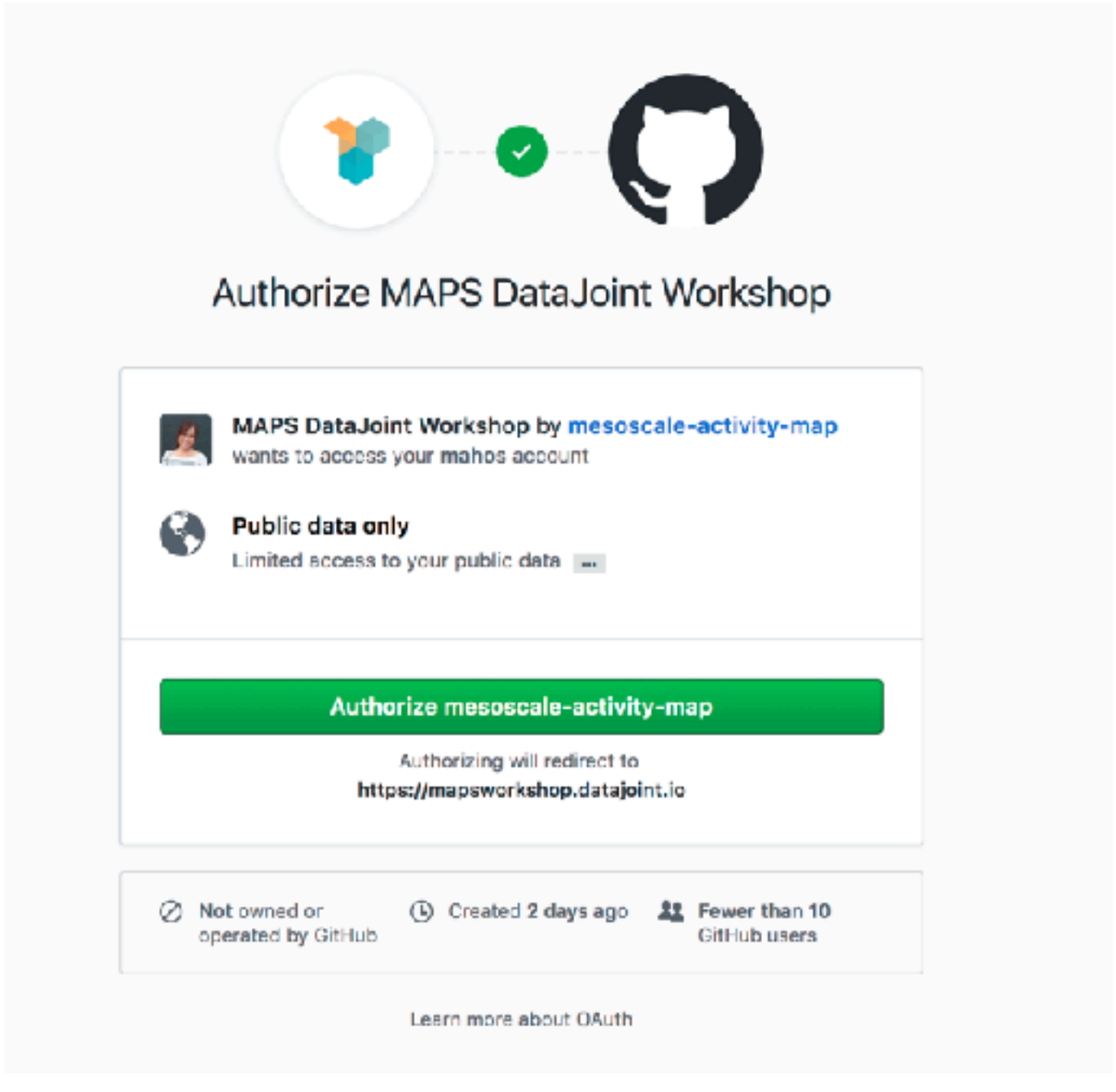
- Use workshop JupyterHub at
  https://mapsworkshop.datajoint.io
- Configure local DataJoint development environment

# 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



# 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

DataJoint.io

# **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 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`

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# 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`

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

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# 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

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# **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