

# SmartPath User Manual

**User manual for automatic multimodal histopathology whole  
slide imaging system**

Laboratory for Optical and Computational  
Instrumentation  
Eliceiri Lab

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# 1 Installation requirement

## **Micro-manager**

- Install the latest version of Micro-Manager 2.0 gamma [https://micro-manager.org/wiki/Version\\_2.0](https://micro-manager.org/wiki/Version_2.0).
- Run Micro-Manager, select tools-options and check the box that says Run server on port 4827 (you only need to do this once).

## **OpenScan**

- Install OpenScan with NIDAQ <https://github.com/uw-loci/OpenScanLib>.

## **SmartPath**

- Clone Github repository <https://github.com/uw-loci/smart-wsi-scanner>.  
Right click a location and select "Git Bash here" and enter:  
`git clone https://github.com/uw-loci/smart-wsi-scanner.git`  
Press "Enter" key.  
Otherwise, download the code in zip file and unzip to a location.
- Create the Python environment follow the instructions on Github.

## **QuPath**

- Download the latest version of QuPath, choose the standalone zip file version, unzip the folder into the SmartPath code repository folder.

## **FIJI**

- Download the latest version of FIJI <https://imagej.net/Fiji>, create a folder named "fiji" inside the SmartPath code repository folder, unzip the "Fiji.app" folder into "fiji" folder so that the path looks like:  
`[SMART_PATH_ROOT_FOLDER]/Fiji/Fiji.app/`

# 2 System startups

Run Micro-Manager 2.0 gamma, select tools-options and check the box that says Run server on port 4827 (you only need to do this once).

Run Anaconda Prompt as administrator.

In Anaconda Prompt, navigate to SmartPath code repository folder by entering:

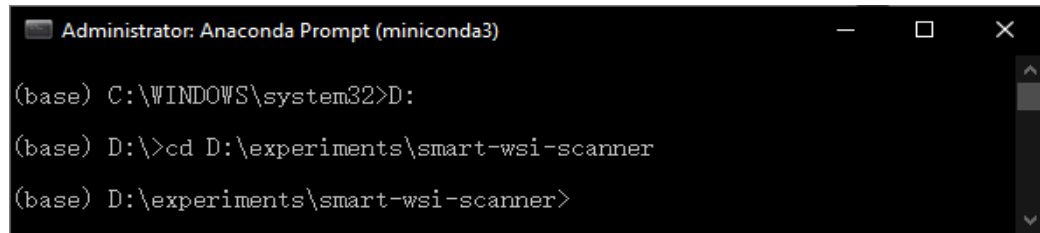
`cd [SMART_PATH_ROOT_FOLDER]`

Press "Enter" key. If the folder is not located in the system drive, enter this command to switch drive before navigating to the folder:

`[DRIVE]:`

Press "Enter" key.

**Example:**

A screenshot of an Anaconda Prompt window titled "Administrator: Anaconda Prompt (miniconda3)". The window has a black background with white text. The command prompt shows the following sequence of commands and outputs: (base) C:\WINDOWS\system32>D: (base) D:\>cd D:\experiments\smart-wsi-scanner (base) D:\experiments\smart-wsi-scanner>.

```
(base) C:\WINDOWS\system32>D:
(base) D:\>cd D:\experiments\smart-wsi-scanner
(base) D:\experiments\smart-wsi-scanner>
```

Activate SmartPath Python environment by entering:

`conda activate smartpath`

Press "Enter" key.

**Example:**

3 Acquisition configurations

4 Rapid pre-scan

5 Selective scan

6 Target detection model training

7 Run-time image enhancement model training