

[Windows] Setup | Pelatihan Genap 2025: Image Processing

NOTE!!!

- I highly encourage you to use Linux and get familiar with it. Even if you're using Windows, you'll install WSL (Windows Subsystem for Linux) to get a similar workflow as Linux.
- If you have questions, feel free to ask in the WhatsApp group chat or Microsoft Teams.

Windows Setup

- **Installing WSL (Windows Subsystem for Linux)**

1. Open PowerShell or Command Prompt as Administrator and run:

```
wsl --install
```

2. Restart your computer if needed
3. Check the installation

```
wsl --list --verbose
```

4. Install the Ubuntu 22.04

```
wsl --install -d Ubuntu-22.04
```

5. Search and open Ubuntu WSL on the Start button

- **Installing Miniconda**

1. Open the Ubuntu WSL

2. Create the necessary directories

```
mkdir -p ~/Downloads ~/Documents ~/Pictures ~/Videos ~/Music ~/Desktop
```

3. Download the Miniconda Installer

```
curl https://repo.anaconda.com/miniconda/Miniconda3-latest-Linux-x86_64.sh -o ~/Downloads/Miniconda3-latest-Linux-x86_64.sh
```

4. Run the installer

```
bash ~/Downloads/Miniconda3-latest-Linux-x86_64.sh
```

5. Follow the installation instructions

6. Initialize Miniconda

```
source ~/.bashrc
```

or

```
conda activate base
```

| **Side note:** `base` is the default environment, made by the Miniconda

7. Check the installation result

```
conda --version
```

8. Download the environment file

```
wget -P ~/Downloads
```

```
https://raw.githubusercontent.com/sulaimanfawwazak/Pelatihan-Vision-2025/main/environment.yml
```

9. Create the environment

```
conda env create --name imageproc -f ~/Downloads/environment.yml
```

10. Activate the environment

```
conda activate imageproc
```

- **Setting Up Jupyter Notebook**

1. Open the Ubuntu WSL

2. Activate the environment

```
conda activate imageproc
```

3. Install Jupyter

```
conda install -y jupyter
```

4. Install Conda Integration

```
conda install -c conda-forge nb_conda
```

5. Install OpenCV

```
conda install -c conda-forge opencv
```

6. Setup the Jupyter Kernel

```
python -m ipykernel install --user --name viscon --display-name "Python  
(Image Processing)"
```

7. Run Jupyter Notebook

```
mkdir pelatihan-genap  
cd pelatihan-genap  
jupyter notebook
```

- **Installing Visual Studio Code (VS Code)**

1. Download the .exe file from <https://code.visualstudio.com/>

2. Click twice on the downloaded file to start the installation

3. Open the VS Code

4. Open the extension menu

5. Install these extensions:

- Jupyter
- Jupyter Keymap
- Jupyter Notebook Renderes
- Jupyter Cell Tags
- Jupyter Slide Show

- **Additional Setup**

1. Open the Ubuntu WSL

2. Install these additional packages

```
sudo apt install python-is-python3  
sudo apt install python3-pip
```

3. Deactivate the base environment by default when opening Terminal

```
conda config --set auto_activate_base false
```

4. Create aliases to shorten the commands

```
echo "alias ca="conda activate" >> ~/.bashrc  
echo "alias fixopenssl=\"export LD_LIBRARY_PATH=/lib/x86_64-linux-  
gnu:$LD_LIBRARY_PATH\"\" >> ~/.bashrc
```

Resources

- https://github.com/jeffheaton/t81_558_deep_learning/blob/master/install/manual_setup3.ipynb
- <https://www.youtube.com/watch?v=eId6K8d0v6o&pp=ygUgaG93IHRvIGluc3RhbGwgd3NsIG9uIHdpbmRvd3MgMTE%3D>

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