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Virtual Environment

1. Environment Menggunakan Anaconda

Dengan command line sebagai berikut

```
(base) C:\Users\giamu>conda create -n SK5004 python=3.12
```

Parameter python untuk menentukan versi python yang akan digunakan pada environment tersebut.

```
Retrieving notices: done
Channels:
  - defaults
Platform: win-64
Collecting package metadata (repodata.json): done
Solving environment: done

## Package Plan ##

  environment location: C:\Users\giamu\anaconda3\envs\SK5004

added / updated specs:
  - python=3.12

The following packages will be downloaded:
```

package	build	
expat-2.7.1	h8ddb27b_0	259 KB
pip-25.1	pyhc872135_2	1.3 MB
python-3.12.9	h14ffc60_0	16.5 MB
setuptools-78.1.1	py312haa95532_0	2.2 MB
tzdata-2025b	h04d1e81_0	116 KB
vc-14.42	haa95532_5	11 KB
vs2015_runtime-14.42.34433	hbfb602d_5	1.2 MB
wheel-0.45.1	py312haa95532_0	177 KB
Total:		21.7 MB

```
The following NEW packages will be INSTALLED:

bzip2                pkgs/main/win-64::bzip2-1.0.8-h2bbff1b_6
ca-certificates      pkgs/main/win-64::ca-certificates-2025.2.25-haa95532_0
expat                pkgs/main/win-64::expat-2.7.1-h8ddb27b_0
libffi               pkgs/main/win-64::libffi-3.4.4-hd77b12b_1
openssl              pkgs/main/win-64::openssl-3.0.16-h3f729d1_0
pip                  pkgs/main/noarch::pip-25.1-pyhc872135_2
python               pkgs/main/win-64::python-3.12.9-h14ffc60_0
setuptools           pkgs/main/win-64::setuptools-78.1.1-py312haa95532_0
sqlite               pkgs/main/win-64::sqlite-3.45.3-h2bbff1b_0
tk                   pkgs/main/win-64::tk-8.6.14-h0416ee5_0
tzdata               pkgs/main/noarch::tzdata-2025b-h04d1e81_0
vc                   pkgs/main/win-64::vc-14.42-haa95532_5
vs2015_runtime       pkgs/main/win-64::vs2015_runtime-14.42.34433-hbfb602d_5
wheel                pkgs/main/win-64::wheel-0.45.1-py312haa95532_0
xz                   pkgs/main/win-64::xz-5.6.4-h4754444_1
zlib                 pkgs/main/win-64::zlib-1.2.13-h8cc25b3_1

Proceed ([y]/n)? y
```

Setelah eksekusi, anaconda akan mengkonfirmasi package *default* pada environment yang akan diinstall

```
Downloading and Extracting Packages:
python-3.12.9      | 16.5 MB | ##### | 94% |
setuptools-78.1.1 | 2.2 MB  | ##### | 100% |
pip-25.1          | 1.3 MB  | ##### | 100% |
vs2015_runtime-14.42 | 1.2 MB  | ##### | 100% |
expat-2.7.1       | 259 KB  | ##### | 100% |
wheel-9.45.1      | 177 KB  | ##### | 100% |
tdata-2025b       | 116 KB  | ##### | 100% |
vc-14.42          | 11 KB   | ##### | 100% |
```

Proses Download

Aktivasi Environment dengan command line berikut

```
(base) C:\Users\giamu>conda activate SK5004
```

Setelah aktif, akan seperti berikut

```
(SK5004) C:\Users\giamu>
```

2. Environment dengan venv

Install library venv dengan pip

```
(SK5004) C:\Users\giamu>pip install venv
ERROR: Could not find a version that satisfies the requirement venv (from versions: none)
ERROR: No matching distribution found for venv

(SK5004) C:\Users\giamu>pip install virtualenv
Collecting virtualenv
  Downloading virtualenv-20.31.1-py3-none-any.whl.metadata (4.5 kB)
Collecting distlib<1,>=0.3.7 (from virtualenv)
  Downloading distlib-0.3.9-py2.py3-none-any.whl.metadata (5.2 kB)
Collecting filelock<4,>=3.12.2 (from virtualenv)
  Downloading filelock-3.18.0-py3-none-any.whl.metadata (2.9 kB)
Collecting platformdirs<5,>=3.9.1 (from virtualenv)
  Downloading platformdirs-4.3.8-py3-none-any.whl.metadata (12 kB)
Downloading virtualenv-20.31.1-py3-none-any.whl (6.1 MB)
 6.1/6.1 MB 1.6 MB/s eta 0:00:00
Downloading distlib-0.3.9-py2.py3-none-any.whl (468 kB)
Downloading filelock-3.18.0-py3-none-any.whl (16 kB)
Downloading platformdirs-4.3.8-py3-none-any.whl (18 kB)
```

Membuat environment

```
C:\Users\giamu>python -m venv SK5004
```

Venv akan otomatis membuat direktori environment di direktori saat membuat environment

Aktivasi environment

```
C:\Users\giamu>SK5004\Scripts\activate.bat
(SK5004) C:\Users\giamu>
```

Environment siap dipakai.

