# **KOLT Python**Third-Party Packages

Halil Eralp Koçaş

Tuesday 31st March, 2020



# **Agenda**



### **Using Python Modules and Libraries**

Modules are files that contains Python statements and definitions

# **Using Python Modules and Libraries**

- Modules are files that contains Python statements and definitions
- Modules help you to organize your code since you can split it to multiple files

# **Using Python Modules and Libraries**

- Modules are files that contains Python statements and definitions
- Modules help you to organize your code since you can split it to multiple files
- To use definitions in modules, modules are needed to be imported.



Import a module:



#### Import a module:

import module\_name # all definitions

#### Import a module:

import module\_name # all definitions
import module\_name as name # module can be used
with "name"

#### Import a module:

```
import module_name # all definitions
import module_name as name # module can be used
with "name"
```

from module\_name import func1 # only specified
names, func1

#### Import a module:

```
import module_name # all definitions
```

import module\_name as name # module can be used
with "name"

from module\_name import func1 # only specified
names, func1

from module\_name import func1 as function #
func1 will be used by calling "function"

#### Import a module:

```
import module_name # all definitions
```

import module\_name as name # module can be used
with "name"

from module\_name import func1 # only specified
names, func1

from module\_name import func1 as function #
func1 will be used by calling "function"

from module\_name import \* # all names in module



Repository of software for the Python programming language.

Repository of software for the Python programming language.

• 23,000+ Python3 packages.

Repository of software for the Python programming language.

- 23,000+ Python3 packages.
- If you want a package, PyPI probably has it.

Repository of software for the Python programming language.

- 23,000+ Python3 packages.
- If you want a package, PyPI probably has it.

Visit *pypi.org* to explore packages.



• Recommended tool for installing Python packages.

- Recommended tool for installing Python packages.
- pip is already installed with modern Python distributions.

- Recommended tool for installing Python packages.
- pip is already installed with modern Python distributions.
- Try pip -V on your command line/terminal(pip3 -V for Macs).

- Recommended tool for installing Python packages.
- pip is already installed with modern Python distributions.
- Try pip -V on your command line/terminal(pip3 -V for Macs).

```
$ pip -V
pip 20.0.2 from --PATH_TO_PIP-- (python 3.5)
```

- Recommended tool for installing Python packages.
- pip is already installed with modern Python distributions.
- Try pip -V on your command line/terminal(pip3 -V for Macs).

```
$ pip -V
pip 20.0.2 from --PATH_TO_PIP-- (python 3.5)
$ python -m pip -V
pip 20.0.2 from --PATH_TO_PIP-- (python version)
```



Install a package:



#### Install a package:

\$ pip install package\_name # latest version

#### Install a package:

```
$ pip install package_name # latest version
```

\$ pip install package\_name==1.0.1 # specific
version

#### Install a package:

```
$ pip install package_name # latest version
```

```
$ pip install package_name==1.0.1 # specific
version
```

```
$ pip install package_name>=1.0.1 # minimum
version
```

#### Install a package:

- \$ pip install package\_name # latest version
- \$ pip install package\_name==1.0.1 # specific
  version
- \$ pip install package\_name>=1.0.1 # minimum
  version

#### Uninstall a package:

#### Install a package:

- \$ pip install package\_name # latest version
- \$ pip install package\_name==1.0.1 # specific
  version
- \$ pip install package\_name>=1.0.1 # minimum
  version

#### Uninstall a package:

\$ pip uninstall package\_name

#### Install a package:

- \$ pip install package\_name # latest version
- \$ pip install package\_name==1.0.1 # specific version
- \$ pip install package\_name>=1.0.1 # minimum version

#### Uninstall a package:

\$ pip uninstall package\_name

#### Update a package:



#### Install a package:

- \$ pip install package\_name # latest version
- \$ pip install package\_name==1.0.1 # specific
  version
- \$ pip install package\_name>=1.0.1 # minimum
  version

#### Uninstall a package:

\$ pip uninstall package\_name

#### Update a package:

\$ pip install --upgrade package\_name



#### Install a package:

- \$ pip install package\_name # latest version
- \$ pip install package\_name==1.0.1 # specific
  version
- \$ pip install package\_name>=1.0.1 # minimum
  version

#### Uninstall a package:

\$ pip uninstall package\_name

#### Update a package:

\$ pip install --upgrade package\_name

#### Search PyPI for matches:

#### Install a package:

- \$ pip install package\_name # latest version
- \$ pip install package\_name==1.0.1 # specific
  version
- \$ pip install package\_name>=1.0.1 # minimum
  version

#### Uninstall a package:

\$ pip uninstall package\_name

### Update a package:

\$ pip install --upgrade package\_name

#### Search PyPI for matches:

\$ pip search query





A *virtual environment* is an isolated Python environment that contains the Python interpreter, installed libraries and scripts.

A *virtual environment* is an isolated Python environment that contains the Python interpreter, installed libraries and scripts.

Why do we need them?

A *virtual environment* is an **isolated** Python environment that contains the Python interpreter, installed **libraries** and scripts.

Why do we need them?

A *virtual environment* is an **isolated** Python environment that contains the Python interpreter, installed **libraries** and scripts.

Why do we need them?

What happens if two different programs use the same library?

A *virtual environment* is an **isolated** Python environment that contains the Python interpreter, installed **libraries** and scripts.

Why do we need them?

What happens if two different programs use the same library?

 We might want to use different versions of the same library.

A *virtual environment* is an **isolated** Python environment that contains the Python interpreter, installed **libraries** and scripts.

Why do we need them?

What happens if two different programs use the same library?

- We might want to use different versions of the same library.
- Updating a library for Program A can harm another Program B. (Breaking Changes)



A *virtual environment* is an **isolated** Python environment that contains the Python interpreter, installed **libraries** and scripts.

Why do we need them?

What happens if two different programs use the same library?

- We might want to use different versions of the same library.
- Updating a library for Program A can harm another Program B. (Breaking Changes)
- We want **isolation** between programs.





In Python 3.6+, the recommended way to create a virtual environment is using **venv** package, which is included in the standard installation (similar to **pip**).

In Python 3.6+, the recommended way to create a virtual environment is using **venv** package, which is included in the standard installation (similar to **pip**).

#### Creating a virtual environment:

\$ python -m venv /path/to/new/virtualenv

In Python 3.6+, the recommended way to create a virtual environment is using **venv** package, which is included in the standard installation (similar to **pip**).

#### Creating a virtual environment:

\$ python -m venv /path/to/new/virtualenv

### Activating a virtual environment:

**cd**(Change directory) to virtual environment folder.

In Windows: \$ Scripts\activate

In Mac/Linux: \$ source bin/activate



In Python 3.6+, the recommended way to create a virtual environment is using **venv** package, which is included in the standard installation (similar to **pip**).

#### Creating a virtual environment:

\$ python -m venv /path/to/new/virtualenv

### Activating a virtual environment:

**cd**(Change directory) to virtual environment folder.

In Windows: \$ Scripts\activate

In Mac/Linux: \$ source bin/activate

#### Deactivating a virtual environment:

\$ deactivate

