

Installing Ocean Tools

Ocean software is supported on the following operating systems:

- Linux
- Windows (tested on 64-bit Windows 8, 10)
- Mac (tested on mac OS X 10.13)

Ocean software requires a [Python environment](#). Python versions 3.5 and higher are supported.

! Attention

D-Wave's Ocean software stopped supporting Python 2 at the end of 2019.

For information on why many in the Python development community are requiring Python 3, see [the Python 3 statement](#).

This section explains how to [install Ocean software](#), either the entire suite of tools or particular tools from the D-Wave GitHub repositories listed in the navigation bar.

Most Ocean tools require that you configure a solver on your system, which might be a D-Wave system or a classical sampler that runs on your local CPU.

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1. [Download Python](#) describes how to install Python on your local machine for supported operating system.

For Unix-based systems, which often have Python pre-installed, installation might be as simple as:

```
sudo apt-get install python<version>
```

ⓘ Attention

For Windows systems, note that only **64-bit** Python is supported.

2. [Install virtualenv](#) describes how to install the *virtualenv* tool for creating isolated Python environments on your local machine for supported operating system.

For Unix-based systems, installing virtualenv is typically done with a command such as this or similar:

```
sudo pip install virtualenv
```

3. Create a virtual environment for your Ocean work. For example, on Unix systems you might do:

```
virtualenv ocean  
source ocean/bin/activate
```

(On Windows operating system, activating a virtual environment might

```
... ..  
... ..  
... ..
```

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The simplest way to start is to install [dwave-ocean-sdk](#) for the full suite of Ocean tools.

- You can `pip install` the SDK inside your newly created virtual environment, typically with a command such as this or similar:

```
pip install dwave-ocean-sdk
```

- Alternatively, you can clone [dwave-ocean-sdk](#) repo and install the SDK to your virtual environment; for example:

```
git clone https://github.com/dwavesystems/dwave-ocean-sdk.git
cd dwave-ocean-sdk
python setup.py install
```

Note: To install a particular tool within the SDK only, follow the link to the GitHub repository for the tool, as listed in the navigation bar, and follow the installation instructions on the README file.

Set Up Your Environment

For a full and easy development experience it is recommended that before you start writing code, you complete the setup of your environment with two last steps:

- [Install Contributor Ocean Tools](#)

Adds non-open-source tools such as the [Problem Inspector](#).

- [Configuring Access to D-Wave Solvers](#)

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In the virtual environment you created as part of [Installing Ocean Tools](#), run the `dwave setup` command. The output shown below includes the interactive prompts and placeholder replies for a full setup. The next sections explain the details.

```
$ dwave setup

Optionally install non-open-source packages and configure your
environment.

Do you want to select non-open-source packages to install (y/n)? [y]:

D-Wave Drivers
These drivers enable some automated performance-tuning features.
This package is available under the 'D-Wave EULA' license.
The terms of the license are available online:
https://docs.ocean.dwavesys.com/eula
Install (y/n)? [y]:
Installing: D-Wave Drivers
Successfully installed D-Wave Drivers.

D-Wave Problem Inspector
This tool visualizes problems submitted to the quantum computer and
the results returned.
This package is available under the 'D-Wave EULA' license.
The terms of the license are available online:
https://docs.ocean.dwavesys.com/eula
Install (y/n)? [y]:
Installing: D-Wave Problem Inspector
Successfully installed D-Wave Problem Inspector.

Creating the D-Wave configuration file.
Configuration file not found; the default location is:
/home/jane/.config/dwave/dwave.conf
Confirm configuration file path
[/home/jane/.config/dwave/dwave.conf]:
Profile (create new) [prod]:
API endpoint URL [skip]:
Authentication token [skip]: ABC-1234567890abcdef1234567890abcdef
Default client class (qpu or sw) [qpu]:
Default solver [skip]:
Configuration saved.
```

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If you did not install contributor packages with the `dwave setup` command in the [Set Up Your Environment](#) section, or want to add packages at a later time, you can use it again then or use the `dwave install` command.

```
$ dwave install --help
Usage: dwave install [OPTIONS] [PACKAGES]...

    Install optional non-open-source Ocean packages.

Options:
  -l, --list      List available contrib (non-OSS) packages
  -a, --all       Install all contrib (non-OSS) packages
  -v, --verbose   Increase output verbosity
  --help         Show this message and exit.
```

Both commands describe the tools and enable you to select which if any to install.

Most Ocean tools solve problems on a [solver](#), which is a compute resource such as a D-Wave system or CPU, and might require that you configure a default solver. [Configuring Access to D-Wave Solvers](#) describes the next step of setting up your environment, how to configure your system to access D-Wave or other remote solvers.

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