

Python Programming

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Module 3 - Setting Up the Environment



Strategy | Digital | Technology | Operations

Agenda

Setting up the environment What is Agile

- Installing Python on Windows , Mac OS and Unix
- Setting the PATH for Python
- Executing Python programs



Module Objectives

At the end of this module, you will be able to understand

- How to setup the development environment for Python in the following platforms (OS)
 - Unix
 - Mac
 - Windows
- Setting PATH for Python
- Executing Python Programs

Platforms

- Python is available on a wide variety of platforms including
 - Linux/Unix
 - Mac OS X
 - Windows .



UNIX®

Getting Python

- Source code, Binaries, Documentation, News, etc., are available on the official website of Python

<http://www.python.org/>

Downloading Python

1. Goto <https://www.python.org/downloads/>
2. Select the Operating System.
3. Select the required version of Python (eg. Python 2.7.11 or Python 3.4)
4. Download only the binary code applicable for the respective platform.

Python Installation on Unix/Linux Platform

Steps to install Python on Unix/Linux machine.

- Open a Web browser and go to <http://www.python.org/download/>
- Follow the link to download zipped source code available for Unix/Linux.
- Download and extract files.
- **run** `./configure` script
- **make**
- **make install**
- This will install python in a standard location `/usr/local/bin` and its libraries at `/usr/local/lib/pythonXX` where XX is the version of Python.

Setting up PATH for Python for UNIX/LINUX Platform

To add the Python directory to the path for a particular session in Unix

- **csh shell:** type `setenv PATH "$PATH:/usr/local/bin/python"` and press Enter.
- **bash shell (Linux):** type `export PATH="$PATH:/usr/local/bin/python"` and press Enter.
- **sh or ksh shell:** type `PATH="$PATH:/usr/local/bin/python"` and press Enter.
- *Note: /usr/local/bin/python is the path of the Python directory*

Python Installation on Windows Platform

Steps to install Python on Windows machine.

- Open a Web browser and go to <http://www.python.org/download/>
- Follow the link for the Windows installer python-XYZ.msi file where XYZ is the version.
- To use this installer *python-XYZ.msi*, the Windows system must support Microsoft Installer 2.0. Double-click on the installer file to Run the installation. This starts Python install wizard. Accept the default settings, and complete the installation.

Setting up PATH for Python for WINDOWS Platform

To add the Python directory to the path for a particular session in Windows:

- **At the command prompt**, type
path %path%;C:\Python and press Enter.
- **Note:** C:\Python is the path of the Python directory

Installing Python on MAC OS Platform

Steps to install Python on Mac OS X machine.

- Goto - <https://www.python.org/downloads/mac-osx/>
- Select the required version
- Download the bit-installer file
- Double click and run the installer.
- Accept the default options and complete the installation

Running Python (Executing Python Programs/Instructions)

There are three different ways to start Python:

- Interactive Interpreter
- Script from the Command-line
- Integrated Development Environment (IDE)

Interactive Interpreter

Python instructions can be executed from Unix, DOS, or any other system that provides you a command-line interpreter or shell window.

- Enter **python** at the command line.
- Start coding right away in the interactive interpreter.
- \$python # Unix/Linux
 or
- python% # Unix/Linux
 or
- C:>python # Windows/DOS

List of all the available command line options

Option	Description
-d	provide debug output
-O	generate optimized bytecode (resulting in .pyo files)
-S	do not run import site to look for Python paths on startup
-v	verbose output (detailed trace on import statements)
-X	disable class-based built-in exceptions (just use strings); obsolete starting with version 1.6
-c cmd	run Python script sent in as cmd string
file	run Python script from given file

Executing Python Script from the Command-line

- A Python script can be executed at command line by invoking the interpreter

- `$python script.py` # Unix/Linux

or

`python% script.py` # Unix/Linux

or

`C:>python script.py` # Windows/DOS

Note: Be sure the file permission mode allows execution.

Integrated Development Environment (IDE)

Python scripts can be executed from a Graphical User Interface (GUI) environment as well, if you have a GUI application on your system that supports Python.

- **Unix:** IDLE is the very first Unix IDE for Python.
- **Windows:** PythonWin is the first Windows interface for Python and is an IDE with a GUI.
- **Macintosh:** The Macintosh version of Python along with the IDLE IDE is available from the main website, downloadable as either MacBinary or BinHex'd files.
- *Note: If you are not able to set up the environment properly, then you can take help from your system admin. Make sure the Python environment is properly set up and working perfectly fine.*

Questions

