12 Best Python IDEs And Code Editors In 2020

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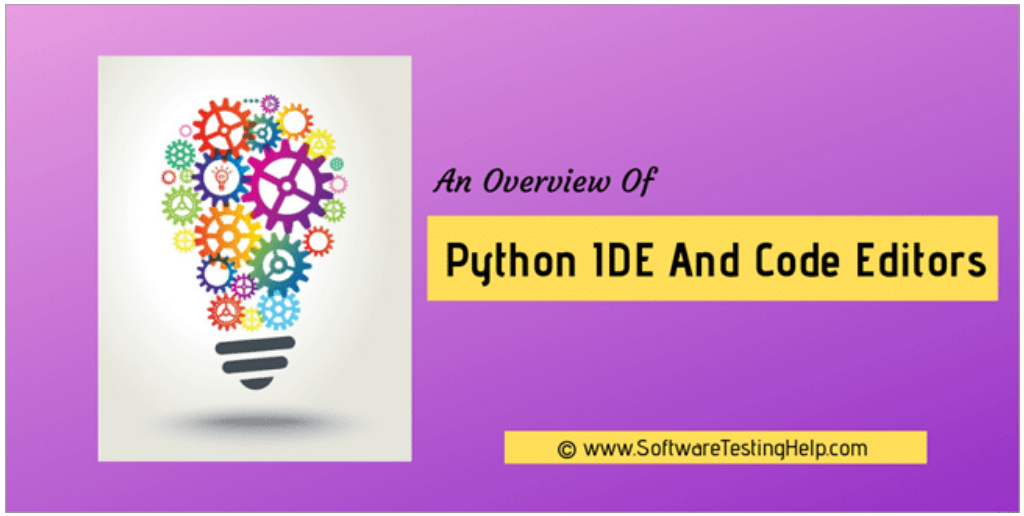
Comparison of the Top Python IDEs and Code Editors:

Python is one of the famous high-level programming languages that was developed in 1991.

Python is mainly used for server-side web development, development of software, maths, scripting, and artificial intelligence. It works on multiple platforms like Windows, Mac, Linux, Raspberry Pi etc.

Before exploring more about **Python IDE**, we must understand what is an IDE!



What You Will Learn: [show]

What is Integrated Development Environment (IDE)

IDE stands for Integrated Development Environment.

IDE is basically a software pack that consist of equipment's which are used for developing and testing the software. A developer throughout SDLC uses many tools like editors, libraries, compiling and testing platforms.

IDE helps to automate the task of a developer by reducing manual efforts and combines all the equipment's in a common framework. If IDE is not present, then the developer has to manually do the selections, integrations and deployment process. IDE was basically developed to simplify the SDLC process, by reducing coding and avoiding typing errors.

In contrast to the IDE, some developers also prefer Code editors. Code Editor is basically a text editor where a developer can write the code for developing any software. Code editor also allows the developer to save small text files for the code.

In comparison to IDE, code editors are fast in operating and have a small size. In fact code editors possess the capability of executing and debugging code.

Most Popular Python IDE FAQs

Enlisted below are the most frequently asked questions on Python IDE and Code Editor.

Q #1) What is IDE and Text or Code Editor?

Answer:

IDE is a development environment which provides many features like coding, compiling, debugging, executing, autocomplete, libraries, in one place for the developer's thus making tasks simpler whereas Code editor is a platform for editing and modifying the code only.

Q #2) What is the difference between IDE and TEXT EDITOR?

Answer:

IDE and Text Editor can be used in the place of each other for developing any software. Text editor helps the programmer for writing scripts, modifying code or text etc.

But with IDE a programmer can perform several other functions as well like running and executing the code, controlling the version, debug, interpreting, compiling, auto-complete feature, auto linting function, pre-defined functions and in build terminal etc.

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IDE can be considered as a development environment where a programmer can write the script, compile and debug the completing process.

IDE also has an integrated file management system and deployment tool. IDE provides support to SVN, CVS, FTP, SFTP, framework etc. Basically, a Text editor is a simple editor to edit the source code and it does not possess any integrated tools or packages.

One advantage of Text editor is that it allows modifying all types of files rather than specifying any particular language or types. Both play an important role in their respective situations when used.

Q #3) Why we need a good Python IDE and how to select one?

Answer:

There are a lot of benefits of using Python IDE like developing a better quality code, debugging feature, justifying why notebooks are handy, getting all the features like compiling and deploying, in one place by making it easier for the developer.

An ideal IDE selection is purely based on the developer requirement like if a developer has to code in multiple languages or any highlighting of syntax or any product compilation is required or more extensibility and the integrated debugger is required or any drag-drop GUI layout is required or features like autocomplete and class browsers are required.

=> Contact us to suggest a listing here.

Top Python IDEs And Code Editors Comparison

There are several Python IDE and Code editors that are discussed in this article and all the information that is required to choose the best IDE for your organization are explained here.

Comparison Table

IDE	User Rating	Size in MB	Developed in
PyCharm	4.5/5	BIG	JAVA, PYTHON
Spyder	May 4, 2018	BIG	PYTHON
PyDev	4.6/5	MEDIUM	JAVA, PYTHON
Idle	4.2/5	MEDIUM	PYTHON

Wing	May 4, 2018	BIG	C, C++, PYTHON

#1) PyCharm

Type: IDE.

Price: US $ 199 per User – 1st year for Professional Developer.

Platform Support: WINDOWS, LINUX, MAC etc.

Screenshots For Reference:

PyCharm is one of the widely used Python IDE which was created by Jet Brains. It is one of the best IDE for Python. PyCharm is all a developer's need for productive Python development.

With PyCharm, the developers can write a neat and maintainable code. It helps to be more productive and gives smart assistance to the developers. It takes care of the routine tasks by saving time and thereby increasing profit accordingly.

Best Features:

1. It comes with an intelligent code editor, smart code navigation, fast and safe refactoring's.
2. PyCharm is integrated with features like debugging, testing, profiling, deployments, remote development and tools of the database.

3. With Python, PyCharm also provides support to python web development frameworks, JavaScript, HTML, CSS, Angular JS and Live edit features.
4. It has a powerful integration with IPython Notebook, python console, and scientific stack.

Pros:

1. It provides a smart platform to the developers who help them when it comes to auto code completion, error detection, quick fixing etc.
2. It provides multiple framework support by increasing a lot of cost-saving factors.
3. It supports a rich feature like cross-platform development so that the developers can write a script on different platforms as well.
4. PyCharm also comes with a good feature of the customizable interface which in turn increases the productivity.

Cons:

1. PyCharm is an expensive tool while considering the features and the tools it provides to the client.
2. The initial installation is difficult and may hang up in between sometimes.

Official URL: Pycharm

#2) Spyder

Type: IDE.

Price: Open Source

Platform Support: QT, WINDOWS, LINUX, MAC OS etc.

Screenshots For Reference:

SPYDER is another big name in the IDE market. It is a good python compiler.

It is famous for python development. It was mainly developed for scientists and engineers to provide a powerful scientific environment for Python. It offers an advanced level of edit, debug, and data exploration feature. It is very extensible and has a good plugin system and API.

As SPYDER uses PYQT, a developer can also use it as an extension. It is a powerful IDE.

Best Features:

1. It is a good IDE with syntax highlighting, auto code completion feature.
2. SPYDER is capable of exploring and editing variables from GUI itself.
3. It works perfectly fine in multi-language editor along functions and auto code completion etc.
4. It has a powerful integration with ipython Console, interacts and modifies the variables on the go as well, hence a developer can execute the code line by line or by the cell.

Pros:

1. It is very efficient in finding and eliminating the bottlenecks to unchain the code performance.
2. It has a powerful debugger to trace each step of the script execution smoothly.
3. It has a good support feature to instantly view any object documents and modify your own documents.
4. It also supports extended plugins to improvise its functionality to the new level.

Cons:

1. It is not capable of configuring which warning the developer wants to disable.
2. Its performance reduces when too many plugins are invoked at the same time.

Official URL: SPYDER

#3) Pydev

Type: IDE

Price: Open Source

Platform Support: QT, WINDOWS, LINUX, MAC OS etc.

Screenshots For Reference:

PyDev is an outside plugin for Eclipse.

It is basically an IDE that is used for Python development. It is linear in size. It mainly focuses on the refactoring of python code, debugging in the graphical pattern, analysis of code etc. It is a strong python interpreter.

As it’s a plugin for eclipse it becomes more flexible for the developers to use the IDE for development of an application with so many features. In open source IDE, it is one of the preferred IDE by the developers.

Best Features:

1. It is a nice IDE with Django integration, auto code completion and code coverage feature.
2. It supports some rich features like type hinting, refactoring, debugging, and code analysis.

3. PyDev supports PyLint integration, tokens browser, interactive console, Unittest integration, and remote debugger etc.
4. It also supports Mypy, black formatter, virtual environments, and analyzing f-strings.

Pros:

1. PyDev provides a strong syntax high lighting, parser errors, code folding, and multi-language support.
2. It has a good outline view, it marks occurrences as well and has an interactive console.
3. It has good support for CPython, Jython, Iron Python, and Django and allows interactive probing in suspended mode.
4. It provides tabs preferences, smart indent, Pylint integration, TODO tasks, auto-completion of keywords and content assistants.

Cons:

1. Sometimes the plugins in PyDev become unstable by creating issues in the development of the application.
2. Performance of PyDev IDE decreases if the application is too big with multiple plugins.

Official URL: PyDev

#4) Idle

Type: IDE.

Price: Open Source.

Platform Support: WINDOWS, LINUX, MAC OS etc.

Screenshots For Reference:

IDLE is a popular Integrated Development Environment written in Python and it has been integrated with the default language. It is one of the best IDE for python.

IDLE is a very simple and basic IDE which is mainly used by the beginner level developers who want to practice on python development. It is also a cross-platform thus helping the trainee developers a lot but it also called as a disposable IDE as a developer moves to more advance IDE after learning the basics.

Best Features:

1. IDLE is developed purely in Python with the usage of Tkinter GUI toolkit and is also a cross-platform thereby increasing the flexibility for developers.

2. It has a good feature of multi-window text editor which has many features like call tips, smart indentation, undo and python colorizing.
3. It has a powerful debugger with continuous breakpoints, global view, and local spaces.
4. It also supports dialog boxes, browsers, and editable configurations.

Pros:

1. IDLE also supports syntax highlighting, auto code completion and smart indentation like other IDE's.
2. It has a Python shell with a high lighter.
3. Integrated debugger with call stack visibility which increases the performance of developers.
4. In IDLE, a developer can search within any window, search through multiple files and replace within the windows editor.

Cons:

1. It has some normal usage issues, sometimes it lacks focus, and the developer cannot directly copy to the dashboard.
2. IDLE does not have the numbering of line option which is a very basic design of the interface.

Official URL: IDLE

#5) Wing

Type: IDE

Price: US $ 95 to US $ 179 PER USER FOR COMMERCIAL USE.

Platform Support: WINDOWS, LINUX, MAC OS etc.

Screenshots For Reference:

Wing is also a popular and powerful IDE in today's market with a lot of good features which the developers require for python development.

It comes with a strong debugger and smart editor that makes the interactive Python development speed, accurate and fun to perform. Wing also provides a 30-day trial version for the developers to have a taste on its features.

Best Features:

1. Wing helps in moving around the code with go-to-definition, find the uses and symbol's in the application, edit symbol index, source browser, and effective multiple-file search.
2. It supports the test-driven development with unit test, pytest, and Django testing framework.
3. It assists remote development and is customizable and extensible too.
4. It also has auto code completion, the error is displayed in a feasible manner and line editing is also possible.

Pros:

1. In case of expiration of trial version, Wing provides around 10 minutes to the developers to migrate their application.
2. It has a source browser which helps to show all the variables which are used in the script.
3. Wing IDE provides an additional exception handling tab which helps a developer to debug the code.

4. It provides an extract function which is under the refactor panel and is also a good help for the developers for increasing performance.

Cons:

1. It is not capable of supporting dark themes which many developers like to use.
2. Wing interface can be intimidating at the starting and the commercial version is way too expensive.

Official URL: Wing

#6) Eric Python

Type: IDE.

Price: Open Source.

Platform Support: WINDOWS, LINUX, MAC OS etc.

Screenshots For Reference:

Eric is powerful and is rich in feature Python IDE and editor which is developed in Python itself. Eric can be used on the daily activity purpose or for the professional developers as well.

It is developed on cross-platform QT toolkit which is integrated with flexible Scintilla editor. Eric has an integrated plugin system which provides a simple extension to the IDE functions.

Best Features:

1. ERIC has many editors, configurable window layout, source code folding and call tips, error high lighting, and advanced search functions.
2. It has an advanced project management facility, integrated class browser, version control, cooperation functions, and source code.

3. It offers cooperation's functions, inbuilt debugger, inbuilt task management, profiling and code coverage support.
4. It supports application diagram's, syntax highlighting and auto code completion feature.

Pros:

1. ERIC allows integrated support for unittest, CORBA and google protobuf.
2. It has a lot of wizards for regex, QT dialogs, and tools for previewing QT forms and translations by making the developer's task easier.
3. It supports web browsers and has a spell check library which avoids errors.
4. It also supports localization and has a rope refactoring tool for development.

Cons:

1. ERIC installation becomes clumsy sometimes and it does not have a simple and easy GUI.
2. When the developers try to integrate too many plugins the productivity and performance of the IDE decreases.

Official URL: **Eric Python**

#7) Rodeo

Type: IDE.

Price: Open Source.

Platform Support: WINDOWS, LINUX, Mac OS etc.

Screenshots For Reference:

Rodeo is one of the best IDE for python that was developed for data science-related tasks like taking data and information from different resources and also plotting for issues.

It supports cross-platform functionality. It can also be used as an IDE for experimenting in an interactive manner.

Best Features:

1. It supports all the functions which are required for data science or machine learning tasks like loading data and experimenting in some manner.
2. It allows the developers to interact, compare data, inspect and plot.
3. Rodeo provides a clean code, auto-completion of code, syntax high lighting, and IPython support to write the code faster.
4. It also has visual file navigator, clicks and point the directories, package search makes it easier for a developer to get what they want.

Pros:

1. It is a lightweight, highly customizable and intuitive development environment which makes it unique.
2. It has both text editor and me Python console.
3. It includes all the supporting documentation at the last tab for better understanding.
4. It has Vim, Emacs mode and allows single or block execution of code.
5. Rodeo can also auto-update its latest version.

Cons:

1. It is not maintained properly.
2. No extended support facilities from the company staff in case of issues.

Official URL: Rodeo

#8) Thonny

Type: IDE.

Price: Open Source.

Platform Support: WINDOWS, LINUX, Mac OS etc.

Screenshots For Reference:

Thonny IDE is one of the best IDE for the beginner's who have no prior Python experience to learn Python development.

It is very basic and simple in terms of features which even the new developers easily understand. It is very helpful for the users who use the virtual environment.

Best Features:

1. Thonny provides the ability to the users to check how the programs and shell commands affect the python variables.
2. It provides a simple debugger with F5, F6 and F7 function keys for debugging.
3. It offers the ability to a user to see how python internally evaluates the written expression.
4. It also supports the good representation of function calls, highlighting errors and auto code completion feature.

Pros:

1. It has a very simple and clean Graphical user interface.
2. It is very friendly for the beginners and takes care of PATH and issues with other python interpreters.
3. The user has the ability to change the mode for explaining the reference.
4. It helps to explain the scopes by highlighting the spots.

Cons:

1. The interface design is not at all good and is limited to text editing and also has a lack of support for templates.
2. Creation of plugin is really slow and there are many features which are lacking for developers.

Official URL: Thonny

Best Python Code Editors

Code editors are basically the text editors which are used to edit the source code as per the requirements.

These may be integrated or stand-alone applications. As they are monofunctional, they are very faster too. Enlisted below are some of the top code editors which are preferred by the Python developer's world-wide.

#1) Sublime Text

Type: Source Code Editor.

Price: USD $80.

Platform Support: WINDOWS, LINUX, Mac OS etc.

Screenshots For Reference:

Sublime Text is a very popular cross-platform text editor developed on C++ and Python and also have a Python API.

It is developed in such a manner that it supports many other programming and markup languages. It allows a user to add other functions with the help of plugins. It is more reliable when compared to the other code editors as the per developers review.

Best Features:

1. Sublime text has GOTO anything for opening files with few clicks and can navigate to words or symbols.
2. It has a strong feature of multiple selections to change many things at one time and also a command palette to sort, change the syntax, change indentation etc.
3. It has high performance, powerful API and package ecosystem.
4. It is highly customizable, allows split editing, allows instant project switch and is also cross-platform.

Pros:

1. It has good compatibility with language grammars.
2. It allows a user to choose specific preference related to projects.
3. It also has a GOTO Definition feature to generate an application wide index of each method, class, and function.
4. It shows high performance and has a powerful cross-platform User interface toolkit.

Cons:

1. Sublime text can sometimes be intimidating to new users initially.
2. It does not have a strong GIT plugin.

Official URL: Sublime Text

#2) Atom

Type: Source Code Editor.

Price: Open Source.

Platform Support: WINDOWS, LINUX, Mac OS etc.

Screenshots For Reference:

Atom is a free source code editor and is basically a desktop application which is built through a web technology having plugin support that is developed in Node.js.

It is based on atom shells which are a framework that helps to achieve cross-platform functionality. The best thing is that is can also be used as an Integrated Development Environment.

Best Features:

1. Atom works on cross-platform editing very smoothly thereby increasing the performance of its users.
2. It also has a built-in package manager and file system browser.
3. It helps the users to write script faster with a smart and flexible auto-completion.
4. It supports multiple pane features, finds and replaces text across an application.

Pros:

1. It is simple and really simple to use.
2. Atom allows UI customization to its user.
3. It has a lot of support from the crew at GitHub.
4. It has a strong feature for quickly opening the file to retrieve data and information.

Cons:

1. It takes more time to sort the configurations and plugins as it's a browser-based app.
2. Tabs are clumsy, reduces the performance and sometimes loads slowly.

Official URL: Atom

#3) Vim

Type: Source Code Editor.

Price: Open Source.

Platform Support: WINDOWS, LINUX, Mac OS, IOS, Android, UNIX, AmigaOS, MorphOS etc.

Screenshots For Reference:

Vim is a popular open source text editor which is used to create and modify any type of text and is highly configurable.

According to the developers, VIM is a very stable text editor and its quality of performance is increasing on each new release of it. Vim text editor can be used as command line interface as well as standalone application.

Best Features:

1. VIM is very persistent and also have a multilevel undo tree.
2. It comes with an extensive system of plugins.
3. It provides a wide range of support for many programming languages and files.
4. It has a powerful integration, search and replace functionality.

Pros:

1. Vim provides two different modes to the user to work i.e. Normal mode and editing mode.
2. It comes with its own scripting language which allows a user to modify behavior and custom functionality.
3. It also supports the non-programming applications which every other editor does not have.
4. Strings in VIM are nothing but command sequences so that the developer can save and again reuse them.

Cons:

1. It is only a text edit tool and doesn't have a different color for the pop up shown.
2. It does not have an easy learning curve and becomes difficult to learn at the beginning.

Official URL: VIM

#4) Visual Studio Code

Type: Source Code Editor.

Price: Open Source.

Platform Support: WINDOWS, LINUX, Mac OS etc.

Screenshots For Reference:

Visual Studio Code is an open source code editor which was developed mainly for the development and debugging of latest web and cloud projects.

It is capable of combining both editor and good development features very smoothly. It is one of the major choices for python developers.

Best Features:

1. It supports syntax highlighting and auto code complete feature with IntelliSense which completes syntax based on variable types, function definition etc.
2. It has a powerful debugger and the user can debug from the editor itself.
3. It has strong integration with GIT so that a user can perform GIT operations like push, commit straight from the editor itself.
4. Visual studio is highly extensible and customizable through which we can add languages, debuggers, themes etc.

Pros:

1. It provides multi-language support and many other functionalities which the other languages don't possess.
2. It has a good layout and smart interface.
3. It allows the use of many plugins which a developer can get from the VS code marketplace for its customization.
4. It supports the use of vertical orientation and multi-split window feature.

Cons:

1. Searching with visual studio code is very slow.
2. Initially, it takes an ample amount of time to launch.

Official URL: Visual Studio

Summary

We hope this article would have given you a clear picture of what Python IDE and Source Code Editors are.

What is the major difference between both of them and why Python developers use Python IDE for development of web or cloud applications? How the IDE's are improving the performance of developers and thereby increase the profit.

The topmost Python IDE which is preferred by most of the developers worldwide is covered in this article. We have also seen the benefits and demerits of each IDE based on which the developers decide to select which IDE is best for their project.

Large Scale Business: As these industries have both Finance and manpower, they prefer IDE's like PyCharm, Atom, Sublime Text, Wing etc., so that they can get all the features with extended support from the companies for all their issues.

Middle and Small Scale Business: As these industries lookout for tools which are Open source and cover most of the features, they mostly prefer Spyder, PyDev, IDEL, ERIC Python and visual studio code for their projects.

=> Contact us to suggest a listing here.

Recommended Reading

- Python Variables
- Python String Functions

- Python Tutorial For Beginners (Hands-on FREE Python Training)
- Python Control Statements (Python Continue, Break and Pass)
- Python DateTime Tutorial with Examples
- Top 15 Best Free Code Editors For Perfect Coding Experience
- Python Operators
- Python Functions