CYME Scripting Tool with Python®

Extending CYME capabilities through Python® Scripting

Today's fast evolving power systems require engineers to perform thorough studies for the purpose of evaluating the operation of their networks under different conditions. Although informative, some of these studies could be repetitive and time-consuming. Automation relieves engineers from any redundant and laborious procedures, and provides them the information and results required in an effortless manner.

Aiming to ease the effort required in performing several simulations by hand and to extend the customization of the CYME applications, Python® scripting has been integrated into the CYME power system analysis software.

Python scripting comes with a Site Package, a Console, a Toolbox and a built-in script editor. It can be used in a stand-alone mode or in a mode directly embedded into the CYME software.

• The Python Site Package contains all the Python modules and functions required to access network properties, manipulate equipment and devices, perform various analyses and more importantly, obtain meaningful results.

• The Console allows the users to carry out commands directly in the CYME application to allow command testing and quickly retrieve information.

• The Toolbox allows the users to add and execute scripts. Variables defined in the scripts can be accessed through the Toolbox without having the scripts being modified.

• The built-in script editor that is simple to use and includes features such as syntax highlighting, color-coding, code-completion and debug mode.

With Python scripting, users can easily perform batch analysis, automate routine studies, create new algorithms and quickly retrieve information through a simple mouse-click on a script. Take advantage of all the possibilities offered by the CYME Scripting Tool and appreciate the increase in productivity brought by the creativity of your scripts.

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Powering Business Worldwide

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Easy Scripting with Python®

Python is a scripting language that is open-source and cross-platform.

Unlike other programming languages, Python does not have difficult syntax and offers code completion. Its high readability combined with the CYME function names make Python easy to learn for beginners while staying powerful for experts.

Not only does it take care of exception handling, the CYME Scripting Tool with Python has also been robustly designed to provide you with the latest data model so that you can always be up to date.

Python scripting takes advantage of all the power accessible through regular expressions, along with an advanced filtering mode that comes to hand when accessing data collection.

Python® suits your needs and style

The Python Console and Toolbox allow an embedded Python usage within the CYME software for the rapid execution of several command lines and scripts.

The user can write scripts using the built-in script editor, and can as well write scripts in any text editor and execute them in a "stand-alone" way outside of the CYME application environment, via your favorite Python IDE (IDLE, Komodo IDE, Eclipse, PythonWin, PyCharm, etc.).

Extending CYME

Whether scripts and commands are run in the embedded or non-embedded way, the possibilities to extend the capabilities of the CYME software are unlimited.

The Site Package developed offers many modules designed to be powerful and easy-to-use: network modeling, database access, equipment, and report and error management. These modules are constantly evolving to better suit the growth of the application.

Besides quickly retrieving information through several command lines or to run routine analysis through the use of scripts, the users can also create their own algorithms and write their own analysis. For example, you can create your own Load Growth analysis to modify the loads in a complex way that cannot be easily achieved with the default Load Growth analysis. Likewise, your commands can be inserted to apply modifications to the network. Charts and reports are easily customizable to display the results according to your preferences.

Several device controls and customization tools now offer embedded scripting functionalities. Scripts can now be used to define the control for capacitors, regulators, and centralized capacitor control systems. They can also be used to create custom keywords and filters.

Python's power and user-friendliness make it the ideal tool for writing any large application to suit your needs and simplify your work.

Combined with your creativity, Python scripting can extend the already-robust capabilities of the CYME software beyond imagination.
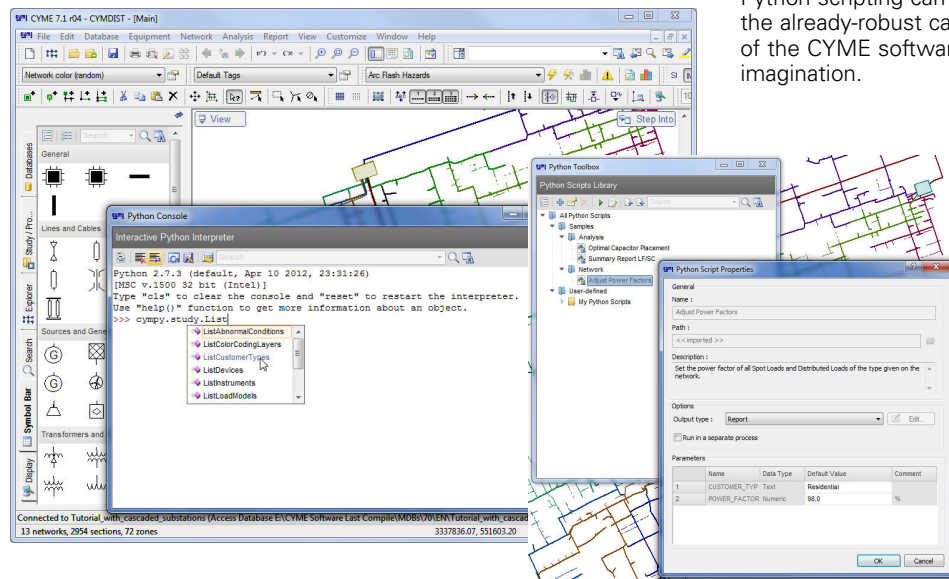
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