

# Tutorial: Execute Commands and cmdutils

## Creating a Command Macro that will run several plugins in succession

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In this tutorial we will create a Command Macro that will run several plugins in succession.

To use this tutorial you should have installed the plugins Execute Commands (version 01.31.00 or later) and cmdutils (version 01.12.00 or later). These will both be found in the category **Developer's Tools** and will only run in Sibelius Ultimate 2021.2 or later.

This tutorial assumes that you know how to find commands in the **Execute Commands** plugin, and add them to the Command List. We will do that, and will export the command list to a Command Macro file, and execute the commands in the command list.

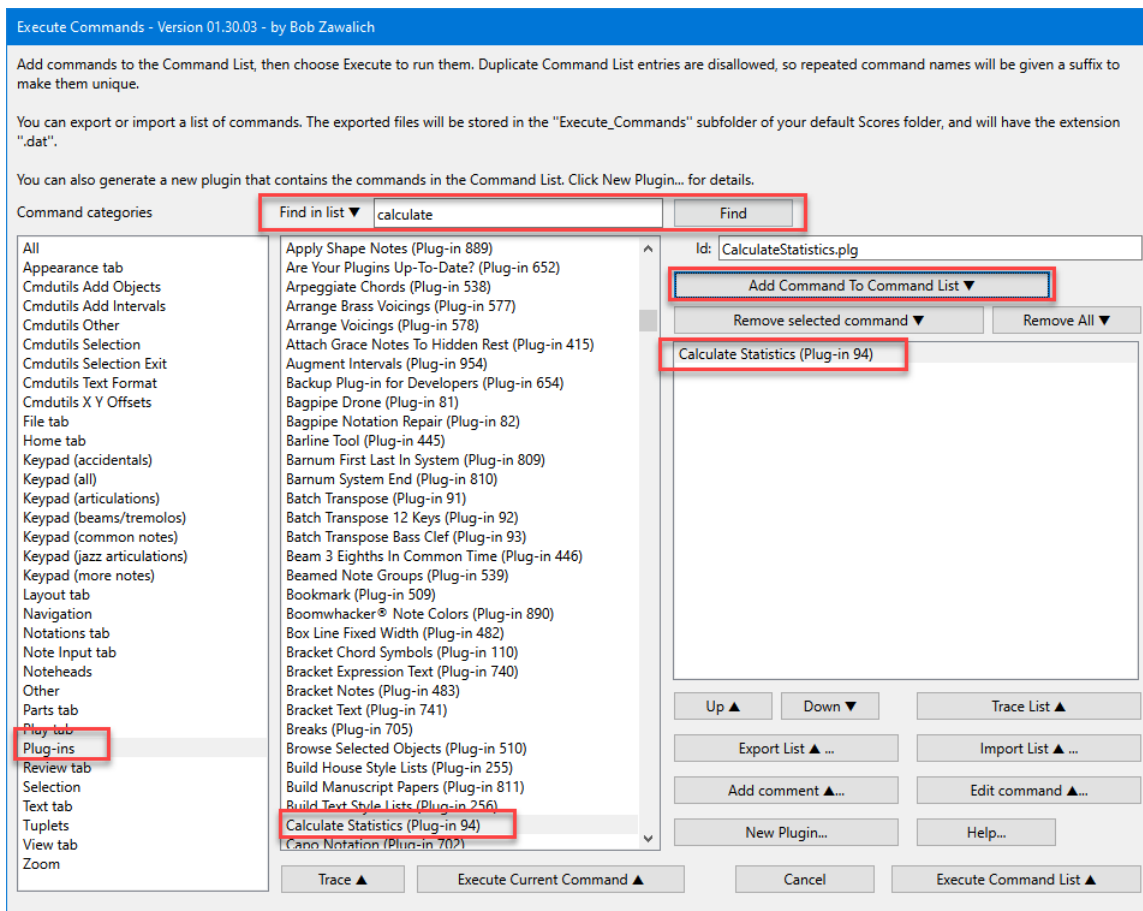
In order to demonstrate some issues with running successive plugins, we will be running the shipping plugin **Calculate Statistics**, and the downloadable plugin **Filter Other** (version 03.22.00 or later). You can install or update this plugin using **File > Plug-ins > Install Plug-ins**, in the category **Filter and Find**.

Let's imagine I want to get some statistics on a score. I will get most of what I want from **Calculate Statistics**, but I will call **Filter Other** to get the number of notes that are on a staff line, or on a staff space, and which notes have a visible accidental. **Filter Other** filters the notes, but has the side effect, useful in this case, of tracing the numbers of items it filters.

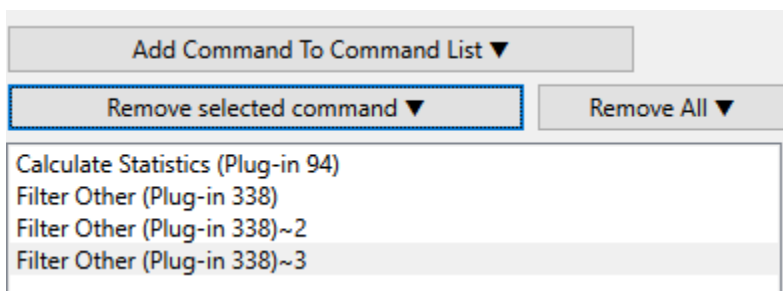
Let's start by putting the plugin commands for **Calculate Statistics** and **Filter Other** in the Command List.

Here are the steps to follow

- Run **Execute Commands**
- Make sure that the **Command List** is empty. If it is not, click on the **Remove Selected Command** button until the list is empty.
- Choose the command category **Plugins** in the leftmost list (or search for "calculate" in the Find box).
- In the middle list choose **Calculate Statistics (Plug-in xx)** (the number xx will be different on different machines)
- Click on **Add Command to Command List** (or type **Enter**), and the command should appear in the list and this is what you should see.

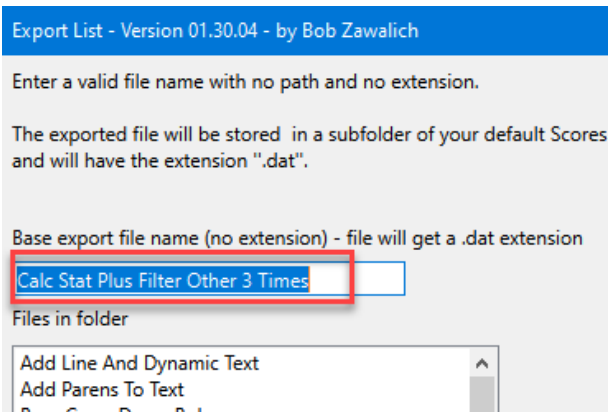


Now find **Filter Other** in the Plug-ins category (which again, you may need to have installed), and add it to the command list **three times**. Now the command list will look like this:



The little ~2 and ~3 after the second **Filter Other** line are just markers that ensure that the names in the list are unique. They are added automatically by **Add Command to Command List** and is only for the use of this list box.

We could execute these commands now, but first let us save the sequence into a text file in case something goes wrong. Click on **Export List**, and in the dialog give the list a name, such as **Calc Stat and Filter Other 3 Times**, or anything you prefer.

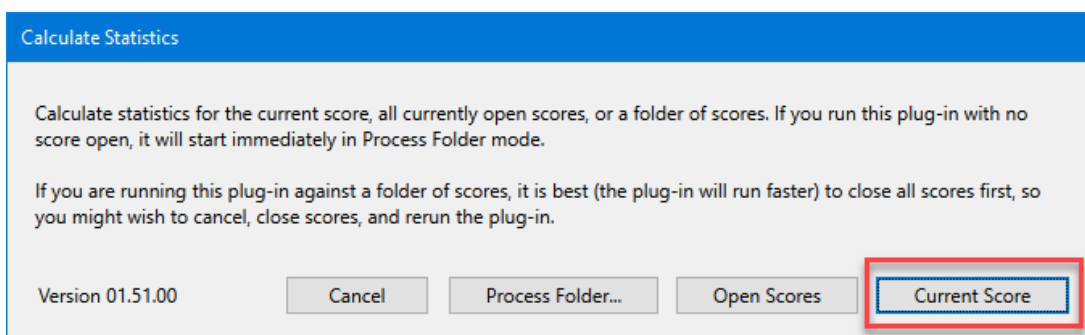


Now we can get the list back (via **Import List**) if we need to. The commands in the Command List will stay there until the end of a Sibelius session, but the list will be clear the next time you start up.

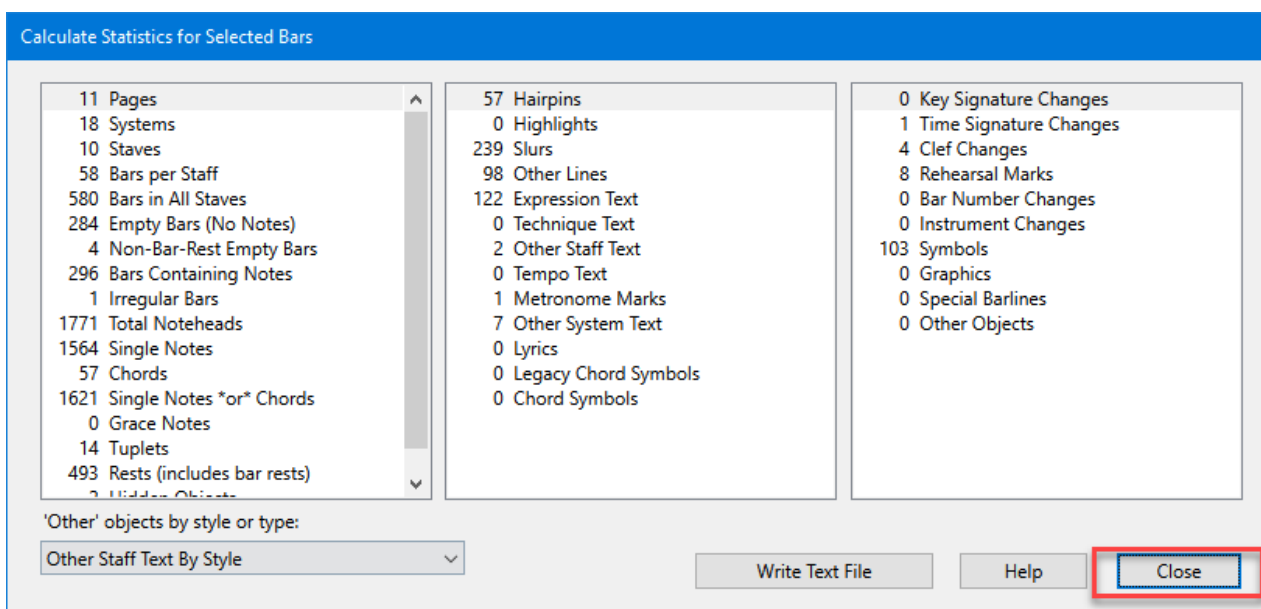
OK. Let's open a score with some amount of data, like notes and text, and try it out. Start with no selection at all – hit Esc a few times to make sure.

Click On **Execute Command List**, and you should see the initial **Calculate Statistics** plugin dialog come up.

It looks like this:

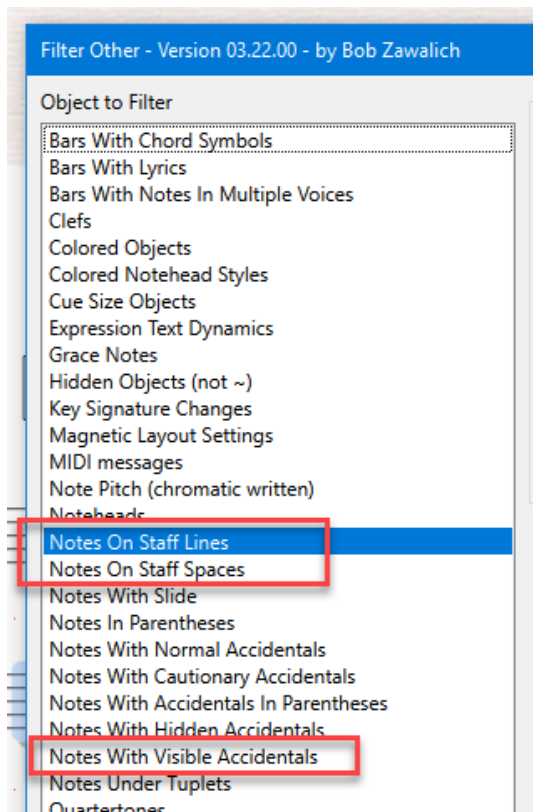


Click on **Current Score** and after a bit you should see something like this:



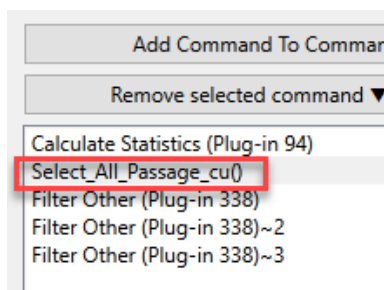
This worked as we would hope, and we could write the data to a text file if we wanted to.

Remember that we started with no selection? Calculate Statistics does not care about a selection since it always processes the entire score, and it does not change the selection. When we click on Close, we will run **Filter Other**, and we will have a problem. These are the commands I want to run in Filter Other:



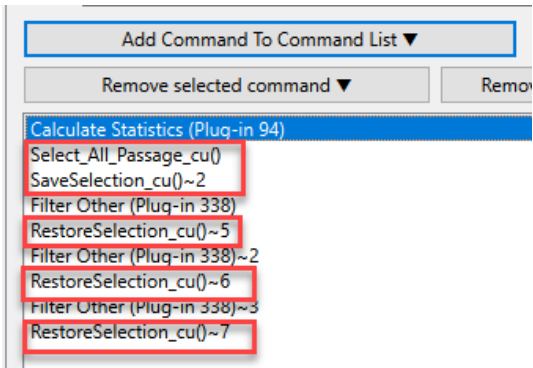
And for my purposes, I really want **Filter Other** to process the entire score each time. I could set up the first call to **Filter Other** by starting with a passage selection of the score, but it will filter out only what it wants, and the next run of **Filter Other** will be in the same kind of problem.

Fortunately, the **cmdutils** plugin gives us a number of commands that let us change the selection. One of them that would work well here is **Select\_All\_Passage\_cu**, which makes a non-system passage selection of the entire score, and we can add the call just before the first call to **Filter Other**.



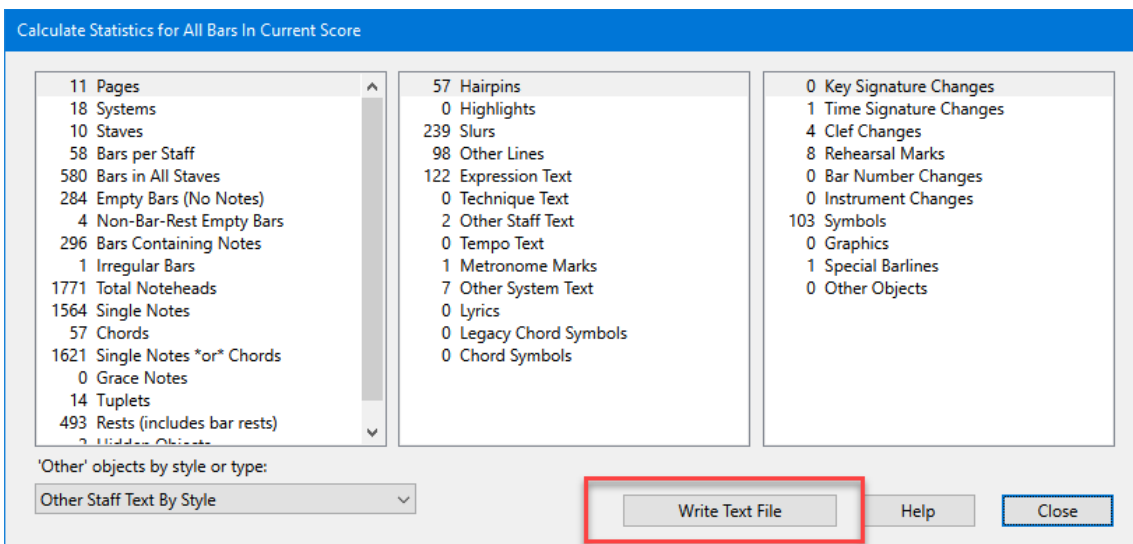
We could add the same call again before each following call to **Filter Other**, but let's do something a little different. We know that once we call **Select\_All\_Passage\_cu**, we have a full-score selection, so let's save it away before we call **Filter Other** with a call to **StoreSelection\_cu**, and then use **RestoreSelection\_cu** to get it back before each following call. We can even add one at the very end so we end up with the score selected when we finish.

So now we have:

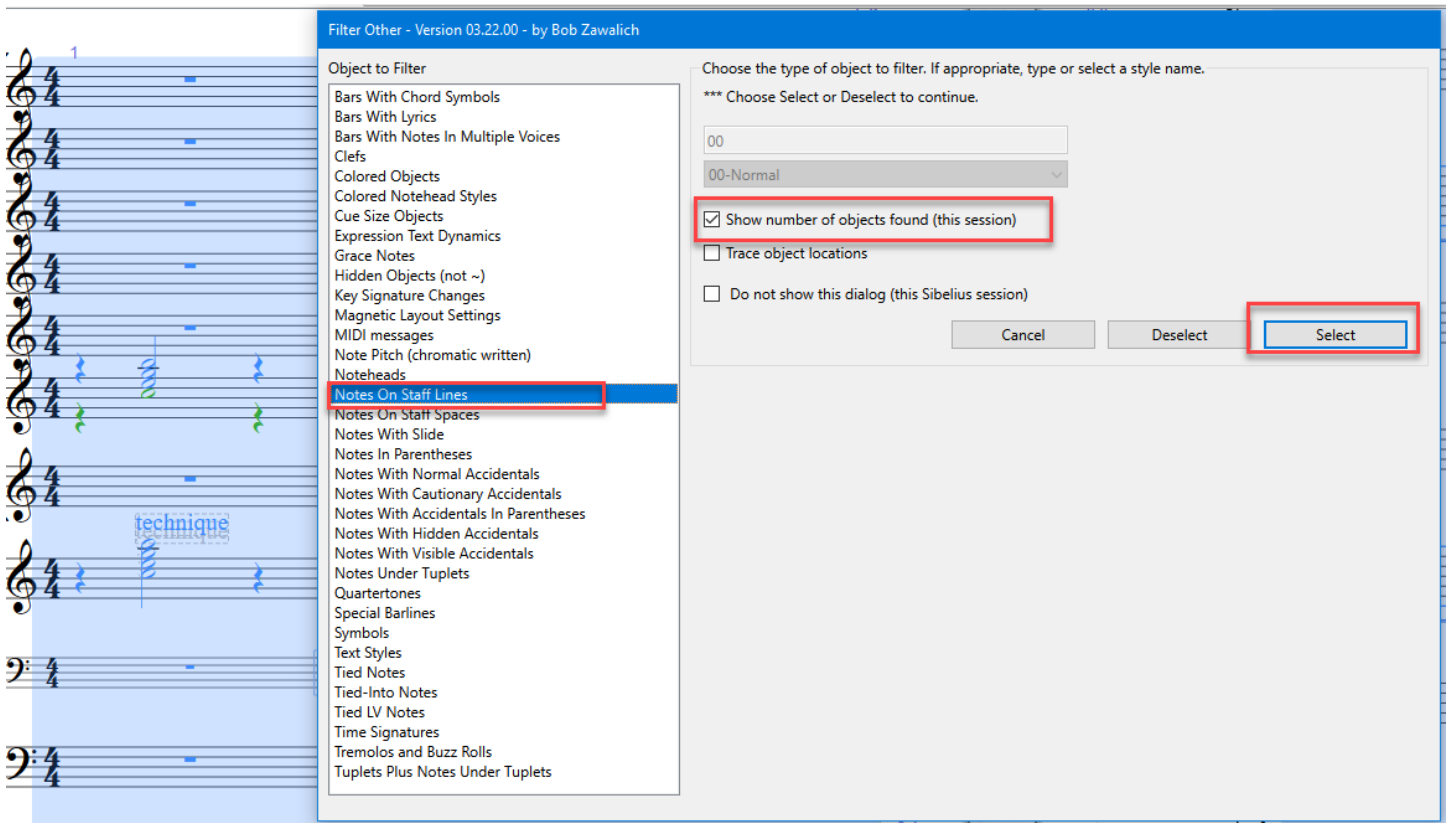


We should use **Export List** again to save these changes so we will not lose anything.

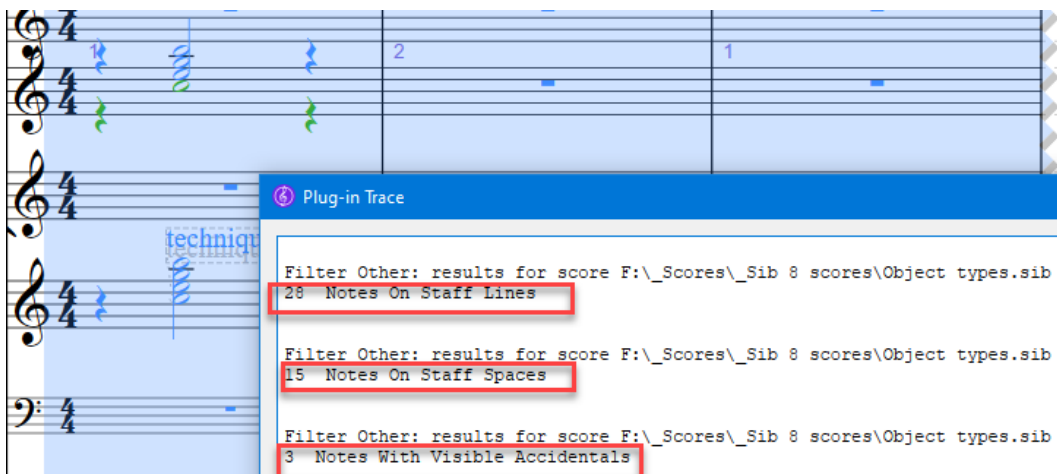
We can now use **Execute Command List** to run these commands. The first thing that happens is that we see some dialogs for **Calculate Statistics**. The final dialog looks like this:



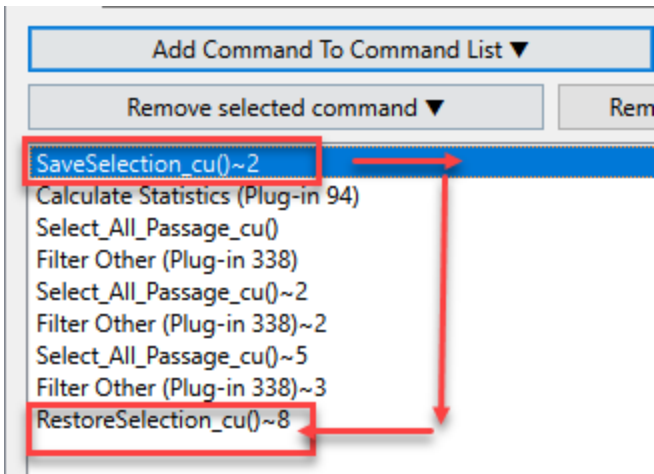
and we probably want to **Write Text File** with the data, then hit **Close**. Next we will see the **Filter Other** dialog, and see that the score is completely selected. Choose **Notes On Staff Lines**, made sure that **Show number of objects found** is checked, and click on **Select**.



The screen will flash as data is written to the plugin trace window, then we see **Filter Other** again with a full selection, and we choose the option **Notes on Staff Spaces**, and choose **Select**. Finally there is one more screen of **Filter Other**, and we choose **Notes With Visible Accidentals**. After **Select**, we will see the plugin trace window containing the data we wanted, with the score fully selected in the background.



So as a general rule, when running plugins in Command Macros or Command Plugins, you can force the selection to be what you want before and after the plugin runs. If I had wanted to preserve the original selection I could have done that, but it would be a bit tricky since you can really only save 1 selection (they do not “nest”) so I might do something like:



In this case, I saved the original score selection at the start, then did a full selection before each call to **Filter Other**, and then restored the original selection at the end.

You won't always be able to work around things this way but there are a lot of possibilities. You can also use some of the cmdutils **Exit Plugin** commands to check for the selection you want and cancel it is not right, or possibly ask the user if selecting the whole score is OK.

#### **ExitIfSelection\_NotPassage\_cu (strMessageIfNotPassage)**

- Exits the plugin if there is no passage selection

#### **ExitOrAll\_Selection\_NotPassage\_cu(strMessageIfNotPassage)**

- Exits the plugin if there is no passage selection, or selects the entire score (non-system selection) and continues

You may not need these kind of selection adjustments, but if you do, there are a lot of them available. Check the document **The cmdutils library in Execute Commands and Command Plugins** for all the details.