

ERICSSON  ENHAVAP – Dinh Pham Pham.van.dinh@ericsson.com	MoshellEditor UserGuide	V11.0 Release 26-Jun-2024
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Revision History

Version	Update Information	
V1.0	First Release	04-Nov-2023
V2.0	Second Release	12-Nov-2023
V3.0	Third Release	26-Nov-2023
V4.0	Fix some bugs, Add some improvements.	07-Dec-2023
V5.0	Fix some bugs, Add some improvements.	26-Dec-2023
V6.0	Fix some bugs, Add some improvements.	16-Jan-2024
V7.0	Fix some bugs, Add Parse MOM (XML), Generate Script Templates & Data form base on xml MOM file.	31-Jan-2024
V8.0	Fix some bugs, Add some improvements, Allows upload/download files/folders during ssh to the servers.	25-Feb-2024
V9.0	Add some improvements. mCRTTool uses for generating scripts from many Excel CR files and template files.	23-Apr-2024
V10.0	Add some improvements. Replaced “Simple Remote Connection” by “Simple CR Handler” .	02-Jun-2024
V11.0	Add some improvements. Allow auto run CR and parse log after finishing, allow edit text file on SSH server.	26-Jun-2024

TABLE OF CONTENTS

1	Introduction ABOUT MOSHELL	1
2	Purpose of MoshellEditor	2
3	Tool Functionalities	2
3.1	Interface	2
3.2	File	9
3.2.1	New - Ctrl + N	10
3.2.2	Open - Ctrl + O	10
3.2.3	Save - Ctrl + S	11
3.2.4	Save As	11
3.2.5	Exit	12
3.3	Edit	12
3.3.1	Find - Ctrl + F	13
3.3.2	Replace - Ctrl + R	13
3.3.3	Save Output - Ctrl + T	14
3.3.4	Comment Selection	14
3.3.5	Uncomment Selection	15
3.3.6	TAB Selection ->	15
3.3.7	TAB Selection <-	16
3.4	Debug	16
3.4.1	Offline Running	16
3.4.2	Offline Debug	17
3.5	Kget	20

3.5.1	Load Kget Basic (.log file)	20
3.5.2	Load Kget Full (.log file)	21
3.5.3	Unload Kget/MOM	21
3.6	MOM	21
3.6.1	Load MOM (.xml file)	22
3.6.2	Update MOs/Attributes	22
3.7	Utilities	23
3.7.1	Generate Script – Ctrl + G	23
3.7.2	Generate Script Templates & Data Form – Ctrl + M	30
3.7.3	mCRTTool – Ctrl + K	31
3.7.4	Parse FolderLog (Summary) – Ctrl + P	35
3.7.5	Parse FolderLog (Detail) – Ctrl + L	38
3.7.6	Compare FolderLog (1 & 2)	39
3.7.7	Simple CR Handler – Ctrl + H	42
3.7.8	Automation Scripts	47
3.8	EnmScripting	47
3.8.1	enm cli	47
3.8.2	enmscripting	47
3.8.3	syntaxchecking	48
3.9	Help	49
3.9.1	3.3 Regular Expressions	49
3.9.2	3.4 How to specify attribute values.	49
3.9.3	6.2 Variable Assignment	49
3.9.4	6.3 Hashtables (Arrays)	49
3.9.5	6.4 If/else Constructs	49
3.9.6	6.5 For Constructs	49
3.9.7	6.6 User-Defined Functions	49
3.9.8	6.7 Nesting For and If Statements	49
3.9.9	6.8 Examples Scripts	49
3.9.10	cmcredit help	49
3.9.11	enmscripting	49
3.9.12	MoshellLatestChanges	49
3.9.13	About	50
4	Install python (Python 3.11.4) and Setup	50
5	Tool Source	54
5.1	Latest Version (02-Jun-2024)	54
5.2	Demo Videos	54

1 INTRODUCTION ABOUT MOSHELL

Moshell is an OAM tool for CPP/COM/ECIM platform nodes. RNC, MGW, RBS... users can use directly from the command line or command files (Moshell Scripting). Scripting is the most import part of Moshell. In most cases to make the work more effectively and avoid human errors, Moshell users must create the scripts.

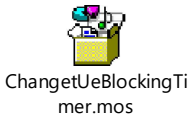
EX: To change value of tUeBlockingTimer parameter in EUTRANCellFDD (Change takes effect: Next cell unlock). It means we need to lock EUTRANCellFDD MOs before changing and unlock the EUTRANCellFDD MOs after changing.

It requires to lock and unlock the EUTRANCellFDD which has administrativeState equal to 1 only. If we just use bl EUTRANCellFDD and deb EUTRANCellFDD command then human error may happen because some EUTRANCellFDDs may in locked state then after deb EUTRANCellFDD, all EUTRANCellFDDs will be unlocked. So, the cell status before change request and after change request is different (Human Error).

- **Command Line Mode:** Users need to manual login to each node need to change and execute commands below one by one.


```
+ alt
+ st cell
+ cvms bf_change_crxxx
+ ma ListunlockCells EUTRANCellFDD administrativeState 1
+ $nrofulcell = $nr_of_mos
+ if $nrofulcell != 0
+   bl ListunlockCells
+ fi
+ set EUTRANCellFDD tUeBlockingTimer 100
+ if $nrofulcell != 0
+   deb ListunlockCells
+ fi
+ st cell
+ cvms af_change_crxxx
+ alt
+ st cell
+ cvls
```
- **Moshell scripting Mode:** Users put all above commands to the text file (ChangetUeBlockingTimer.mos) and use run command to execute the command file.


```
run ChangetUeBlockingTimer.mos
```



When creating Moshell script, there is no special editor support to check Moshell commands, MOs name, Attributes name, ... directly from the editor so if user does not remember them. User needs to manual check by using Moshell offline, alex, moshell userguide... it is not convenient sometime.

2 PURPOSE OF MOSHELLEDITOR

Moshell supports the use of variables and logical constructs. These can be used directly from the command line or within MoShell command files as describing in Scripting Part “6. Scripting” of Moshell Userguide. To create the Moshell command file currently the Engineers are using different editors like (notepad, Ultraedit, vim...) they are not support checking Moshell commands, variables, MOs name, Attributes Name... the Engineers must remember or need to open and check in Alex, Moshell userguide or Moshell offline mode...also when the script got some bugs Engineer hard to find or debug so MoshellEditor was created.

3 TOOL FUNCTIONALITIES

3.1 Interface



MoshellEditor allows user directly to check or perform below:

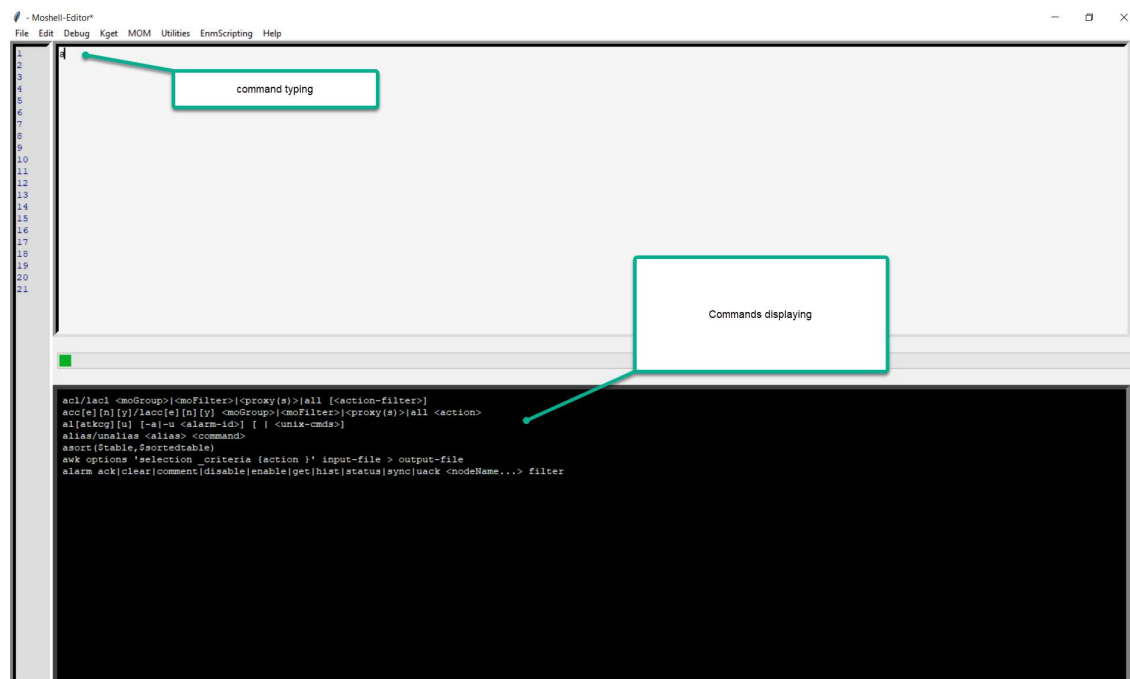
- Moshell command line syntax and description, examples, and other important information.
- Available Moshell variables, functions, description, examples.
- MO names, Attribute names, Action names (Default common of RNC/RBS). User can change to other node type by loading kget/xml MOM file of node.
- Auto display commands, MOs, Attributes during user typing.
- Search attribute of the MOs.
- Search some common Unix commands.
- Logical constructs syntax, description, and examples.
- Easy to see the keywords are highlight by different colours.
- Auto complete if/else, for/done func/endfunc constructs.

- Auto complete “”.
- Support enm cli, enmscripting checking.
- Support ccredit command examples checking.
- Support enmscripting syntax checking.
- Support MOs, Attributes description/value checking.
- Identify the bugs in script and fix easily and quickly by debug function.
- Generate scripts base on template and data from RF (CR mode)
- Parse FolderLog (Parse moshell command log files) help to identify the command output, pass, failure...(CR mode, Network activities...)
- Simple CR handler for download/upload folders/files from/to sftp server or ssh to execute commands to ssh server, prompt moshell commands/user saved commands during user typing. Allow user add/remove new command in command prompt list. Enable users to auto execute list of CRs automatically until show the CR's implementation result in excel format.
- Compare FolderLogs (Parse moshell command log files in 2 folders) help to identify the command output, pass, failure then compare the result in 2 folders then list out the differences....(CR mode/Upgrade Activity...)
- Generate script templates/Data form base on xml MOM file of node.

Note:

- Auto commands, MOs, Attributes, Variables (variable will start with \$) will be displayed in Help Window during user typing.

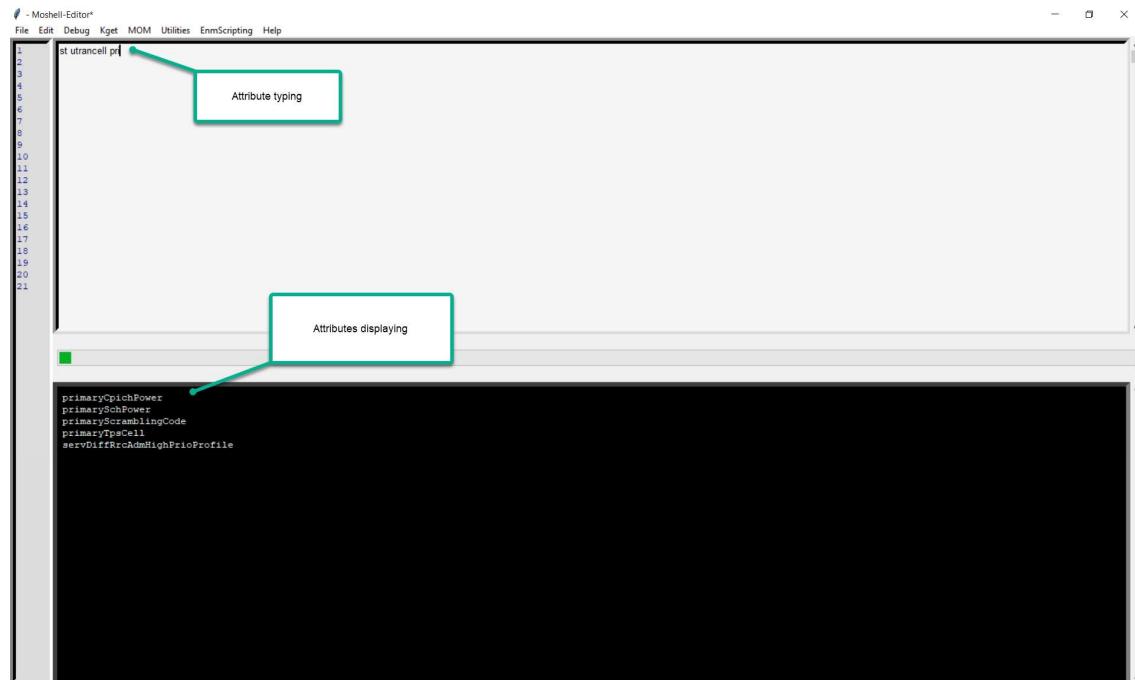
Commands:



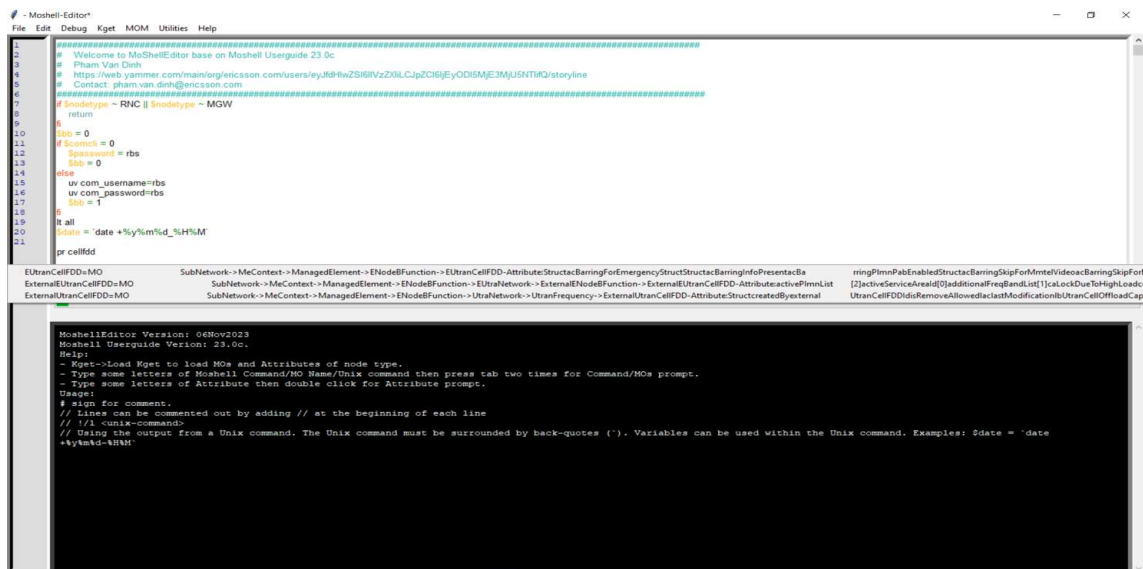
MO: (Use Ctrl + Tab) To auto complete the MO (The first MO in the Help Window is filled)



Attribute: (Use Ctrl + Tab) To auto complete the Attribute (The first Attribute in the Help Window is filled)



1. Check commands start with letter "a":



- Type some letters of Attribute then double click for Attribute prompt.

1. Check attribute of EutranCellFDD content “add”.

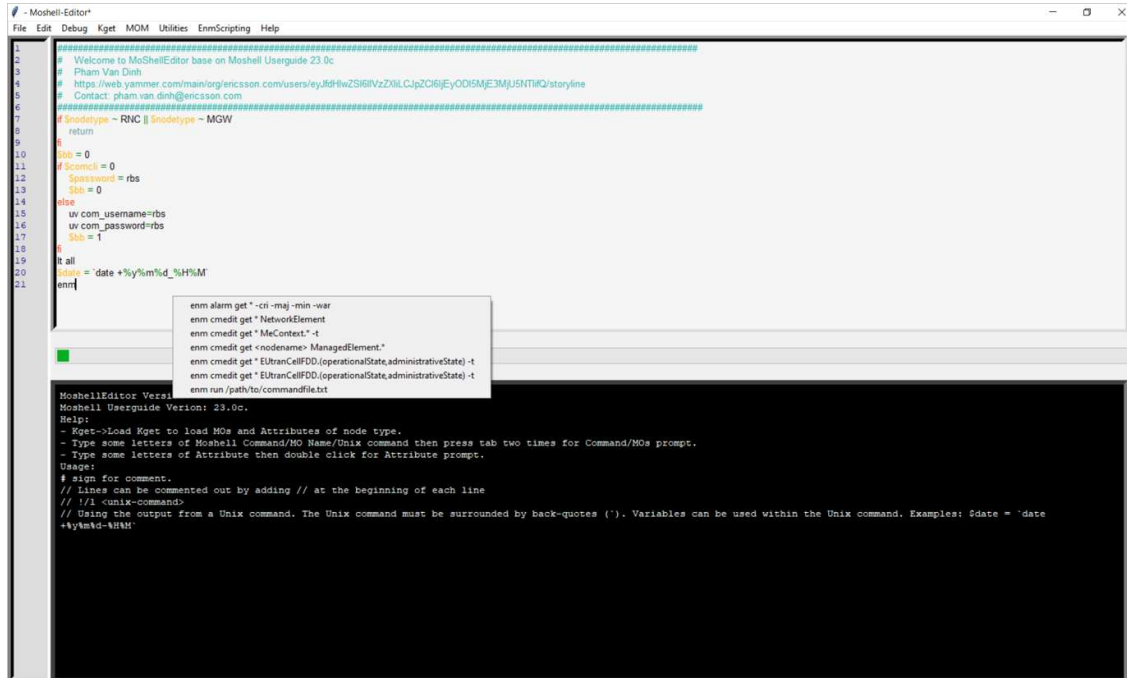
The screenshot shows the Moshell-Editor interface. The main editor displays a code snippet for EutranCellFDD. A dropdown menu is open, showing a list of attributes: additionalFreqBandList, additionalMultipleNSPmax, additionalPimnAlarmSuppList, additionalPimnList, additionalPimnReservedList, additionalSpectrumEmissionValue, additionalUpperLayerIndList, and pncAdditionalFreqBandList. The 'add' attribute is highlighted in the dropdown.

- Type for/if/func!unixcommand/ l unixcommand/` then press space the auto prompt will be appeared.

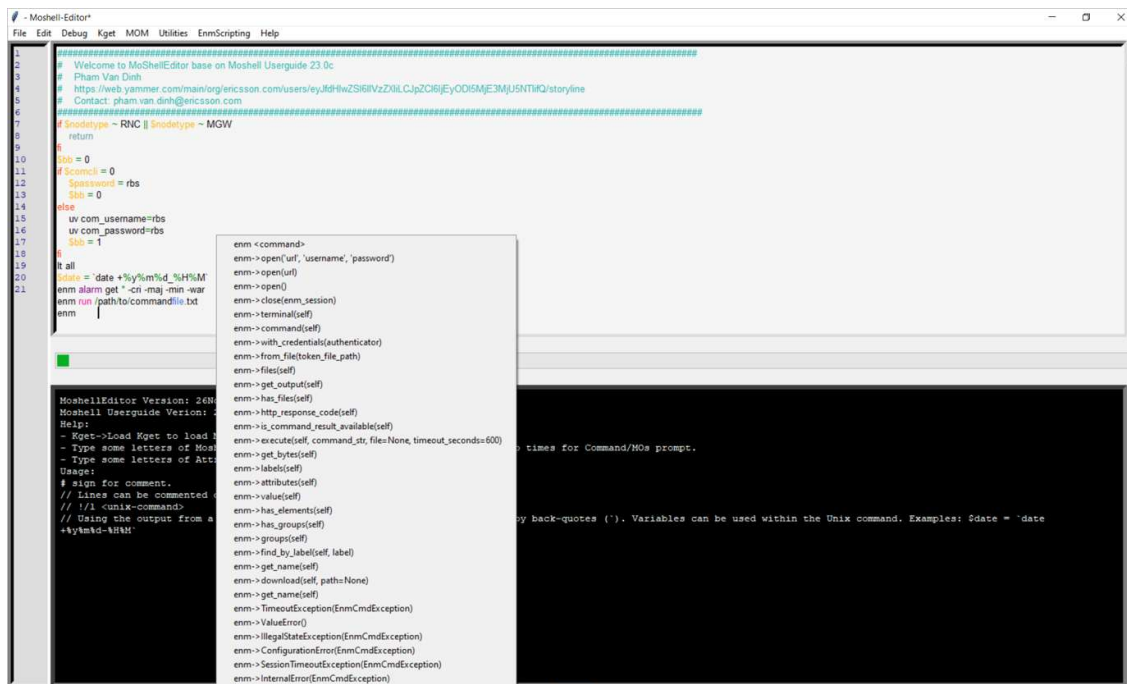
1. Check construct syntax of “func”.

The screenshot shows the Moshell-Editor interface. The main editor displays a code snippet for EutranCellFDD. A dropdown menu is open, showing the syntax for the 'func' construct: func <function name> endfunc. The dropdown also shows a list of attributes: additionalFreqBandList, additionalMultipleNSPmax, additionalPimnAlarmSuppList, additionalPimnList, additionalPimnReservedList, additionalSpectrumEmissionValue, additionalUpperLayerIndList, and pncAdditionalFreqBandList.

- Type “enm” then press space the auto prompt will be appeared.



- Type “enm” then press tab two times the list of enm command, enmscripting function listed.



- To check MOs, Attributes description/value.

1. Type MO name then right click on it the mom “moname” prompt appears click on it the description will appear on help window.

The screenshot shows the Moshell-Editor application with a script for connecting to a remote host via SSH. The script includes comments and variables for host, user, and port. A 'vianport' button is visible at the bottom of the editor window.

```

1  # Moshell-Editor*
2  File Edit Debug Kget MOM OmsScripting Help
3  # Welcome to MoShellEditor base on Moshell Userguide 23.0c
4  # Pham Van Dinh
5  # https://web.yammer.com/main/org/enicsson.com/users/eyJkdHlwZSI6ImVZaXRLCjZpZC9EYjY0OjMjE3MjU5NTMwL3RyZ291bnQ/|storyline
6  # Contact pham.van.dinh@enicsson.com
7  # $nodetype - RNC || $nodetype - MGW
8  return
9
10 # $nb = 0
11 # $scmcli = 0
12 # $password = rbs
13 # $u = 0
14 else
15   uv com_username=rbs
16   uv com_password=rbs
17   $u = 1
18
19 # all
20 $date = 'date +%y%m%d_%H%M'
21
vianport
  
```

Below the editor window, there is a black terminal window showing the MoshellEditor Version: 26Nov2023 and Moshell Userguide Version: 23.0c. It also displays help text and usage instructions.

```

MoshellEditor Version: 26Nov2023
Moshell Userguide Version: 23.0c.

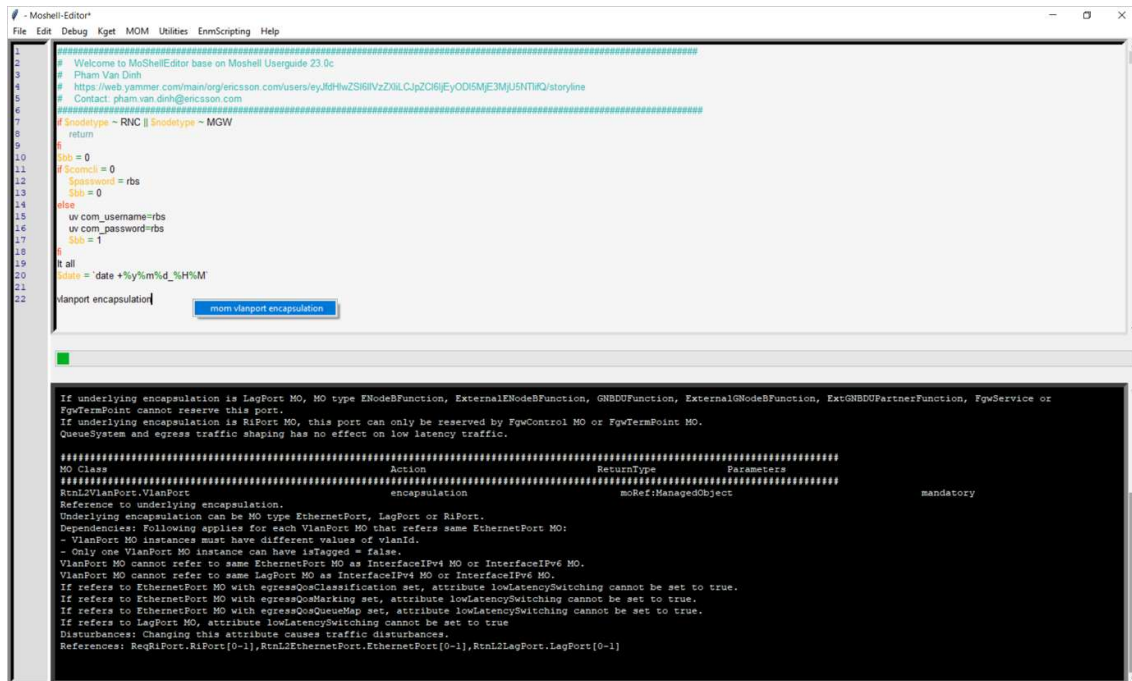
help:
- Kget->Load Kget to load MOs and Attributes of node type (Default are EVO RNC & Baseband kgets loaded).
- Type some letters of Moshell Command/MO Name/Unix command then press tab two times for Command/MOs prompt.
- Type some letters of Attribute then double click for Attribute prompt.
- Right click to get result of command in debug mode or get MO/Attribute description.

Usage:
# sign for comment.
Lines can be commented out by adding // at the beginning of each line
#!/ <unix-command>/python
Examples: 'python path/to/yourfile/callpythonscript.py
Using the output from a Unix command. The Unix command must be surrounded by back-quotes ('').
Variables can be used within the Unix command. Examples: $date = 'date +%y%m%d_%H%M'
  
```

```
File Edit Debug Gnet Gnet MOM Utilities EnnScripting Help

1 #####
2 # Welcome to MoShellEditor base on MoShell Userguide 23.0c
3 # Pham Van Dinh
4 # https://web.yammer.com/main/org/enicsson.com/users/eyJkdHwZSi6IVzZ0LLCjZCjEjYjYODSjEjMjU5NTI0Ij/storyline
5 # Contact: pham.van.dinh@enicsson.com
6 #####
7 # $nodetype ~ RNC || $nodetype ~ MGW
8 return
9
10 #
11 # $ctrl = 0
12 # $password = rbs
13 # $id = 0
14 else
15   uv_com_username=rbs
16   uv_com_password=rbs
17   $id = 1
18
19 # all
20 # $date = 'date +%Y%m%d_%H%M'
21
22 vlanport
```

2. Type MO name Attribute name then right click on it the mom “moname attributename” prompt appears click on it; the description will appear on help window.

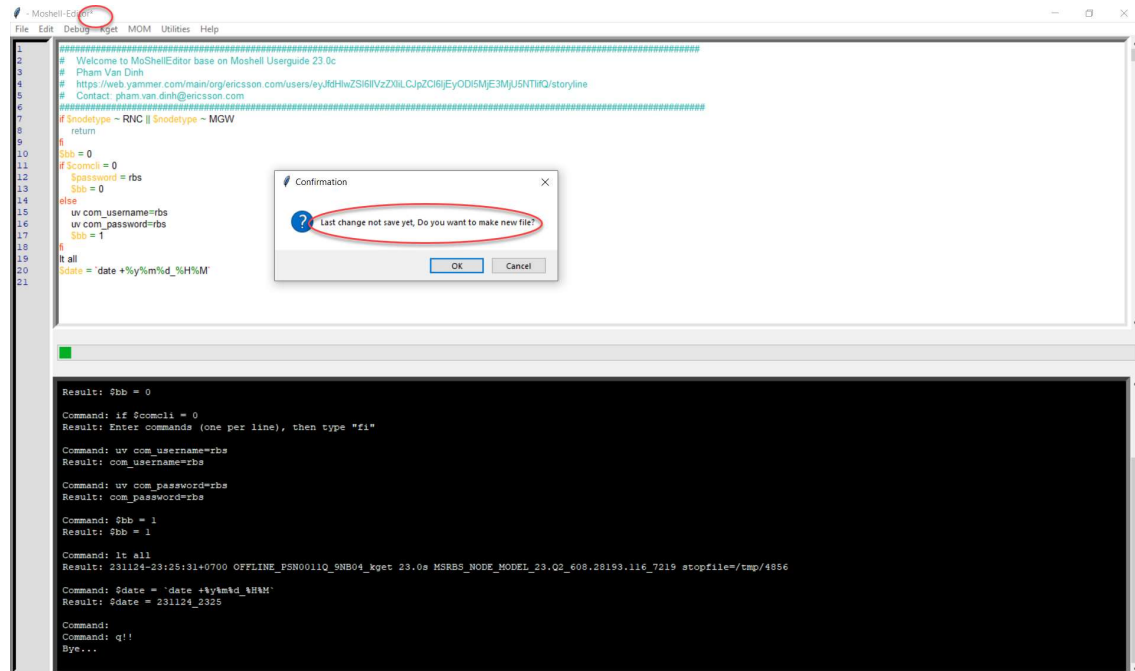


3.2 File



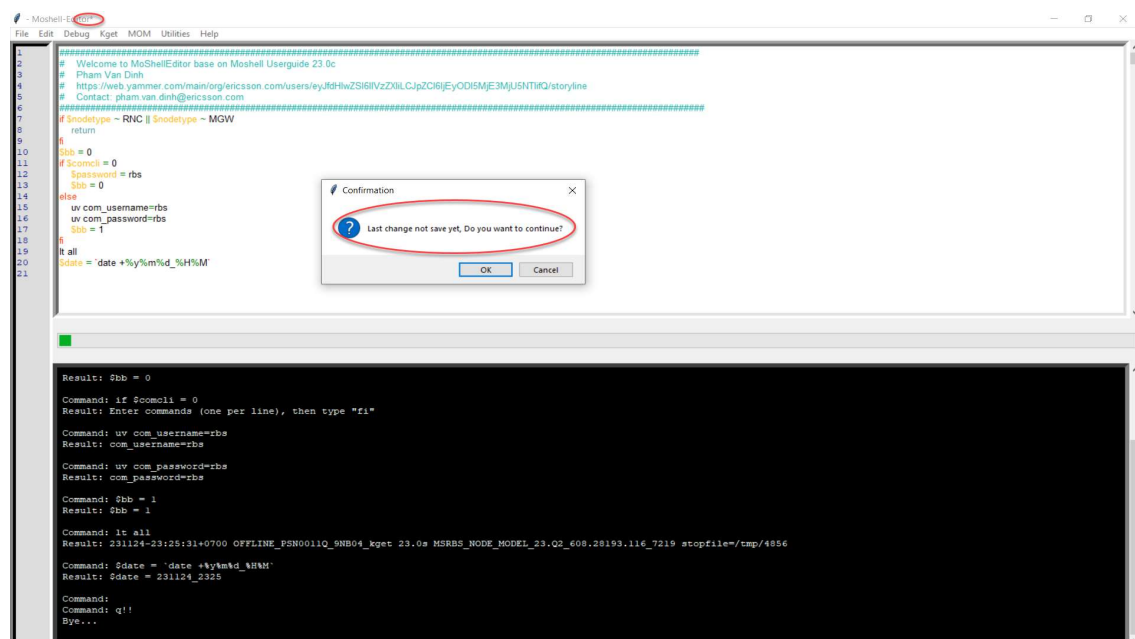
3.2.1 New - Ctrl + N

To Create the new edit window. If your script does not save yet, then confirmation display as below.



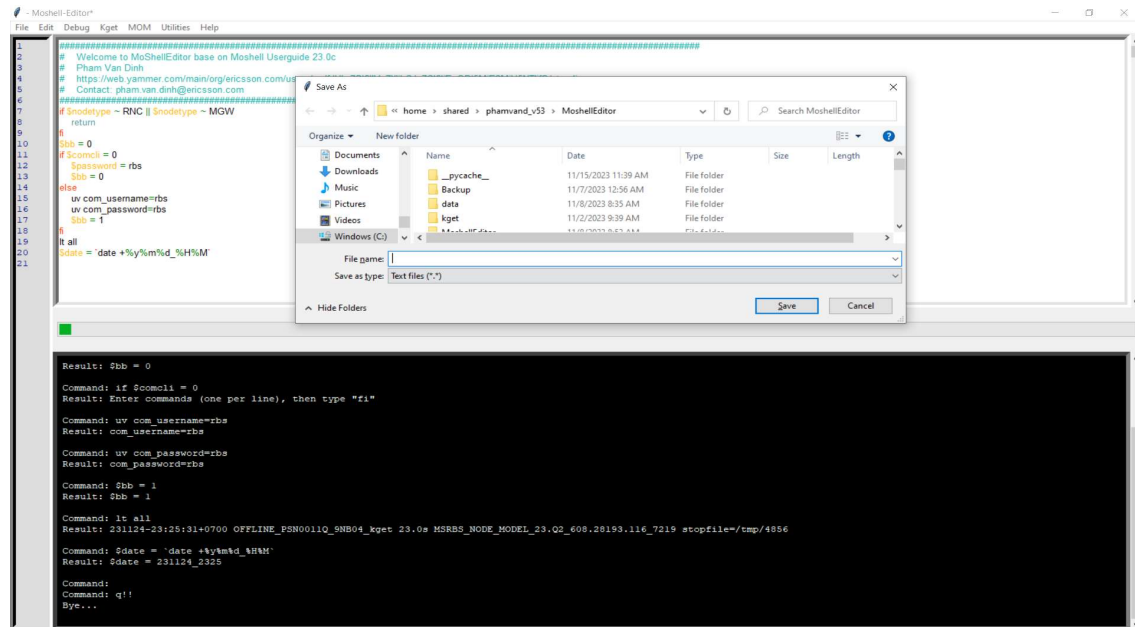
3.2.2 Open - Ctrl + O

To Open the script file. If your script does not save yet, then confirmation display as below.



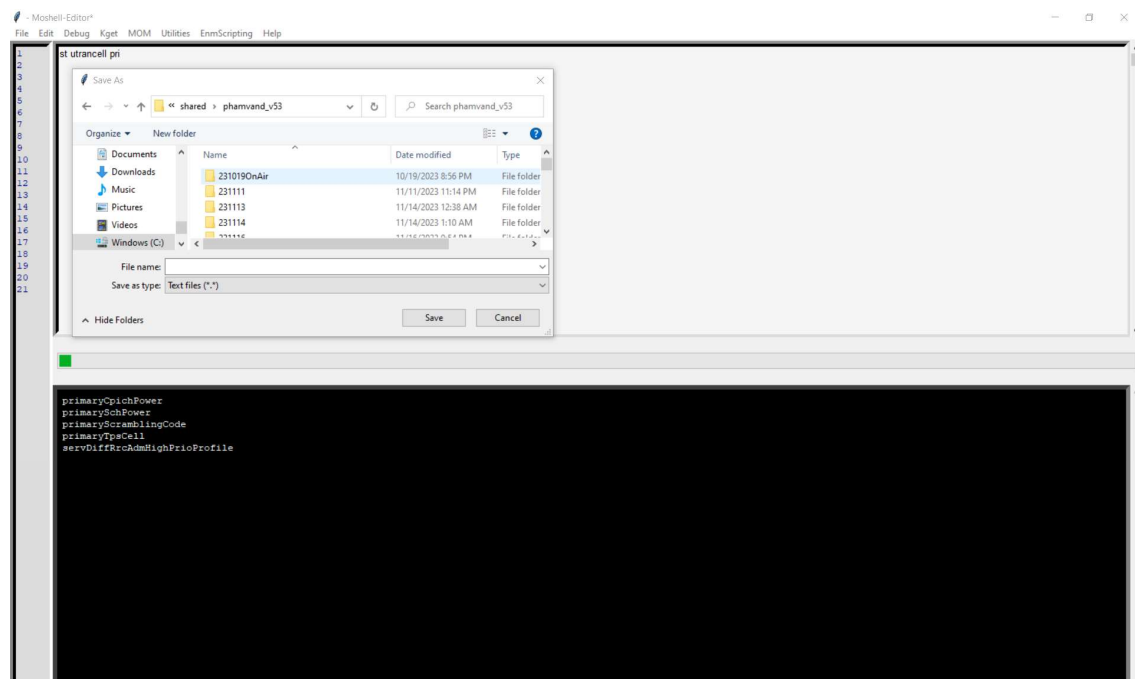
3.2.3 Save - Ctrl + S

To Save the script file. If your script does not name yet, then ask to name your script if your script already named then it auto saves to existing script file.



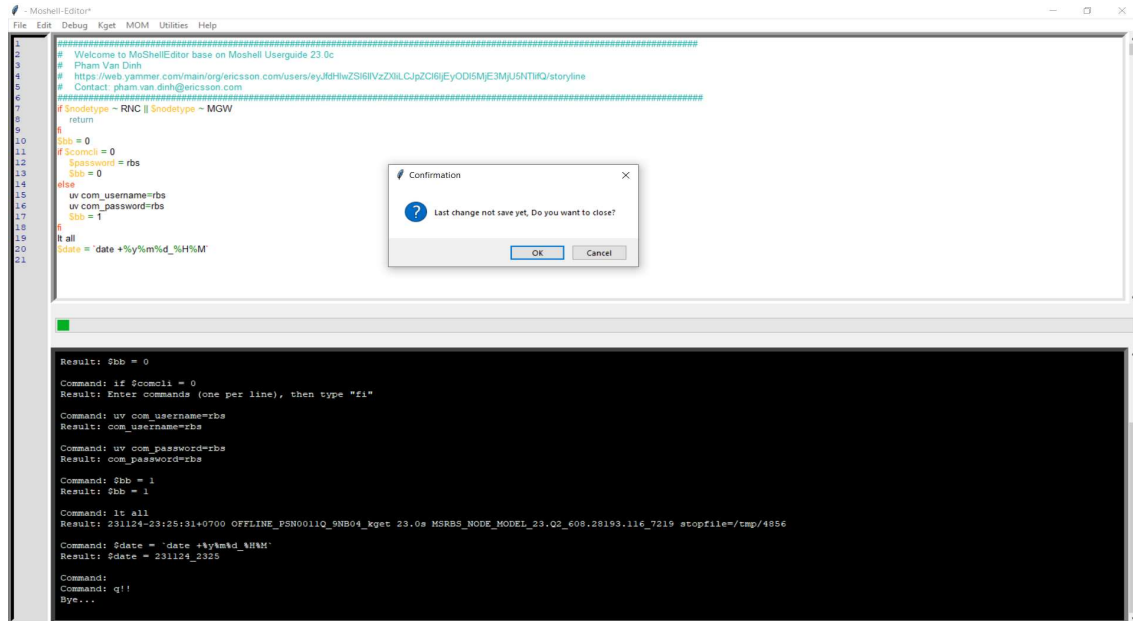
3.2.4 Save As

To Save the script file with other name, press Save As.



3.2.5 Exit

To Exit the tool. If your script does not save yet. Then confirmation display as below.

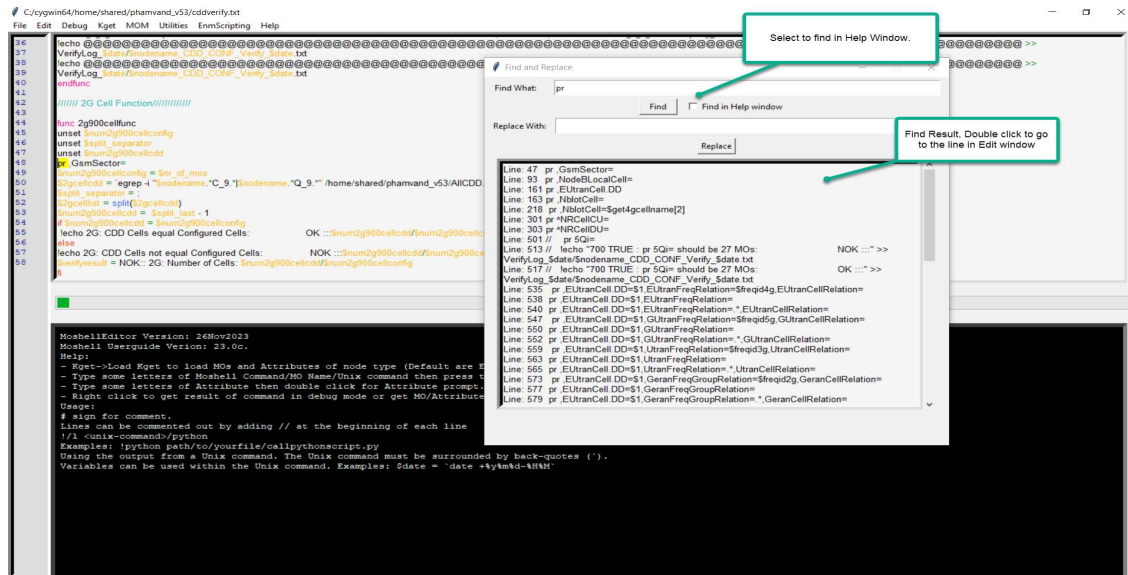


3.3 Edit



3.3.1 Find - Ctrl + F

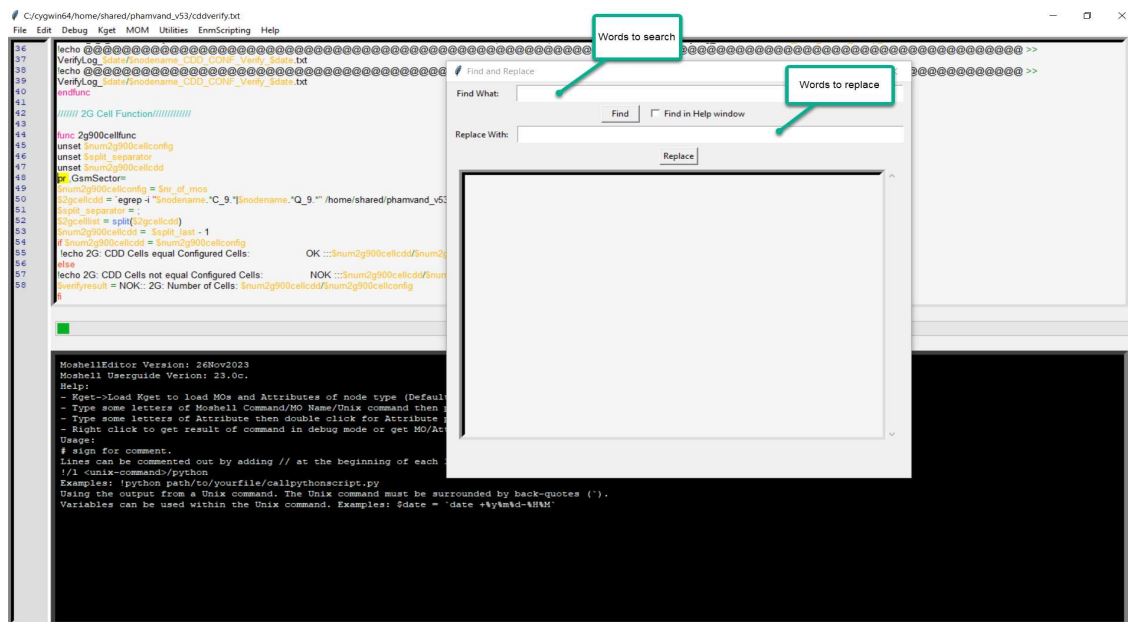
To find words in edit window.



In find result window. Double click on the result line to go to the line in Edit window.

3.3.2 Replace - Ctrl + R

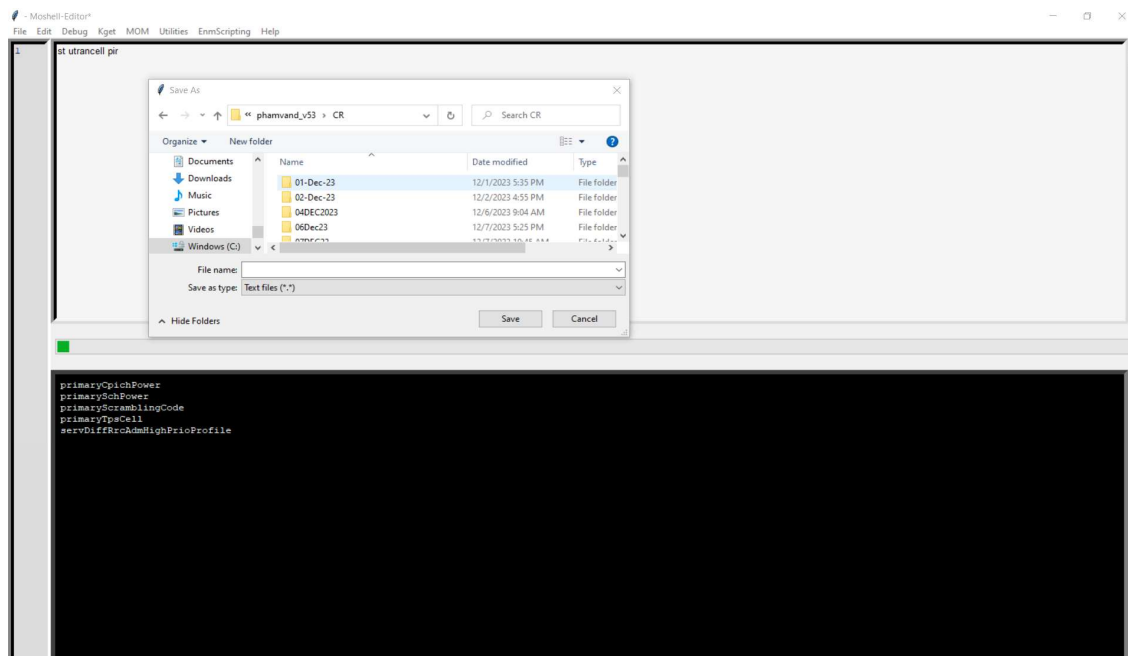
To search and replace the words in edit window.



Note: Ctrl + Z to undo.

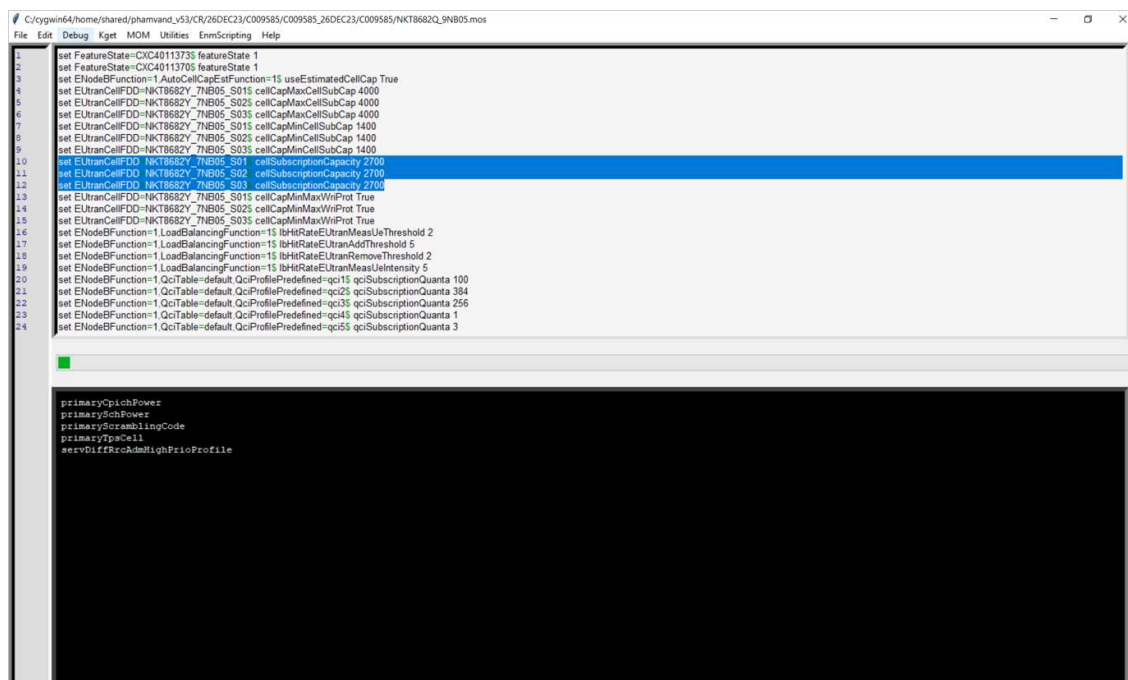
3.3.3 Save Output - Ctrl + T

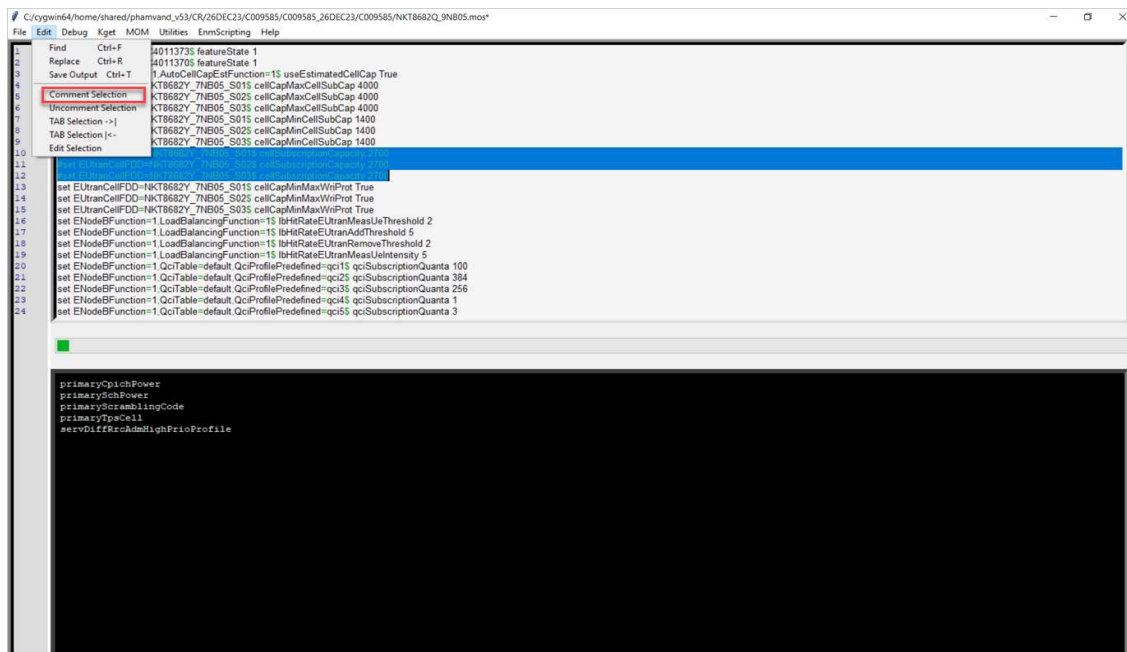
To Save the information in Help Window to the text file.



3.3.4 Comment Selection

To comment the selected lines.



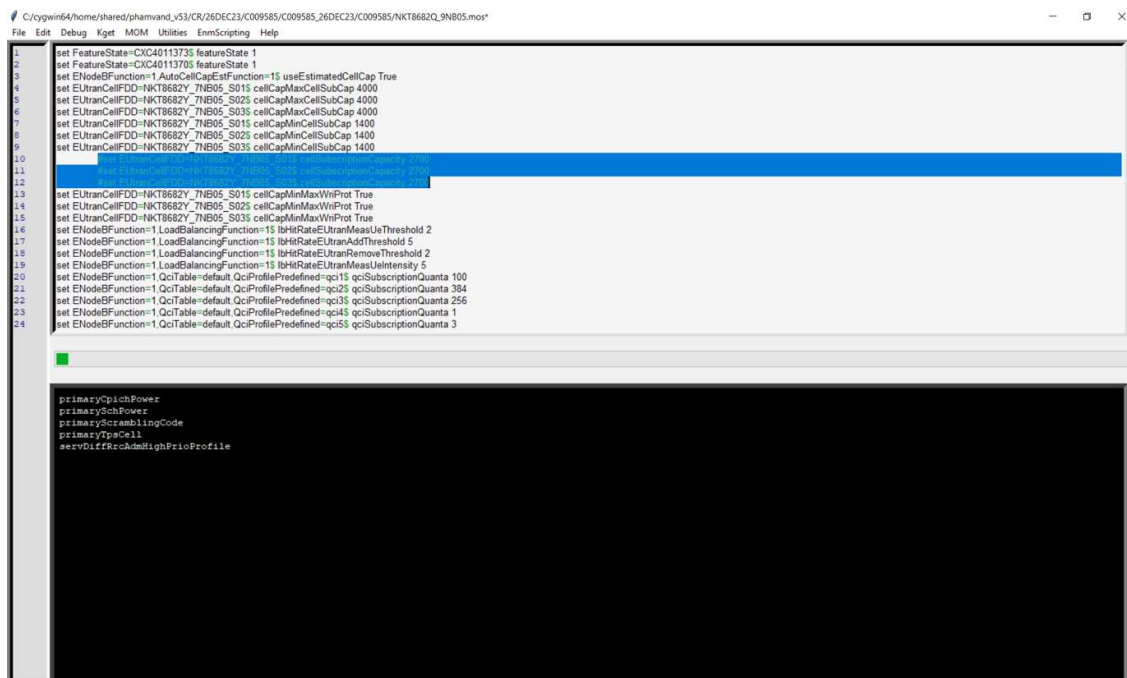


3.3.5 Uncomment Selection

Same with Comment but it will uncomment the selected lines.

3.3.6 TAB Selection ->

Same with Comment but it will add the <tab> to the selected lines.

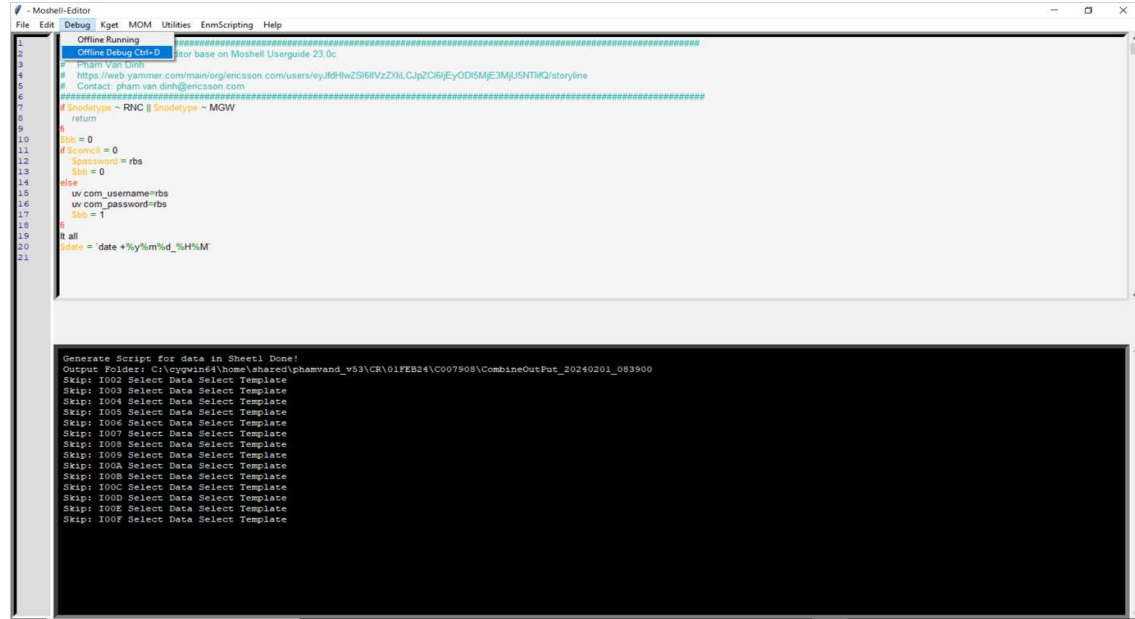


3.3.7 TAB Selection |<-

Same with Comment but it will be <untab> the selected lines.

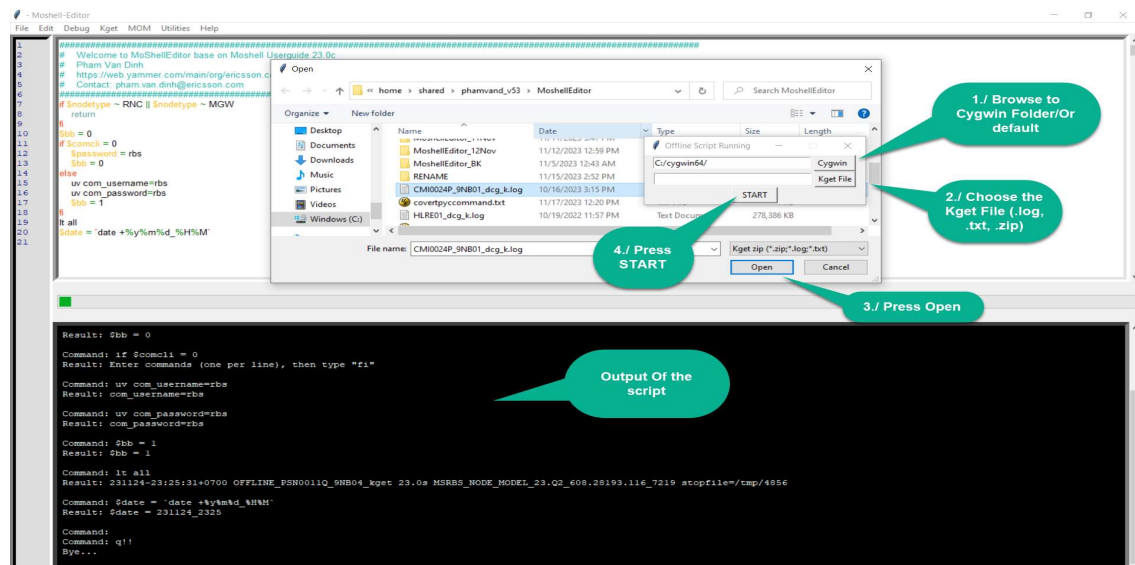
3.4 Debug

To help users easy checking their scripts and find the bugs.

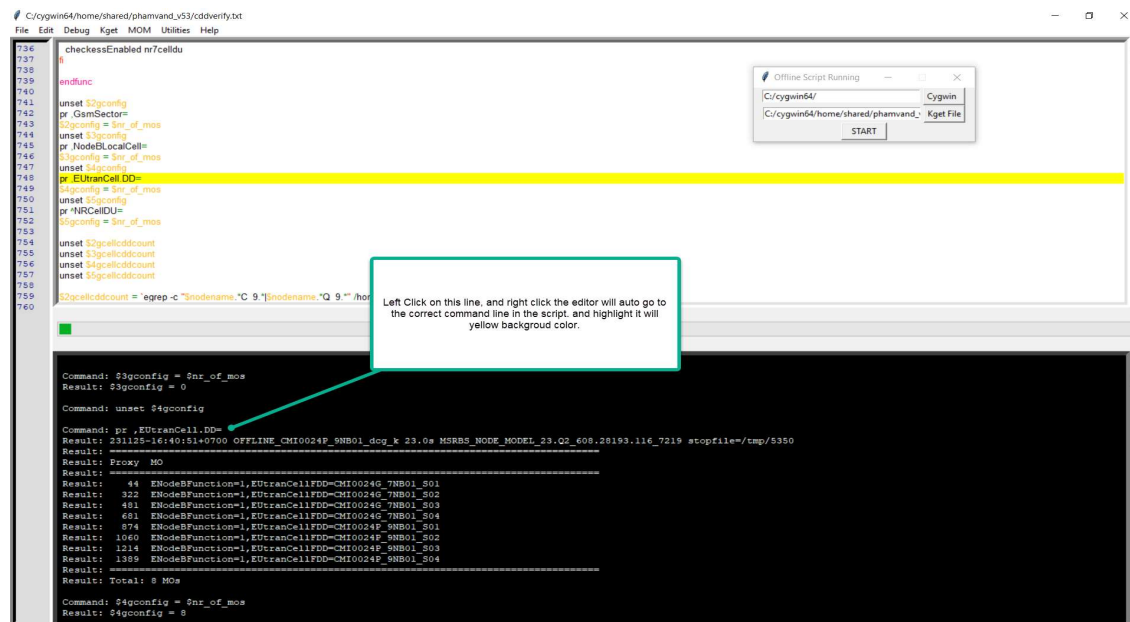


3.4.1 Offline Running

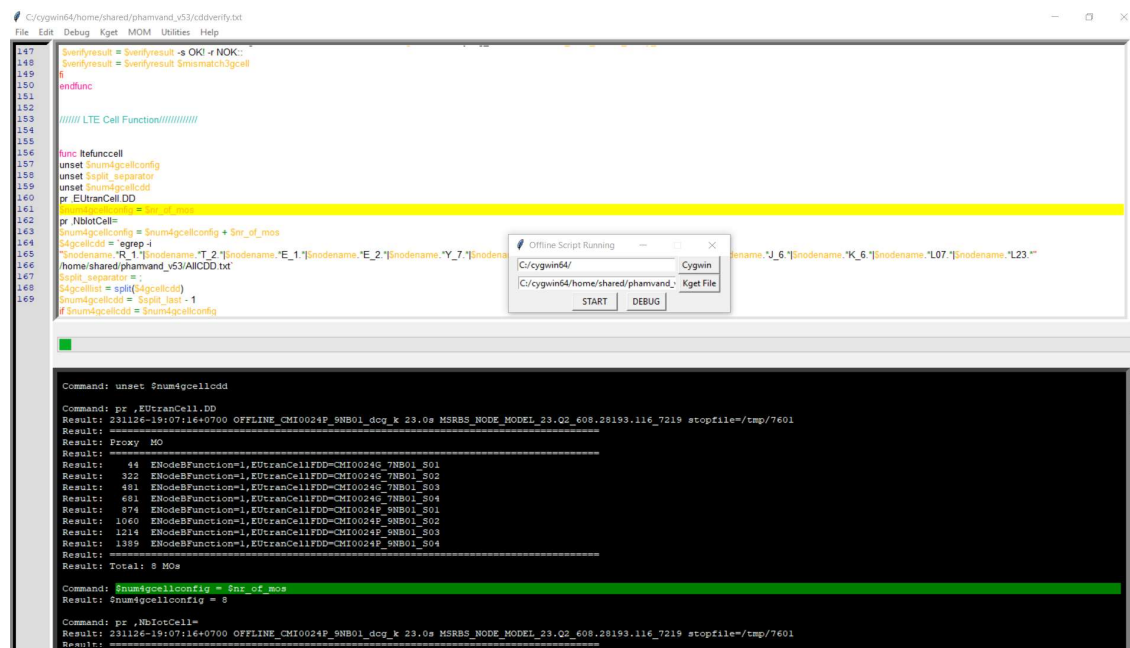
Allow users to run their script from the kget file and present the result to help window.



To search command and printout in the output window is result of which line in the script users left click on the command on the help window and right click. The result will be display as below.



To run step by step press “DEBUG” button. It will go through each command and highlight with yellow background colour in edit window and highlight the output of that command in help window with green background colour as below.



If in the script needs userinput then the message will appear, input your answer to textbox and press “Submit”.

The screenshot shows the MoshellEditor interface with a script being executed. A dialog box titled "Read User Input" is displayed, asking "Do you want to continue?". The script content is as follows:

```

1 # https://web.yammer.com/main/org/ericsson.com/users/eyJldHlwZSh0VzZ0LjZpZC9jEjYODi5MjE3MjU5NTI0Q/storyline
2 # Contact: pham.van.dinh@ericsson.com
3 =====
4 # $nodetype ~ RNC || $nodetype ~ MGW
5 return
6
7 $bb = 0
8 # $confirm = 0
9 $password = rbs
10 $bb = 0
11 else
12   uv com_username=rbs
13   uv com_password=rbs
14   $bb = 1
15
16 # $date = "date +%Y%m%d_%H%M"
17
18 # $confirm = readinput(Do you want to continue?)
19 $confirm = readinput(Do you want to continue?)
20 # $confirm ~ {yY}
21   !echo "User Yes"
22 else
23   !echo "User No"
24
25 OFFLINE_CHI0024P_9NB01_DOG_K> uv com_username=rbs
26 com_username=rbs
27 OFFLINE_CHI0024P_9NB01_DOG_K> uv com_password=rbs
28 com_password=rbs
29 OFFLINE_CHI0024P_9NB01_DOG_K> $bb = 1
30 $bb = 1
31 OFFLINE_CHI0024P_9NB01_DOG_K> !t all
32 231129-11:32:11+0700 OFFLINE_CHI0024P_9NB01_dog_k_23.0a MSRBS_NODE_MODEL_23.Q2_608.20193.116_7219 stopfile=/tmp/15774
33 OFFLINE_CHI0024P_9NB01_DOG_K> $date = "date +%Y%m%d_%H%M"
34 $date = 231129_1132
35 OFFLINE_CHI0024P_9NB01_DOG_K>
36 OFFLINE_CHI0024P_9NB01_DOG_K> # $confirm = readinput(Do you want to continue?)

```

The screenshot shows the MoshellEditor interface with the script execution continuing. A dialog box titled "Offline Script Running" is displayed, showing the script's progress. The script content is as follows:

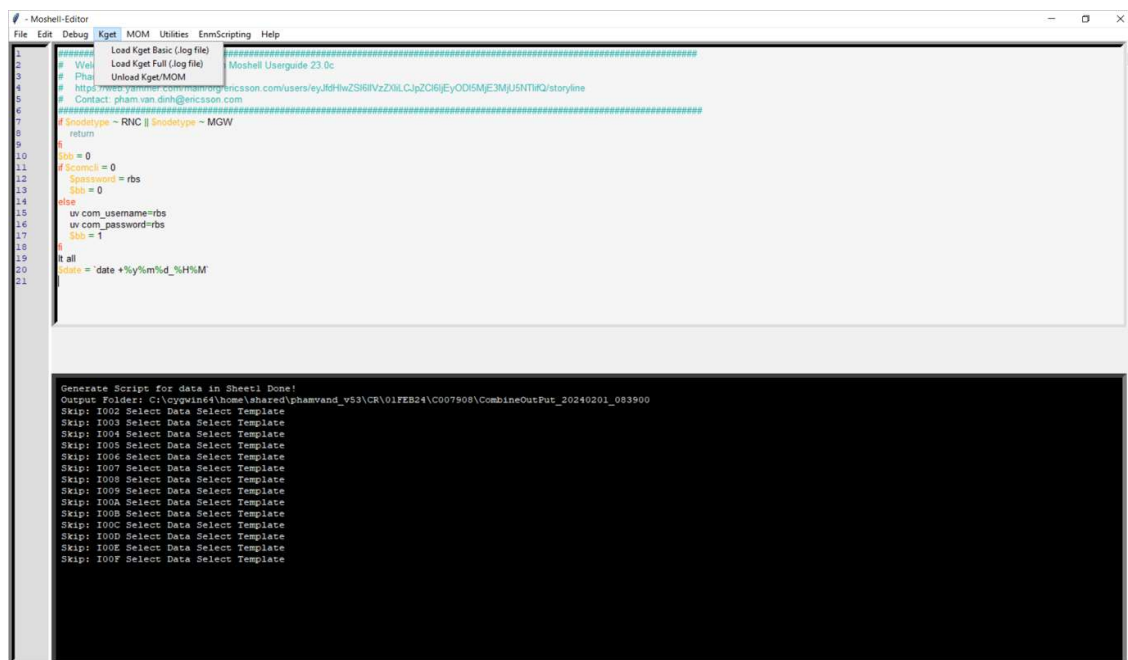
```

1 # https://web.yammer.com/main/org/ericsson.com/users/eyJldHlwZSh0VzZ0LjZpZC9jEjYODi5MjE3MjU5NTI0Q/storyline
2 # Contact: pham.van.dinh@ericsson.com
3 =====
4 # $nodetype ~ RNC || $nodetype ~ MGW
5 return
6
7 $bb = 0
8 # $confirm = 0
9 $password = rbs
10 $bb = 0
11 else
12   uv com_username=rbs
13   uv com_password=rbs
14   $bb = 1
15
16 # $date = "date +%Y%m%d_%H%M"
17
18 # $confirm = readinput(Do you want to continue?)
19 $confirm = readinput(Do you want to continue?)
20 # $confirm ~ {yY}
21   !echo "User Yes"
22 else
23   !echo "User No"
24
25 OFFLINE_CHI0024P_9NB01_DOG_K> uv com_username=rbs
26 com_username=rbs
27 OFFLINE_CHI0024P_9NB01_DOG_K> uv com_password=rbs
28 com_password=rbs
29 OFFLINE_CHI0024P_9NB01_DOG_K> $bb = 1
30 $bb = 1
31 OFFLINE_CHI0024P_9NB01_DOG_K> !t all
32 231129-11:32:11+0700 OFFLINE_CHI0024P_9NB01_dog_k_23.0a MSRBS_NODE_MODEL_23.Q2_608.20193.116_7219 stopfile=/tmp/15774
33 OFFLINE_CHI0024P_9NB01_DOG_K> $date = "date +%Y%m%d_%H%M"
34 $date = 231129_1132
35 OFFLINE_CHI0024P_9NB01_DOG_K>
36 OFFLINE_CHI0024P_9NB01_DOG_K> # $confirm = readinput(Do you want to continue?)
37 OFFLINE_CHI0024P_9NB01_DOG_K> if $confirm ~ "{yY}"
38   Enter commands (one per line), then type "fi"
39   > !echo "User Yes"
40   > else
41     !echo "User No"
42   > fi
43 OFFLINE_CHI0024P_9NB01_DOG_K> !echo "User Yes"
44 User Yes
45 OFFLINE_CHI0024P_9NB01_DOG_K> q!
46 Bye...

```

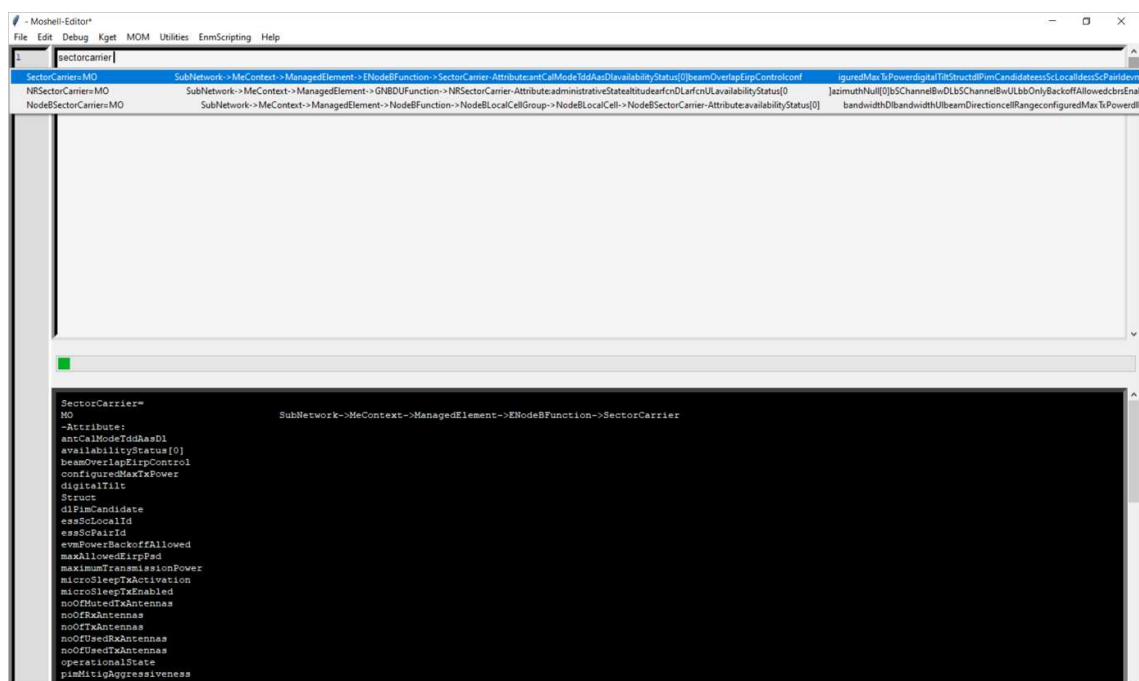
3.5 Kget

Use to load/unload kget of the node type.



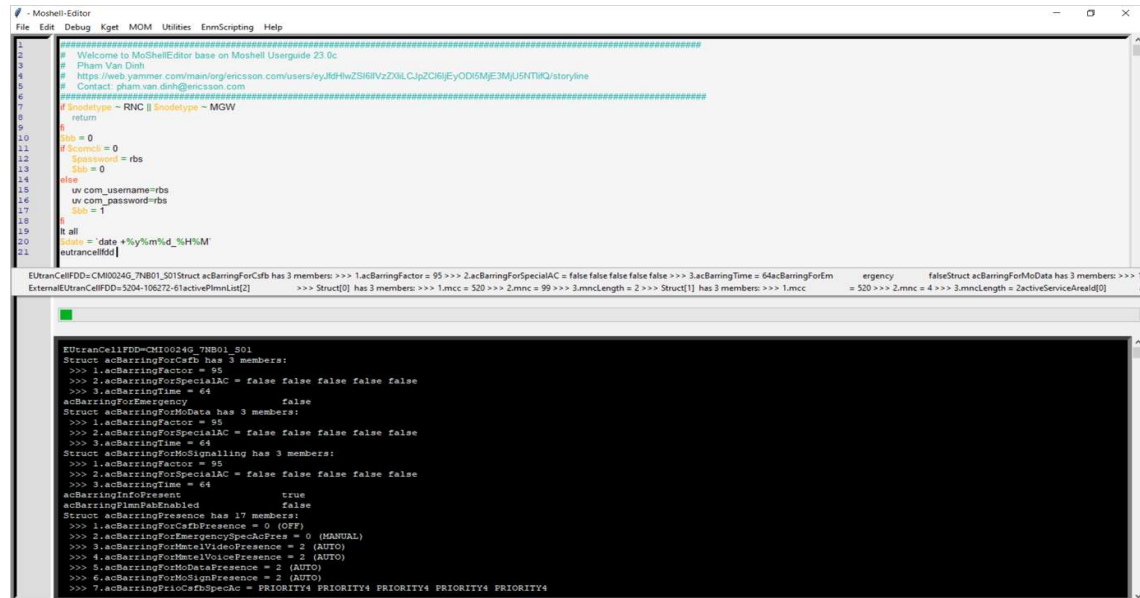
3.5.1 Load Kget Basic (.log file)

Just take the MO types and its attributes.



3.5.2 Load Kget Full (.log file)

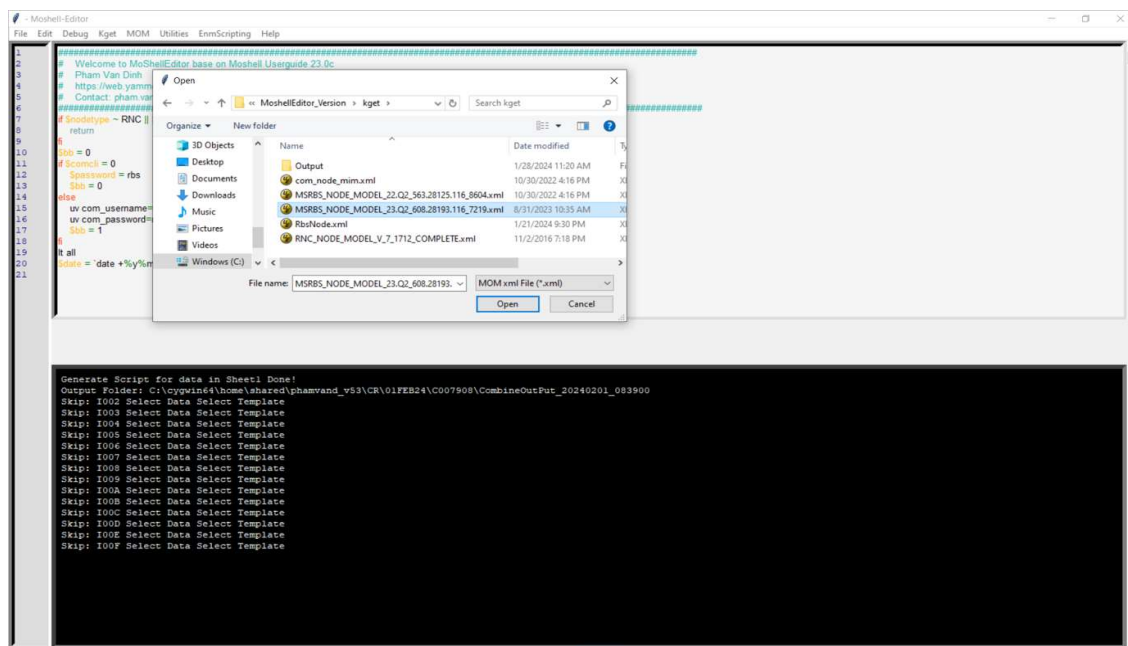
Take all MO types (each type one MO), its attributes, and values.



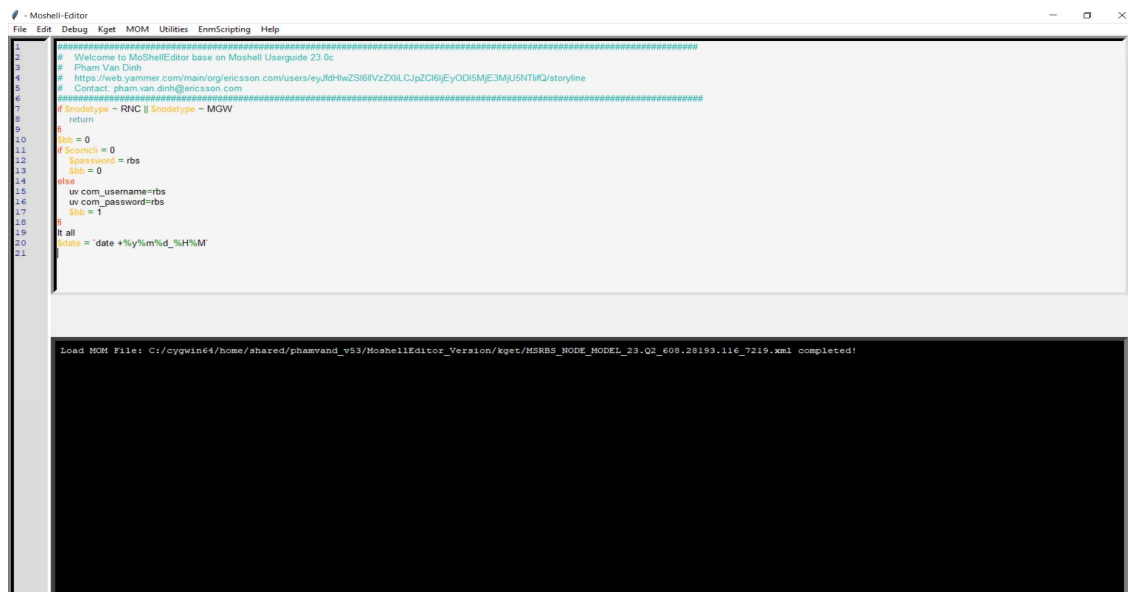
```
File Edit Debug Kget MOM Utilities EmuScripting Help
1 Welcome to MoshellEditor base on Moshell Userguide 23.0c
2 Pham Van Dinh
3 https://web.yammer.com/main/ericsson.com/users/eyJ0bWZSbGVVZXRlCjZCZGJlYyODM3MjU5NTBQ/storyline
4 Contact pham.van.dinh@ericsson.com
5
6 =====
7 # $modeType ~ RNC || $modeType ~ MGSW
8 return
9
10 $obj = 0
11 if $success = 0
12   $password = rbs
13   $obj = 0
14 else
15   uv.com_username=rbs
16   uv.com_password=rbs
17   $obj = 1
18
19 if all
20   $data = 'data + %y%im%d_%H%M'
21   $data = $data + %y%im%d_%H%M'
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3.6.1 Load MOM (.xml file)

Select .xml file to load as below:



After loading complete. The information in help window as below.

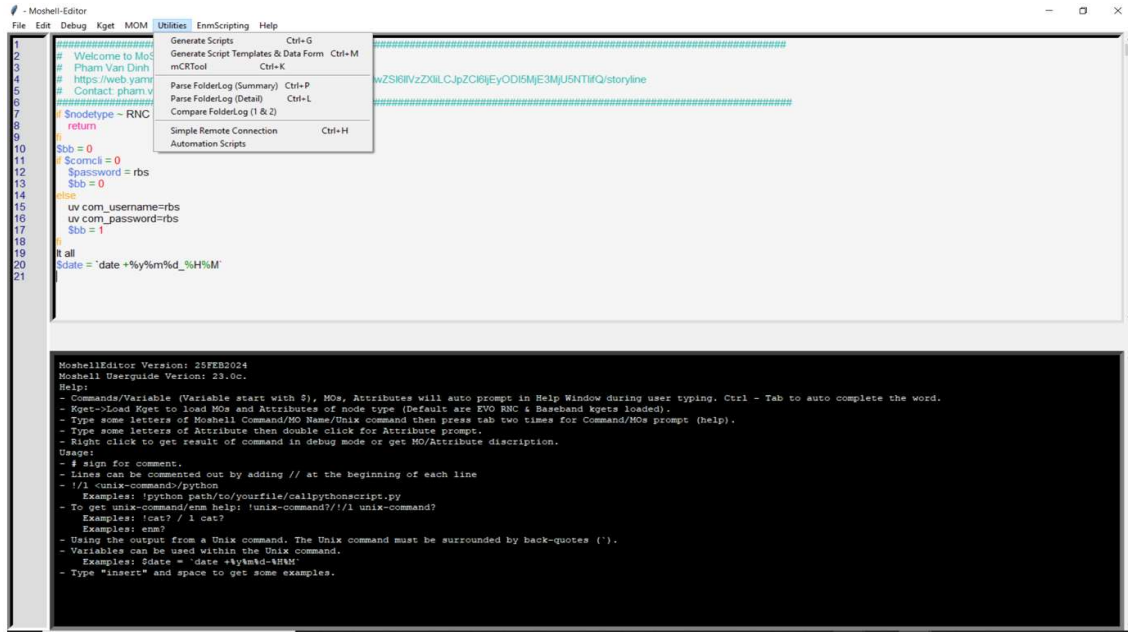


3.6.2 Update MOs/Attributes

This function allows user to delete old MOs/Attributes/Actions in prompt list and update new MOs/Attributes/Actions base on MOM xml file.

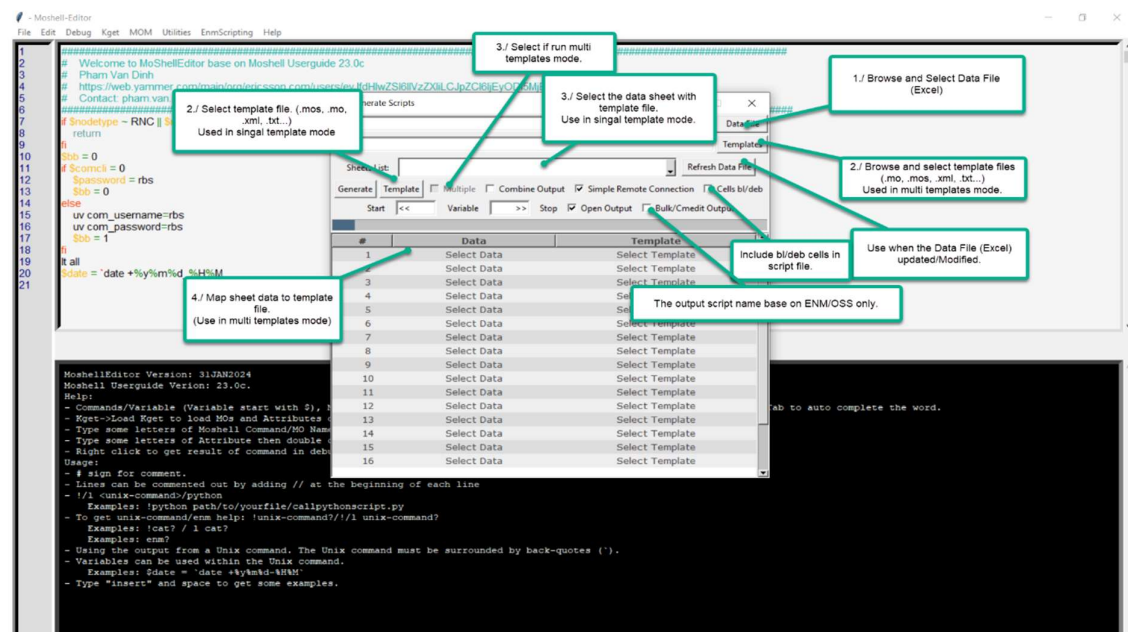
3.7 Utilities

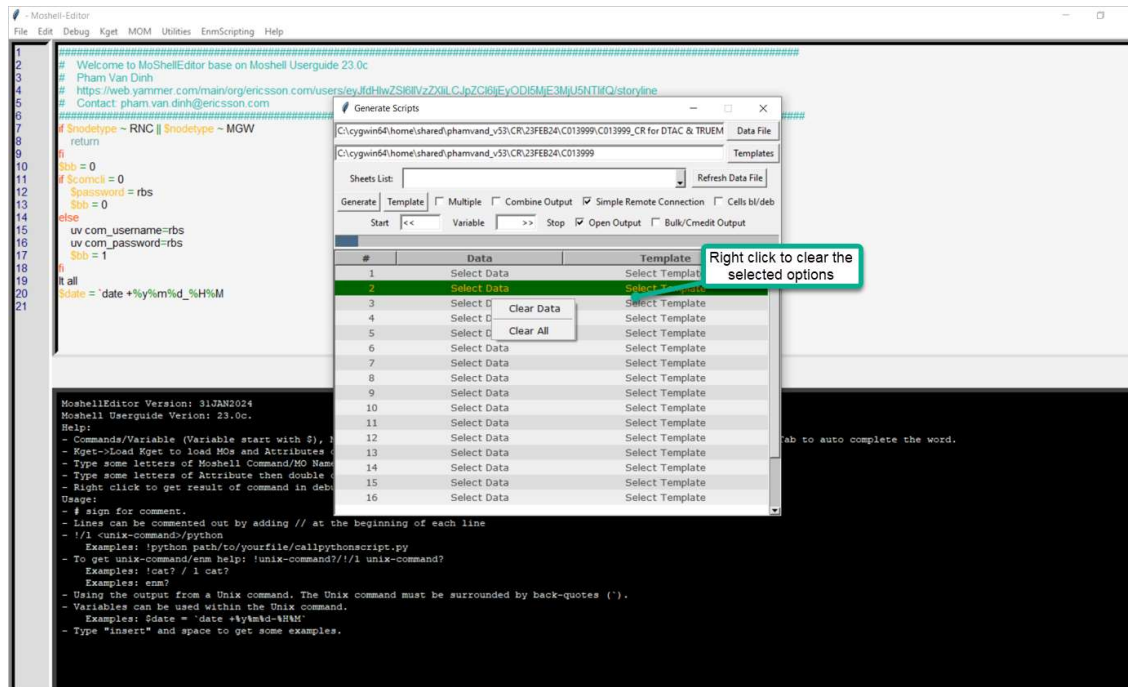
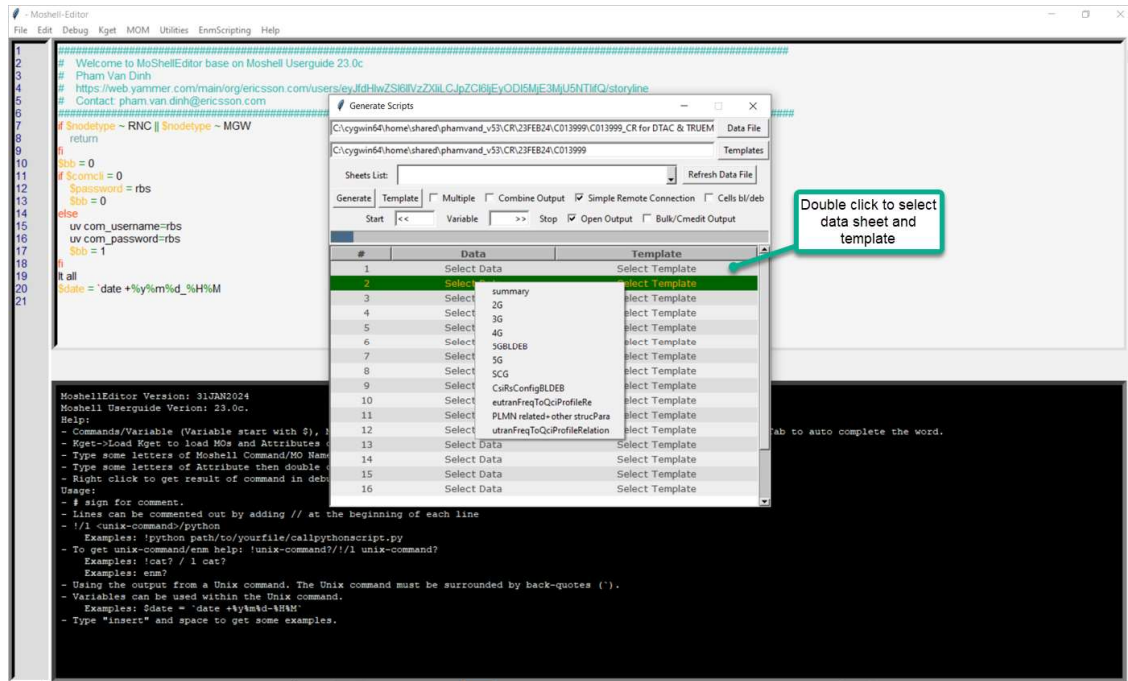
Some Utilities help users to handle their daily tasks regarding to Moshell.



3.7.1 Generate Script – Ctrl + G

To generate scripts base on templates (.mos, .mo, .txt, .xml) and data from RF team (excel file).





Template: Build with below format (Default: Start variable with <<, Stop variable with >>). User can change default start and Stop Variable to user defined.

```

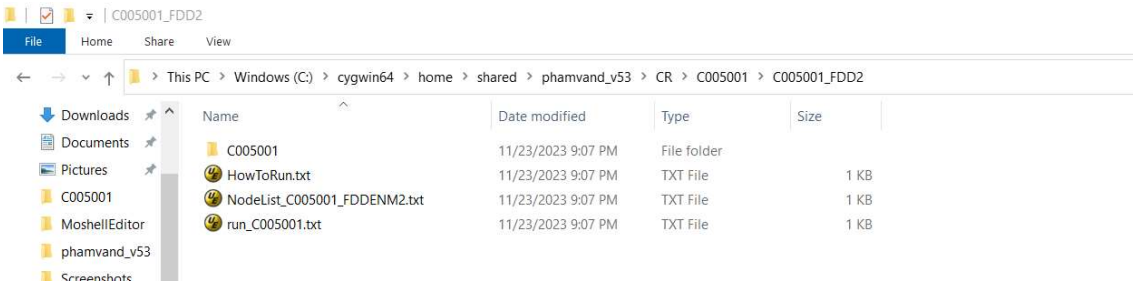
00_ADD_Anchor_ExternalGNODEB.mos - Notepad
File Edit Format View Help
crn ENodeBFunction=1, GUtraNetwork=1, ExternalGNODEBFunction=<<ExternalGNODEBFunction id>>
gNodeBId <<gNodeBId>>
gNodeBIdLength <<gNodeBIdLength>>
gNodeBPlmnId mnc=<<mnc>>, mnc=<<mnc>>, mncLength=<<mncLength>>
userLabel
end

crn ENodeBFunction=1, GUtraNetwork=1, ExternalGNODEBFunction=<<ExternalGNODEBFunction id>>, TermPointToGN
administrativeState 1
domainName
ipAddress <<TermPoint ipAddress>>
ipsecEpAddress ::
ipv6Address ::
upIpAddress ::
end
  
```

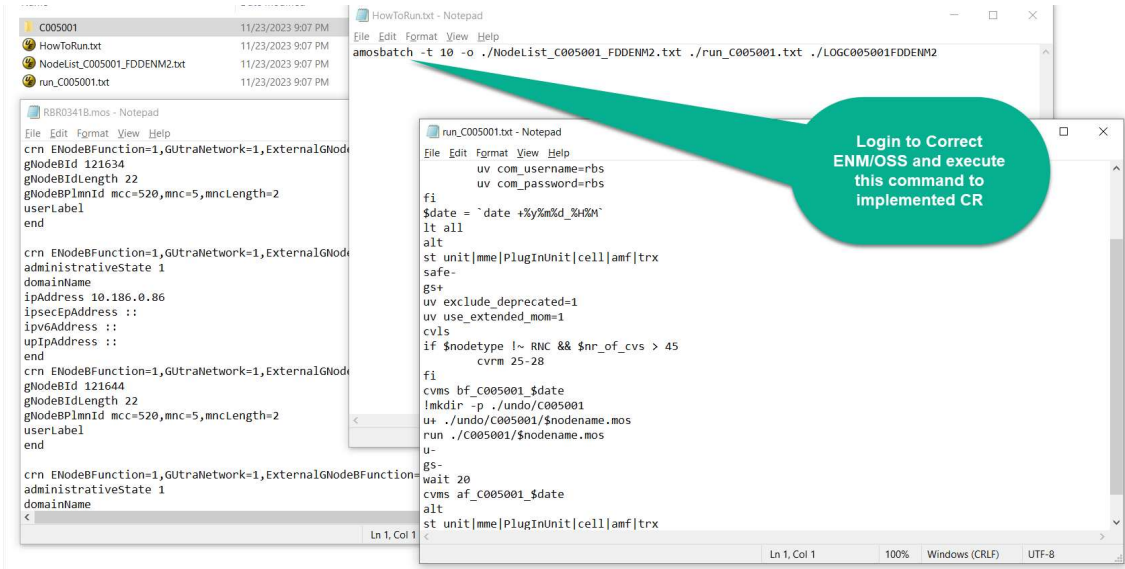
Data File: Should follow below format with 3 first columns are mandatory.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R
CR No	Node Name	ENM/OSS	ExternalGNODEBFunction	gNodeBId	gNodeBIdLength	mnc	mnc	mncLength	TermPointToGN	TermPointIpAddress	ExternalGNODEBFunction	arfcn	band	ipsecSec	smcPeriodicity	smcOffset	smcDuration
1	C005001	RBR0341B	FDDENM2	FCBC022Q_9NB03	121634	22	520	5	2	FCBC022Q_9NB03	10.186.0.86	154570-15	154570	28	15	20	0
2	C005001	RBR0341D	FDDENM2	FCBC022Q_9NB03	121634	22	520	5	2	FCBC022Q_9NB03	10.186.0.86	154570-15	154570	28	15	20	0
3	C005001	RBR0341B	FDDENM2	FCBC022Q_9NB04	121644	22	520	5	2	FCBC022Q_9NB04	10.186.0.90	154570-15	154570	28	15	20	0
4	C005001	RBR0341D	FDDENM2	FCBC022Q_9NB04	121644	22	520	5	2	FCBC022Q_9NB04	10.186.0.90	154570-15	154570	28	15	20	0

Output Folder: Output folder content CR number folder (Column A) File NodeList_CR#_ENMName.txt (Column B and C) group all sites belong to the same ENM/OSS and save to file, Run_CRx.txt content the command pre/post check and execute the CR.



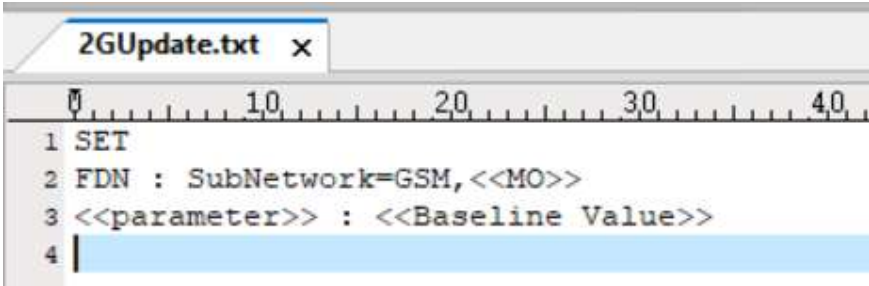
Detail of each file:



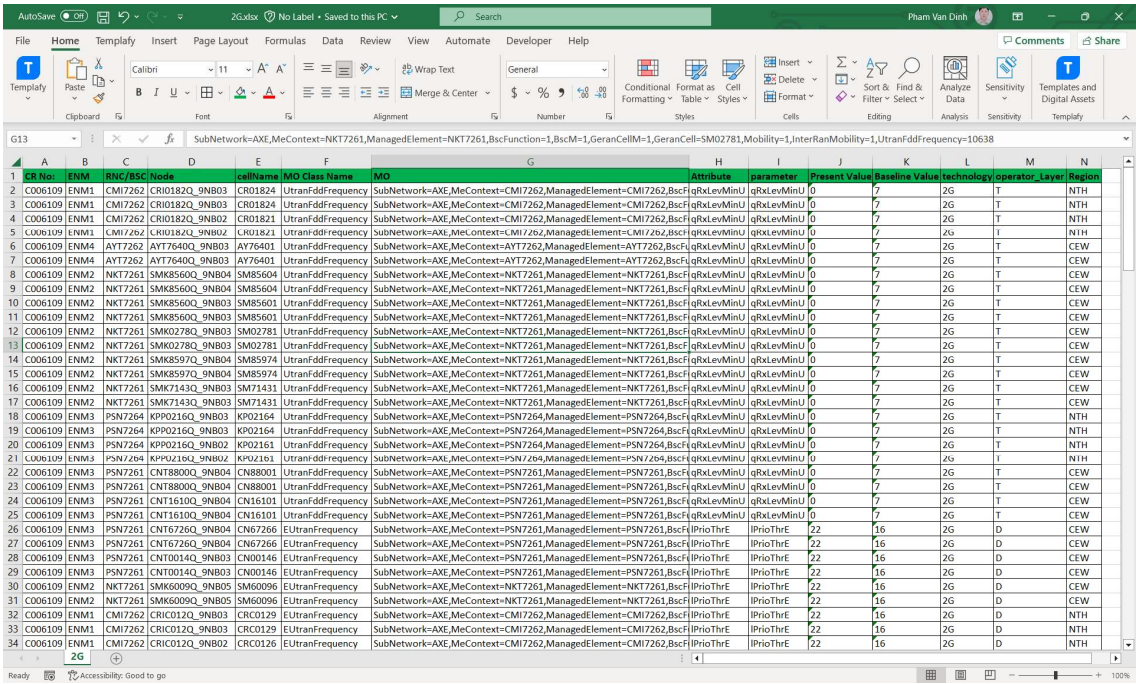
Note: Users want to use Bulk configure then just change the template to bulk template and tick on option ☒ Bulk/Credit Output.

Ex.

Template.



Data.



CR No	ENM	RNC/BSC	Node	cellName	MO Class Name	MO	Attribute	parameter	Present Value	Baseline Value	technology	operator	Layer	Region
2	C006109	ENM1	CM17262	CR0182Q_9NB03	CR01824	UtranFddFrequency	SubNetwork=AXE,MeContext=CM17262,ManagedElement=CM17262,BscF	qRxEvMinU	qRxEvMinU	0	7	2G	T	NTH
3	C006109	ENM1	CM17262	CR0182Q_9NB03	CR01824	UtranFddFrequency	SubNetwork=AXE,MeContext=CM17262,ManagedElement=CM17262,BscF	qRxEvMinU	qRxEvMinU	0	7	2G	T	NTH
4	C006109	ENM1	CM17262	CR0182Q_9NB03	CR01821	UtranFddFrequency	SubNetwork=AXE,MeContext=CM17262,ManagedElement=CM17262,BscF	qRxEvMinU	qRxEvMinU	0	7	2G	T	NTH
5	C006109	ENM1	CM17262	CR0182Q_9NB03	CR01821	UtranFddFrequency	SubNetwork=AXE,MeContext=CM17262,ManagedElement=CM17262,BscF	qRxEvMinU	qRxEvMinU	0	7	2G	T	NTH
6	C006109	ENM4	AYT7262	AYT7640Q_9NB03	AY76401	UtranFddFrequency	SubNetwork=AXE,MeContext=AYT7262,ManagedElement=AYT7262,BscF	qRxEvMinU	qRxEvMinU	0	7	2G	T	CEW
7	C006109	ENM4	AYT7262	AYT7640Q_9NB03	AY76401	UtranFddFrequency	SubNetwork=AXE,MeContext=AYT7262,ManagedElement=AYT7262,BscF	qRxEvMinU	qRxEvMinU	0	7	2G	T	CEW
8	C006109	ENM2	NKT7261	SMK8560Q_9NB04	SM85604	UtranFddFrequency	SubNetwork=AXE,MeContext=NKT7261,ManagedElement=NKT7261,BscF	qRxEvMinU	qRxEvMinU	0	7	2G	T	CEW
9	C006109	ENM2	NKT7261	SMK8560Q_9NB04	SM85604	UtranFddFrequency	SubNetwork=AXE,MeContext=NKT7261,ManagedElement=NKT7261,BscF	qRxEvMinU	qRxEvMinU	0	7	2G	T	CEW
10	C006109	ENM2	NKT7261	SMK8560Q_9NB03	SM85601	UtranFddFrequency	SubNetwork=AXE,MeContext=NKT7261,ManagedElement=NKT7261,BscF	qRxEvMinU	qRxEvMinU	0	7	2G	T	CEW
11	C006109	ENM2	NKT7261	SMK8560Q_9NB03	SM85601	UtranFddFrequency	SubNetwork=AXE,MeContext=NKT7261,ManagedElement=NKT7261,BscF	qRxEvMinU	qRxEvMinU	0	7	2G	T	CEW
12	C006109	ENM2	NKT7261	SMK0278Q_9NB03	SM02781	UtranFddFrequency	SubNetwork=AXE,MeContext=NKT7261,ManagedElement=NKT7261,BscF	qRxEvMinU	qRxEvMinU	0	7	2G	T	CEW
13	C006109	ENM2	NKT7261	SMK0278Q_9NB03	SM02781	UtranFddFrequency	SubNetwork=AXE,MeContext=NKT7261,ManagedElement=NKT7261,BscF	qRxEvMinU	qRxEvMinU	0	7	2G	T	CEW
14	C006109	ENM2	NKT7261	SMK8597Q_9NB04	SM85974	UtranFddFrequency	SubNetwork=AXE,MeContext=NKT7261,ManagedElement=NKT7261,BscF	qRxEvMinU	qRxEvMinU	0	7	2G	T	CEW
15	C006109	ENM2	NKT7261	SMK8597Q_9NB04	SM85974	UtranFddFrequency	SubNetwork=AXE,MeContext=NKT7261,ManagedElement=NKT7261,BscF	qRxEvMinU	qRxEvMinU	0	7	2G	T	CEW
16	C006109	ENM2	NKT7261	SMK7143Q_9NB03	SM71431	UtranFddFrequency	SubNetwork=AXE,MeContext=NKT7261,ManagedElement=NKT7261,BscF	qRxEvMinU	qRxEvMinU	0	7	2G	T	CEW
17	C006109	ENM2	NKT7261	SMK7143Q_9NB03	SM71431	UtranFddFrequency	SubNetwork=AXE,MeContext=NKT7261,ManagedElement=NKT7261,BscF	qRxEvMinU	qRxEvMinU	0	7	2G	T	CEW
18	C006109	ENM3	PSN7264	KP0216Q_9NB03	KP02164	UtranFddFrequency	SubNetwork=AXE,MeContext=PSN7264,ManagedElement=PSN7264,BscF	qRxEvMinU	qRxEvMinU	0	7	2G	T	NTH
19	C006109	ENM3	PSN7264	KP0216Q_9NB03	KP02164	UtranFddFrequency	SubNetwork=AXE,MeContext=PSN7264,ManagedElement=PSN7264,BscF	qRxEvMinU	qRxEvMinU	0	7	2G	T	NTH
20	C006109	ENM3	PSN7264	KP0216Q_9NB02	KP02161	UtranFddFrequency	SubNetwork=AXE,MeContext=PSN7264,ManagedElement=PSN7264,BscF	qRxEvMinU	qRxEvMinU	0	7	2G	T	NTH
21	C006109	ENM3	PSN7264	KP0216Q_9NB02	KP02161	UtranFddFrequency	SubNetwork=AXE,MeContext=PSN7264,ManagedElement=PSN7264,BscF	qRxEvMinU	qRxEvMinU	0	7	2G	T	NTH
22	C006109	ENM3	PSN7261	CNT8800Q_9NB04	CN88001	UtranFddFrequency	SubNetwork=AXE,MeContext=PSN7261,ManagedElement=PSN7261,BscF	qRxEvMinU	qRxEvMinU	0	7	2G	T	CEW
23	C006109	ENM3	PSN7261	CNT8800Q_9NB04	CN88001	UtranFddFrequency	SubNetwork=AXE,MeContext=PSN7261,ManagedElement=PSN7261,BscF	qRxEvMinU	qRxEvMinU	0	7	2G	T	CEW
24	C006109	ENM3	PSN7261	CNT1610Q_9NB04	CN16101	UtranFddFrequency	SubNetwork=AXE,MeContext=PSN7261,ManagedElement=PSN7261,BscF	qRxEvMinU	qRxEvMinU	0	7	2G	T	CEW
25	C006109	ENM3	PSN7261	CNT1610Q_9NB04	CN16101	UtranFddFrequency	SubNetwork=AXE,MeContext=PSN7261,ManagedElement=PSN7261,BscF	qRxEvMinU	qRxEvMinU	0	7	2G	T	CEW
26	C006109	ENM3	PSN7261	CNT6726Q_9NB04	CN67266	EUtranFrequency	SubNetwork=AXE,MeContext=PSN7261,ManagedElement=PSN7261,BscF	lPrioThrE	lPrioThrE	22	16	2G	D	CEW
27	C006109	ENM3	PSN7261	CNT6726Q_9NB04	CN67266	EUtranFrequency	SubNetwork=AXE,MeContext=PSN7261,ManagedElement=PSN7261,BscF	lPrioThrE	lPrioThrE	22	16	2G	D	CEW
28	C006109	ENM3	PSN7261	CNT0014Q_9NB03	CN00146	EUtranFrequency	SubNetwork=AXE,MeContext=PSN7261,ManagedElement=PSN7261,BscF	lPrioThrE	lPrioThrE	22	16	2G	D	CEW
29	C006109	ENM3	PSN7261	CNT0014Q_9NB03	CN00146	EUtranFrequency	SubNetwork=AXE,MeContext=PSN7261,ManagedElement=PSN7261,BscF	lPrioThrE	lPrioThrE	22	16	2G	D	CEW
30	C006109	ENM2	NKT7261	SMK6009Q_9NB05	SM60096	EUtranFrequency	SubNetwork=AXE,MeContext=NKT7261,ManagedElement=NKT7261,BscF	lPrioThrE	lPrioThrE	22	16	2G	D	CEW
31	C006109	ENM2	NKT7261	SMK6009Q_9NB05	SM60096	EUtranFrequency	SubNetwork=AXE,MeContext=NKT7261,ManagedElement=NKT7261,BscF	lPrioThrE	lPrioThrE	22	16	2G	D	CEW
32	C006109	ENM1	CM17262	CR0120Q_9NB03	CR01209	EUtranFrequency	SubNetwork=AXE,MeContext=CM17262,ManagedElement=CM17262,BscF	lPrioThrE	lPrioThrE	22	16	2G	D	NTH
33	C006109	ENM1	CM17262	CR0120Q_9NB03	CR01209	EUtranFrequency	SubNetwork=AXE,MeContext=CM17262,ManagedElement=CM17262,BscF	lPrioThrE	lPrioThrE	22	16	2G	D	NTH
34	C006109	ENM1	CM17262	CR0120Q_9NB02	CR01206	EUtranFrequency	SubNetwork=AXE,MeContext=CM17262,ManagedElement=CM17262,BscF	lPrioThrE	lPrioThrE	22	16	2G	D	NTH

Output.

Name

Date modified

Type

Size

ENM1.txt

ENM2.txt

ENM3.txt

ENM4.txt

ENM4.txt - Notepad

File

Edit

Format

View

Help

```

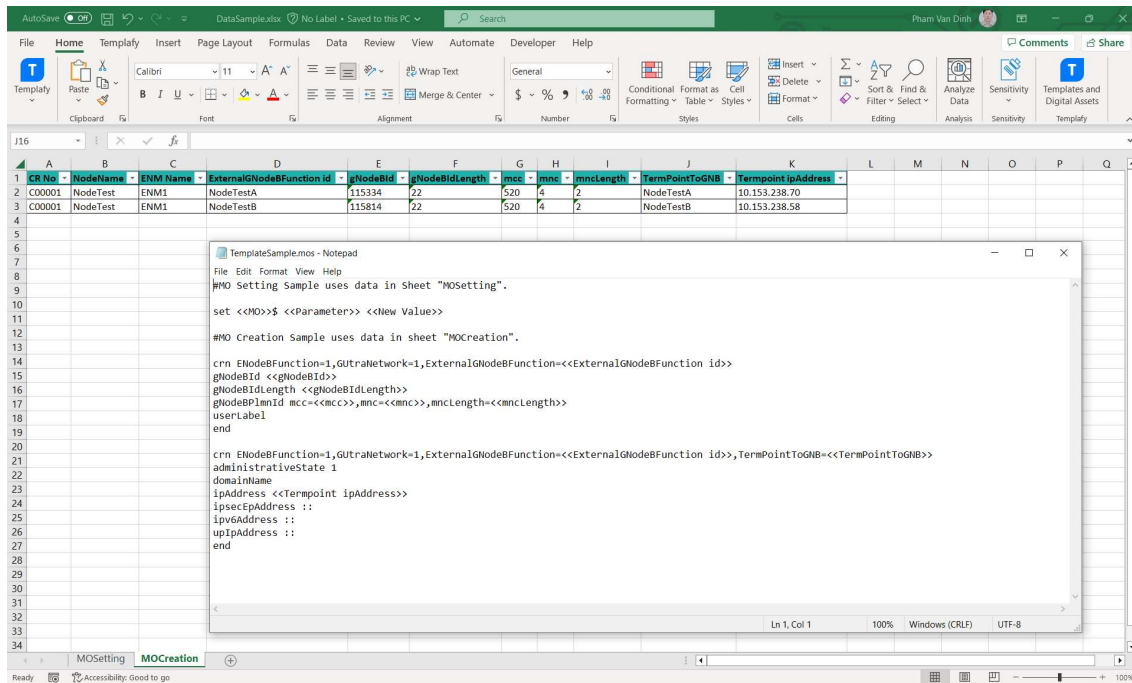
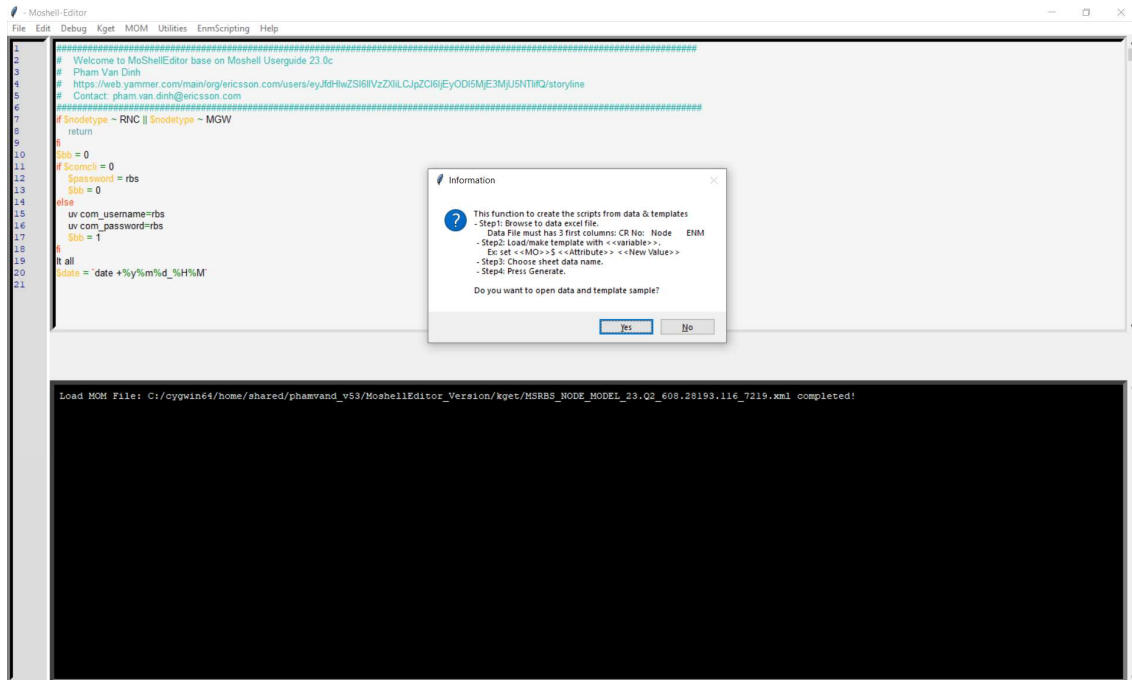
SET
FDN : SubNetwork=GSM,SubNetwork=AXE,MeContext=AYT7262,ManagedElement=AYT7262,BscFunction=1,BscM=1,GeranCellM=1,GeranCell=AY76401,Mobility=1,Inter
qRxEvMinU : 7
SET
FDN : SubNetwork=GSM,SubNetwork=AXE,MeContext=AYT7262,ManagedElement=AYT7262,BscFunction=1,BscM=1,GeranCellM=1,GeranCell=AY76401,Mobility=1,Inter
qRxEvMinU : 7
SET
FDN : SubNetwork=GSM,SubNetwork=AXE,MeContext=AYT7262,ManagedElement=AYT7262,BscFunction=1,BscM=1,GeranCellM=1,GeranCell=AY67246,Mobility=1,Inter
lPrioThrE : 16
SET
FDN : SubNetwork=GSM,SubNetwork=AXE,MeContext=AYT7262,ManagedElement=AYT7262,BscFunction=1,BscM=1,GeranCellM=1,GeranCell=AY67246,Mobility=1,Inter
lPrioThrE : 16
SET
FDN : SubNetwork=GSM,SubNetwork=AXE,MeContext=AYT7262,ManagedElement=AYT7262,BscFunction=1,BscM=1,GeranCellM=1,GeranCell=AY67246,Mobility=1,Inter
hPrioThrE : 16
SET
FDN : SubNetwork=GSM,SubNetwork=AXE,MeContext=AYT7262,ManagedElement=AYT7262,BscFunction=1,BscM=1,GeranCellM=1,GeranCell=AY67246,Mobility=1,Inter
hPrioThrE : 16
SET
FDN : SubNetwork=GSM,SubNetwork=AXE,MeContext=AYT7262,ManagedElement=AYT7262,BscFunction=1,BscM=1,GeranCellM=1,GeranCell=AY67246,Mobility=1,Inter
hPrioThrE : 18
SET

```

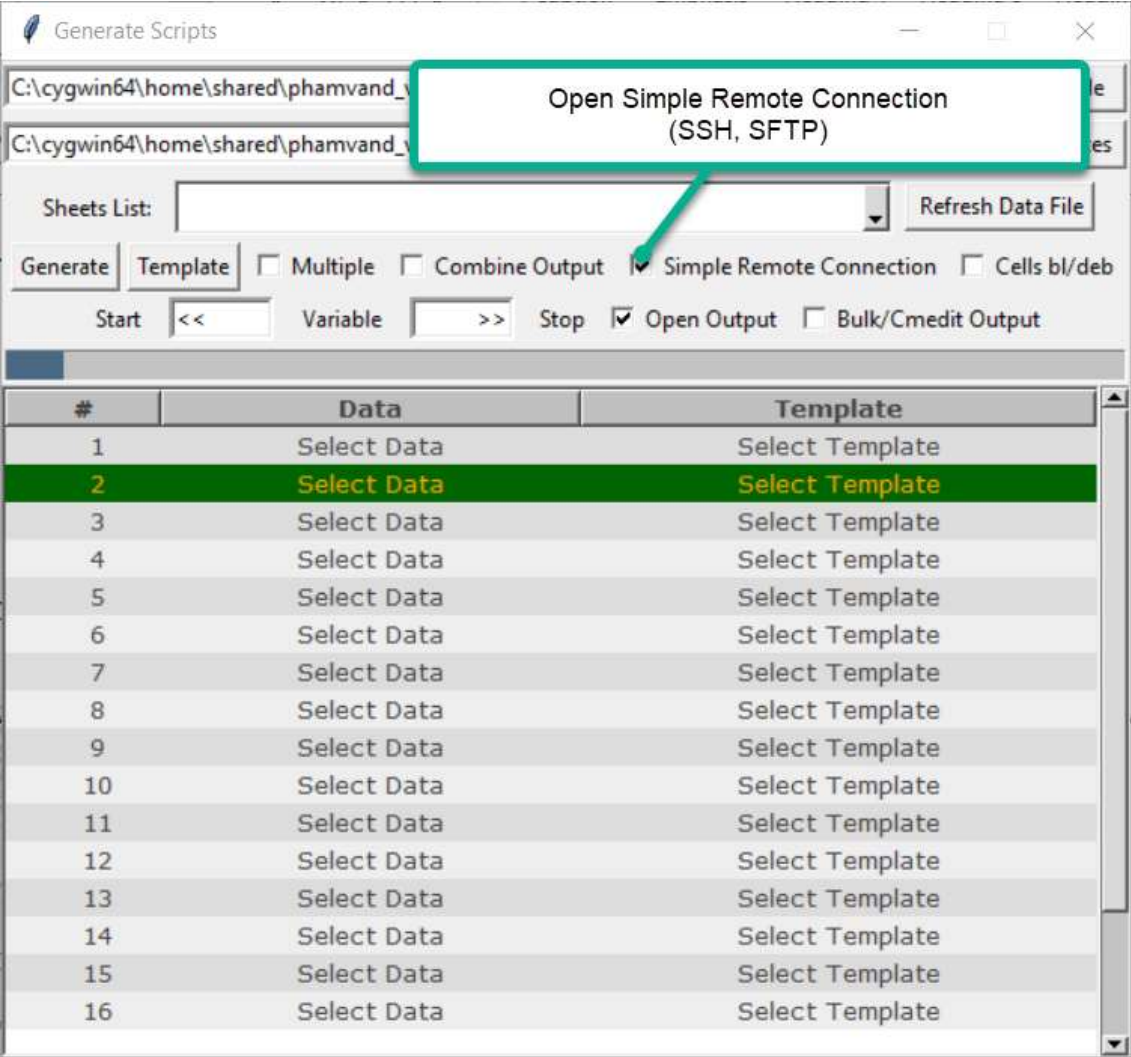
Ln 1, Col 1100%Windows (CRLF)UTF-8

Note:

- Option to see the template sample, data form.

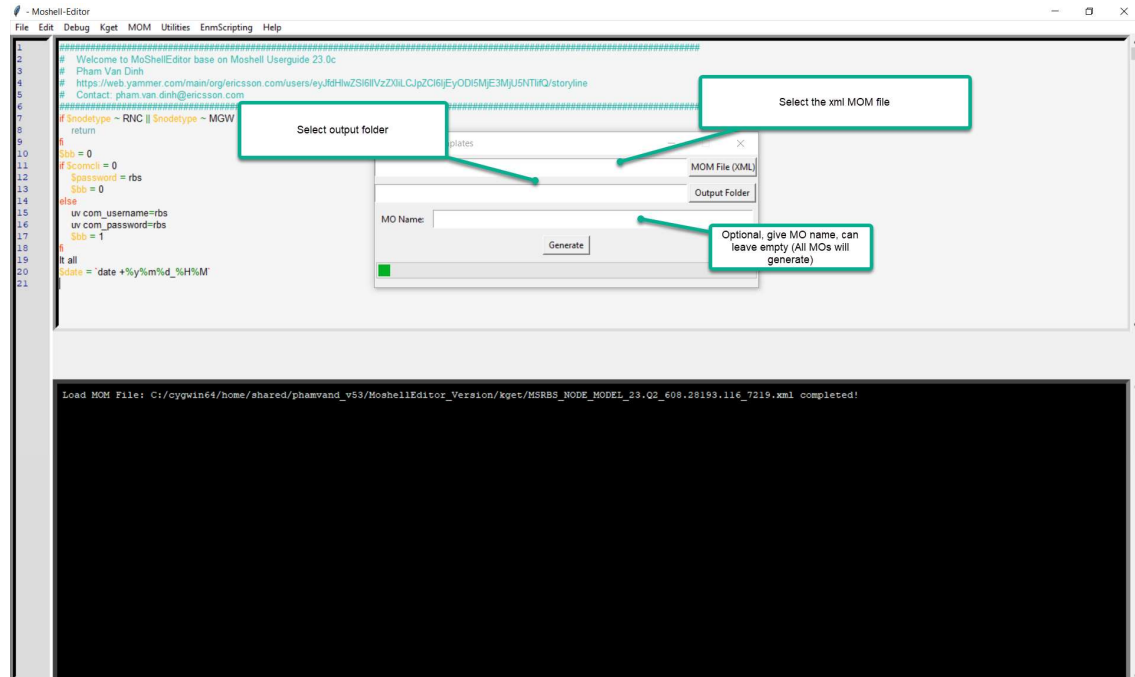


- Options on Generate Script interface.



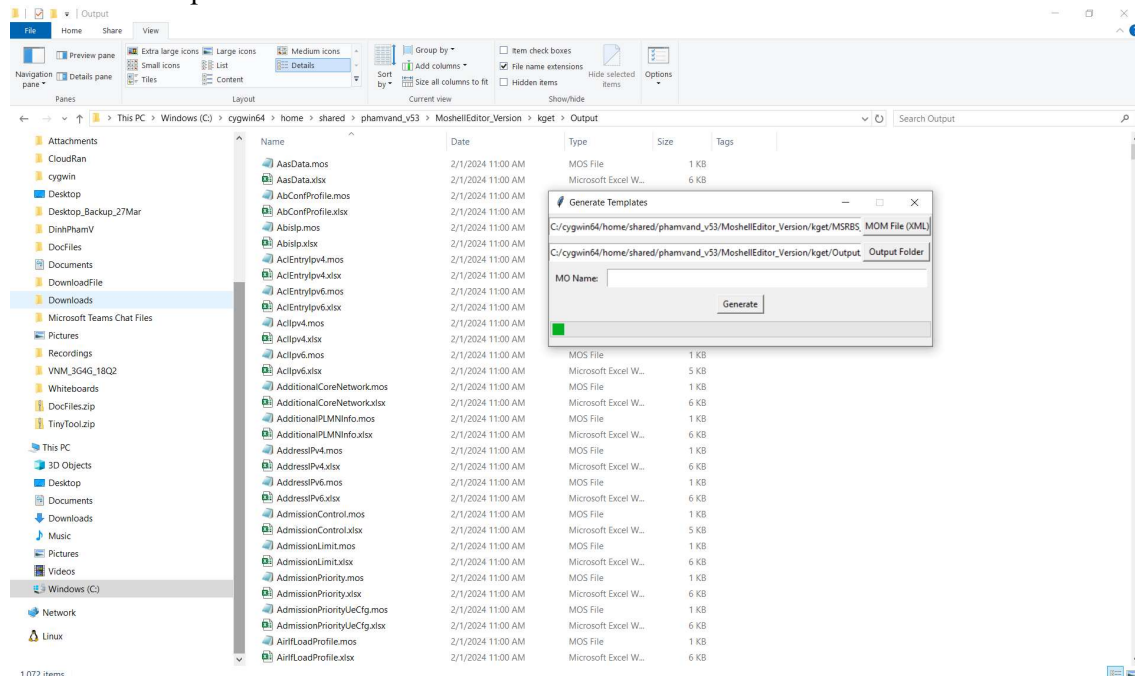
3.7.2 Generate Script Templates & Data Form – Ctrl + M

This function to generate script templates & data form base one xml MOM file.

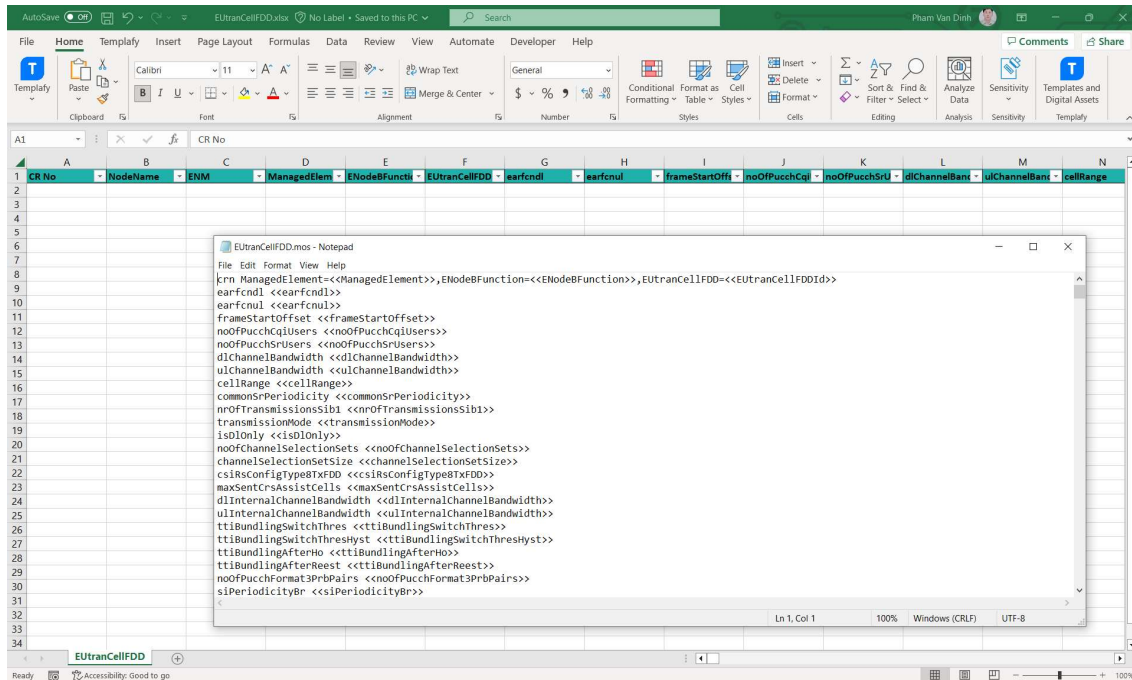


Output will be as below:

- Output Folder:

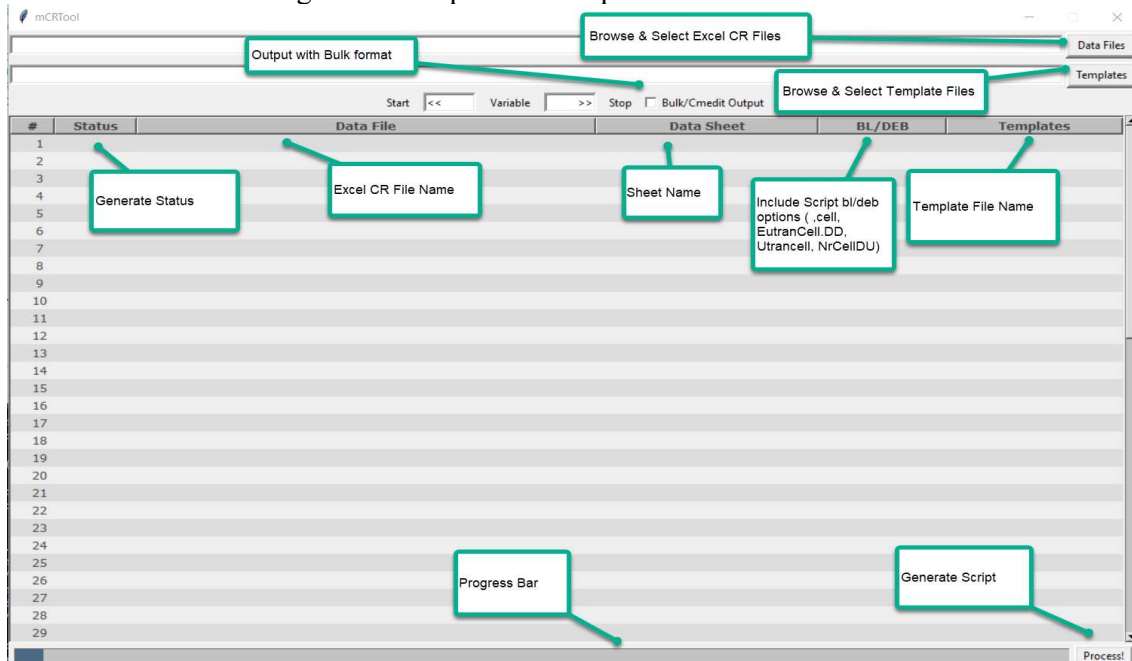


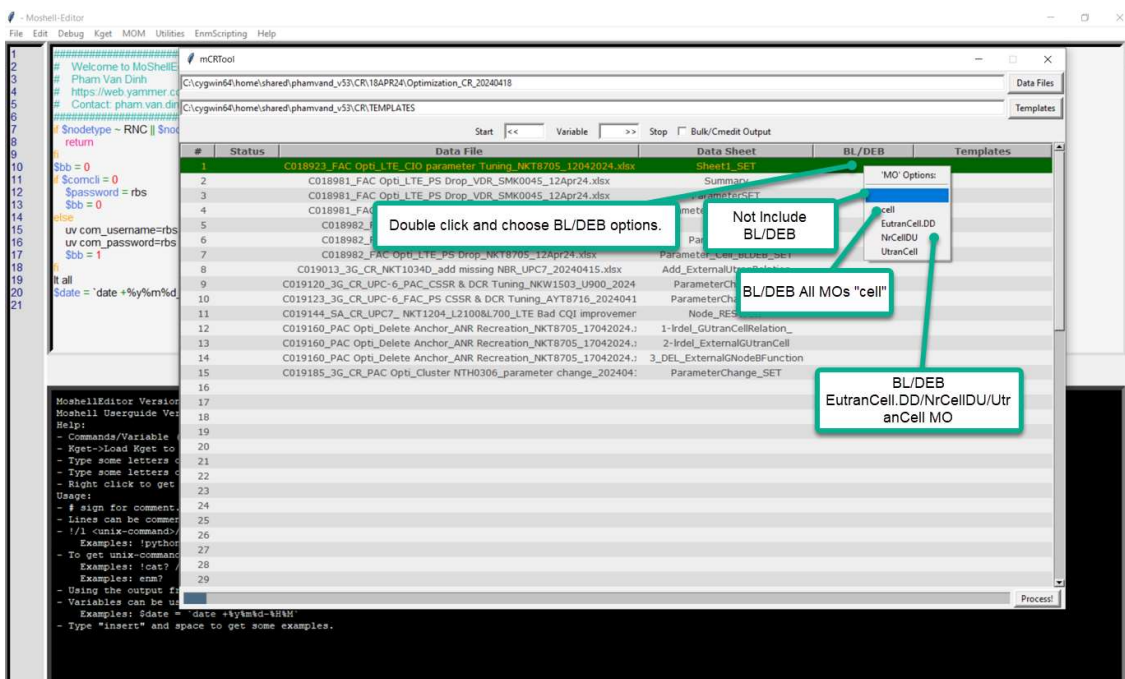
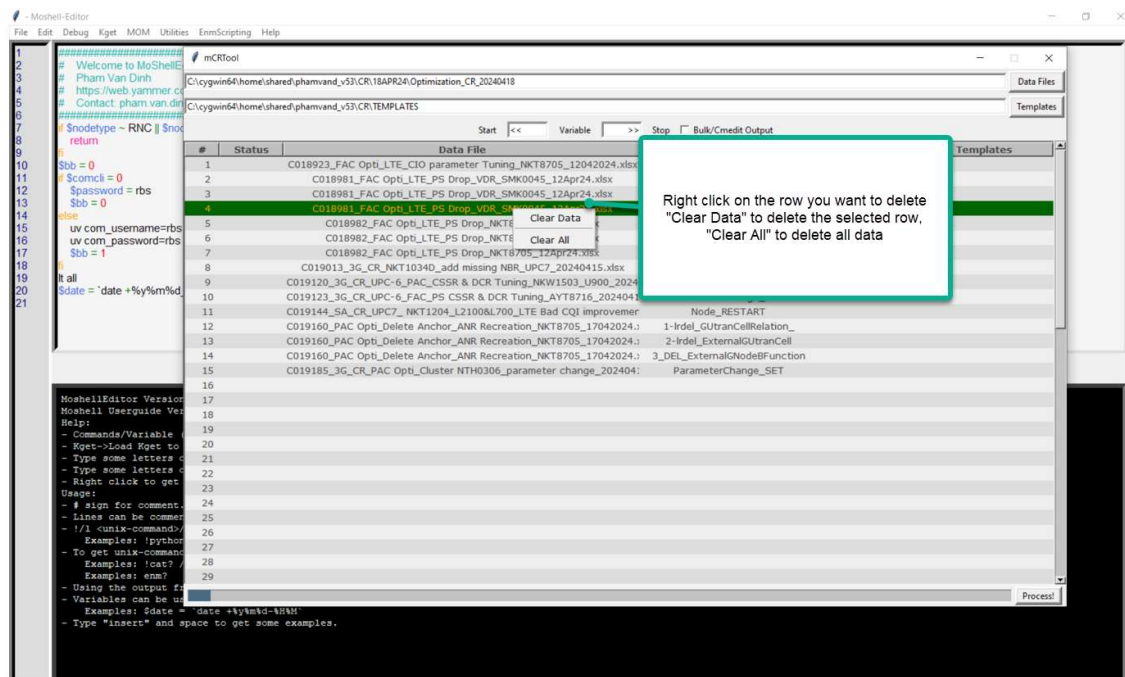
- Script templates and data form:

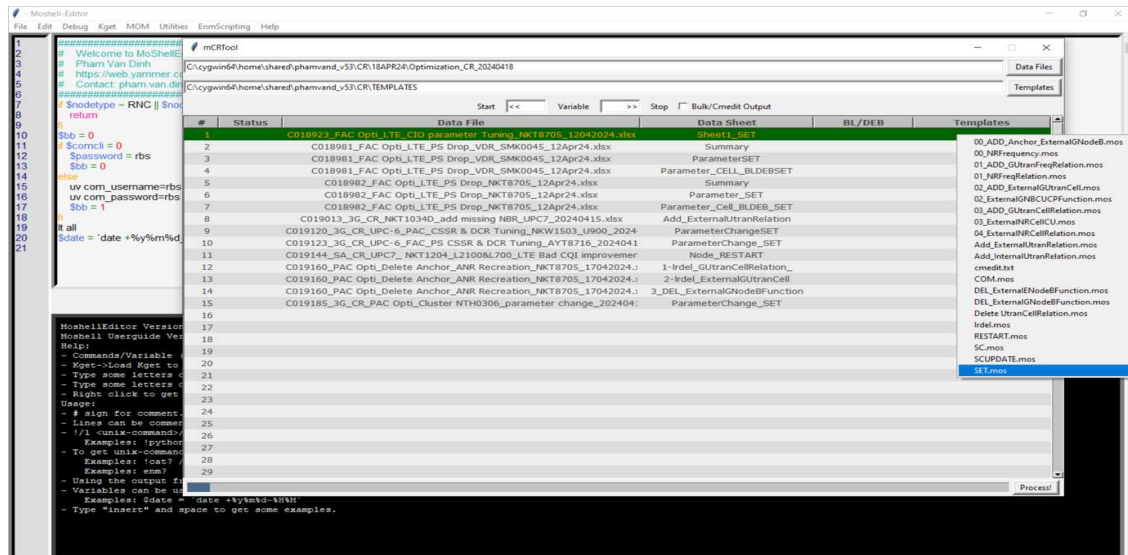


3.7.3 mCRTTool – Ctrl + K

Allow users generate the script files for many CR files from RF team with different template files, allow user include the bl/deb cell to the scripts or not. This utility helpful when users have some CRs need to generate script to one output folder.



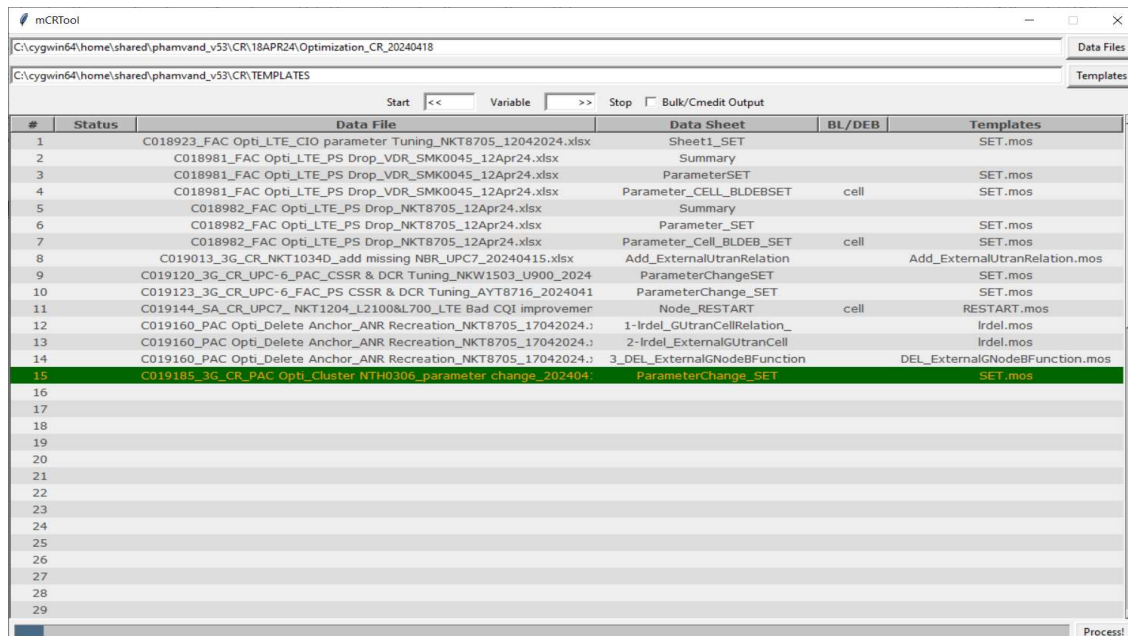




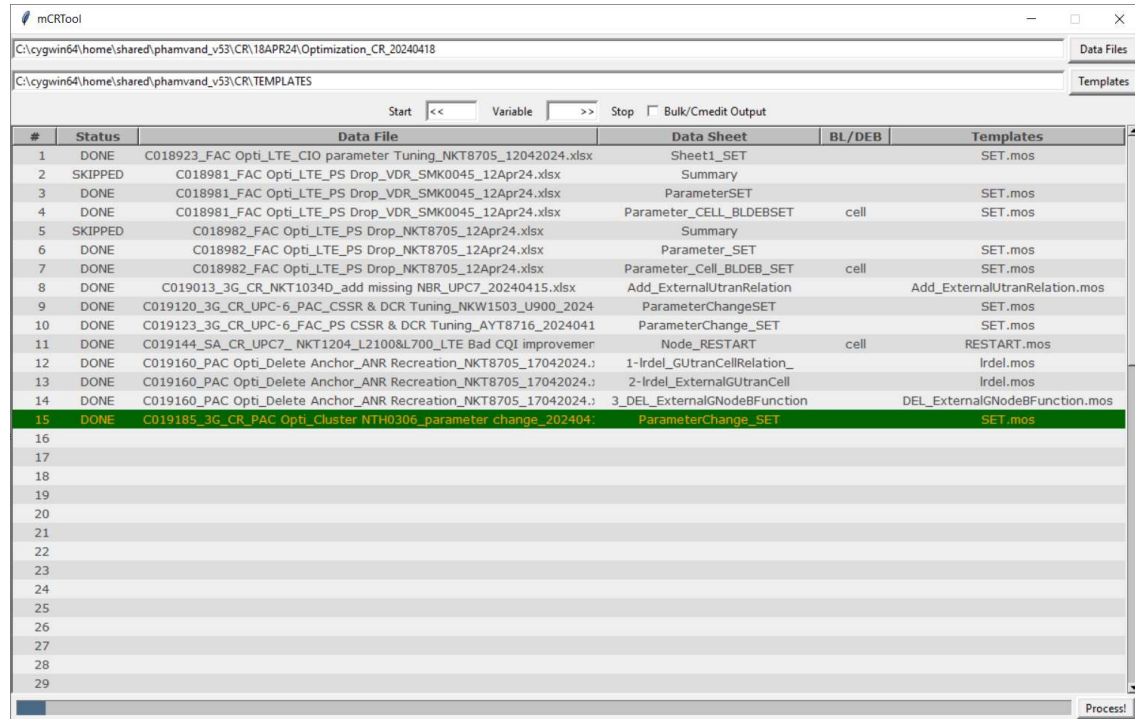
Here are steps to perform:

- 1 – Browse and select CR files.
- 2 – Browse and select template files.
- 3 – Select output option: Bulk format/amosbatch format.
- 4 – Double click on Column BL/DEB of the data sheet name of row you want to generate the script. Then select option bl/deb and select template file.
- 5 – Press “Process” and have result.

Example:

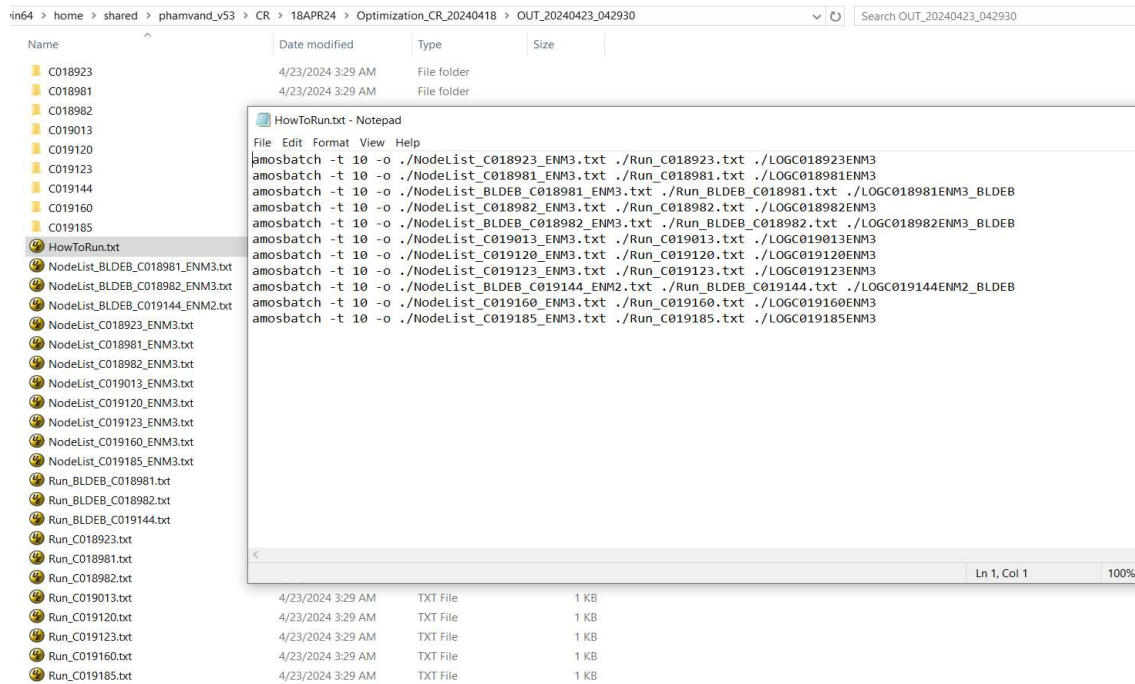


Output:



The screenshot shows the mCRTool interface with a list of data files and their status. The table has columns for #, Status, Data File, Data Sheet, BL/DEB, and Templates. The status of the files is as follows:

#	Status	Data File	Data Sheet	BL/DEB	Templates
1	DONE	C018923_FAC Opti_LTE_CIO parameter Tuning_NKT8705_12042024.xlsx	Sheet1_SET		SET.mos
2	SKIPPED	C018981_FAC Opti_LTE_PS Drop_VDR_SMK0045_12Apr24.xlsx	Summary		
3	DONE	C018981_FAC Opti_LTE_PS Drop_VDR_SMK0045_12Apr24.xlsx	ParameterSET		SET.mos
4	DONE	C018981_FAC Opti_LTE_PS Drop_VDR_SMK0045_12Apr24.xlsx	Parameter_CELL_BLDEBSET	cell	SET.mos
5	SKIPPED	C018982_FAC Opti_LTE_PS Drop_NKT8705_12Apr24.xlsx	Summary		
6	DONE	C018982_FAC Opti_LTE_PS Drop_NKT8705_12Apr24.xlsx	Parameter_SET		SET.mos
7	DONE	C018982_FAC Opti_LTE_PS Drop_NKT8705_12Apr24.xlsx	Parameter_CELL_BLDEB_SET	cell	SET.mos
8	DONE	C019013_3G_CR_NKT1034D_add missing NBR_UPC7_20240415.xlsx	Add_ExternalUtranRelation		Add_ExternalUtranRelation.mos
9	DONE	C019120_3G_CR_UPC-6_PAC_CSSR & DCR Tuning_NKW1503_U900_2024	ParameterChangeSET		SET.mos
10	DONE	C019123_3G_CR_UPC-6_FAC_PS_CSSR & DCR Tuning_AYT8716_2024041	ParameterChange_SET		SET.mos
11	DONE	C019144_SA_CR_UPC7_NKT1204_L2100&L700_LTE Bad CQI improvemer	Node_RESTART	cell	RESTART.mos
12	DONE	C019160_PAC Opti_Delete Anchor_ANR Recreation_NKT8705_17042024.;	1-IrdeL_GUtranCellRelation_		IrdeL.mos
13	DONE	C019160_PAC Opti_Delete Anchor_ANR Recreation_NKT8705_17042024.;	2-IrdeL_ExternalGUtranCell		IrdeL.mos
14	DONE	C019160_PAC Opti_Delete Anchor_ANR Recreation_NKT8705_17042024.;	3_DEL_ExternalGNODEBFunction		DEL_ExternalGNODEBFunction.mos
15	DONE	C019185_3G_CR_PAC Opti_Cluster NTH0306_parameter change_2024041	ParameterChange_SET		SET.mos
16					
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29					



The screenshot shows a file explorer window with a directory structure and a Notepad window with a script. The directory structure is as follows:

- home > shared > phamvand_v53 > CR > 18APR24 > Optimization_CR_20240418 > OUT_20240423_042930

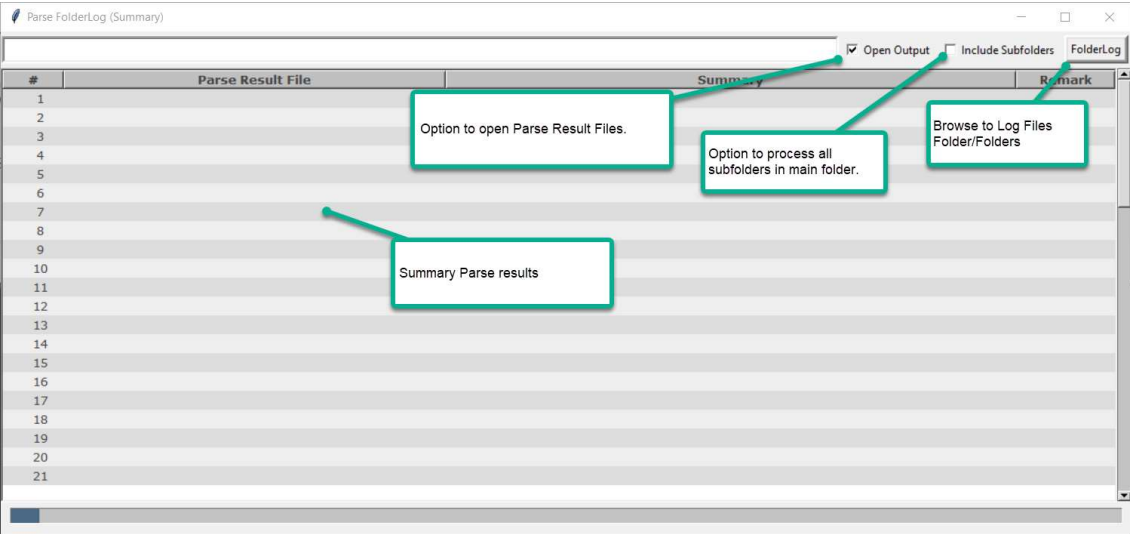
The Notepad window contains the following script:

```
File Edit Format View Help
amosbatch -t 10 -o ./NodeList_C018923_ENM3.txt ./Run_C018923.txt ./LOGC018923ENM3
amosbatch -t 10 -o ./NodeList_C018981_ENM3.txt ./Run_C018981.txt ./LOGC018981ENM3
amosbatch -t 10 -o ./NodeList_BLDEB_C018981_ENM3.txt ./Run_BLDEB_C018981.txt ./LOGC018981ENM3_BLDEB
amosbatch -t 10 -o ./NodeList_C018982_ENM3.txt ./Run_C018982.txt ./LOGC018982ENM3
amosbatch -t 10 -o ./NodeList_BLDEB_C018982_ENM3.txt ./Run_BLDEB_C018982.txt ./LOGC018982ENM3_BLDEB
amosbatch -t 10 -o ./NodeList_C019013_ENM3.txt ./Run_C019013.txt ./LOGC019013ENM3
amosbatch -t 10 -o ./NodeList_C019120_ENM3.txt ./Run_C019120.txt ./LOGC019120ENM3
amosbatch -t 10 -o ./NodeList_C019123_ENM3.txt ./Run_C019123.txt ./LOGC019123ENM3
amosbatch -t 10 -o ./NodeList_BLDEB_C019144_ENM2.txt ./Run_BLDEB_C019144.txt ./LOGC019144ENM2_BLDEB
amosbatch -t 10 -o ./NodeList_C019160_ENM3.txt ./Run_C019160.txt ./LOGC019160ENM3
amosbatch -t 10 -o ./NodeList_C019185_ENM3.txt ./Run_C019185.txt ./LOGC019185ENM3
```

[Demo Video: How to use mCRTool in MoshellEditor to generate script for multi CR Files \(Excel files from RF\).](#)

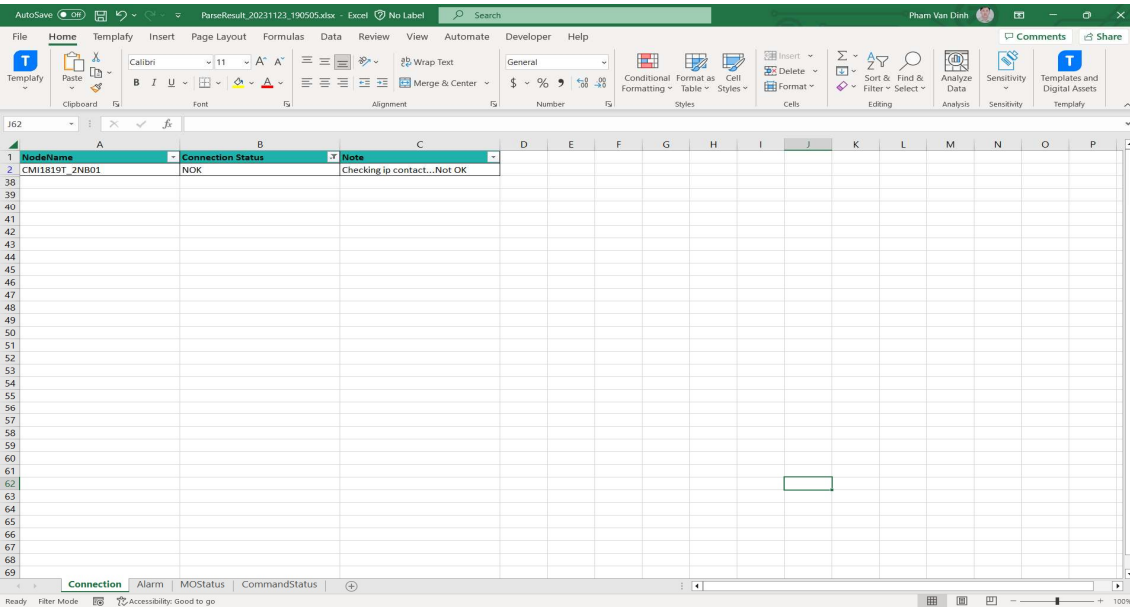
3.7.4 Parse FolderLog (Summary) – Ctrl + P

Allow users to parse Moshell command log files in a folder.



Output File:

Connection Sheet: Give the connection to the nodes in summary as below.



Alarm Sheet: Give the alarm before and after applying the CR to the nodes in summary as below.

[illegible]

If there are different between before and after CR, it will list out and show new/old alarms.

MoStatus Sheet: Give the MOs status before and after applying CR as below.

AutoSave

ParseResult_20231123_190505.xlsx - Excel

Pham Van Dinh

FileHomeTemplateInsertPage LayoutFormulasDataReviewViewAutomateDeveloperHelp

Clipboard

Font

Alignment

Number

Styles

Conditional Formatting

Format as Table

Cell Styles

Insert

Delete

Format

Cells

Σ

Sort & Filter

Find & Select

Analyze Data

Sensitivity

Templates and Digital Assets

CommentsShare

F46

fx

	A	B	C	D	E	F	G	H	I	J	K
	NodeName	MOSStatus	Note								
36	PY06727T_2NB01	NOK	1 (UNLOCKED) 0 (DISABLED) Equipment=1,FieldReplaceableUnit=RRU-14								
37	PY06727T_2NB01	NOK	1 (UNLOCKED) 0 (DISABLED) ENodeBFunction=1,EUtranCellFD=PY06727R_1NB01_S02								
38	PY06727T_2NB01	NOK	1 (UNLOCKED) 0 (DISABLED) Equipment=1,FieldReplaceableUnit=RRU-1								
39	PY06727T_2NB01	NOK	1 (UNLOCKED) 0 (DISABLED) Equipment=1,FieldReplaceableUnit=RRU-2								
40	PY06727T_2NB01	NOK	1 (UNLOCKED) 0 (DISABLED) Equipment=1,FieldReplaceableUnit=RRU-13								
41	PY06727T_2NB01	NOK	1 (UNLOCKED) 0 (DISABLED) Equipment=1,FieldReplaceableUnit=RRU-3								
42	PY06727T_2NB01	NOK	1 (UNLOCKED) 0 (DISABLED) ENodeBFunction=1,EUtranCellFD=PY06727T_2NB01_S03								
43											
44											
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47											
48											
49											
50											
51											
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69											

ConnectionAlarmMOSStatusCommandStatus

ReadyFilter ModeAccessibility: Good to go

CommandStatus Sheet: Give the Commands status of the CR as below.

NodeName	CommandStatus	Command	Note	CommandResult
162 MH56715T_2NB01	NOK	set EUTranCellFDD=CR16724P_0NB01_S025 lbEUTranTriggerOffloadThreshold 1200	MO Not Found	Total: 0 MOs attempted, 0 MOs set
163 MH56715T_2NB01	NOK	set EUTranCellFDD=CR16724P_0NB01_S025 lbEUTranTriggerOffloadThreshold 1200	MO Not Found	Total: 0 MOs attempted, 0 MOs set
164 MH58516T_2NB01	NOK	set EUTranCellFDD=CR16724P_0NB01_S025 lbEUTranTriggerOffloadThreshold 1200	MO Not Found	Total: 0 MOs attempted, 0 MOs set
165 MH58516T_2NB01	NOK	set EUTranCellFDD=CR16724P_0NB01_S025 lbEUTranTriggerOffloadThreshold 1200	MO Not Found	Total: 0 MOs attempted, 0 MOs set
166 MH58516T_2NB01	NOK	set EUTranCellFDD=CR16724P_0NB01_S025 lbEUTranTriggerOffloadThreshold 1200	MO Not Found	Total: 0 MOs attempted, 0 MOs set
167 MH58516T_2NB01	NOK	set EUTranCellFDD=CR16724P_0NB01_S025 lbEUTranTriggerOffloadThreshold 1200	MO Not Found	Total: 0 MOs attempted, 0 MOs set

Note:

Option to show the summary information:

Summary	#OK	#NOK
2 Node's Connection Status	4	0- Connection Failed.
3 Alarm Status	4	0- New Alarms.
4 MOs Status	4	0- MOs Status Changed.
5 Commands Status	4	0- Commands Failed.

3.7.5 Parse FolderLog (Detail) – Ctrl + L

Allow users to parse Moshell command log files in a folder give the detail output of each command and command result.

Connection Sheet: Give the connection to the nodes in summary as below.

NodeName	Connection Status	Note
AYT0004T_2NB01	OK	Checking ip contact...OK
U124394	OK	Checking ip contact...OK

CommandStatus Sheet: Give the Commands status and output of CR as below.

NodeName	CommandStatus	Command	CommandResult
AYT0004T_2NB01	Output	alt	2023-11-03 05:34:25 m External Link Failure ENodeBFunction=1 (X2 link problem to one or several neighbouring eNodeBs. AI: PLMN ID-eNB ID 1 : 5204-11543,
AYT0004T_2NB01	Output	alt	2023-11-03 06:00:11 m External Link to GNodeB Failure ENodeBFunction=1 (X2 link problem to one or several neighbouring gNodeBs. AI: PLMN ID-gNB ID 1 : 5204-1
AYT0004T_2NB01	OK	alt	Total: 2 Alarms (0 Critical, 0 Major)
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	444 1 (UNLOCKED) 1 (ENABLED) ENodeBFunction=1, EUTRANCellFDD=AYT0004P_2NB01_S01
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	243 1 (UNLOCKED) 1 (ENABLED) ENodeBFunction=1, EUTRANCellFDD=AYT0004P_2NB01_S02
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	438 1 (UNLOCKED) 1 (ENABLED) ENodeBFunction=1, EUTRANCellFDD=AYT0004P_2NB01_S04
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	649 1 (UNLOCKED) 1 (ENABLED) ENodeBFunction=1, EUTRANCellFDD=AYT0004R_1NB01_S01
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	858 1 (UNLOCKED) 1 (ENABLED) ENodeBFunction=1, EUTRANCellFDD=AYT0004R_1NB01_S02
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	1062 1 (UNLOCKED) 1 (ENABLED) ENodeBFunction=1, EUTRANCellFDD=AYT0004R_1NB01_S03
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	1245 1 (UNLOCKED) 1 (ENABLED) ENodeBFunction=1, EUTRANCellFDD=AYT0004R_1NB01_S04
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	1452 1 (UNLOCKED) 1 (ENABLED) ENodeBFunction=1, EUTRANCellFDD=AYT0004T_2NB01_S01
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	1644 1 (UNLOCKED) 1 (ENABLED) ENodeBFunction=1, EUTRANCellFDD=AYT0004T_2NB01_S02
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	1834 1 (UNLOCKED) 1 (ENABLED) ENodeBFunction=1, EUTRANCellFDD=AYT0004T_2NB01_S03
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	2005 1 (UNLOCKED) 1 (ENABLED) ENodeBFunction=1, EUTRANCellFDD=AYT0004T_2NB01_S04
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	2885 1 (UNLOCKED) 1 (ENABLED) ENodeBFunction=1, TermPointToMme=TUC-MTG07ERVMMEO6
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	2886 1 (UNLOCKED) 1 (ENABLED) ENodeBFunction=1, TermPointToMme=TUC-MTG07ERVMMEO7
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	2887 1 (UNLOCKED) 1 (ENABLED) ENodeBFunction=1, TermPointToMme=TUC-MTG16ERVMMEO8
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	2888 1 (UNLOCKED) 1 (ENABLED) ENodeBFunction=1, TermPointToMme=TUC-MTG16ERVMMEO9
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	2889 1 (UNLOCKED) 0 (DISABLED) ENodeBFunction=1, TermPointToMme=TUC-TYB07ERVMMEO2
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	2890 1 (UNLOCKED) 0 (DISABLED) ENodeBFunction=1, TermPointToMme=TUC-TYB07ERVMMEO3
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	2891 1 (UNLOCKED) 0 (DISABLED) ENodeBFunction=1, TermPointToMme=TUC-TYB07ERVMMEO5
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	2892 1 (UNLOCKED) 1 (ENABLED) ENodeBFunction=1, TermPointToMme=VGS5NK11
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	2893 1 (UNLOCKED) 1 (ENABLED) ENodeBFunction=1, TermPointToMme=VGS5ST21
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	2894 1 (UNLOCKED) 1 (ENABLED) ENodeBFunction=1, TermPointToMme=VGS5ST22
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	2895 1 (UNLOCKED) 1 (ENABLED) ENodeBFunction=1, TermPointToMme=VGS5ST23
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	2896 1 (UNLOCKED) 1 (ENABLED) ENodeBFunction=1, TermPointToMme=VGS5NK11
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	2897 1 (UNLOCKED) 1 (ENABLED) ENodeBFunction=1, TermPointToMme=VGS5NK21
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	2898 1 (UNLOCKED) 0 (DISABLED) ENodeBFunction=1, TermPointToMme=VGS5NK22
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	2899 1 (UNLOCKED) 0 (DISABLED) ENodeBFunction=1, TermPointToMme=VGS5NK23
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	3178 1 (UNLOCKED) 1 (ENABLED) Equipment=1, AntennaUnitGroup=1, AntennaNearUnit=1, RetSubUnit=1
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	3179 1 (ENABLED) Equipment=1, AntennaUnitGroup=1, AntennaNearUnit=1, RetSubUnit=1
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	3180 1 (UNLOCKED) 1 (ENABLED) Equipment=1, AntennaUnitGroup=1, AntennaNearUnit=2
AYT0004T_2NB01	Output	st unit [mme] PlugInUnit [cell] amf	3181 1 (ENABLED) Equipment=1, AntennaUnitGroup=1, AntennaNearUnit=2, RetSubUnit=1

ConnectionFolder2 Sheet: Give the connection to the nodes of folder 2 in summary as below.

NodeName	Connection Status	Note
AY10004T_2NB01	OK	Checking ip contact...OK
U124394	OK	Checking ip contact...OK

CommandStatusFolder2 Sheet: Give the Commands status and output of folder 2.

NodeName	CommandStatus	Command	CommandResult
AY10004T_2NB01	Output	alt	m External Link Failure ENodeBFunction=1 (X2 link problem to one or several neighbouring eNodeBs. AI: PLMN ID-eNB ID 1 : 5204-11543,PLM
AY10004T_2NB01	Output	alt	m External Link to GNodeB Failure ENodeBFunction=1 (X2 link problem to one or several neighbouring gNodeBs. AI: PLMN ID-gNB ID 1 : 5204-1066
AY10004T_2NB01	OK	alt	Total: 2 Alarms (0 Critical, 0 Major)
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 1 (ENABLED) ENodeBFunction=1, EUTRANCellFDD=AY10004P_2NB01_S01
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 1 (ENABLED) ENodeBFunction=1, EUTRANCellFDD=AY10004P_2NB01_S02
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 1 (ENABLED) ENodeBFunction=1, EUTRANCellFDD=AY10004P_2NB01_S04
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 1 (ENABLED) ENodeBFunction=1, EUTRANCellFDD=AY10004R_1NB01_S01
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 1 (ENABLED) ENodeBFunction=1, EUTRANCellFDD=AY10004R_1NB01_S02
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 1 (ENABLED) ENodeBFunction=1, EUTRANCellFDD=AY10004R_1NB01_S03
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 1 (ENABLED) ENodeBFunction=1, EUTRANCellFDD=AY10004R_1NB01_S04
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 1 (ENABLED) ENodeBFunction=1, EUTRANCellFDD=AY10004T_2NB01_S01
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 1 (ENABLED) ENodeBFunction=1, EUTRANCellFDD=AY10004T_2NB01_S02
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 1 (ENABLED) ENodeBFunction=1, EUTRANCellFDD=AY10004T_2NB01_S03
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 1 (ENABLED) ENodeBFunction=1, EUTRANCellFDD=AY10004T_2NB01_S04
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 1 (ENABLED) ENodeBFunction=1, TermPointToMme=TUC-MTG07ERVMMEE06
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 1 (ENABLED) ENodeBFunction=1, TermPointToMme=TUC-MTG07ERVMMEE07
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 1 (ENABLED) ENodeBFunction=1, TermPointToMme=TUC-MTG16ERVMMEE08
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 1 (ENABLED) ENodeBFunction=1, TermPointToMme=TUC-MTG16ERVMMEE09
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 0 (DISABLED) ENodeBFunction=1, TermPointToMme=TUC-TYB07ERVMMEE02
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 0 (DISABLED) ENodeBFunction=1, TermPointToMme=TUC-TYB07ERVMMEE04
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 0 (DISABLED) ENodeBFunction=1, TermPointToMme=TUC-TYB07ERVMMEE05
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 1 (ENABLED) ENodeBFunction=1, TermPointToMme=VSGSRST11
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 1 (ENABLED) ENodeBFunction=1, TermPointToMme=VSGSRST12
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 1 (ENABLED) ENodeBFunction=1, TermPointToMme=VSGSRST22
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 1 (ENABLED) ENodeBFunction=1, TermPointToMme=VSGSRST23
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 1 (ENABLED) ENodeBFunction=1, TermPointToMme=VSGSSNK11
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 1 (ENABLED) ENodeBFunction=1, TermPointToMme=VSGSSNK21
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 0 (DISABLED) ENodeBFunction=1, TermPointToMme=VSGSSNK22
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 0 (DISABLED) ENodeBFunction=1, TermPointToMme=VSGSSNK23
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 1 (ENABLED) Equipment=1, AntennaUnitGroup=1, AntennaNearUnit=1
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	ENABLED Equipment=1, AntennaUnitGroup=1, AntennaNearUnit=1, RetSubUnit=1
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	UNLOCKED 1 (ENABLED) Equipment=1, AntennaUnitGroup=1, AntennaNearUnit=2
AY10004T_2NB01	Output	st unit mme PluginUnit cell amf	ENABLED Equipment=1, AntennaUnitGroup=1, AntennaNearUnit=2, RetSubUnit=1

3.7.7 Simple CR Handler – Ctrl + H

This function allows user:

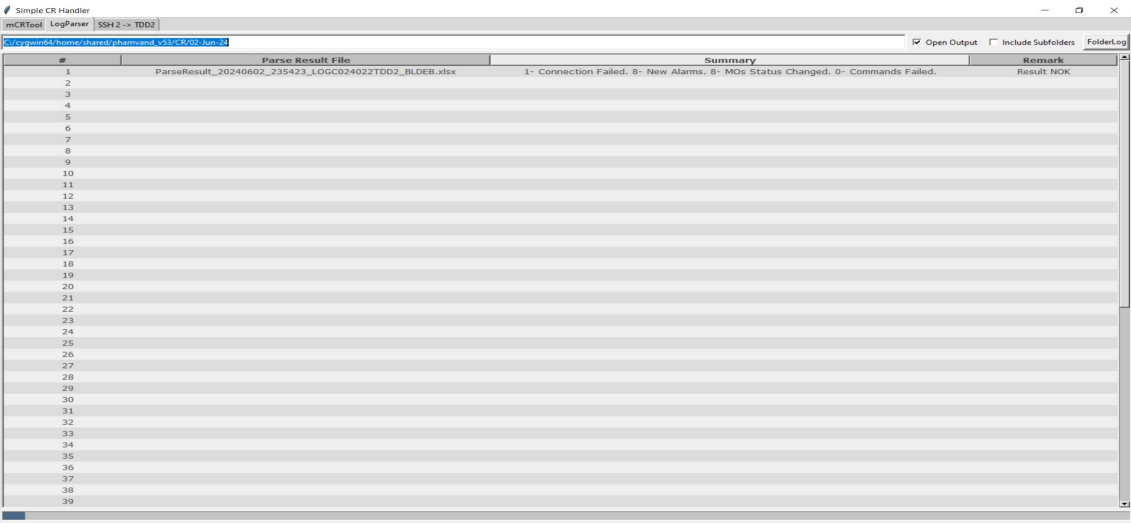
- To generate scripts with multiple data files (Excel files from RF) multiple template files (.mo, .mos, .xml, .txt files) with “mCRTTool” Tab.
- To parse the moshell log commands to give summary of CR implemented, connection, new alarm, MOs status before and after with “LogParser” Tab.
- To connect to OSS/ENM to execute CRs, transfer files/folders... with “SSH” Tab.
- To auto execute the CRs list base on stepbystep.txt files (enter “break” command to cancel the execution).
- Allow users using GUI or commands to do files/folders transfer, auto run CRs, parselog,...
- Allow users to edit the text file on OSS/ENM directly.

mCRTTool Tab interface: refer 3.7.3 for detail.

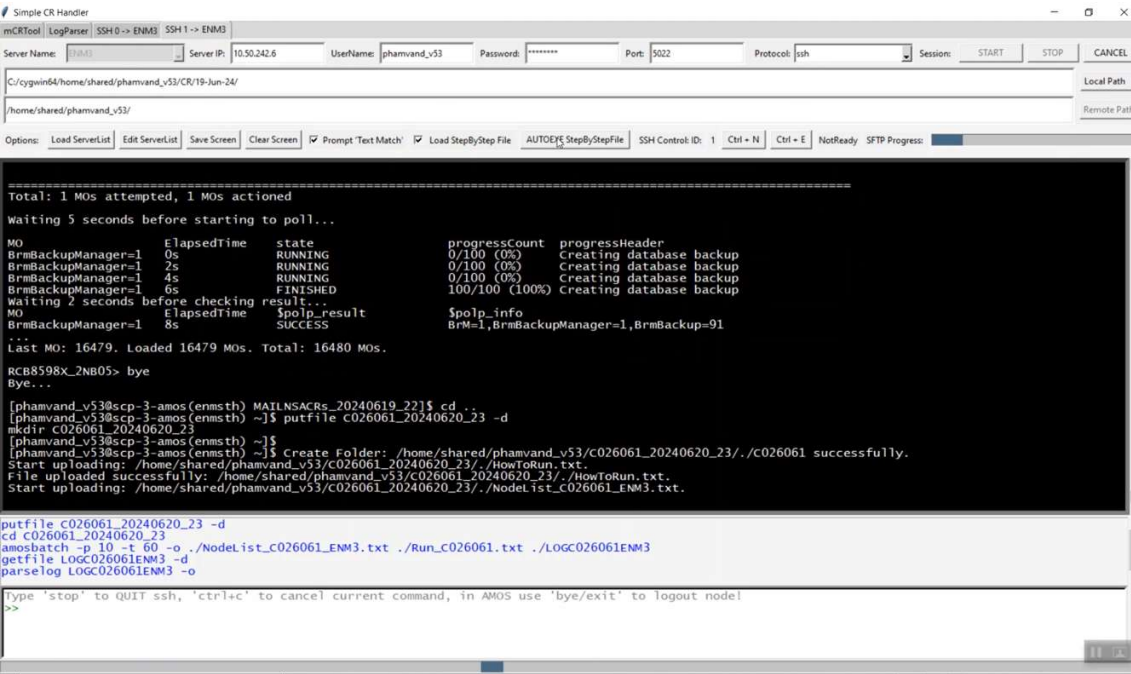
The screenshot shows the 'Simple CR Handler' window with the 'mCRTTool' tab selected. The window title bar includes 'mCRTTool', 'LogParser', 'SSH 0 -> ENM', and 'SSH 1 -> ENM'. The main area contains a table with columns: #, Status, Data File, Data Sheet, BL/DEB, and Templates. A context menu is open over row 10, showing options: Clear Selected Row Data, Clear All, Clear BL/DEB Column, Clear Templates Column, Clear BL/DEB & Templates Column, Open DataFile, and Open TemplateFile.

#	Status	Data File	Data Sheet	BL/DEB	Templates
1	SKIPPED	C024022_CR for DTAC & TRUEMOVE Baseline Deviation Parameter & Feature_0206	2G		
2	DONE	C024022_CR for DTAC & TRUEMOVE Baseline Deviation Parameter & Feature_0206	3G		SET.mos
3	DONE	C024022_CR for DTAC & TRUEMOVE Baseline Deviation Parameter & Feature_0206	4G_BI	EutranCell.DD	SET.mos
4	DONE	C024022_CR for DTAC & TRUEMOVE Baseline Deviation Parameter & Feature_0206	4G		SET.mos
5	DONE	C024022_CR for DTAC & TRUEMOVE Baseline Deviation Parameter & Feature_0206	5G_BI	NRCeIDU	SET.mos
6	DONE	C024022_CR for DTAC & TRUEMOVE Baseline Deviation Parameter & Feature_0206	5G		SET.mos
7	DONE	C024022_CR for DTAC & TRUEMOVE Baseline Deviation Parameter & Feature_0206	SCS_Update		SCUPDATE.mos
8	DONE	C024022_CR for DTAC & TRUEMOVE Baseline Deviation Parameter & Feature_0206	eutranFreqToQoSProfile		SET.mos
9	DONE	C024022_CR for DTAC & TRUEMOVE Baseline Deviation Parameter & Feature_0206	PLMN related+other strucPara		SET.mos
10	DONE	C024022_CR NR spectrum activity CQI parameter tuning Day364_02062024.xls	cell	cell	SC.mos
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LogParser Tab interface:



SSH Tab interface:



Server Name: List configured server names.

Server IP: IP of server. User input/auto filled with configured server name.

UserName: Username to login server. User input/auto filled with configured server name.

Password: Password to login server. User input/auto filled with configured server name.

Port: Port to login server. User input/auto filled with configured server name.

Protocol: User input/auto filled with configured server name.

“START” To start a ssh connection.

“STOP” To stop a ssh connection.

“CANCEL” To send ctrl +c to terminal.

Local Path: To browse/input to local folder/file to upload to server in SFTP mode.

Remote Path: To browse/input to remote folder/file to download to local PC in SFTP mode.

“Load ServerList” Button to refresh the server list by reading configure file and update to the tool.

“Edit ServerList” Button to open the server list configure file in notepad to edit.

“Save Screen” Button to save the output commands on the Display window to the file in local PC.

“Clear Screen” Button to clear the output commands on the Display window.

“Prompt Text Match” To switch between prompt mode base on text match or moshell command format.

“Load Step by Step” To load the stepbystep.txt file in CR output folder and disable command prompt.

“AUTOEXE StepbyStep” To auto run the CRs based on the commands in stepbystep.txt file in CR output folder and show the implementation result in excel format.

“Ctrl + N” To open new SSH Tab.

“Ctrl + E” To close current Tab.

The server list configure file should be in below format:

servername|ServerIP|Username|Password|Port|Protocol|defaultremotefolder

####Please add the server information follow below format####

####User “#” at the begin of line for comment####

#servername|ServerIP|Username|Password|Port|Protocol|defaultremotefolder

Centos|192.168.233.129|root|6yhn^YHN|22|ssh|/

RBS|192.168.1.3|rbs|rbs|22|sftp|/

To comment in this file put # at begin of line.

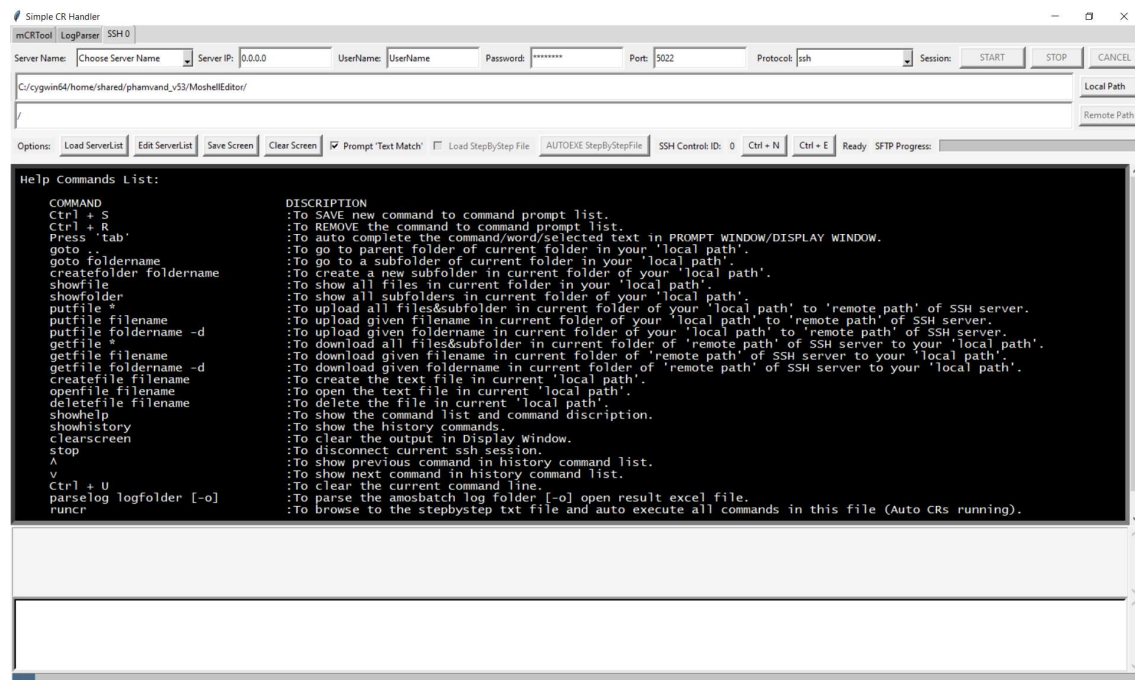
Note:

- During user typing the “Command Prompt Window” will auto prompt the command syntax/MOs/Attributes...
- To auto fill first prompt in Command Prompt Window, user just type “tab” twice.
- To delete current command use “ctrl+u”.
- Use ctrl+c/ctrl+v to copy and paste.
- Users able to change prompt option base on text match or moshell Command/MOs/Attributes.
- Users also able to open other utilities in this interface.

For detail how to use this function, please see the below Demo Video.

https://web.yammer.com/main/org/ericsson.com/threads/eyJfdHlwZSI6IiRocmVhZCIsImlkIjoiMjYxMzA3NjM3MTU2MjQ5NiJ9?trk_copy_link=V1

Over SSH session there are some commands supported as below:



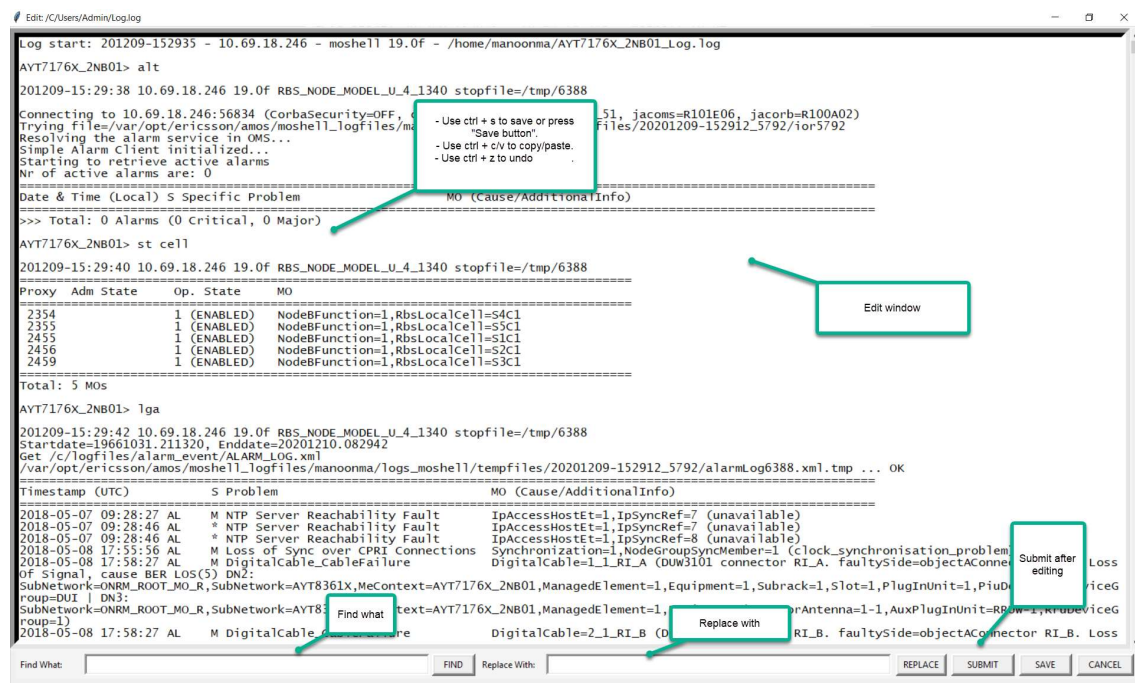
Below link for demo of some commands: upload/download files/folders, change local path/remote path... during ssh session.

https://web.yammer.com/main/org/ericsson.com/threads/eyJfdHlwZSI6II RocmVhZCIsImklkjiOiMjY3NjY3MDE3NDE5OTgwOCJ9?trk_copy_link=V2

Below link for demo about how auto run CR based on stepbystep.txt file.

https://engage.cloud.microsoft/main/org/ericsson.com/threads/eyJfdHlwZSI6II RocmVhZCIsImklkjiOiMjY3NjY3MDE3NDE5OTgwOCJ9?trk_copy_link=V2

Below is the interface for edit the file on the SSH servers (OSS/ENM) by editfile <remote filename> command or select file on display window and right click.



3.7.8 Automation Scripts

Will be available in next release.

3.8 EnmScripting

3.8.1 enm cli

Allow users checking enm cli commands or create the batch file.

```
1 Welcome to MoshellEditor base on Moshell Userguide 23.0c
2 Pham Van Dinh
3 https://web.yammer.com/main/org/ericsson.com/users/eyJldHlwZS9iVzZlLjZCRjEYODI5MjE3MjU5NTM0/storyline
4 Contact: pham.van.dinh@ericsson.com
5
6 =====
7 # EX: Create RadioNode in ENM
8 enmcli create NetworkElement<<Node Name>> networkElementId=<<Node Name>>, netType=RadioNode, ossModelIdentity="19 04 R46A06", ossPrefix="SubNetwork=<<LTE Subnet>> McContext=<<Node Name>>" -ns=OSS_NE_DEF -v=2.0.0
9 enmcli create NetworkElement<<Node Name>> ConConnectivityInformationId=1, ConConnectivityInformationId=1, transportProtocol=TLS, ipAddress="<<OAM IP>>", port=6513 -ns=COM_NED -version=1.1.0
10 secadm credentials create -secureusername=rbuser -secureuserpassword=rbuser@123 -ldapuser enable -n <<Node Name>>
11 enmcli create NetworkElement<<Node Name>> GeographicLocation=1, geographicLocationId=1 -ns=OSS_GEO -v=2.0.0
12 enmcli create NetworkElement<<Node Name>> GeometricPoint=1, GeometricPointId=1, latitude="0", longitude="0" -ns=OSS_GEO -v=2.0.1
13 enmcli set NetworkElement<<Node Name>> controllingRnc=NetworkElement<<RNC Name>>
14 alarm enable <<Node Name>>
15 enmcli set NetworkElement<<Node Name>> InventorySupervision=1 active=true
16 enmcli set NetworkElement<<Node Name>> PnFunction=1 pnEnabled=true
17 enmcli set NetworkElement<<Node Name>> CnNodeHeartbeatSupervision=1 active=true
18
19 # EX: Delete RadioNode in ENM
20 enmcli set NetworkElement<<Node Name>> PnFunction=1 pnEnabled=false
21 enmcli set NetworkElement<<Node Name>> CnNodeHeartbeatSupervision=1 active=false
22 enmcli set NetworkElement<<Node Name>> InventorySupervision=1 active=false
23 enmcli set NetworkElement<<Node Name>> FmAlarmSupervision=1 active=false
24 enmcli action NetworkElement<<Node Name>> CnFunction=1 deleteNmDataFromEnm
```

Starting a batch:

1. Create a file with valid Command Line Interface CLI commands
2. Drag and Drop the batch file onto the CLI web browser
3. Only one file is allowed to be dragged and dropped. If another file is dropped into the browser, it will override any previous file.
4. Executing the batch file: To execute the batch file, type this command on the CLI : batch execute file: <file-name>

The creation of a ConnectivityInformation MO results in the automatic creation of several MOs as child MOs of the NetworkElement MO. These are used for supervising the node and other functions described by various other use cases and applications. The following MO types are auto created:

- CnNodeHeartbeatSupervision
- SecurityFunction
- PnFunction
- FmAlarmSupervision
- InventorySupervision
- CnFunction
- PMIScannerInfo
- PnFunction
- SIMFunction

3.8.2 enmscripting

Allow users checking enmscripting and create the python script.

```
1
2 Welcome to MoshellEditor base on Moshell Userguide 23.0c
3 Pham Van Dinh
4 https://web.yammer.com/main/org/ericsson.com/users/eyJldHlwZS9iVzZlLjZCRjEYODI5MjE3MjU5NTM0/storyline
5 Contact: pham.van.dinh@ericsson.com
6
7 =====
8 import enmscripting
9 session = enmscripting.open(<ENM Launcher URL>) with_credentials(enmscripting.UsernameAndPassword(<user name>,<password>))
10 command = enmcli get McContext=SampleNode
11 cmd = session.command()
12 response = cmd.execute(command)
13 # element in response get_output()
14 print(element.value())
15 enmscripting.close(session)
```

The enmscripting module allows the user to login to an ENM deployment, execute valid ENM CLI commands and receive and process the response. The high-level steps involved in this are:

1. Create a Python script and import enmscripting
2. Start session on ENM with open() function to create an EnmSession
3. Use Command() function to provide an EnmCommand to execute the CLI commands.
4. Alternatively, use a Terminal() function to provide an EnmTerminal to execute the CLI commands
5. Use if Command_result.available() and http_response.code() functions to check if the Command was sent and a response was received and what the HTTP response code was
6. Use execute() function to execute the command and return the response. The type of response depends on whether an EnmCommand or an EnmTerminal was used to execute the command.
7. Use get_output() function to view/process the response
8. Use close() function when all the required commands have been executed.

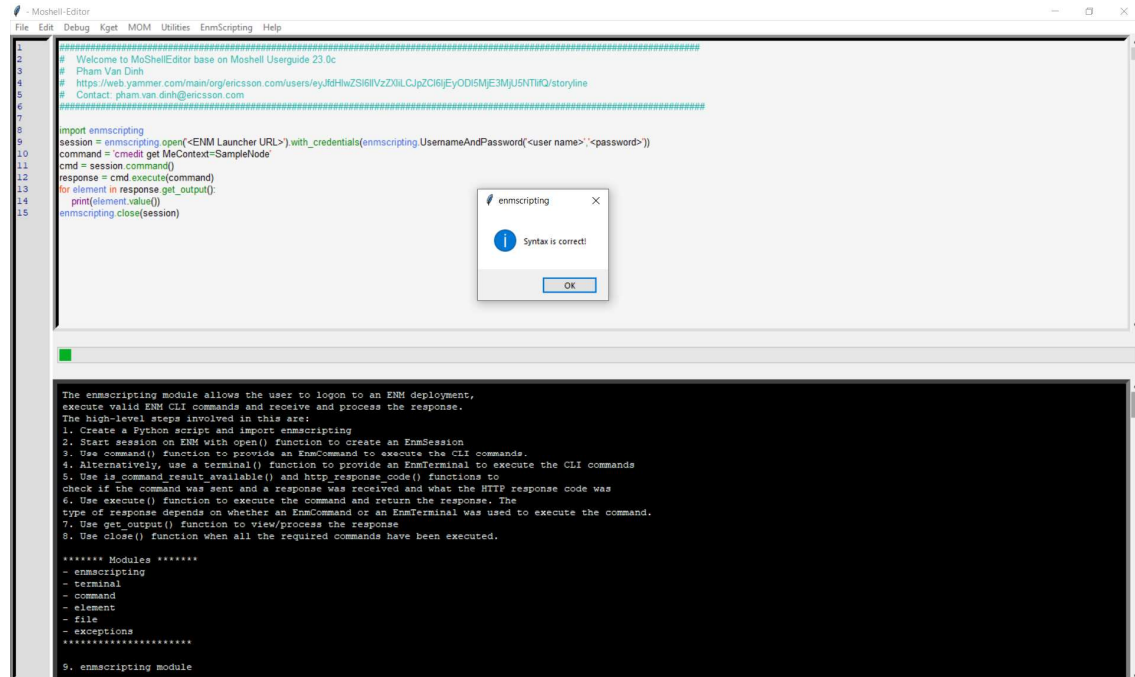
***** Modules *****

- enmscripting
- terminal
- command
- element
- file
- exceptions

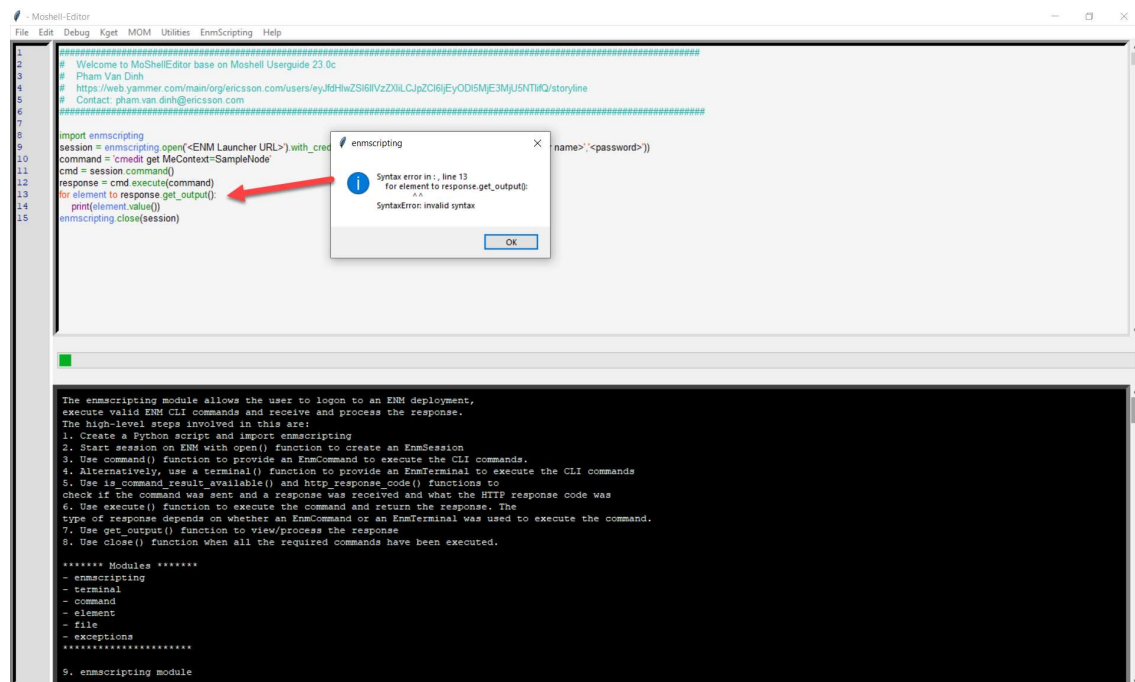
9. enmscripting module

3.8.3 syntaxchecking

Allow users checking the enmscripting syntax.



Ex: Wrong syntax.



3.9 Help

3.9.1 3.3 Regular Expressions

Base on Moshell User Guide in scripting Part.

3.9.2 3.4 How to specify attribute values.

Base on Moshell User Guide in scripting Part.

3.9.3 6.2 Variable Assignment

Base on Moshell User Guide in scripting Part.

3.9.4 6.3 Hashtables (Arrays)

Base on Moshell User Guide in scripting Part.

3.9.5 6.4 If/else Constructs

Base on Moshell User Guide in scripting Part.

3.9.6 6.5 For Constructs

Base on Moshell User Guide in scripting Part.

3.9.7 6.6 User-Defined Functions

Base on Moshell User Guide in scripting Part.

3.9.8 6.7 Nesting For and If Statements

Base on Moshell User Guide in scripting Part.

3.9.9 6.8 Examples Scripts

Base on Moshell User Guide in scripting Part.

3.9.10 ccredit help

Base on enm cli online help.

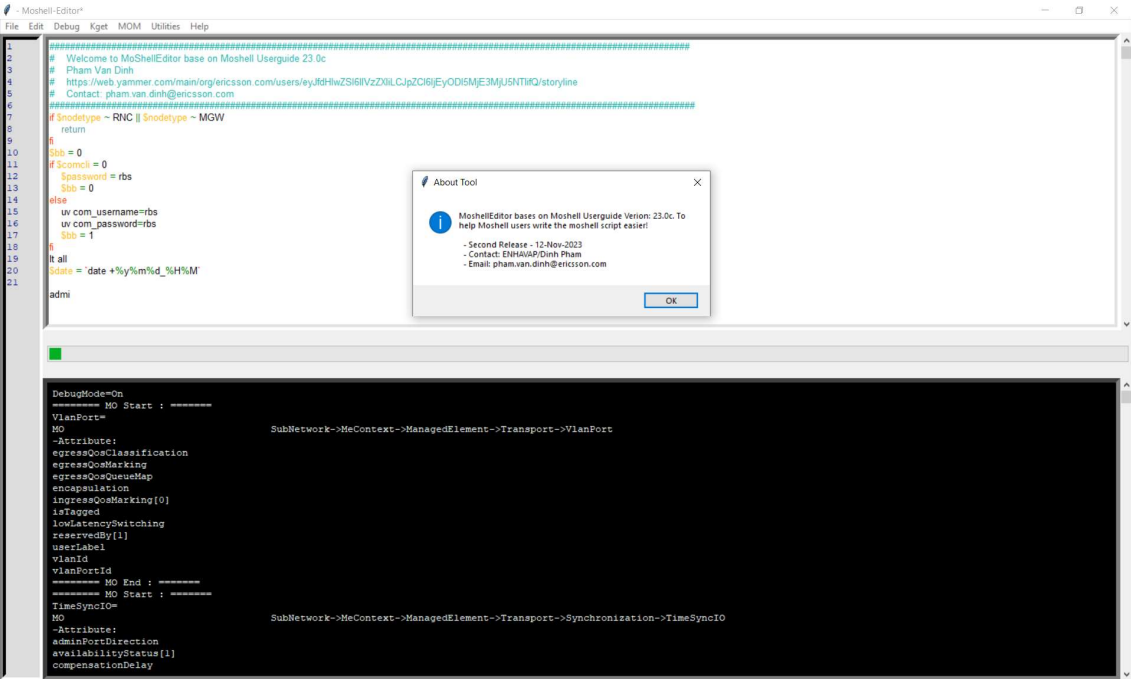
3.9.11 enmscripting

Base on enmscriptin online help.

3.9.12 MoshellLatestChanges

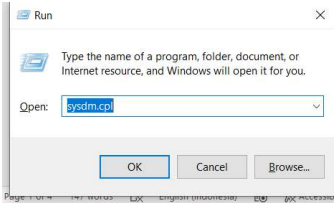
Show the latest changes of Moshell's versions.

3.9.13 About

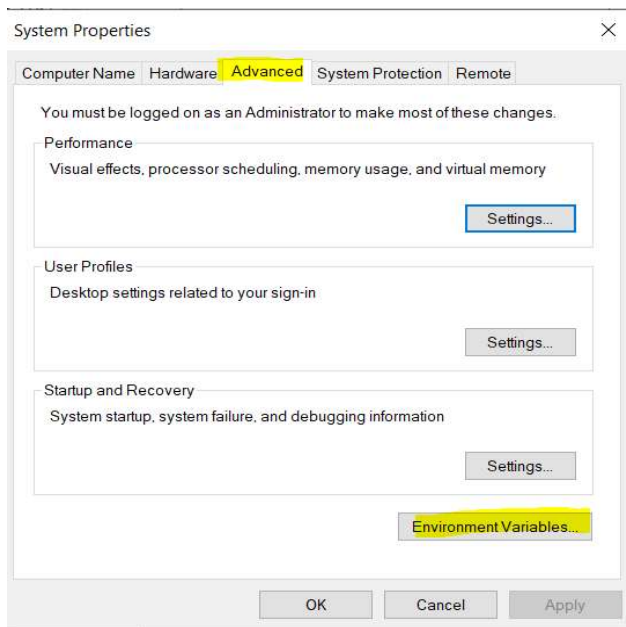


4 INSTALL PYTHON (PYTHON 3.11.4) AND SETUP

- 1. Install Python from <https://www.python.org/downloads/>
- 2. Run “sysdm.cpl” from shortcut Win + R.

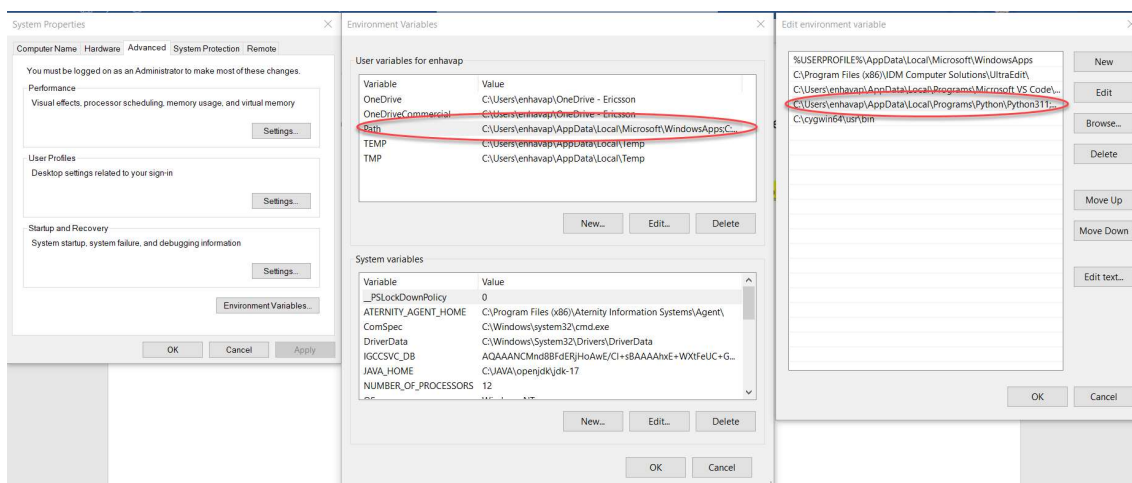


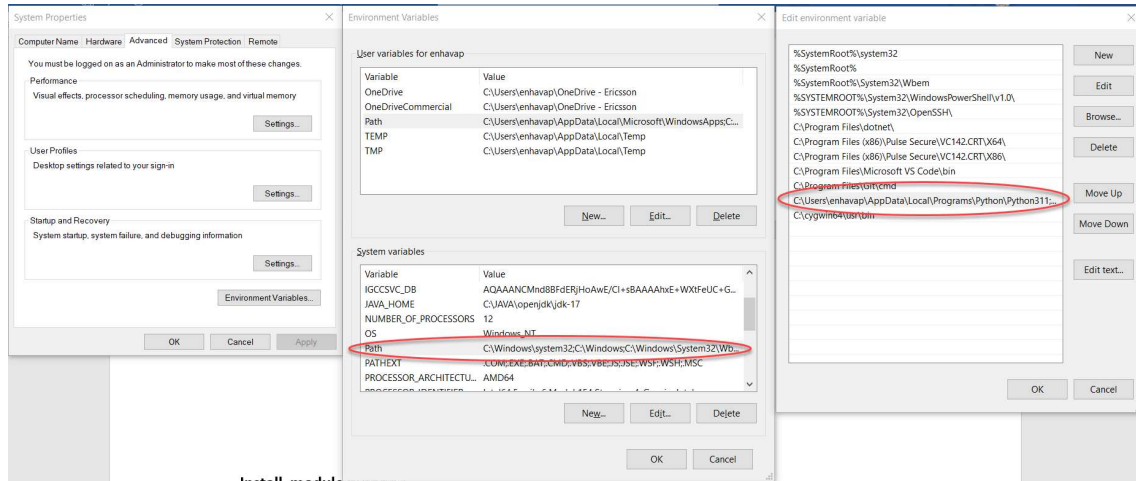
- 3. Choose tab advanced, then click Environment variable.



4. Click New in top button (highlight yellow), input Variable name & value.

- Variable name: **Path**
- Variable value:
C:\Users\<signature>\AppData\Local\Programs\Python\Python311;C:\Users\<signature>\AppData\Local\Programs\Python\Python311\Scripts





Install module python (Python 3.11.4):

Package requirements:

- Tkinter
- Openpyxl
- pysftp

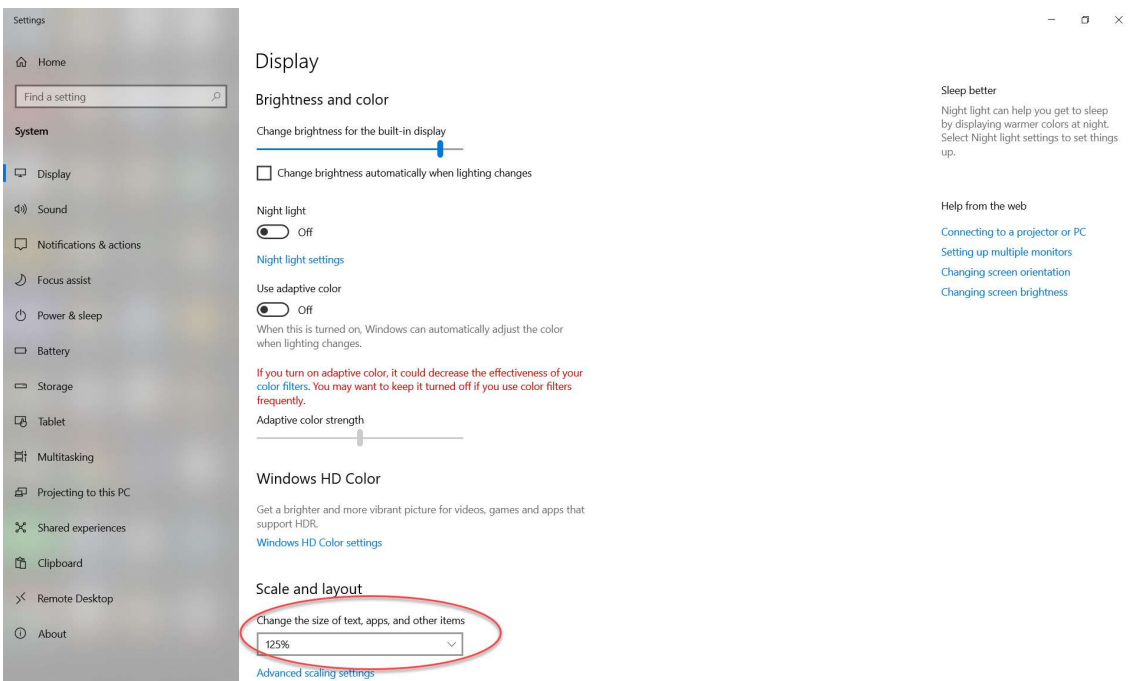
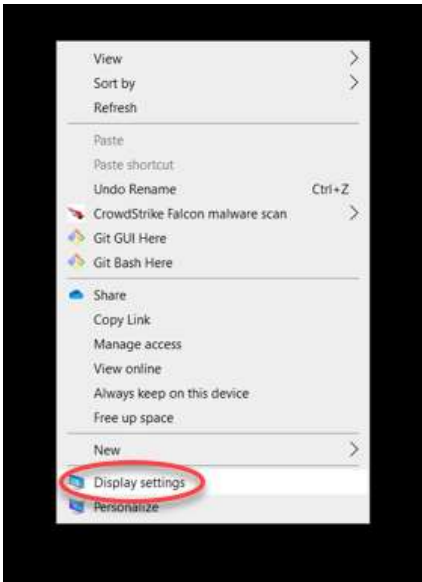
How to install tkinter, openpyxl, pysftp on windows:

1. Create folder for run script example < C:\Users\<signum>\Downloads\MoshellEditor>
2. Go to directory `cd C:\Users\<signum>\Downloads\MoshellEditor`
3. Running commands:
 - a. `py -m pip install tkinter`
 - b. `py -m pip install openpyxl`
 - c. `py -m pip install pysftp`
4. Set alias in .bashrc file.

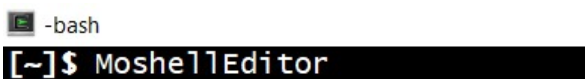
```
[~]$ cat .bashrc
unset PROMPT_COMMAND
export PS1="\[\033[1m\][\w]\\$[\033[0m\] "
alias ls="ls -FX"
set -o notify
set -o ignoreeof
shopt -s cdspell
shopt -s cdable_vars
shopt -s checkhash
shopt -s checkwinsize
shopt -s sourcepath
shopt -s histappend

export PATH=$PATH:/home/enhavap/moshell
alias id="cat /home/enhavap/indb.ALLOSS.txt | egrep -i"
alias MoshellEditor="py C:/cygwin64/home/shared/phamvand_v53/MoshellEditor/MoshellEditor.py"
[~]$
```


5. Best display setting for scale is 125% as below.



6. Start the tool by type MoshellEditor in Cygwin.



5 TOOL SOURCE

5.1 Latest Version (02-Jun-2024)

<https://web.yammer.com/main/org/ericsson.com/users/eyJfdHlwZSI6IlVzZXliLCJpZCI6IjEyODI5MjE3MjU5NTIifQ/storyline>

5.2 Demo Videos

First Demo Video:

https://web.yammer.com/main/org/ericsson.com/threads/eyJfdHlwZSI6IlRocmVhZCI6ImlkIjoiMjUxOTc0MTc1NDI0NTEyMCJ9?trk_copy_link=V1

Second Demo Video: How to debug your script.

https://web.yammer.com/main/org/ericsson.com/threads/eyJfdHlwZSI6IlRocmVhZCI6ImlkIjoiMjU1NDY5MDI3MDgzODc4NCJ9?trk_copy_link=V1

Third Demo Video: Generate Scripts base on Templates and Data from RF (Change Request Mode).

https://web.yammer.com/main/org/ericsson.com/threads/eyJfdHlwZSI6IlRocmVhZCI6ImlkIjoiMjU1MTY2MjQ0MTEyMTU1MiJ9?trk_copy_link=V1

Demo Video: Parse FolderLog (Summary) (Log files from implemented CRs)

https://web.yammer.com/main/org/ericsson.com/threads/eyJfdHlwZSI6IlRocmVhZCI6ImlkIjoiMjU1MTY2NjAwMDkwNDE5MiJ9?trk_copy_link=V1

Demo Video: How to generate “.mos” scripts, sftp and upload to ENM/OSS, ssh and execute amosbatch, sftp and download logfiles, parse logfiles.

https://web.yammer.com/main/org/ericsson.com/threads/eyJfdHlwZSI6IlRocmVhZCI6ImlkIjoiMjYxMzA3NjM3MTU2MjQ5NiJ9?trk_copy_link=V1

Demo Video: Auto prompt Moshell commands during user typing over ssh connection.

https://web.yammer.com/main/org/ericsson.com/threads/eyJfdHlwZSI6IlRocmVhZCI6ImlkIjoiMjYxNzUwMjU1ODI2NTM0NCJ9?trk_copy_link=V1

https://web.yammer.com/main/org/ericsson.com/threads/eyJfdHlwZSI6IiRocmVhZCI6ImkljoiMjY3NjkxMDE3NDE5OTgwOCJ9?trk_copy_link=V2

Demo Video: How to use Simple CR Handler.

https://engage.cloud.microsoft/main/org/ericsson.com/threads/eyJfdHlwZSI6IiRocmVhZCI6ImkljoiMjgyNDkxODMxMzQzNTEzNiJ9?trk_copy_link=V2