**Command Scripting**  
VyOS supports executing configuration and operational commands non-interactively from shell

scripts.

To include VyOS specific functions and aliases you need

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| --- | --- |
| to source /opt/vyatta/etc/functions/script-template files at the top of your script.   |  | | --- | |  | |

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| --- |
| #!/bin/vbash  source /opt/vyatta/etc/functions/script-template  exit |

**Run configuration commands**  
Configuration commands are executed just like from a normal config session. For example, if

you want to disable a BGP peer on VRRP transition to backup:

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| --- |
| #!/bin/vbash  source /opt/vyatta/etc/functions/script-template  configure  set protocols bgp system-as 65536  set protocols bgp neighbor 192.168.2.1 shutdown  commit  exit |
| **Run operational commands** Unlike a normal configuration session, all operational commands must be prepended with run ,   |  | | --- | |  | |

even if you haven’t created a session with configure.

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| --- |
| #!/bin/vbash  source /opt/vyatta/etc/functions/script-template  run show interfaces  exit |

**Run commands remotely**  
Sometimes you simply wan’t to execute a bunch of op-mode commands via SSH on a remote

VyOS system.

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| --- |
| ssh 192.0.2.1 'vbash -s' <<EOF  source /opt/vyatta/etc/functions/script-template  run show interfaces  exit  EOF |

Will return:

|  |
| --- |
| Welcome to VyOS  Codes: S - State, L - Link, u - Up, D - Down, A - Admin Down Interface IP Address S/L Description--------- ---------- --- ----------- eth0 192.0.2.1/24 u/u  lo 127.0.0.1/8 u/u  ::1/128 |

**Other script languages**

If you want to script the configs in a language other than bash you can have your script output commands and then source them in a bash script.

Here is a simple example:

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| --- |
| *#!/usr/bin/env python3*  print("delete firewall group address-group somehosts")  print("set firewall group address-group somehosts address '192.0.2.3'") print("set firewall group address-group somehosts address '203.0.113.55'") #!/bin/vbash  source /opt/vyatta/etc/functions/script-template  configure  source < /config/scripts/setfirewallgroup.py  commit |

**Executing Configuration Scripts**

There is a pitfall when working with configuration scripts. It is tempting to call configuration scripts with “sudo” (i.e., temporary root permissions), because that’s the common way on most Linux platforms to call system commands.

On VyOS this will cause the following problem: After modifying the configuration via script like this once, it is not possible to manually modify the config anymore:

|  |
| --- |
| sudo ./myscript.sh # Modifies config  configure  set ... # Any configuration parameter |
| This will result in the following error message: Set failed If this happens, a reboot is required to   |  | | --- | |  | |

be able to edit the config manually again.

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| --- | --- | --- |
| To avoid these problems, the proper way is to call a script with the vyattacfg group, e.g., by   |  | | --- | |  |   using the sg (switch group) command:   |  | | --- | |  | |

|  |
| --- |
| sg vyattacfg -c ./myscript.sh |
| To make sure that a script is not accidentally called without the vyattacfg group, the script can   |  | | --- | |  | |

be safeguarded like this:

|  |
| --- |
| if [ "$(id -g -n)" != 'vyattacfg' ] ; then  exec sg vyattacfg -c "/bin/vbash $(readlink -f $0) $@" fi |

**Executing pre-hooks/post-hooks Scripts**

VyOS has the ability to run custom scripts before and after each commit

The default directories where your custom Scripts should be located are:

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| /config/scripts/commit/pre-hooks.d - Directory with scripts that run before each commit. |

|  |
| --- |
| /config/scripts/commit/post-hooks.d - Directory with scripts that run after each commit. |

Scripts are run in alphabetical order. Their names must consist entirely of ASCII upper- and lower-case letters,ASCII digits, ASCII underscores, and ASCII minus-hyphens.No other characters are allowed.

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| **Note** |

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| Custom scripts are not executed with root privileges (Use sudo inside if this is necessary). |

A simple example is shown below, where the ops command executed in the post-hook script is “show interfaces”.

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| --- |
| vyos@vyos# set interfaces ethernet eth1 address 192.0.2.3/24 vyos@vyos# commit  Codes: S - State, L - Link, u - Up, D - Down, A - Admin Down Interface IP Address S/L Description --------- ---------- --- ----------- eth0 198.51.100.10/24 u/u  eth1 192.0.2.3/24 u/u  eth2 - u/u  eth3 - u/u  lo 203.0.113.5/24 u/u |

**Preconfig on boot**

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| --- | --- |
| The /config/scripts/vyos-preconfig-bootup.script script is called on boot before the VyOS   |  | | --- | |  | |

configuration during boot process.

Any modifications were done to work around unfixed bugs and implement enhancements that are not complete in the VyOS system can be placed here.

The default file looks like this:

|  |
| --- |
| #!/bin/sh  # This script is executed at boot time before VyOS configuration is applied.  # Any modifications required to work around unfixed bugs or use  # services not available through the VyOS CLI system can be placed here. |
| **Postconfig on boot** The /config/scripts/vyos-postconfig-bootup.script script is called on boot after the VyOS   |  | | --- | |  | |

|  |
| --- |
| configuration is fully applied. |

|  |
| --- |
| Any modifications were done to work around unfixed bugs and implement |

|  |
| --- |
| enhancements that are not complete in the VyOS system can be placed here. |

|  |
| --- |
| The default file looks like this: |

|  |
| --- |
| #!/bin/sh  # This script is executed at boot time after VyOS configuration is fully # applied. Any modifications required to work around unfixed bugs or use # services not available through the VyOS CLI system can be placed here. |