

# LANforge Scripting Cookbook

The LANforge Scripting Cookbook provides a series of detailed examples of how to craft testing scripts for unattended and automated operation. Each example intends to give the reader a runnable test script and a better understanding of how to use the LANforge-CLI API.

Please read the summary information on this page before reading the chapters listed below.

## LANforge Scripting Detailed Cookbook Examples

### Scripting Basics

1. Operating LANforge scripts from Windows



2. LANforge Entity IDs



3. LANforge GUI Introduction



4. LANforge Scripting Introduction



### Python Scripts

5. Querying the LANforge JSON API using Python



6. Managing WANlinks using JSON and Python



7. Create Test Scripts With the Realm Class



8. Create Layer 4 Test Scripts With Python



9. Create Generic Test Scripts With Python



10. Create VAP Test Scripts With Python



11. Load Scenarios And Control Test Groups With Python



12. Record the results of a test as CSV from the REALM monitor script



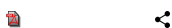
13. Record the results of a test as an Excel file from the REALM monitor script



14. Define and Demonstrate Docstring Usage in Candela Technologies Python Scripts



15. Scan for SSIDs, BSSIDs, and Signals of wireless APs



16. Probe Ports for Information



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## Perl Scripts

18. Perl CLI Scripts Introduction



19. Monitor and Reset Ports with the portmod Script



20. Cross Connects and Endpoints Tutorial



21. Creating Connections with the FIREmod Script



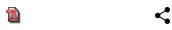
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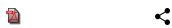
26. Chamber View: Automated tests with script



27. Control a chamber with the lf\_chamber.pl Script



28. Emulating Video Transmission with Layer 3 connections



## CLI Concepts

29. Changing Station POST\_IFUP Script with the CLI API



30. Scripting Attenuation with CSV data

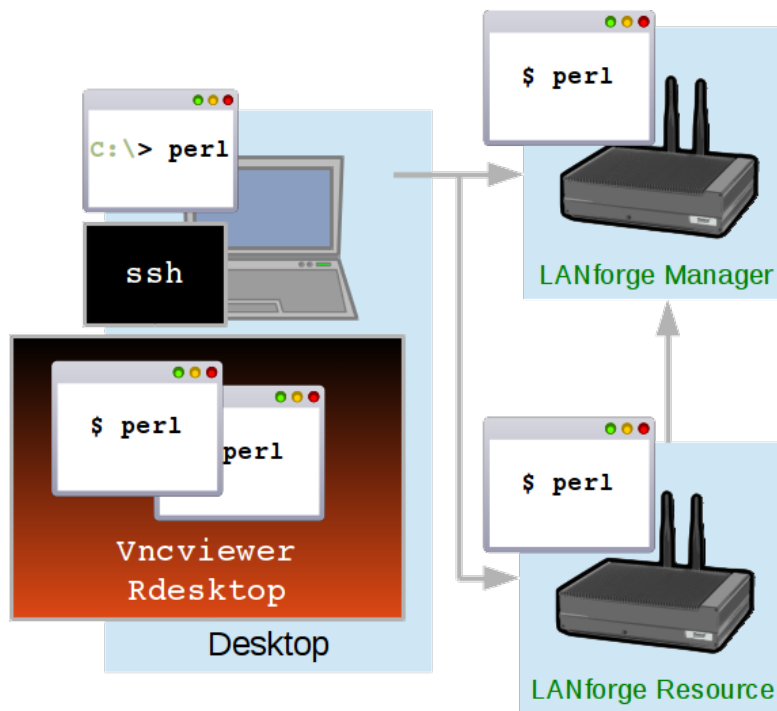


31. Station CLI Operations



## Places to Run CLI Commands

You do not need to operate scripts directly from the LANforge server, and this allows you to code scripts in your preferred text editing environment. Likewise, you do not need to run a copy of LANforge Server on your desktop. Scripts will create a plain-text connection to the LANforge server you specify.



### Windows Desktop

You can install a copy of the LANforge Server on your windows desktop (without a license) so that you have access to the Perl scripting libraries. Edit scripts and run them from your `C:\Program Files\LANforge-Server\scripts` directory.

### Linux Desktop

You can copy the LANforge scripts folder directly from your LANforge server to your Documents directory with `scp`.

### SSH or VNC connection to LANforge Server

Using `vncviewer`, `rdesktop` or `ssh` are all fine options to connect to the LANforge server to write and operate scripts. The LANforge server comes with a basic Linux desktop and you can use `emacs`, `vim`, `pluma`, or `gedit` text editors installed by default. When editing scripts on the LANforge server itself, be careful to back up your work before you upgrade LANforge. The LANforge install process will over-write scripts of the same name in the scripts directory.

## Requirements for Scripts

Your desktop (or other computer) running CLI scripts needs to have a reliable (wired) connection to the management port of your LANforge server. If you are engaging in long running tests, you might consider running the scripts from the LANforge manager itself if your desktop machine needs to be powered off.

### Script Libraries

CLI scripts are written using Perl. They require the libraries in `/home/lanforge/scripts/LANforge`. Users may write scripts in other programming languages, such as `python`, but in that case, they will not be able to take direct advantage of the Perl scripts included in LANforge.

### On Windows

LANforge is more fully featured on Linux, but basic support exists on Windows as well.

You can run CLI scripts from any Windows desktop as long as you have Perl installed. You can use [ActiveState Perl](#) or [Perl from the Cygwin project](#). We also highly suggest installing [PuTTY ssh client](#) to access your LANforge server.

### On Linux/OS X

Most Linux distributions come with an `ssh` client and Perl already installed.

### LANforge Server Requirements

The following examples will create test scenarios that work on LANforge Linux systems running the LANforge software with the LANforge kernel and a sufficient license. If you are running LANforge server using another Linux kernel, you may not be able to operate some of the examples. (Features like Armageddon, operation of WiFi-AC radios, and WanLinks all require drivers included only in Candela provided kernels.)

Please contact us at [support@candelatech.com](mailto:support@candelatech.com) if you have any questions.

# Before Starting LANforge-CLI Traffic Generation

Before attempting the examples below, ensure that you have successfully followed these software installation guides:

- [LANforge-GUI Installation](#)
- [LANforge Server Installation](#)

If you have any questions or suggestions, email [support@candelatech.com](mailto:support@candelatech.com).

It is also recommended that you back up your current running LANforge Server database so that you may safely return to your current operating state.

For instance:

```
su - root
cd /home/lanforge
tar -cvzf my_db_backup.tar.gz DB
```

- [All cookbook examples in one page. Good for printing.](#)

If you have any questions or suggestions, email [support@candelatech.com](mailto:support@candelatech.com).

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