
labgridhelper Documentation

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Labgridhelper provides utility functions for the labgrid library and labgrid testsuites.

It is meant to provide wrapper functions for commonly used functionality such as the retrieval of the system service status information.

Labgridhelper is separated into different submodules. These submodules are created for different stages of a device boot, i.e. the barebox submodule is used for the barebox bootloader and the linux submodule is used for a fully booted linux system.

1.1 Writing new helper functions

Helper functions usually use one of the protocols from labgrid to retrieve data from the device, reformat the data and return it to be consumed in the test case. These functions should not perform test asserts, this should be done in the individual test cases, to separate data reformatting from testing. Asserts however are needed to verify that the correct protocol is passed to the helper function. This is usually done by importing the protocol from labgrid and performing the assert in the beginning of the helper, i.e.:

```
def get_systemd_status(command):  
    assert isinstance(command, CommandProtocol), "command must be a CommandProtocol"
```

This should ensure that the correct protocol is used and the helper function is used correctly in the test suite.

Helper functions should also contain a docstring to document its function for the user, i.e.:

```
def get_commands(command, directories=None):  
    """Returns the commands of a running linux system  
  
    Args:  
        command (CommandProtocol): An instance of a Driver implementing the  
↳CommandProtocol  
        directories (list): An optional list of directories to include  
  
    Returns:  
        list: list of commands available under linux  
    """
```


2.1 labgridhelper package

2.1.1 Submodules

2.1.2 labgridhelper.barebox module

`labgridhelper.barebox.get_commands` (*command*)

Returns the available commands of a running Barebox bootloader

Parameters `command` (*BareboxDriver*) – An instance of the BareboxDriver

Returns list of the available commands

Return type list

`labgridhelper.barebox.get_globals` (*command*)

Returns the global variables of a running Barebox bootloader

Parameters `command` (*BareboxDriver*) – An instance of the BareboxDriver

Returns name as key and value as key-value

Return type dict

`labgridhelper.barebox.devinfo` (*command, device*)

Returns the devinfo as dict

Parameters

- `command` (*BareboxDriver*) – An instance of the BareboxDriver
- `device` (*string*) – device to call devinfo on

Returns parameters

Return type dict

2.1.3 labgridhelper.linux module

`labgridhelper.linux.get_systemd_version` (*command*)

Returns systemd version retrieved by parsing output of `systemd -version`

Parameters `command` (*CommandProtocol*) – An instance of a Driver implementing the CommandProtocol

Returns systemd version number

Return type int

`labgridhelper.linux.get_systemd_status` (*command*)

Returns parsed output of systemd Manager's ListUnits DBus command

Parameters `command` (*CommandProtocol*) – An instance of a Driver implementing the CommandProtocol

Returns dictionary of service names to their properties

Return type dict

`labgridhelper.linux.get_commands` (*command*, *directories=None*)

Returns the commands of a running linux system

Parameters

- **command** (*CommandProtocol*) – An instance of a Driver implementing the CommandProtocol
- **directories** (*list*) – An optional list of directories to include

Returns list of commands available under linux

Return type list

`labgridhelper.linux.get_systemd_service_active` (*command*, *service*)

Returns True if service is active, False in all other cases

Parameters

- **command** (*CommandProtocol*) – An instance of a Driver implementing the CommandProtocol
- **service** (*str*) – name of the service

Returns True if service is active, False otherwise

Return type bool

`labgridhelper.linux.get_interface_ip` (*command*, *interface='eth0'*)

Returns the global valid IPv4 address of the supplied interface

Parameters

- **command** (*CommandProtocol*) – An instance of a Driver implementing the CommandProtocol
- **interface** (*string*) – name of the interface

Returns IPv4 address of the interface, None otherwise

Return type str

`labgridhelper.linux.get_hostname` (*command*)

Returns the hostname

Parameters `command` (*CommandProtocol*) – An instance of a Driver implementing the CommandProtocol

Returns hostname of the target, None otherwise

Return type str

labgridhelper.linux.**systemd_unit_properties** (*command, unit_properties, unit=""*)

Yields the values of the properties of a unit

Parameters

- **command** (*CommandProtocol*) – An instance of a Driver implementing the CommandProtocol
- **unit_properties** (*iterable*) – Names of the properties of interest
- **unit** (*str, optional*) – The systemd unit of interest, defaults to empty (systemd manager itself)

Yields *str* – Property value of the unit

CHAPTER 3

Indices and Tables

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