

List of Environment Variables in Linux/Unix

What is a Computing Environment?

The Computing environment is the Platform(Platform = Operating System+ Processor) where a user can run programs.

What is a Variable?

In computer science, a variable is a location for storing a value which can be a filename, text, number or any other data. It is usually referred to with its Symbolic name which is given to it while creation. The value thus stored can be displayed, deleted, edited and re-saved.

Variables play an important role in computer programming because they enable programmers to write flexible programs. As they are related to the Operating system that we work on, it is important to know some of them and how we can influence them.

What are Environment variables?

Environment variables are dynamic values which affect the processes or programs on a computer. They exist in every operating system, but types may vary. Environment variables can be created, edited, saved, and deleted and give information about the system behavior.

Environment variables can change the way a software/programs behave.

E.g. \$LANG environment variable stores the value of the language that the user understands. This value is read by an application such that a Chinese user is shown a Mandarin interface while an American user is shown an English interface.

Let's study some common environment variables –

PATH

This variable contains a colon (:)-separated list of directories in which your system looks for executable files.

```
guru99@VirtualBox:~$ echo $PATH
/usr/lib/lightdm/lightdm:/usr/local/sbin:/usr/local/bin:/usr
:/bin:/usr/games
```

When you enter a command on terminal, the shell looks for the command in different directories mentioned in the \$PATH variable. If the command is found, it executes. Otherwise, it returns with an error 'command not found'.

USER

The username

HOME

Default path to the user's home directory

EDITOR

Path to the program which edits the content of files

UID

User's unique ID

TERM

Default terminal emulator

SHELL

Shell being used by the user

Accessing Variable values

In order to determine value of a variable, use the command

`echo $VARIABLE`

Variables are- Case Sensitive. Make sure that you type the variable name in the right letter case otherwise you may not get the desired results.

```
home@VirtualBox:~$ echo $USER
home
home@VirtualBox:~$ echo $HOME
/home/home
home@VirtualBox:~$ echo $UID
1000
home@VirtualBox:~$ echo $TERM
xterm
home@VirtualBox:~$ echo $PATH
/usr/lib/lightdm/lightdm:/usr/local/sbin:/usr/local/bin
:/bin:/usr/games
home@VirtualBox:~$
```

The 'env' command displays all the environment variables.

```
guru99@VirtualBox:~$ env
SSH_AGENT_PID=8193
DBUS_STARTER_ADDRESS=unix:abstract=/tmp/dbus-3cJBjUA4b1
1018600004deb
GPG_AGENT_INFO=/tmp/keyring-lp9SZ1/gpg:0:1
TERM=xterm
SHELL=/bin/bash
XDG_SESSION_COOKIE=a5fb982bea8a8cb0299c2c9f00000007-134
WINDOWID=58720261
```

Set New Environment Variables

You can create your own user defined variable, with syntax

`VARIABLE_NAME= variable_value`

Again, bear in mind that variables are case-sensitive and usually they are created in upper case.

Define a new variable

```
ubuntu@ubuntu:~$ NEWVARIABLE=value1234
```

Check value of the newly created variable

```
ubuntu@ubuntu:~$ echo $NEWVARIABLE
value1234
```

TIP: Do not leave space between variable name and "=" sign
you will get an error

```
ubuntu@ubuntu:~$ NEWVARIABLE = value1234
NEWVARIABLE: command not found
```

TIP: Do not forget the "\$" sign when you check the value of
variable

```
ubuntu@ubuntu:~$ echo NEWVARIABLE
NEWVARIABLE
```

Deleting Variables

The following syntax can be used to remove a Variable from the system.

`unset variablename`

Define a new variable

```
guru99@VirtualBox:~$ VARIABLE1=1234
```

Check value of the newly created variable

```
guru99@VirtualBox:~$ echo $VARIABLE1
1234
```

Use the 'unset' command

```
guru99@VirtualBox:~$ unset VARIABLE1
```

The variable value is removed

```
guru99@VirtualBox:~$ echo $VARIABLE1
guru99@VirtualBox:~$
```

This would remove the Variable and its value permanently.