

# variables

## What is variables?

A variable is a temporary storage of data in memory.

It stores information that is used for customizing the shell environment and by many system and application processes of function properly.

The shell allows us to stores a value in a variable.

This value may include a string of alphanumeric characters, white spaces, and some special characters.

There are two types of variables:

1. Local variable
2. Environment variable.

## LOCAL VARIABLE: - (one type of private variable and current shell call value)

A Local variable is private to the shell in which it is created and its value cannot be used by processes that are not started in that **shell**.

This value of a local variable is available only in the current **shell** and not in the **sub-shell**.

## ENVIRONMENT VARIABLE: - (GLOBAL VARIABLE)

Is passed from the current shell to sub-shell during the execution of a script.

In other words, the value stored in an environment variable is passed from the parent process to the child process.

## VARIABLES: -

env

Some environment variables are defined automatically through system and user start up files at login/

```
Last login: Tue Feb  8 05:25:17 2022
[root@localhost ~]# env
LS_COLORS=rs=0:di=01;34:ln=01;36:mh=00:pi=40;33:so=01;35:do=01;35:bd=40;33;01:cd
=40;33;01:or=40;31;01:mi=01;05;37;41:su=37;41:sg=30;43:ca=30;41:tw=30;42:ow=34;4
2:st=37;44:ex=01;32:*tar=01;31:*tgz=01;31:*arc=01;31:*arj=01;31:*taz=01;31:
*.lha=01;31:*lzh=01;31:*lzh=01;31:*lzm=01;31:*tlz=01;31:*txz=01;31:*tzo=0
1;31:*t7z=01;31:*zip=01;31:*z=01;31:*dz=01;31:*gz=01;31:*lrz=01;31:*lz=01
;31:*lzo=01;31:*xz=01;31:*zst=01;31:*tzt=01;31:*bz2=01;31:*bz=01;31:*tbz
=01;31:*tbz2=01;31:*tz=01;31:*deb=01;31:*rpm=01;31:*jar=01;31:*war=01;31:*
sar=01;31:*sar=01;31:*rar=01;31:*alz=01;31:*ace=01;31:*zoo=01;31:*cpio=01
;31:*7z=01;31:*rz=01;31:*cab=01;31:*wim=01;31:*swm=01;31:*dwm=01;31:*ead=
01;31:*jpg=01;35:*jpeg=01;35:*mjpg=01;35:*mjpeg=01;35:*gif=01;35:*bmp=01;3
5:*pbm=01;35:*pgm=01;35:*ppm=01;35:*tga=01;35:*xbm=01;35:*xpm=01;35:*tif=
01;35:*tiff=01;35:*png=01;35:*svg=01;35:*svgz=01;35:*mng=01;35:*pcx=01;35:
*.mov=01;35:*mpg=01;35:*mpeg=01;35:*m2v=01;35:*mkv=01;35:*webm=01;35:*ogm=
01;35:*mp4=01;35:*m4v=01;35:*mp4v=01;35:*vob=01;35:*qt=01;35:*nuv=01;35:*
wmv=01;35:*asf=01;35:*rm=01;35:*rmvb=01;35:*flc=01;35:*avi=01;35:*fli=01;3
5:*flv=01;35:*gl=01;35:*dl=01;35:*xcf=01;35:*xwd=01;35:*yuv=01;35:*cgm=01
;35:*emf=01;35:*ogv=01;35:*ogx=01;35:*aac=01;36:*au=01;36:*flac=01;36:*m4
a=01;36:*mid=01;36:*midi=01;36:*mka=01;36:*mp3=01;36:*mpc=01;36:*ogg=01;36
*.ra=01;36:*wav=01;36:*oga=01;36:*opus=01;36:*spx=01;36:*xspf=01;36:
SSH_CONNECTION=192.168.254.1 50402 192.168.254.133 22
LANG=en_US.UTF-8
HISTCONTROL=ignoredups
HOSTNAME=localhost.localdomain
KDG_SESSION_ID=6
USER=root
SELINUX_ROLE_REQUESTED=
PWD=/root
HOME=/root
SSH_CLIENT=192.168.254.1 50402 22
SELINUX_LEVEL_REQUESTED=
KDG_DATA_DIRS=/root/.local/share/flatpak/exports/share:/var/lib/flatpak/exports/
share:/usr/local/share:/usr/share
SSH_TTY=/dev/pts/0
MAIL=/var/spool/mail/root
TERM=xterm
SHELL=/bin/bash
SELINUX_USE_CURRENT_RANGE=
SHLVL=1
LOGNAME=root
DBUS_SESSION_BUS_ADDRESS=unix:path=/run/user/0/bus
KDG_RUNTIME_DIR=/run/user/0
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/root/bin
HISTSIZE=1000
LESSOPEN=||/usr/bin/lesspipe.sh %s
=/usr/bin/env
[root@localhost ~]#
```

## variables

### Temporary value call only current shell

```
[root@localhost ~]# var=vivek
[root@localhost ~]# echo $var
vivek
[root@localhost ~]#
```

### Export value

### export var

```
LS_COLORS=rs=0:di=01:34:ln=01:36:mh=00:pi=40:33:so=01:35:do=01:35:bd=40:33:01:cd
=40:33:01:or=01:31:mi=01:05:7f:41:au=37:41:sg=30:43:ca=30:41:tw=30:42:ow=34:4
2:st=37:44:ae=01:32:*.tar=01:31:*.tgz=01:31:*.*asc=01:31:*.*az=01:31:*.*az=01:31
*.*lha=01:31:*.*lzh=01:31:*.*lzma=01:31:*.*tlz=01:31:*.*txz=01:31:*.*tzo=0
1:31:*.*t7z=01:31:*.*zip=01:31:*.*z=01:31:*.*dz=01:31:*.*gz=01:31:*.*lrz=01:31:*.*lzo=01:31:*.*xz=01:31:*.*zst=01:31:*.*tzt=01:31:*.*bz2=01:31:*.*bz=01:31:*.*tbz
=01:31:*.*tbz2=01:31:*.*c=01:31:*.*deb=01:31:*.*rpm=01:31:*.*jar=01:31:*.*war=01:31:*
.*sar=01:31:*.*sar01=01:31:*.*var=01:31:*.*ol=01:31:*.*ace=01:31:*.*zoo=01:31:*.*cpio=01
:31:*.*7z=01:31:*.*rz=01:31:*.*cab=01:31:*.*wim=01:31:*.*swm=01:31:*.*dms=01:31:*.*esd=
01:31:*.*jpg=01:35:*.*jpeg=01:35:*.*mjpg=01:35:*.*mjpeg=01:35:*.*gif=01:35:*.*bmp=01:3
5:*.*pbm=01:35:*.*pgm=01:35:*.*ppm=01:35:*.*tga=01:35:*.*xbm=01:35:*.*xpm=01:35:*.*tif
=01:35:*.*tiff=01:35:*.*png=01:35:*.*svg=01:35:*.*svgz=01:35:*.*mng=01:35:*.*pex=01:35:
*.*mov=01:35:*.*mpg=01:35:*.*mpeg=01:35:*.*m2v=01:35:*.*mkv=01:35:*.*webm=01:35:*.*ogm
=01:35:*.*mp4=01:35:*.*m4v=01:35:*.*mp4v=01:35:*.*vob=01:35:*.*qt=01:35:*.*nuv=01:35:*
*.*wmv=01:35:*.*asf=01:35:*.*rm=01:35:*.*rmvb=01:35:*.*flc=01:35:*.*avi=01:35:*.*fli=01:3
5:*.*flv=01:35:*.*gl=01:35:*.*dl=01:35:*.*xcf=01:35:*.*xwd=01:35:*.*yuv=01:35:*.*cgm=01
:35:*.*emf=01:35:*.*ogv=01:35:*.*ogv=01:35:*.*aac=01:36:*.*au=01:36:*.*flac=01:36:*.*m4
=01:36:*.*mid=01:36:*.*midi=01:36:*.*mka=01:36:*.*mp3=01:36:*.*mpc=01:36:*.*ogg=01:36
*.*ra=01:36:*.*wav=01:36:*.*oga=01:36:*.*opus=01:36:*.*spx=01:36:*.*xspf=01:36:
SSH_CONNECTION=192.168.254.1 50402 192.168.254.133 22
LANG=en_US.UTF-8
HISTCONTROL=ignoredups
HOSTNAME=localhost.localdomain
XDG_SESSION_ID=6
USER=root
SELINUX_ROLE_REQUESTED=
PWD=/root
HOME=/root
SSH_CLIENT=192.168.254.1 50402 22
SELINUX_LEVEL_REQUESTED=
XDG_DATA_DIRS=/root/.local/share/flatpak/exports/share:/var/lib/flatpak/exports/sh
are:/usr/local/share:/usr/share
SSH_TTY=/dev/pts/0
MAIL=/var/spool/mail/root
TERM=xterm
SHELL=/bin/bash
SELINUX_USE_CURRENT_RANGE=
SHLVL=1
LOGNAME=root
DBUS_SESSION_BUS_ADDRESS=unix:path=/run/user/0/bus
XDG_RUNTIME_DIR=/run/user/0
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/root/bin
HISTSIZE=1000
LESSOPEN=||/usr/bin/lesspipe.sh %s
_/usr/bin/env
[root@localhost ~]# var=vivek
[root@localhost ~]# echo $var
vivek
[root@localhost ~]# export var
```

## Results

```
SSH_CONNECTION=192.168.254.1 50402 192.168.254.133 22
LANG=en_US.UTF-8
HISTCONTROL=ignoredups
HOSTNAME=localhost.localdomain
XDG_SESSION_ID=6
USER=root
SELINUX_ROLE_REQUESTED=
PWD=/root
HOME=/root
SSH_CLIENT=192.168.254.1 50402 22
SELINUX_LEVEL_REQUESTED=
XDG_DATA_DIRS=/root/.local/share/flatpak/exports/share:/var/lib/flatpak/exports/sh
SSH_TTY=/dev/pts/0
MAIL=/var/spool/mail/root
TERM=xterm
SHELL=/bin/bash
SELINUX_USE_CURRENT_RANGE=
SHLVL=1
LOGNAME=root
DBUS_SESSION_BUS_ADDRESS=unix:path=/run/user/0/bus
XDG_RUNTIME_DIR=/run/user/0
PATH=/usr/local/sbin:/usr/local/bin:/usr/sbin:/usr/bin:/root/bin
HISTSIZE=1000
var=vivek
LESSOPEN=||/usr/bin/lesspipe.sh %s
_/usr/bin/env
[root@localhost ~]#
```

## variables

### Remove variable

### unset var

```
[root@localhost ~]# unset var
[root@localhost ~]# env
LS_COLORS=rs=0:di=01:34:ln=01:36:mh=00:pi=40:33:so=01:35:do=01:35:bd=40:33:01:cd=
SSH_CONNECTION=192.168.254.1 50402 192.168.254.133 22
LANG=en_US.UTF-8
HISTCONTROL=ignoredups
HOSTNAME=localhost.localdomain
XDG_SESSION_ID=6
USER=root
SELINUX_ROLE_REQUESTED=
PWD=/root
HOME=/root
SSH_CLIENT=192.168.254.1 50402 22
SELINUX_LEVEL_REQUESTED=
XDG_DATA_DIRS=/root/.local/share/flatpak/exports/share:/var/lib/flatpak/exports/share:/usr/local/share:
SSH_TTY=/dev/pts/0
MAIL=/var/spool/mail/root
TERM=xterm
SHELL=/bin/bash
SELINUX_USE_CURRENT_RANGE=
SHLVL=1
LOGNAME=root
DBUS_SESSION_BUS_ADDRESS=unix:path=/run/user/0/bus
XDG_RUNTIME_DIR=/run/user/0
```

### Examples: -

```
[root@localhost ~]# COUNT=40
[root@localhost ~]# echo $COUNT
40
[root@localhost ~]# first_name=vivek
[root@localhost ~]# echo $first

[root@localhost ~]# echo $first_name
vivek
[root@localhost ~]# var="am i vivek and i m using linux"
[root@localhost ~]# echo $var
am i vivek and i m using linux
[root@localhost ~]#
```

### Check available shell

```
[root@localhost ~]# chsh -l
/bin/sh
/bin/bash
/usr/bin/sh
/usr/bin/bash
[root@localhost ~]# cat /etc/shells
/bin/sh
/bin/bash
/usr/bin/sh
/usr/bin/bash
[root@localhost ~]#
```

## variables

All assign variable and value check shell | less

All assign variable and value check shell | less

[illegible]