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70 Shell Scripting Interview Questions & Answers

May 18, 2015 | By [Petras Liumparas](#) in [SHELL SCRIPTS](#) [More](#)

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We have selected expected 70 shell scripting question and answers for your interview preparation. Its really vital for all system admin to know scripting or atleast the basics which in turn helps to automate many tasks in your work environment. In the past few years we have seen that all linux job specification requires scripting skills.



1) How to pass argument to a script ?

`./script argument`

Example : Script will show filename

`./show.sh file1.txt`

```
cat show.sh
#!/bin/bash
cat $1
```

2) How to use argument in a script ?

First argument: \$1,

Second argument : \$2

Example : Script will copy file (arg1) to destination (arg2)

`./copy.sh file1.txt /tmp/`

```
cat copy.sh
#!/bin/bash
cp $1 $2
```

3) How to calculate number of passed arguments ?

`$#`

4) How to get script name inside a script ?

`$0`

5) How to check if previous command run successful ?

`$?`

6) How to get last line from a file ?

6) How to get last line from a file ?

```
tail -1
```

7) How to get first line from a file ?

```
head -1
```

8) How to get 3rd element from each line from a file ?

```
awk '{print $3}'
```

9) How to get 2nd element from each line from a file, if first equal FIND

```
awk '{ if ($1 == "FIND") print $2}'
```

10) How to debug bash script

Add -xv to #!/bin/bash

Example

```
#!/bin/bash -xv
```

11) Give an example how to write function ?

```
function example {
echo "Hello world!"
}
```

12) How to add string to string ?

```
V1="Hello"
V2="World"
let V3=$V1+$V2
echo $V3
```

Output

```
Hello+World
```

13) How to add two integers ?

```
V1=1
V2=2
V3=$V1+$V2
echo $V3
```

Output

```
3
```

Remember you need to add "let" to line V3=\$V1+\$V2
then echo \$V3 will give 3

if without let , then it will be

echo \$V3 will give 1+2

14) How to check if file exist on filesystem ?

```
if [ -f /var/log/messages ]
then
echo "File exists"
fi
```

15) Write down syntax for all loops in shell scripting ?

for loop :

```
for i in $(ls ); do
echo item: $i
done
```

while loop :

```
#!/bin/bash
COUNTER=0
while [ $COUNTER -lt 10 ]; do
echo The counter is $COUNTER
```

```
let COUNTER=COUNTER+1
done
```

until loop :

```
#!/bin/bash
COUNTER=20
until [ $COUNTER -lt 10 ]; do
echo COUNTER $COUNTER
let COUNTER-=1
done
```

16) What it means by #!/bin/sh or #!/bin/bash at beginning of every script ?

That line tells which shell to use. #!/bin/bash script to execute using /bin/bash. In case of python script there there will be #!/usr/bin/python

17) How to get 10th line from the text file ?

```
head -10 file|tail -1
```

18) What is the first symbol in the bash script file

```
#
```

19) What would be the output of command: [-z ""] && echo 0 || echo 1

```
0
```

20) What command "export" do ?

Makes variable public in subshells

21) How to run script in background ?

add "&" to the end of script

22) What "chmod 500 script" do ?

Makes script executable for script owner

23) What ">" do ?

Redirects output stream to file or another stream.

24) What difference between & and &&

& - we using it when want to put script to background

&& - when we want to execute command/script if first script was finished successfully

25) When we need "if" before [condition] ?

When we need to run several commands if condition meets.

26) What would be the output of the command: name=John && echo 'My name is \$name'

My name is \$name

27) Which is the symbol used for comments in bash shell scripting ?

```
#
```

28) What would be the output of command: echo \${new:-variable}

variable

29) What difference between ' and " quotes ?

' - we use it when do not want to evaluate variables to the values

" - all variables will be evaluated and its values will be assigned instead.

30) How to redirect stdout and stderr streams to log.txt file from script inside ?

Add "exec >log.txt 2>&1" as the first command in the script

31) How to get part of string variable with echo command only ?

```
echo ${variable:x:y}
x - start position
y - length
example:
variable="My name is Petras, and I am developer."
echo ${variable:11:6} # will display Petras
```

32) How to get home_dir with echo command only if string variable="User:123:321:/home/dir" is given ?

```
echo ${variable#*:*:*}
or
echo ${variable##*:*}
```

33) How to get "User" from the string above ?

```
echo ${variable%:*:*}
or
echo ${variable%%:*}
```

34) How to list users which UID less than 100 (awk) ?

```
awk -F: '$3<100' /etc/passwd
```

35) Write the program which counts unique primary groups for users and displays count and group name only

```
cat /etc/passwd|cut -d: -f4|sort|uniq -c|while read c g
do
{ echo $c; grep :$g: /etc/group|cut -d: -f1;}xargs -n 2
done
```

36) How to change standard field separator to ":" in bash shell ?

```
IFS=":"
```

37) How to get variable length ?

```
${#variable}
```

38) How to print last 5 characters of variable ?

```
echo ${variable: -5}
```

39) What difference between \${variable:-10} and \${variable: -10} ?

```
${variable:-10} - gives 10 if variable was not assigned before
${variable: -10} - gives last 10 symbols of variable
```

40) How to substitute part of string with echo command only ?

```
echo ${variable//pattern/replacement}
```

41) Which command replaces string to uppercase ?

```
tr '[:lower:]' '[:upper:]'
```

42) How to count local accounts ?

```
wc -l /etc/passwd|cut -d" " -f1
or
cat /etc/passwd|wc -l
```

43) How to count words in a string without wc command ?

```
set ${string}
echo $#
```

44) Which one is correct "export \$variable" or "export variable" ?

```
export variable
```

45) How to list files where second letter is a or b ?

```
ls -d ?[ab]*
```

46) How to add integers a to b and assign to c ?

```
c=$((a+b))
or
c=`expr $a + $b`
or
c=`echo "$a+$b"|bc`
```

47) How to remove all spaces from the string ?

```
echo $string|tr -d " "
```

48) Rewrite the command to print the sentence and converting variable to plural: item="car"; echo "I like \$item" ?

```
item="car"; echo "I like ${item}s"
```

49) Write the command which will print numbers from 0 to 100 and display every third (0 3 6 9 ...) ?

```
for i in {0..100..3}; do echo $i; done
or
for (( i=0; i<=100; i=i+3 )); do echo "Welcome $i times"; done
```

50) How to print all arguments provided to the script ?

```
echo $*
or
echo $@
```

51) What difference between [\$a == \$b] and [\$a -eq \$b]

```
[ $a == $b ] - should be used for string comparison
[ $a -eq $b ] - should be used for number tests
```

52) What difference between = and ==

```
= - we using to assign value to variable
== - we using for string comparison
```

53) Write the command to test if \$a greater than 12 ?

```
[ $a -gt 12 ]
```

54) Write the command to test if \$b less or equal 12 ?

```
[ $b -le 12 ]
```

55) How to check if string begins with "abc" letters ?

```
[[ $string == abc* ]]
```

56) What difference between [[\$string == abc*]] and [[\$string == "abc"]]

```
[[ $string == abc* ]] - will check if string begins with abc letters
[[ $string == "abc" ]] - will check if string is equal exactly to abc
```

57) How to list usernames which starts with ab or xy ?

```
egrep "^ab|^xy" /etc/passwd|cut -d: -f1
```

58) What \$! means in bash ?

Most recent background command PID

59) What \$? means ?

Most recent foreground exit status.

60) How to print PID of the current shell ?

```
echo $$
```

61) How to get number of passed arguments to the script ?

```
echo $#
```

62) What difference between \$* and \$@

\$* - gives all passed arguments to the script as a single string

\$* - gives all passed arguments to the script as a single string
 \$@ - gives all passed arguments to the script as delimited list. Delimiter \$IFS

63) How to define array in bash ?

```
array=("Hi" "my" "name" "is")
```

64) How to print the first array element ?

```
echo ${array[0]}
```

65) How to print all array elements ?

```
echo ${array[@]}
```

66) How to print all array indexes ?

```
echo ${!array[@]}
```

67) How to remove array element with id 2 ?

```
unset array[2]
```

68) How to add new array element with id 333 ?

```
array[333]="New_element"
```

69) How shell script get input values ?

a) via parameters

```
./script param1 param2
```

b) via read command

```
read -p "Destination backup Server : " desthost
```

70) How can we use "expect" command in a script ?

```
/usr/bin/expect << EOD
spawn rsync -ar ${line} ${desthost}:${destpath}
expect "**?assword:*"
send "${password}\r"
expect eof
EOD
```

Good luck !! Please comment below if you have any new query or need answers for your questions. Let us know how well this helped for your interview :-)

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This article is a gem. Oh my god, a lot of useful info about shell scripting.

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lot of useful info

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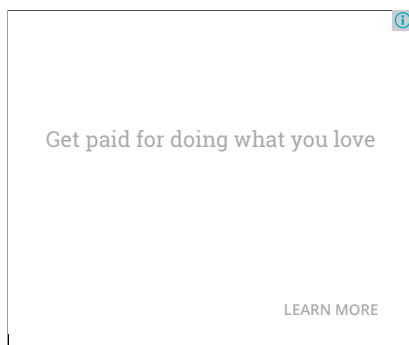
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