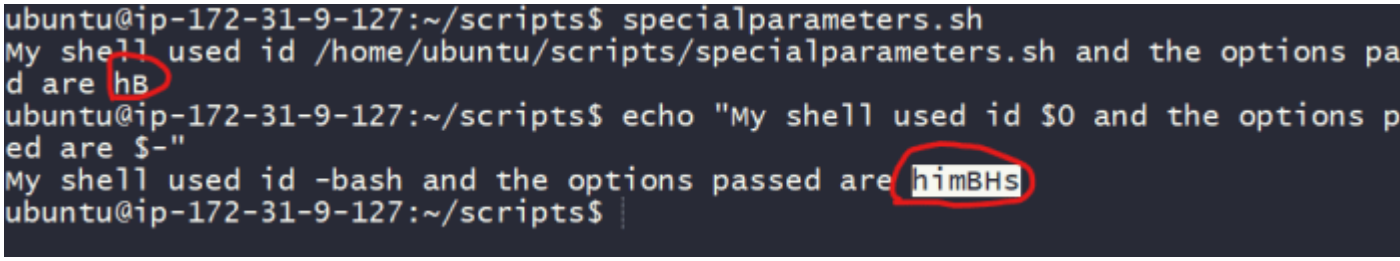
Linux Classroom Series – 02/Sept/2020

Special parameters

- $0 $1 …
- $# : count of number of arguments passed
- $-:
  - Create a simple script and execute
- `#!/bin/bash`
-
- `echo "My shell used id $0 and the options passed are $-"`
  - Directly execute the following statement in terminal
- `echo "My shell used id $0 and the options passed are $-"`

- The following results will be shown



- The options set are as follows
- h: This is short for hash all
- i: Shows its and interactive
- m: This is short for monitor
- B: This allows brace expansion. “`mkdir dir{1,2}
- H: This allows history expansion of running commands

Setting default values to parameters

- Its often a good practice to assign default values for non-critical parameters. See the below example and execute this

```
#!/bin/bash

##################################################
###################
# Author: Shaik Khaja Ibrahim
# Version: v1.0.0
# Date: 02-Sep-2020
# Description: This script demonstrates default
values for
# positional parameters
# Usage: ./defaultparamvalues.sh <name> <course>
##################################################
###################


name=$1
course=$2

[ -z $name ] && name="Khaja"
[ -z $course ] && course="Linux"
```

```
echo "Hello ${name}, Welcome to world of ${course}
"
```

```
QT@DESKTOP-HGH07L2 MINGW64 /c/Linux/Aug20
$ ./defaultparamvalues.sh ramana agile
Hello ramana, Welcome to world of agile

QT@DESKTOP-HGH07L2 MINGW64 /c/Linux/Aug20
$ ./defaultparamvalues.sh
Hello Khaja, Welcome to world of Linux

QT@DESKTOP-HGH07L2 MINGW64 /c/Linux/Aug20
$ ./defaultparamvalues.sh khaja
Hello khaja, Welcome to world of Linux

QT@DESKTOP-HGH07L2 MINGW64 /c/Linux/Aug20
$
```

- There is an alternative syntax to assign default value to parameter `${parameter-default}`
- lets apply this syntax to shell script

```
#!/bin/bash

##############################################################
####################
# Author: Shaik Khaja Ibrahim
# Version: v1.0.0
# Date: 02-Sep-2020
# Description: This script demonstrates default
values for
# positional parameters
# Usage: ./defaultparamvalues.sh <name> <course>
##############################################################
####################


name=${1-"Khaja"}
course=${2-"Linux"}

echo "Hello ${name}, Welcome to world of ${course}
"
```

```
QT@DESKTOP-HGH07L2 MINGW64 /c/Linux/Aug20
$ ./defaultparamvalues.sh ramana agile
Hello ramana, Welcome to world of agile

QT@DESKTOP-HGH07L2 MINGW64 /c/Linux/Aug20
$ ./defaultparamvalues.sh
Hello Khaja, Welcome to world of Linux

QT@DESKTOP-HGH07L2 MINGW64 /c/Linux/Aug20
$ ./defaultparamvalues.sh khaja
Hello khaja, Welcome to world of Linux

QT@DESKTOP-HGH07L2 MINGW64 /c/Linux/Aug20
$
```

- If the parameter is declared and it has a null value
  `${parameter:-default}`

Looping constructs in bash scripting

- Lets try to understand
  - *for* loops
  - The internal field separator
  - Counting directories & files
  - Nested Loops
  - Redirecting loop output
  - *while* and *until* loops
- Sample for script

```
#!/bin/bash

# printing multiple courses
echo "DevOps"
echo "AWS"
echo "Azure"
echo "Linux"
echo "Windows"

echo "Now using for"
```

```
# with for loop
for course in DevOps AWS Azure Linux Windows ; do
   echo "${course}"
done

# other kind of for loop

echo "Now using for which is c-styled"
courses=(DevOps AWS Azure Linux Windows)

for (( index=0; index<5; index++ )) do
   echo "${courses[$index]}"
done
```

Internal Field Separator

- By default the IFS value has one of (space, newline or tab)
- Lets assume you want o iterate over

```
Hello,
This is Linux
I'm fun to work with
```

- Now if we write to script to iterate and print over this content as shown below

```
#!/bin/bash
file="text.txt"

for item in $(cat $file)
do
    echo "$item"
done
```

```
QT@DESKTOP-HGH07L2 MINGW64 /c/Linux/Aug20
$ ./ifs.sh
Hello,
This
is
Linux
I'm
fun
to
work
with
```

- What should be done to this script to iterate over lines. Now add IFS=$'\n' to the shell script and this will do the trick

```
#!/bin/bash
file="text.txt"
IFS=$'\n'
for item in $(cat $file)
do
    echo "$item"
done
```

```
QT@DESKTOP-HGH07L2 MINGW64 /c/Linux/Aug20
$ ./ifs.sh
Hello,
This is Linux
I'm fun to work with
```