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Bash Iterate Array Examples

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How do I iterate through an array under Bash scripting?

The Bash shell support one-dimensional array variables. There is no maximum limit on the size of an array, nor any requirement that members be indexed or assigned contiguously. Arrays are indexed using integers and are zero-based.

[1]

Creating an array

An array is created automatically if any variable is assigned to using the syntax:

```
array=( value1 value2 )
users=( www vivek ftp chroot )
ns=( 192.168.1.10 192.168.1.12 )
```

OR

```
var[subscript]=value
```

Accessing subscript

The subscript is treated as an arithmetic expression that must evaluate to a number greater than or equal to zero. You can display values using the following syntax:

```
echo "${var[0]}"
echo "${ns[0]}"
```

For Loop Example - Bash Iterate Array

The syntax is as follows:

```
for var in "${ArrayName[@]}"
do
  echo "${var}"
  # do something on $var
done
```

Create a shell script as follows:

```
#!/bin/bash
# define file array
files=(/etc/*.conf)

# find total number of files in an array
echo "Total files in array : ${#files[*]}"
total=${#files[*]}
# Print 1st file name
echo "First filename: ${files[0]}"
echo "Second filename: ${files[1]}"
echo "Third filename: ${files[1]}"
# total - 1 = last item (subscript) in an array
echo "Last filename: ${files[$(( $total-1 ))]}"
```

```
echo
echo "****************"
echo "*** For Loop ***"
echo "****************"
# Use for loop iterate through an array
# $f stores current value
for f in "${files[@]}"
do
 echo -n "$f "
done

echo
echo
echo "*************************"
echo "*** C Style For Loop ****"
echo "*************************"
echo
# Use c style for loop
# get total subscripts in an array
total=${#files[*]}
#
for (( i=0; i<=$(( $total -1 )); i++ ))
do
    echo -n "${files[$i]} "
done

echo
```

Sample outputs:

```
Total files in array : 77
First filename: /etc/aatv.conf
Second filename: /etc/adduser.conf
Third filename: /etc/adduser.conf
Last filename: /etc/xorg.conf

****************
*** For Loop ***
****************
/etc/aatv.conf /etc/adduser.conf /etc/apg.conf /etc/argus.conf /etc/atool.conf /etc/brltty.

*************************
*** C Style For Loop ****
*************************

/etc/aatv.conf /etc/adduser.conf /etc/apg.conf /etc/argus.conf /etc/atool.conf /etc/brltty.
```

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