Scenario 5
Continuously monitor and restart web server if it is not running.

[Aim]

To monitor the web server's status continuously at particular intervals and to restart the web server if it has stopped running.

[Pre-Requisites]

- Apache web server installed and configured.
- Permissions to schedule Cron jobs.

["Algorithm"]

1) Read Argument: Web server's listening port.

2) Run: 'netstat' command to find all the listening ports of the server.

3) Filter the above list with the web server's list port.

4) If the filtered list is empty, then restart the web server.

[Command Explanations]

1) **if :** This block will process if specified condition is true.

```
if [ expression ]
then
   statement
fi
```

2) **grep :** The grep filter searches a file for a particular pattern of characters, and displays all lines that contain that pattern. The pattern that is searched in the file is referred to as the regular expression (grep stands for globally search for regular expression and print out).

```
      grep [options] pattern [files]
grep -c : Print only count of lines
grep -i : Ignore case while searching
grep -w : Search for specific word
grep -q : Search without printing output
```

3) **echo :** echo command in Linux is used to display line of text/string that are passed as an argument . This is a built-in command that is mostly used in shell scripts and batch files to output status text to the screen or a file.

```
      echo [string]
```

4) **netstat :** netstat (network statistics) is a command line tool for monitoring network connections both incoming and outgoing as well as viewing routing tables, interface statistics etc.

```
      netstat [options]
netstat –l : To view all listening port.
netstat –au : To view both internal server and user connection .
netstat –lu : To view internal servers connection.
```

[Code]

```
# bin/bash

a=`echo $?`

read -p "Enter listening port : " listening_port

//Used to ask for input of listening port.

netstat -au | grep -q ":listening_port"

b=`echo $?`

if [ $b != $a ];

//Gives status if that port is on or not

then

echo "ERROR, Web server is not running" >&2

/etc/init.d/apache2 restart

//Prints error if not running and restarts the server

fi

backupfolder="/home/kshitiz/backups"

cp -r /var/log/apache2/ $backupfolder

//Backups the logs in a backup folder

netstat -au

netstat –lu

//Prints status of web server.
```