PROJECT -01

FTP -FILE TRANSFER PROTOCOL

INTRODUCTION ABOUT THE PROJECT

Using FTP Configuration FTP Master Server Data saved in public path. Which all clients Servers want to Access and Download (get and put) the FTP Master Server Data they can Connect to FTP master server via FTP

Steps to Perform the FTP

SERVER 1

STEP 1

➢ Copy the RHEL iso file to the /var path

root@ajaydashrathar:/var

```
[root@ajaydashrathar /]# cd /var
[root@ajaydashrathar var]#
```

root@ajaydashrathar:/var

```
[root@ajaydashrathar var]# ls -ltr RH*
-rw-r--r--. 1 root root 3679453184 Jun 28  2012 RHEL6.3-20120613.2-Server-x86_64-DVD1.iso
[root@ajaydashrathar var]#
```

➢ Create a Directory in /var

root@ajaydashrathar:/var

```
[root@ajaydashrathar var]# mkdir /var/guru
[root@ajaydashrathar var]#
```

➢ Mount the RHEL iso file to the /var/guru directory which we have created.

root@ajaydashrathar:/var

```
[root@ajaydashrathar var]# mount -o loop RHEL6.3-20120613.2-Server-x86_64-DVD1.iso /var/guru
[root@ajaydashrathar var]#
```

➤ Create another directory in /var path to copy the iso file from guru directory.

```
root@ajaydashrathar:/var
[root@ajaydashrathar var]# mkdir /var/raja
[root@ajaydashrathar var]#
```

➤ Copy the RHEL iso file from /var/guru to directory to /var/raja directory.

```
root@ajaydashrathar:/var
[root@ajaydashrathar var]# yes|cp -rvfp /var/guru /var/raja
```

➤ You should be in the /var directory only and Go to this path
cd /etc/yum.repos.d

```
root@ajaydashrathar:/etc/yum.repos.d
[root@ajaydashrathar var]# cd /etc/yum.repos.d
[root@ajaydashrathar yum.repos.d]#
```

➤ Type the command **ls -ltr .** There will be no files will be present.

```
root@ajaydashrathar:/etc/yum.repos.d
[root@ajaydashrathar yum.repos.d]# ls -ltr
total 0
[root@ajaydashrathar yum.repos.d]#
```

➤ We need to create a file as **vim master.repo**

```
root@ajaydashrathar:/etc/yum.repos.d
[root@ajaydashrathar yum.repos.d]# vim master.repo
```

➤ You need to write this content in master.repo file

```
[root@ajaydashrathar yum.repos.d]# cat master.repo
[MASTER]
name=MASTER
baseurl=file:///var/ftp/pub/raja/guru
enabled=1
gpgcheck=0
```

➢ Type the Command **yum clean all**

```
[root@ajaydashrathar yum.repos.d]# yum clean all
Loaded plugins: product-id, refresh-packagekit, security, subscription-manager
Updating certificate-based repositories.
Unable to read consumer identity
Cleaning repos: MASTER
Cleaning up Everything
[root@ajaydashrathar yum.repos.d]#
```

➢ Type the command **yum repolist**

```
[root@ajaydashrathar yum.repos.d]# yum repolist
Loaded plugins: product-id, refresh-packagekit, security, subscription-manager
Updating certificate-based repositories.
Unable to read consumer identity
MASTER                                                                                | 4.0 kB    00:00 ...
MASTER/primary_db                                                                     | 3.1 MB    00:00 ...
repo id                                          repo name                                       status
MASTER                                           MASTER                                           3,585
repolist: 3,585
[root@ajaydashrathar yum.repos.d]#
```

STEP -2 IN MASTER SEVER ONLY

➤ We need to install the package that is **yum install vsftpd -y**

```
root@ajaydashrathar:/etc/yum.repos.d                                                    —  □  ×

[root@ajaydashrathar yum.repos.d]# yum install vsftpd -y
Loaded plugins: product-id, refresh-packagekit, security, subscription-manager
Updating certificate-based repositories.
Unable to read consumer identity
Setting up Install Process
Resolving Dependencies
--> Running transaction check
---> Package vsftpd.x86_64 0:2.2.2-11.el6 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

================================================================================
 Package          Arch             Version              Repository        Size
================================================================================
Installing:
 vsftpd           x86_64           2.2.2-11.el6         MASTER           151 k

Transaction Summary
================================================================================
Install       1 Package(s)

Total download size: 151 k
Installed size: 331 k
Downloading Packages:
Running rpm_check_debug
Running Transaction Test
Transaction Test Succeeded
Running Transaction
  Installing : vsftpd-2.2.2-11.el6.x86_64                                   1/1
Installed products updated.
  Verifying  : vsftpd-2.2.2-11.el6.x86_64                                   1/1

Installed:
  vsftpd.x86_64 0:2.2.2-11.el6

Complete!
[root@ajaydashrathar yum.repos.d]#
```

➤ Go to the **cd /var** path

```
root@ajaydashrathar:/var

[root@ajaydashrathar var]# cd /var
[root@ajaydashrathar var]#
```

➤ Type the command **ls -ltr** when we install the vsftpd package automatically ftp package will be got installed

```
root@ajaydashrathar:/var
[root@ajaydashrathar var]# ls -ltr
total 3593392
drwxr-xr-x.  2 root root        4096 Jun 28  2011 yp
drwxr-xr-x.  2 root root        4096 Jun 28  2011 preserve
drwxr-xr-x.  2 root root        4096 Jun 28  2011 opt
drwxr-xr-x.  2 root root        4096 Jun 28  2011 nis
drwxr-xr-x.  2 root root        4096 Jun 28  2011 local
drwxr-xr-x.  2 root root        4096 Jun 28  2011 games
dr-xr-xr-x. 12 root root        8192 Jun 13  2012 guru
-rw-r--r--.  1 root root  3679453184 Jun 28  2012 RHEL6.3-20120613.2-Server-x86_64-DVD1.iso
lrwxrwxrwx.  1 root root          10 Sep  7 14:47 mail -> spool/mail
drwxr-xr-x.  6 root root        4096 Sep  7 14:48 www
drwxr-xr-x.  3 root root        4096 Sep  7 14:49 empty
drwxr-xr-x.  3 root root        4096 Sep  7 14:49 db
drwxr-xr-x. 14 root root        4096 Sep  7 14:49 spool
drwxr-xr-x.  2 root root        4096 Sep  7 14:49 account
drwxr-xr-x.  2 root root        4096 Sep  7 14:52 crash
drwxr-xr-x.  2 root root        4096 Sep  9 02:48 rpmiso_jun10
-r--r--r--.  1 root root       58300 Sep 12 07:45 ftp-0.17-51.1.el6.x86_64.rpm
-rw-r--r--.  1 root root          15 Sep 12 07:49 file1.txt
-rw-r--r--.  1 root root          17 Sep 12 07:51 text1.txt
drwxr-xr-x. 14 root root        4096 Sep 12 10:06 cache
drwxr-xr-x. 37 root root        4096 Sep 12 10:06 lib
drwxr-xr-x.  2 root root        4096 Sep 13 02:45 ram
drwxrwxr-x.  5 root lock        4096 Sep 13 03:10 lock
drwxr-xr-x.  2 root root        4096 Sep 13 03:47 ajay
drwxrwx--T.  2 root gdm         4096 Sep 13 04:38 gdm
drwxr-xr-x. 13 root root        4096 Sep 13 04:49 log
drwxr-xr-x.  3 root root        4096 Sep 13 05:09 raja
drwxr-xr-x.  3 root root        4096 Sep 13 05:19 ftp
drwxrwxrwt.  2 root root        4096 Sep 13 05:19 tmp
drwxr-xr-x. 31 root root        4096 Sep 13 05:19 run
[root@ajaydashrathar var]#
```

➢ Go to the folder **ftp** and do **ls -ltr** there will be pub folder.

```
root@ajaydashrathar:/var/ftp
[root@ajaydashrathar var]# cd ftp
[root@ajaydashrathar ftp]# ls -ltr
total 4
drwxr-xr-x. 2 root root 4096 Mar  2  2012 pub
[root@ajaydashrathar ftp]#
```

➢ Go inside the pub folder

```
root@ajaydashrathar:/var/ftp/pub
[root@ajaydashrathar ftp]# ls -ltr
total 4
drwxr-xr-x. 2 root root 4096 Mar  2  2012 pub
[root@ajaydashrathar ftp]# cd pub
[root@ajaydashrathar pub]# ls -ltr
total 0
[root@ajaydashrathar pub]#
```

➢ To verify whether we are in pub folder do **pwd**

```
root@ajaydashrathar:/var/ftp/pub
[root@ajaydashrathar pub]# pwd
/var/ftp/pub
[root@ajaydashrathar pub]#
```

➢ Create a file as **cat > text1.txt** with some content

```
root@ajaydashrathar:/var/ftp/pub
[root@ajaydashrathar pub]# cat > text1.txt
ajay
dushyanth
hari
nandhan
[root@ajaydashrathar pub]# ls -ltr
total 4
-rw-r--r--. 1 root root 28 Sep 13 05:24 text1.txt
[root@ajaydashrathar pub]#  pwd
/var/ftp/pub
[root@ajaydashrathar pub]#
```

Theory Concept

- ➢ Before going to the ftp concept. we should know about the **selinux** and **iptables**.

What is Selinux ?

Selinux stands for: **Security enhanced linux**

- ➢ Example: Ram has been developed google pay application that application is having the lot of advantage sending money, checking the balance, paying the bills etc, if you are not enabling the selinux option means nobody can access the application, then what is the use of this application.
- ➢ If we **disable** the **selinux** everyone can use the **application**. We cant now who is using this application.
- ➢ If **selinux** is **enable** nobody can use it.
- ➢ Permissive state : it allows us to access the application and keep record of it who is accessing the application.
- ➢ Suppose you install one application in linux default Selinux will be enabled Outside of your server, outside of your network nobody can acces the application.
- ➢ Once you install the application in the linux server default selinux will be enabled. So that nobody can use the application if selinux is disable everyone can use the application. We will not come to know who is accessing the application. If I want to allow the connection then we going to enable the permissive.

- ➢ What is firewall?
  It is a set of rules which need to allow which need not to be allow
  A firewall is a network security device that monitors and controls network traffic to and from a computer or network.
  Firewall will work on network level.
  Selinux will work on application level.

➢ Type the Command: **getenforce**

🖥 root@ajaydashrathar:/var/ftp/pub

```
[root@ajaydashrathar pub]# getenforce
Enforcing
[root@ajaydashrathar pub]#
```

➢ Type the Command: **setenforce 0**

🖥 root@ajaydashrathar:/var/ftp/pub

```
[root@ajaydashrathar pub]# setenforce 0
[root@ajaydashrathar pub]#
```

➢ Type the Command: **getenforce**

🖥 root@ajaydashrathar:/var/ftp/pub

```
[root@ajaydashrathar pub]# getenforce
Permissive
[root@ajaydashrathar pub]#
```

➢ Type the Command: **service iptables stop**

🖥 root@ajaydashrathar:/var/ftp/pub

```
[root@ajaydashrathar pub]# service iptables stop
iptables: Flushing firewall rules:                         [  OK  ]
iptables: Setting chains to policy ACCEPT: filter          [  OK  ]
iptables: Unloading modules:                               [  OK  ]
[root@ajaydashrathar pub]#
```

➢ Type the Command: **service vsftpd status**

🖥 root@ajaydashrathar:/var

```
[root@ajaydashrathar var]# service vsftpd status
vsftpd is stopped
[root@ajaydashrathar var]#
```

➢ Type the command: **service vsftpd start**

🖥 root@ajaydashrathar:/var

```
[root@ajaydashrathar var]# service vsftpd start
Starting vsftpd for vsftpd:                                [  OK  ]
[root@ajaydashrathar var]#
```

➢ In the second server we did install the ftp package so we are transferring the ftp package from server1 to server 2.

```
root@ajaydashrathar:/var                                                                    —   □   ×
[root@ajaydashrathar var]# scp ftp-0.17-51.1.el6.x86_64.rpm root@192.168.159.136:/var
The authenticity of host '192.168.159.136 (192.168.159.136)' can't be established.
RSA key fingerprint is a5:01:1a:16:a5:a9:18:7d:03:92:6a:4a:64:4a:57:04.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '192.168.159.136' (RSA) to the list of known hosts.
root@192.168.159.136's password:
ftp-0.17-51.1.el6.x86_64.rpm                                         100%   57KB  56.9KB/s   00:00
[root@ajaydashrathar var]#
```

2nd Server

➢ Type the command: **getenforce**

```
[root@localhost ~]# getenforce
Enforcing
[root@localhost ~]#
```

➢ Type the command: **setenforce 0**

```
[root@localhost ~]# setenforce 0
[root@localhost ~]#
```

➢ Type the command: **getenforce**

```
[root@localhost ~]# getenforce
Permissive
[root@localhost ~]#
```

➢ Type the command: **service iptables stop**

```
[root@localhost ~]# service iptables stop
iptables: Flushing firewall rules:                         [  OK  ]
iptables: Setting chains to policy ACCEPT: filter          [  OK  ]
iptables: Unloading modules:                               [  OK  ]
[root@localhost ~]#
```

➢ Go to this path **cd /var** and do **ls-ltr**

```
[root@localhost /]# cd /var
[root@localhost var]# ls -ltr
total 136
drwxr-xr-x.  2 root root   4096 Jun 28  2011 yp
drwxr-xr-x.  2 root root   4096 Jun 28  2011 preserve
drwxr-xr-x.  2 root root   4096 Jun 28  2011 opt
drwxr-xr-x.  2 root root   4096 Jun 28  2011 nis
drwxr-xr-x.  2 root root   4096 Jun 28  2011 local
drwxr-xr-x.  2 root root   4096 Jun 28  2011 games
drwxrwx--T.  2 root gdm    4096 Mar  5  2012 gdm
lrwxrwxrwx.  1 root root     10 Sep 12 16:18 mail -> spool/mail
drwxr-xr-x.  6 root root   4096 Sep 12 16:20 www
drwxr-xr-x.  3 root root   4096 Sep 12 16:22 empty
drwxr-xr-x.  3 root root   4096 Sep 12 16:22 db
drwxr-xr-x. 14 root root   4096 Sep 12 16:22 spool
drwxr-xr-x.  2 root root   4096 Sep 12 16:22 account
drwxrwxrwt.  2 root root   4096 Sep 12 16:24 tmp
drwxr-xr-x.  2 root root   4096 Sep 12 16:25 crash
drwxr-xr-x. 13 root root   4096 Sep 12 16:25 cache
drwxr-xr-x. 36 root root   4096 Sep 12 16:26 lib
drwxrwxr-x.  5 root lock   4096 Sep 13 03:18 lock
drwxr-xr-x. 13 root root   4096 Sep 13 05:41 log
-r--r--r--.  1 root root  58300 Sep 13 05:56 ftp-0.17-51.1.el6.x86_64.rpm
drwxr-xr-x. 31 root root   4096 Sep 13 06:00 run
[root@localhost var]#
```

➢ In the master server we only copied the ftp command but not install the ftp command in server2 so we are installing the ftp package

root@localhost:/var

```
[root@localhost var]# rpm -ivh ftp-0.17-51.1.el6.x86_64.rpm
warning: ftp-0.17-51.1.el6.x86_64.rpm: Header V3 RSA/SHA256 Signature, key ID fd431d51: NOKEY
Preparing...               ########################################## [100%]
   1:ftp                   ########################################## [100%]
[root@localhost var]#
```

➢ In Server2 type the IP Address of Server1 and Connect it.

root@localhost:/var

```
[root@localhost var]# ftp 192.168.159.137
Connected to 192.168.159.137 (192.168.159.137).
220 (vsFTPd 2.2.2)
Name (192.168.159.137:root): anonymous
331 Please specify the password.
Password:
230 Login successful.
Remote system type is UNIX.
Using binary mode to transfer files.
ftp> ls
227 Entering Passive Mode (192,168,159,137,121,242).
150 Here comes the directory listing.
drwxr-xr-x    2 0        0            4096 Sep 13 12:24 pub
226 Directory send OK.
ftp> cd pub
250 Directory successfully changed.
ftp> ls
227 Entering Passive Mode (192,168,159,137,77,165).
150 Here comes the directory listing.
-rw-r--r--    1 0        0              28 Sep 13 12:24 text1.txt
226 Directory send OK.
ftp> get text1.txt
local: text1.txt remote: text1.txt
227 Entering Passive Mode (192,168,159,137,148,213).
150 Opening BINARY mode data connection for text1.txt (28 bytes).
226 Transfer complete.
28 bytes received in 2.7e-05 secs (1037.04 Kbytes/sec)
ftp> exit
221 Goodbye.
[root@localhost var]#
```

➢ In server 2 you have connected to the server1 via ftp you need to download the file which is stored under the cd /var/ftp/pub in server1

```
[root@localhost tmp]# cd /var
[root@localhost var]# ls -ltr
total 140
drwxr-xr-x.  2 root root  4096 Jun 28  2011 yp
drwxr-xr-x.  2 root root  4096 Jun 28  2011 preserve
drwxr-xr-x.  2 root root  4096 Jun 28  2011 opt
drwxr-xr-x.  2 root root  4096 Jun 28  2011 nis
drwxr-xr-x.  2 root root  4096 Jun 28  2011 local
drwxr-xr-x.  2 root root  4096 Jun 28  2011 games
drwxrwx--T.  2 root gdm   4096 Mar  5  2012 gdm
lrwxrwxrwx.  1 root root    10 Sep 12 16:18 mail -> spool/mail
drwxr-xr-x.  6 root root  4096 Sep 12 16:20 www
drwxr-xr-x.  3 root root  4096 Sep 12 16:22 empty
drwxr-xr-x.  3 root root  4096 Sep 12 16:22 db
drwxr-xr-x. 14 root root  4096 Sep 12 16:22 spool
drwxr-xr-x.  2 root root  4096 Sep 12 16:22 account
drwxrwxrwt.  2 root root  4096 Sep 12 16:24 tmp
drwxr-xr-x.  2 root root  4096 Sep 12 16:25 crash
drwxr-xr-x. 13 root root  4096 Sep 12 16:25 cache
drwxr-xr-x. 36 root root  4096 Sep 12 16:26 lib
drwxrwxr-x.  5 root lock  4096 Sep 13 03:18 lock
drwxr-xr-x. 13 root root  4096 Sep 13 05:41 log
-r--r--r--.  1 root root 58300 Sep 13 05:56 ftp-0.17-51.1.el6.x86_64.rpm
drwxr-xr-x. 31 root root  4096 Sep 13 06:00 run
-rw-r--r--.  1 root root    28 Sep 13 06:09 text1.txt
[root@localhost var]# cat text1.txt
ajay
dushyanth
hari
nandhan
[root@localhost var]#
```