

Linux assignment

TASK1:

```
root@sigmoid-TAS270:~# systemctl status sendmail
```

- sendmail.service - LSB: powerful, efficient, and scalable Mail Transport Agent

Loaded: loaded (/etc/init.d/sendmail; generated)

Active: inactive (dead)

Docs: man:systemd-sysv-generator(8)

```
root@sigmoid-TAS270:~# systemctl enable sendmail
```

sendmail.service is not a native service, redirecting to systemd-sysv-install.

Executing: /lib/systemd/systemd-sysv-install enable sendmail

```
root@sigmoid-TAS270:~# systemctl start sendmail
```

```
root@sigmoid-TAS270:~# systemctl status sendmail
```

- sendmail.service - LSB: powerful, efficient, and scalable Mail Transport Agent

Loaded: loaded (/etc/init.d/sendmail; generated)

Active: active (exited) since Fri 2024-08-30 12:26:43 IST; 2s ago

Docs: man:systemd-sysv-generator(8)

Process: 33370 ExecStart=/etc/init.d/sendmail start (code=exited, status=0/SUCCESS)

Aug 30 12:26:41 sigmoid-TAS270 systemd[1]: Starting LSB: powerful, efficient, and scalable Mail Transport Agent...

Aug 30 12:26:41 sigmoid-TAS270 sendmail[33370]: * Starting Mail Transport Agent (MTA) sendmail

Aug 30 12:26:41 sigmoid-TAS270 su[33428]: (to smmsp) root on none

Aug 30 12:26:41 sigmoid-TAS270 su[33428]: pam_unix(su:session): session opened for user smmsp by (uid=0)

Aug 30 12:26:41 sigmoid-TAS270 su[33428]: pam_unix(su:session): session closed for user smmsp

Aug 30 12:26:41 sigmoid-TAS270 sendmail[33449]: start-stop-daemon: unable to start /usr/sbin/sendmail-mta (No such file or directory)

Aug 30 12:26:43 sigmoid-TAS270 sendmail[33568]: /etc/init.d/sendmail: 309: /usr/sbin/sendmail-msp: not found

Aug 30 12:26:43 sigmoid-TAS270 sendmail[33370]: ...done.

Aug 30 12:26:43 sigmoid-TAS270 systemd[1]: Started LSB: powerful, efficient, and scalable Mail Transport Agent.

```
root@sigmoid-TAS270:~#
```

```
root@sigmoid-TAS270:~#
```

```
root@sigmoid-TAS270:~# nano email1.txt
```

```
root@sigmoid-TAS270:~# sendmail -t<email1.txt
```

```
root@sigmoid-TAS270:~# sudo tail -f /var/log/mail.log
```

```
root@sigmoid-TAS270: /var/log

Aug 27 18:40:01 sigmoid-TAS270 sm-msp-queue[23542]: My unqualified host name (sigmoid-TAS270) unknown; sleeping for retry
Aug 27 18:41:01 sigmoid-TAS270 sm-msp-queue[23542]: unable to qualify my own domain name (sigmoid-TAS270) -- using short name
Aug 28 11:53:07 sigmoid-TAS270 sendmail[26643]: My unqualified host name (sigmoid-TAS270) unknown; sleeping for retry
Aug 28 11:54:07 sigmoid-TAS270 sendmail[26643]: unable to qualify my own domain name (sigmoid-TAS270) -- using short name
Aug 28 11:54:07 sigmoid-TAS270 sendmail[26643]: 47S6076E026643: from=root@sigmoid-TAS270, size=106, class=0, nrcpts=1, msgid=<202408280624.47S6076E026643@sigmoid-TAS270>, relay=root@localhost
Aug 28 11:54:07 sigmoid-TAS270 sm-mta[26646]: 47S60750026646: from=<root@sigmoid-TAS270>, size=360, class=0, nrcpts=1, msgid=<202408280624.47S6076E026643@sigmoid-TAS270>, proto=ESMTP, daemon=MTA-v4, relay=localhost [127.0.0.1]
Aug 28 11:54:07 sigmoid-TAS270 sendmail[26643]: 47S6076E026643: to=<krupa.ht@sigmoidanalytics.com>, ctladdr=root@sigmoid-TAS270 (0/0), delay=00:00:00, xdelay=00:00:00, mailer=relay, pri=30106, relay=[127.0.0.1] [127.0.0.1], dsn=2.0.0, stat=Sent (47S60750026646 Message accepted for delivery)
Aug 28 11:54:08 sigmoid-TAS270 sm-mta[26648]: STARTTLS=client, relay=aspmx.l.google.com., version=TLSv1.3, verify=FAIL, cipher=TLS_AES_256_GCM_SHA384, bits=256/256
Aug 28 11:54:09 sigmoid-TAS270 sm-mta[26648]: 47S60750026646: to=<krupa.ht@sigmoidanalytics.com>, ctladdr=<root@sigmoid-TAS270> (0/0), delay=00:00:02, xdelay=00:00:02, mailer=esmtpl, pri=120360, relay=aspmx.l.google.com. [142.251.10.27], dsn=5.0.0, stat=Service unavailable
Aug 28 11:54:09 sigmoid-TAS270 sm-mta[26648]: 47S60750026646: 47S60950026648: DSN: Service unavailable
Aug 28 11:54:09 sigmoid-TAS270 sm-mta[26648]: 47S60950026648: to=<root@sigmoid-TAS270>, delay=00:00:00, xdelay=00:00:00, mailer=local, pri=30000, dsn=2.0.0, stat=Sent
Aug 28 12:00:03 sigmoid-TAS270 sm-msp-queue[26844]: My unqualified host name (sigmoid-TAS270) unknown; sleeping for retry
Aug 28 12:01:03 sigmoid-TAS270 sm-msp-queue[26844]: unable to qualify my own domain name (sigmoid-TAS270) -- using short name
Aug 28 12:09:26 sigmoid-TAS270 sendmail[26964]: My unqualified host name (sigmoid-TAS270) unknown; sleeping for retry
Aug 28 12:10:26 sigmoid-TAS270 sendmail[26964]: unable to qualify my own domain name (sigmoid-TAS270) -- using short name
Aug 28 12:10:26 sigmoid-TAS270 sendmail[26964]: 47S6eQw9026964: from=sigmoid, size=144, class=0, nrcpts=1, msgid=<202408280640.47S6eQw9026964@sigmoid-TAS270>, relay=root@localhost
Aug 28 12:10:26 sigmoid-TAS270 sm-mta[27015]: 47S6eQIm027015: from=<sigmoid@sigmoid-TAS270>, size=438, class=0, nrcpts=1, msgid=<202408280640.47S6eQw9026964@sigmoid-TAS270>, proto=ESMTP, daemon=MTA-v4, relay=localhost [127.0.0.1]
Aug 28 12:10:26 sigmoid-TAS270 sendmail[26964]: 47S6eQw9026964: to=krupa.ht@sigmoidanalytics.com, ctladdr=sigmoid (1000/1000), delay=00:00:00, xdelay=00:00:00, mailer=relay, pri=30144, relay=[127.0.0.1] [127.0.0.1], dsn=2.0.0, stat=Sent (47S6eQIm027015 Message accepted for delivery)
Aug 28 12:10:27 sigmoid-TAS270 sm-mta[27017]: STARTTLS=client, relay=aspmx.l.google.com., version=TLSv1.3, verify=FAIL, cipher=TLS_AES_256_GCM_SHA384, bits=256/256
Aug 28 12:10:29 sigmoid-TAS270 sm-mta[27017]: 47S6eQIm027015: to=<krupa.ht@sigmoidanalytics.com>, ctladdr=<sigmoid@sigmoid-TAS270> (1000/1000), delay=00:00:00, xdelay=00:00:00, mailer=relay, pri=30144, relay=[127.0.0.1] [127.0.0.1], dsn=2.0.0, stat=Sent (47S6eQIm027015 Message accepted for delivery)
```

TASK 2:

Option1

```
sigmoid@sigmoid-TAS270:~$ sudo useradd sr
[sudo] password for sigmoid:
sigmoid@sigmoid-TAS270:~$ su sr
Password:
su: Authentication failure
sigmoid@sigmoid-TAS270:~$ sudo passwd sr
New password:
Retype new password:
passwd: password updated successfully
sigmoid@sigmoid-TAS270:~$ su sr
Password:
$ sudo ls
[sudo] password for sr:
sr is not in the sudoers file. This incident will be reported.
```

Option2

```
root@sigmoid-TAS270:~# adduser sigtak
Adding user `sigtak' ...
Adding new group `sigtak' (1007) ...
Adding new user `sigtak' (1006) with group `sigtak' ...
Creating home directory `/home/sigtak' ...
Copying files from `/etc/skel' ...
New password:
Retype new password:
passwd: password updated successfully
Changing the user information for sigtak
Enter the new value, or press ENTER for the default
  Full Name []: sigmoid
  Room Number []: 112
  Work Phone []: 1
  Home Phone []: 1
  Other []: 1
Is the information correct? [Y/n] n
Changing the user information for sigtak
Enter the new value, or press ENTER for the default
  Full Name [sigmoid]: sigmoid
```

Room Number [112]:

Work Phone [1]:

Home Phone [1]:

Other [1]:

Is the information correct? [Y/n] y

root@sigmoid-TAS270:~# su sigtak

sigtak@sigmoid-TAS270:/root\$ exit

exit

root@sigmoid-TAS270:~# groups sigtak

sigtak : sigtak

root@sigmoid-TAS270:~# su -sigtak

su: failed to execute sigtak: No such file or directory

root@sigmoid-TAS270:~# su sigtak

sigtak@sigmoid-TAS270:/root\$ sudo ls // **sudo doesn't work in sigtak user because adduser doesn't allow sudo command until password is given right.**

[sudo] password for sigtak:

Sorry, try again.

Task 3:

```
root@sigmoid-TAS270:~# su sigmoid
sigmoid@sigmoid-TAS270:/root$ cd
sigmoid@sigmoid-TAS270:~$ ls
allinone  config  Downloads  jerrytom  Istar  Pictures  putty-0.81.tar.gz  subbu
Videos
cat      Desktop  email.txt  kramer  Music  ps  seinfeld  Templates
'VirtualBox VMs'
chotabheem  Documents  jerry  listings  myfirstfile  Public  snap  tom
sigmoid@sigmoid-TAS270:~$ alias describe='ls -al' //it alias describe to ls -al
sigmoid@sigmoid-TAS270:~$ describe //whenever we give describe it describes the ls -al
command
total 2960
drwxr-xr-x 25 sigmoid sigmoid 4096 Aug 28 12:06 .
drwxr-xr-x 4 root root 4096 Aug 30 12:39 ..
drwxrwxrwt 3 sigmoid sigmoid 4096 Aug 23 15:10 allinone
-rw----- 1 sigmoid sigmoid 9265 Aug 28 19:19 .bash_history
-rw-r--r-- 1 sigmoid sigmoid 220 Aug 13 18:10 .bash_logout
-rw-r--r-- 1 sigmoid sigmoid 3771 Aug 13 18:10 .bashrc
drwxr-xr-x 17 sigmoid sigmoid 4096 Aug 26 14:50 .cache
drwxrwxr-x 2 sigmoid sigmoid 4096 Aug 23 16:40 cat
-rw-rw-r-- 1 sigmoid sigmoid 47 Aug 22 19:40 chotabheem
drwx----- 16 sigmoid sigmoid 4096 Aug 28 18:54 .config
drwxrwxr-x 2 sigmoid sigmoid 4096 Aug 20 14:57 config
drwxr-xr-x 3 sigmoid sigmoid 4096 Aug 28 15:22 Desktop
drwxr-xr-x 2 sigmoid sigmoid 4096 Aug 14 13:09 Documents
drwxr-xr-x 2 sigmoid sigmoid 4096 Aug 28 15:22 Downloads
-rw-r--r-- 1 root root 144 Aug 28 12:06 email.txt
drwx----- 3 sigmoid sigmoid 4096 Aug 27 15:06 .gnupg
-rwxrw---- 1 sigmoid sigmoid 875 Aug 21 16:56 jerry
-rw-rw-r-- 1 sigmoid sigmoid 0 Aug 20 14:47 jerrytom
-rw-rw-r-- 1 sigmoid sigmoid 41 Aug 21 16:57 kramer
-rw-rw-r-- 1 sigmoid sigmoid 992 Aug 21 17:08 listings
-rw-r--r-- 1 sigmoid sigmoid 12288 Aug 21 17:07 .listings.swo
-rw-r--r-- 1 sigmoid sigmoid 12288 Aug 21 17:06 .listings.swp
drwxr-xr-x 3 sigmoid sigmoid 4096 Aug 14 13:09 .local
-rw-rw-r-- 1 sigmoid sigmoid 49 Aug 22 16:45 Istar
drwx----- 4 sigmoid sigmoid 4096 Aug 14 13:24 .mozilla
drwxr-xr-x 2 sigmoid sigmoid 4096 Aug 14 13:09 Music
-rw-rw-r-- 1 sigmoid sigmoid 53 Aug 22 16:13 myfirstfile
drwxr-xr-x 2 sigmoid sigmoid 4096 Aug 30 12:25 Pictures
drwx----- 3 sigmoid sigmoid 4096 Aug 19 13:23 .pki
-rw-r--r-- 1 sigmoid sigmoid 807 Aug 13 18:10 .profile
```

TASK 4:

```
#!/bin/bash
```

```
# Find the file
```

```
file_path=$(sudo find / -type f -name 'research.*' 2>/dev/null)
```

```
if [ -z "$file_path" ]; then
```

```
    echo "No file named 'research' found."
```

```
    exit 1
```

```
fi
```

```
# Check the file type
```

```
file_type=$(file -b "$file_path")
```

```
echo "Found file: $file_path"
```

```
echo "File type: $file_type"
```

```
# Uncompress based on file type
```

```
case "$file_type" in
```

```
    *gzip*)
```

```
        echo "Uncompressing gzip file..."
```

```
        gunzip "$file_path"
```

```
        ;;
```

```
    *bzip2*)
```

```
        echo "Uncompressing bzip2 file..."
```

```
        bunzip2 "$file_path"
```

```
        ;;
```

```
    *XZ*)
```

```
        echo "Uncompressing xz file..."
```

```
        unxz "$file_path"
```

```
        ;;
```

```
    *)
```

```
        echo "Unknown compression type: $file_type"
```

```
        exit 1
```

```
        ;;
```

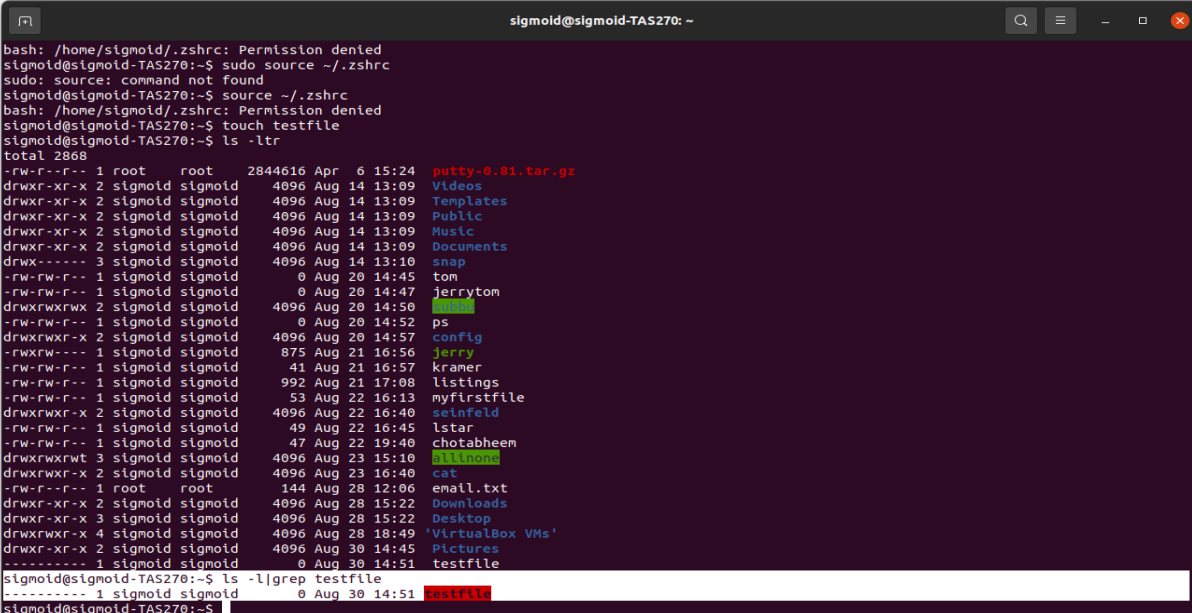
```
esac
```

```
echo "File uncompressed successfully."
```

TASK 5:

```
sigmoid@sigmoid-TAS270:~$ sudo nano /etc/profile
[sudo] password for sigmoid:
sigmoid@sigmoid-TAS270:~$ sudo nano /etc/bash.bashrc
sigmoid@sigmoid-TAS270:~$ source /etc/profile
sigmoid@sigmoid-TAS270:~$ source /etc/bash.bashrc
sigmoid@sigmoid-TAS270:~$ nano ~/.bashrc
sigmoid@sigmoid-TAS270:~$ nano ~/.zshrc
sigmoid@sigmoid-TAS270:~$ source ~/.zshrc
bash: /home/sigmoid/.zshrc: Permission denied
sigmoid@sigmoid-TAS270:~$ sudo source ~/.zshrc
sudo: source: command not found
sigmoid@sigmoid-TAS270:~$ source ~/.zshrc
bash: /home/sigmoid/.zshrc: Permission denied
sigmoid@sigmoid-TAS270:~$ touch testfile
```

**BY GOING THROUGH THE HIGHLIGHTED COMMANDS ADD THE FOLLOWING
COMMAND AT THE END OF FILE**



```
sigmoid@sigmoid-TAS270: ~  
bash: /home/sigmoid/.zshrc: Permission denied  
sigmoid@sigmoid-TAS270:~$ sudo source ~/.zshrc  
sudo: source: command not found  
sigmoid@sigmoid-TAS270:~$ source ~/.zshrc  
bash: /home/sigmoid/.zshrc: Permission denied  
sigmoid@sigmoid-TAS270:~$ touch testfile  
sigmoid@sigmoid-TAS270:~$ ls -ltr  
total 2868  
-rw-r--r-- 1 root root 2844616 Apr 6 15:24 putty-0.81.tar.gz  
drwxr-xr-x 2 sigmoid sigmoid 4096 Aug 14 13:09 Videos  
drwxr-xr-x 2 sigmoid sigmoid 4096 Aug 14 13:09 Templates  
drwxr-xr-x 2 sigmoid sigmoid 4096 Aug 14 13:09 Public  
drwxr-xr-x 2 sigmoid sigmoid 4096 Aug 14 13:09 Music  
drwxr-xr-x 2 sigmoid sigmoid 4096 Aug 14 13:09 Documents  
drwx----- 3 sigmoid sigmoid 4096 Aug 14 13:10 snap  
-rw-rw-r-- 1 sigmoid sigmoid 0 Aug 20 14:45 ton  
-rw-rw-r-- 1 sigmoid sigmoid 0 Aug 20 14:47 jerrytom  
drwxrwxrwx 2 sigmoid sigmoid 4096 Aug 20 14:50 subho  
-rw-rw-r-- 1 sigmoid sigmoid 0 Aug 20 14:52 ps  
drwxrwxr-x 2 sigmoid sigmoid 4096 Aug 20 14:57 config  
-rwxr----- 1 sigmoid sigmoid 875 Aug 21 16:56 jerry  
-rw-rw-r-- 1 sigmoid sigmoid 41 Aug 21 16:57 kramer  
-rw-rw-r-- 1 sigmoid sigmoid 992 Aug 21 17:08 listings  
-rw-rw-r-- 1 sigmoid sigmoid 53 Aug 22 16:13 myfirstfile  
drwxrwxr-x 2 sigmoid sigmoid 4096 Aug 22 16:40 seinfeld  
-rw-rw-r-- 1 sigmoid sigmoid 49 Aug 22 16:45 lstar  
-rw-rw-r-- 1 sigmoid sigmoid 47 Aug 22 19:40 chotabheen  
drwxrwxrwt 3 sigmoid sigmoid 4096 Aug 23 15:10 gillings  
drwxrwxr-x 2 sigmoid sigmoid 4096 Aug 23 16:40 cat  
-rw-r--r-- 1 root root 144 Aug 28 12:06 email.txt  
drwxr-xr-x 2 sigmoid sigmoid 4096 Aug 28 15:22 Downloads  
drwxr-xr-x 3 sigmoid sigmoid 4096 Aug 28 15:22 Desktop  
drwxrwxr-x 4 sigmoid sigmoid 4096 Aug 28 18:49 'VirtualBox VMs'  
drwxr-xr-x 2 sigmoid sigmoid 4096 Aug 30 14:45 Pictures  
----- 1 sigmoid sigmoid 0 Aug 30 14:51 testfile  
sigmoid@sigmoid-TAS270:~$ ls -l | grep testfile  
----- 1 sigmoid sigmoid 0 Aug 30 14:51 testfile  
sigmoid@sigmoid-TAS270:~$
```

OUTPUT:

- **HIGHLIGHTED FILE (testfile)** is created using touch command where no permission is assigned by default

TASK 6:

```
root@sigmoid-TAS270:~# mkdir -p /usr/local/bin/showtime
root@sigmoid-TAS270:~# nano /usr/local/bin/showtime/showtime.sh
root@sigmoid-TAS270:~# nano /etc/systemd/system/showtime.service
root@sigmoid-TAS270:~# cat /etc/systemd/system/showtime.service
[Unit]
Description=Showtime Service
```

```
[Service]
ExecStart=/usr/local/bin/showtime/showtime.sh
ExecStop=/bin/bash -c "pkill -f '/usr/local/bin/showtime/showtime.sh'"
Restart=always
StandardOutput=append:/home/sigmoid/showtime1.log
StandardError=append:/home/sigmoid/showtime1.log
```

```
[Install]
WantedBy=multi-user.target
root@sigmoid-TAS270:~# systemctl daemon-reload
root@sigmoid-TAS270:~# systemctl start showtime.service
root@sigmoid-TAS270:~# systemctl status showtime.service
```

- showtime.service - Showtime Service
 - Loaded: loaded (/etc/systemd/system/showtime.service; enabled; vendor preset: enabled)
 - Active: active (running) since Fri 2024-08-30 15:28:38 IST; 34min ago
 - Main PID: 36675 (showtime.sh)
 - Tasks: 2 (limit: 9257)
 - Memory: 564.0K
 - CGroup: /system.slice/showtime.service
 - └─36675 /bin/bash /usr/local/bin/showtime.sh
 - └─37417 sleep 60

Aug 30 15:28:38 sigmoid-TAS270 systemd[1]: Started Showtime Service - Writes current time to a file every minute.


```
sigmoid@sigmoid-ThinkPad-T450: ~  
command 'ld' from deb binutils (2.34-6ubuntu1.9)  
  
Try: apt install <deb name>  
  
root@sigmoid-ThinkPad-T450:~# ls -ld /home/sigmoid  
drwxr-xr-x 26 sigmoid sigmoid 4096 Aug 30 13:12 /home/sigmoid  
root@sigmoid-ThinkPad-T450:~# su sigmoid  
sigmoid@sigmoid-ThinkPad-T450:/root$ cd  
sigmoid@sigmoid-ThinkPad-T450:~$ cat showtime.log  
Friday 30 August 2024 01:12:35 PM IST  
Friday 30 August 2024 01:13:35 PM IST  
Friday 30 August 2024 01:14:35 PM IST  
Friday 30 August 2024 01:15:35 PM IST  
Friday 30 August 2024 01:16:35 PM IST  
Friday 30 August 2024 01:17:35 PM IST  
Friday 30 August 2024 01:18:35 PM IST  
Friday 30 August 2024 01:19:35 PM IST  
Friday 30 August 2024 02:17:39 PM IST  
Friday 30 August 2024 02:18:39 PM IST  
Friday 30 August 2024 02:19:39 PM IST  
Friday 30 August 2024 02:20:39 PM IST  
Friday 30 August 2024 02:21:39 PM IST  
Friday 30 August 2024 02:22:39 PM IST  
Friday 30 August 2024 02:23:39 PM IST  
Friday 30 August 2024 02:24:39 PM IST  
Friday 30 August 2024 02:25:39 PM IST  
Friday 30 August 2024 02:26:39 PM IST  
Friday 30 August 2024 02:27:39 PM IST  
Friday 30 August 2024 02:28:39 PM IST  
Friday 30 August 2024 02:29:39 PM IST  
Friday 30 August 2024 02:30:39 PM IST  
Friday 30 August 2024 02:31:39 PM IST  
Friday 30 August 2024 02:32:39 PM IST  
Friday 30 August 2024 02:33:39 PM IST  
Friday 30 August 2024 02:34:39 PM IST  
Friday 30 August 2024 02:35:39 PM IST  
Friday 30 August 2024 02:36:39 PM IST  
Friday 30 August 2024 02:37:39 PM IST  
Friday 30 August 2024 02:38:39 PM IST  
Friday 30 August 2024 02:39:39 PM IST  
Friday 30 August 2024 02:40:39 PM IST  
Friday 30 August 2024 02:41:39 PM IST  
Friday 30 August 2024 02:42:39 PM IST  
Friday 30 August 2024 02:43:39 PM IST  
Friday 30 August 2024 02:44:39 PM IST  
Friday 30 August 2024 02:45:39 PM IST
```