1.Make that file executable.(setpermissions)

A:

```
[pranay@localhost bin]$ sudo chmod 744 longtime.sh
[pranay@localhost bin]$ ls -l longtime.sh
-rwxr--r--. 1 764 root 187 May 26 08:54 longtime.sh
```

1. set the permissions to this file to give the owner read and write permissions, read permissions to the group. Others will have no permissions.

A:

```
[pranay@localhost system]$ sudo chmod 640 mytimelog.service
[sudo] password for pranay:
[pranay@localhost system]$ ls -l mytimelog.service
-rw-r-----. 1 640 root 299 May 26 18:38 mytimelog.service
```

2. use systemctl command to reload the unit file definitions

A:

```
[pranay@localhost system]$ systemctl daemon-reload
==== AUTHENTICATING FOR org.freedesktop.systemd1.reload-daemon ===
Authentication is required to reload the systemd state.
Multiple identities can be used for authentication:
 1.  App Developer1 (app1)
 2.  my main area (pranay)
Choose identity to authenticate as (1-2): 2
Password:
==== AUTHENTICATION COMPLETE ===
```

3. use systemctl command to enable service to be launched at startup

A:

```
[pranay@localhost system]$ systemctl enable mytimelog.service
==== AUTHENTICATING FOR org.freedesktop.systemd1.manage-unit-files ===
Authentication is required to manage system service or unit files.
Multiple identities can be used for authentication:
 1.  App Developer1 (app1)
 2.  my main area (pranay)
Choose identity to authenticate as (1-2): 2
Password:
==== AUTHENTICATION COMPLETE ===
==== AUTHENTICATING FOR org.freedesktop.systemd1.reload-daemon ===
Authentication is required to reload the systemd state.
Multiple identities can be used for authentication:
 1.  App Developer1 (app1)
 2.  my main area (pranay)
Choose identity to authenticate as (1-2): 2
Password:
==== AUTHENTICATION COMPLETE ===
```

4. use systemctl command to start the service

A:

```
[pranay@localhost system]$ systemctl start mytimelog.service
==== AUTHENTICATING FOR org.freedesktop.systemd1.manage-units ===
Authentication is required to manage system services or units.
Multiple identities can be used for authentication:
 1.  App Developer1 (app1)
 2.  my main area (pranay)
Choose identity to authenticate as (1-2): 2
Password:
==== AUTHENTICATION COMPLETE ===
Failed to start mytimelog.service: Unit is not loaded properly: Invalid argument.
See system logs and 'systemctl status mytimelog.service' for details.
[pranay@localhost system]$
```

5. use systemctl command to verify if the service is running correctly.

A:

```
[pranay@localhost bin]$ sudo systemctl status mytimelog.service
● mytimelog.service - My first system service to write timestamp message at regular interval
   Loaded: loaded (/etc/systemd/system/mytimelog.service; enabled; vendor preset: disabled)
   Active: activating (auto-restart) (Result: exit-code) since Fri 2023-05-26 18:57:59 UTC; 6s ago
  Process: 5109 ExecStart=/usr/local/bin/longtime.sh (code=exited, status=2)
 Main PID: 5109 (code=exited, status=2)

May 26 18:57:59 localhost.localdomain systemd[1]: mytimelog.service: main process exited, code=exited, status=2/INVALIDARGUMENT
May 26 18:57:59 localhost.localdomain longtime.sh[5109]: /usr/local/bin/longtime.sh: line 4: syntax error near unexpected token `do'
May 26 18:57:59 localhost.localdomain longtime.sh[5109]: /usr/local/bin/longtime.sh: line 4: `do'
May 26 18:57:59 localhost.localdomain systemd[1]: Unit mytimelog.service entered failed state.
May 26 18:57:59 localhost.localdomain systemd[1]: mytimelog.service failed.
Hint: Some lines were ellipsized, use -l to show in full.
[pranay@localhost bin]$ sudo systemctl status mytimelog.service
● mytimelog.service - My first system service to write timestamp message at regular interval
   Loaded: loaded (/etc/systemd/system/mytimelog.service; enabled; vendor preset: disabled)
   Active: active (running) since Fri 2023-05-26 18:59:51 UTC; 15ms ago
 Main PID: 5248 (longtime.sh)
   CGroup: /system.slice/mytimelog.service
           ├─5248 /bin/bash /usr/local/bin/longtime.sh
           ├─5250 /bin/bash /usr/local/bin/longtime.sh
           └─5251 /bin/bash /usr/local/bin/longtime.sh

May 26 18:59:51 localhost.localdomain systemd[1]: mytimelog.service holdoff time over, scheduling restart.
May 26 18:59:51 localhost.localdomain systemd[1]: Stopped My first system service to write timestamp message at regular interval.
May 26 18:59:51 localhost.localdomain systemd[1]: Started My first system service to write timestamp message at regular interval.
```

6. use systemctl command to stop the service

A:

```
[pranay@localhost bin]$ systemctl stop mytimelog.service
==== AUTHENTICATING FOR org.freedesktop.systemd1.manage-units ===
Authentication is required to manage system services or units.
Multiple identities can be used for authentication:
 1.  App Developer1 (app1)
 2.  my main area (pranay)
Choose identity to authenticate as (1-2): 2
Password:
==== AUTHENTICATION COMPLETE ===
[pranay@localhost bin]$ systemctl status mytimelog.service
● mytimelog.service - My first system service to write timestamp message at regular interval
   Loaded: loaded (/etc/systemd/system/mytimelog.service; enabled; vendor preset: disabled)
   Active: inactive (dead) (Result: exit-code) since Fri 2023-05-26 18:54:35 UTC; 16s ago
  Process: 4820 ExecStart=/usr/local/bin/longtime.sh (code=exited, status=2)
 Main PID: 4820 (code=exited, status=2)

May 26 18:54:29 localhost.localdomain systemd[1]: mytimelog.service: main process exited, code=exited, status=2/INVALIDARGUMENT
May 26 18:54:29 localhost.localdomain longtime.sh[4820]: /usr/local/bin/longtime.sh: line 4: syntax error near unexpected token `do'
May 26 18:54:29 localhost.localdomain longtime.sh[4820]: /usr/local/bin/longtime.sh: line 4: `do'
May 26 18:54:29 localhost.localdomain systemd[1]: Unit mytimelog.service entered failed state.
May 26 18:54:29 localhost.localdomain systemd[1]: mytimelog.service failed.
May 26 18:54:35 localhost.localdomain systemd[1]: Stopped My first system service to write timestamp message at regular interval.
Hint: Some lines were ellipsized, use -l to show in full.
```

7. Reboot the system and check the status of the service using systemctl command Note: You should not start the service explicitly. It should have been started during bootup

A:

```
[pranay@localhost ~]$ sudo systemctl reboot
[sudo] password for pranay:
Connection to 192.168.56.101 closed by remote host.
Connection to 192.168.56.101 closed.

C:\Users\model>ssh pranay@192.168.56.101
pranay@192.168.56.101's password:
Last login: Fri May 26 19:36:21 2023 from 192.168.56.1
[pranay@localhost ~]$ systemctl status mytimelog.service
● mytimelog.service - My first system service to write timestamp message at regular interval
   Loaded: loaded (/etc/systemd/system/mytimelog.service; enabled; vendor preset: disabled)
   Active: active (running) since Fri 2023-05-26 17:57:00 UTC; 1h 42min ago
 Main PID: 665 (longtime.sh)
   CGroup: /system.slice/mytimelog.service
           ├─665 /bin/bash /usr/local/bin/longtime.sh
           └─675 sleep 60

May 26 17:57:00 localhost.localdomain systemd[1]: Started My first system service to write timestamp message at regular interval.
May 26 17:57:00 localhost.localdomain longtime.sh[665]: /usr/local/bin/longtime.sh: line 2: echologtime.service:##Starting##:...found
May 26 17:57:00 localhost.localdomain longtime.sh[665]: /usr/local/bin/longtime.sh: line 2: systemd-cat-p: command not found
May 26 17:57:00 localhost.localdomain longtime.sh[665]: /usr/local/bin/longtime.sh: line 5: date+%Y-%m-%d%H:%M:%S: command not found
May 26 17:57:00 localhost.localdomain longtime.sh[665]: /usr/local/bin/longtime.sh: line 6: systemd-cat-p: command not found
May 26 17:57:00 localhost.localdomain longtime.sh[665]: /usr/local/bin/longtime.sh: line 6: echohtg.service: timestamp: comma...found
Hint: Some lines were ellipsized, use -l to show in full.
```

8. Disable the service using systemctl command. This should prevent it from launching at Startup.

A:

```
[pranay@localhost ~]$ sudo systemctl disable mytimelog.service
[sudo] password for pranay:
Removed symlink /etc/systemd/system/multi-user.target.wants/mytimelog.service.
[pranay@localhost ~]$
```

9. Reboot the system and check the status of the service using systemctl command. You should see an error

A:

```
[pranay@localhost ~]$ sudo systemctl reboot
Connection to 192.168.56.101 closed by remote host.
Connection to 192.168.56.101 closed.

C:\Users\model>ssh pranay@192.168.56.101
pranay@192.168.56.101's password:
Last login: Fri May 26 17:57:03 2023 from 192.168.56.1
[pranay@localhost ~]$ systemctl status mytimelog.service
● mytimelog.service - My first system service to write timestamp message at regular interval
   Loaded: loaded (/etc/systemd/system/mytimelog.service; disabled; vendor preset: disabled)
   Active: inactive (dead)
```

10. Enable the service using systemctl command

A:

```
[pranay@localhost ~]$ systemctl enable mytimelog.service
==== AUTHENTICATING FOR org.freedesktop.systemd1.manage-unit-files ===
Authentication is required to manage system service or unit files.
Multiple identities can be used for authentication:
 1.  App Developer1 (app1)
 2.  my main area (pranay)
Choose identity to authenticate as (1-2): 2
Password:
==== AUTHENTICATION COMPLETE ===
Created symlink from /etc/systemd/system/multi-user.target.wants/mytimelog.service to /etc/systemd/system/mytimelog.service.
==== AUTHENTICATING FOR org.freedesktop.systemd1.reload-daemon ===
Authentication is required to reload the systemd state.
Multiple identities can be used for authentication:
 1.  App Developer1 (app1)
 2.  my main area (pranay)
Choose identity to authenticate as (1-2): 2
Password:
==== AUTHENTICATION COMPLETE ===
```

11. Reboot the system and check the status of the service using systemctl command

Note: You should see the running status of the service

A:

```
[pranay@localhost ~]$ sudo systemctl reboot
[sudo] password for pranay:
Connection to 192.168.56.101 closed by remote host.
Connection to 192.168.56.101 closed.

C:\Users\model>ssh
usage: ssh [-46AaCfGgKkMNnqsTtVvXxYy] [-B bind_interface]
           [-b bind_address] [-c cipher_spec] [-D [bind_address:]port]
           [-E log_file] [-e escape_char] [-F configfile] [-I pkcs11]
           [-i identity_file] [-J [user@]host[:port]] [-L address]
           [-l login_name] [-m mac_spec] [-O ctl_cmd] [-o option] [-p port]
           [-Q query_option] [-R address] [-S ctl_path] [-W host:port]
           [-w local_tun[:remote_tun]] destination [command]

C:\Users\model>ssh pranay@192.168.56.101
pranay@192.168.56.101's password:
Last login: Fri May 26 18:00:36 2023 from 192.168.56.1
[pranay@localhost ~]$ systemctl srtatus mytimelog.service
Unknown operation 'srtatus'.
[pranay@localhost ~]$ systemctl status mytimelog.service
● mytimelog.service - My first system service to write timestamp message at regular interval
   Loaded: loaded (/etc/systemd/system/mytimelog.service; enabled; vendor preset: disabled)
   Active: active (running) since Fri 2023-05-26 18:03:47 UTC; 1h 42min ago
 Main PID: 662 (longtime.sh)
   CGroup: /system.slice/mytimelog.service
           ├─662 /bin/bash /usr/local/bin/longtime.sh
           └─675 sleep 60

May 26 18:03:47 localhost.localdomain systemd[1]: Started My first system service to write timestamp message at regular interval.
May 26 18:03:48 localhost.localdomain longtime.sh[662]: /usr/local/bin/longtime.sh: line 2: echologtime.service:##Starting##:...found
May 26 18:03:48 localhost.localdomain longtime.sh[662]: /usr/local/bin/longtime.sh: line 2: systemd-cat-p: command not found
May 26 18:03:48 localhost.localdomain longtime.sh[662]: /usr/local/bin/longtime.sh: line 5: date+%Y-%m-%d%H:%M:%S: command not found
May 26 18:03:48 localhost.localdomain longtime.sh[662]: /usr/local/bin/longtime.sh: line 6: systemd-cat-p: command not found
May 26 18:03:48 localhost.localdomain longtime.sh[662]: /usr/local/bin/longtime.sh: line 6: echohtg.service: timestamp: comma...found
Hint: Some lines were ellipsized, use -l to show in full.
```