



Working in the Server Express and Enterprise Server Development System – What processes need to be running?

When installing and setting up the Server Express and the Enterprise Server Development System on UNIX or Linux machines, there are several processes that need to be running for the products to work. These include the License Management Facility for Server Express (LMF), the Enterprise Server License Manager (ESLM) and the Micro Focus Directory Server (MFDS) processes.

The License Management Facility (LMF) is required for Server Express to run. Once the LMF is installed, it initially needs to be started manually. Further, during the installation process there is an option asking if the License Manager is to be started after a system reboot. It is recommended that this option be selected. If the automatic startup option is not selected, then the License Manager must be manually started each time the system is rebooted.

To start up the License Manager manually:

1. Log in as root user.
At the command line type: `su root`
2. By default the LMF is located at `/opt/microfocus/mflmf`. If, however, when restarting the LMF after a reboot and the location of the "mflmf" directory is unknown, search for any of the following files such as the "LMFVERNO", the "MF-LMF.log" or the "mflmfdb" file (e.g.: `find / -name LMFVERNO`). The directory where the LMF is installed usually has `/mflmf` as the lowest directory and is often referred to as the "mflmf" directory. Once located, go to this directory. For example:
`cd /opt/microfocus/mflmf`
3. Enter the command: `sh mflmman`

The automatic startup of the License Manager at boot time can be set up at a later date by firstly copying the "mflmrcscript" file from the "mflmf" directory into the /etc directory.

For example:

1. `cd /etc`
2. `cp /opt/microfocus/mflmf/mflmrcscript .`

This "mflmrcscript" file will start the License Manager daemon. The COBDIR environment variable in this script, will point to the location of where the "mflmf" directory is created during the installation of the LMF.

An example of what is contained in an "mflmrcscript" file:

```
/etc>cat mflmrcscript  
  
echo Starting MFLM License Manager  
COBDIR=/opt/microfocus/mflmf  
export COBDIR  
LD_LIBRARY_PATH=$COBDIR/lib:$LD_LIBRARY_PATH:/lib  
export LD_LIBRARY_PATH  
cd /opt/microfocus/mflmf  
./mflm_manager
```

Secondly, add the following entry to the "inittab" file, located in the /etc directory.

1. `cd /etc`
2. Use either 'vi' or any other file editor to add the following line to the file. This will run the "mflmrcscript" file at boot time:
`mF:2345:wait:sh /etc/mflmrcscript > /dev/null 2>&1`

The same concept applies for the Enterprise Server License Manager. During the installation process of the Enterprise Server Development System, there is an option asking if the ESLM is to be automatically started after the system is rebooted. It is also recommended that this option be selected. However, if the automatic startup option is not chosen, then the Enterprise Server License Manager needs to be manually started after the system is rebooted.

To start up the Enterprise Server License Manager manually:

1. Log in as root user.
At the command line type: `su root`
2. Check that the COBDIR environment variable is pointing to the COBOL environment
E.g.: `echo $COBDIR`
3. If blank or not set to the correct location, set COBDIR as follows:
for example:
`COBDIR=/opt/microfocus/cobol`
`export COBDIR`
Note: this is the default location but it may be elsewhere on the server
4. `cd $COBDIR/bin`
5. Enter the command: `sh ./eslm`

The automatic startup of the Enterprise Server License Manager at boot time can be set up at a later date by re-installing the ESLM and selecting the automate startup option:

1. Log in as root user.
At the command line type: `su root`
2. `cd $COBDIR/bin`
3. Enter the command: `sh ./eslminstall`

The script that's created to start up the Enterprise Server License Manager contains the following and is located in the /etc directory:

```
/etc>cat mfeslmrcscript  
  
COBDIR=/opt/microfocus/cobol  
export COBDIR  
LD_LIBRARY_PATH=$COBDIR/lib:$LD_LIBRARY_PATH:/lib  
export LD_LIBRARY_PATH  
cd /opt/microfocus/cobol/bin  
./eslm
```

This entry will also be added to the /etc/inittab file to run the "mfeslmrcscript" file at boot time:
`mfes:2345:wait:sh /etc/mfeslmrcscript > /dev/null 2>&1`

Besides setting up the ESLM and the licenses to run Enterprise Server, there are other processes that need to be set up. Read 'Chapter 2 Configuration' of the 'Configuration and Administration Guide' of the Enterprise Server for more information. In this particular instance, let's concentrate on the Directory Server, which enables the Enterprise Server Administration. The Directory Server is a process that maintains a collection of information that defines services and other related components.

The command to start the Directory Server is "mfd". It is recommended, that the commands to set up the environment and start the Directory Server be written into a startup script, so the Directory Server will be started automatically at boot time. The "mfd" command must be inserted after the commands to start up TCP/IP, as the Directory Server needs TCP/IP to be running.

An example of a script to start up the Directory Server:

```
/etc>cat mfdsrcscript  
  
COBDIR=/opt/microfocus/cobol  
export COBDIR  
PATH=$COBDIR/bin:$PATH  
export PATH  
LD_LIBRARY_PATH=$COBDIR/lib:$LD_LIBRARY_PATH  
export LD_LIBRARY_PATH  
cd /var/mfcobol/logs  
mfd &
```

Also, add the following entry to the /etc/inittab file to run the "mfdsrcscript" file at boot time:
`mfd:2345:wait:sh /etc/mfdsrcscript > /dev/null 2>&1`

On the other hand, the Directory Server can be started from the command line:

1. Log in as root
At the command line type: `su root`

2. Enter the command: `mfds /param`

where *param* can be:

`d` Show debug information

`dn network-address` Bind to specific adapter and show debug information

`n network-address` Bind to specific adapter

`r` Refuse access to the Enterprise Server Administration interface

`j journal-path` Override the journal path

`p port-number` Bind to a non-standard port

Warning: This option should be used with caution, as many programs depend on Directory Server using the default port (86).

In addition to options for starting Directory Server, the "mfds" command also provides a number of other options for reporting and exporting information, stopping the server, and for the installation or removal of Windows services. For details, please look in the online documentation at the section on "mfds". To locate that documented section, follow the path on the main screen of the online documentation: Enterprise Server Help topics, Configuration and Administration, Reference, Commands, mfds. A copy of the online documentation can be found on the Documentation CD supplied with the product or on the Micro Focus SupportLine website (<http://supportline.microfocus.com/productdoc.asp>)

Some useful basic links are:

To the SupportLine Web Login Page: [SupportLine Web Service](#)

To the contact us page: Contact your local [Customer Care](#) centre.
Or Contact your local [Sales Representative](#).