

Installing dSPACE VEOS 5.0 on Ubuntu Linux 18.04 LTS

Where to go from here

Information in this section

How to Install dSPACE VEOS 5.0 on Ubuntu Linux 18.04 LTS.....	1
To install dSPACE VEOS 5.0 on Ubuntu Linux 18.04 LTS.	
How to Contact dSPACE.....	5

How to Install dSPACE VEOS 5.0 on Ubuntu Linux 18.04 LTS

Objective

To install dSPACE VEOS 5.0 on Ubuntu Linux 18.04 LTS.

Preconditions

To install dSPACE VEOS 5.0 on Ubuntu Linux 18.04 LTS, you must meet the following preconditions:

- You must have Ubuntu Linux 18.04 LTS (Bionic Beaver).
- Microsoft .NET Core 3.1 must be installed on the Linux system. If this is not the case, the system must have access to the Internet or to a local package mirror that provides the Microsoft .NET Core 3.1 packages.
- You must have administrative privileges on the Linux system, i.e., you must be able to run commands as root using the `sudo` command.

Method**To install dSPACE VEOS 5.0 on Ubuntu Linux 18.04 LTS**

- 1** On the Linux system, create a new folder in your home directory and copy the contents of the delivered archive to the new folder.
- 2** In a shell, change to the folder you created in the previous step and execute the following commands:
 - `chmod +x *.sh` to set execute permission for the shell scripts for all users.
 - `chmod +r packages.tar` to set read permission for the `packages.tar` archive for all users.
- 3** If Microsoft .NET Core 3.1 is installed on the Linux system, continue with the next step. Otherwise, proceed as follows:
 - If the Linux system has Internet access and you have clearance from your local system administrator, execute the `configure-ms-package-server.sh` script.
The script carries out the instructions on the official Microsoft .NET Core installation website, <https://docs.microsoft.com/en-us/dotnet/core/install/linux-ubuntu>.
 - If you cannot access the Internet, you can, for example, use a local package mirror to get the Microsoft .NET Core 3.1 packages. Follow the instructions on the Microsoft .NET Core installation website to perform the installation.
- 4** In the shell, use the following command to create a temporary directory `tmp_dir` and extract the `packages.tar` archive to it:
`mkdir tmp_dir && tar -xf packages.tar -C tmp_dir`
- 5** Make sure that all the files in the `tmp_dir` directory can be accessed by the apt-get installer by executing
`chmod -R a+w tmp_dir`
You can now install the extracted DEB packages with the following command:
`sudo apt-get install ./tmp_dir/*.deb`
Once the installation is completed, you can remove the temporary directory and its contents by executing `rm -rf tmp_dir`.

Tip

You can also execute the `install-dspace-veos-5.0.sh` script to perform the tasks in steps 4 and 5.

You can modify the script to automatically enable floating network license servers by removing the `#` in the line
`# enable_license_server 127.0.0.1`
and replacing `127.0.0.1` by the IP or FQDN of your license server. Add corresponding lines for each additional license server you want to use.

Do not execute the script as superuser, since this might cause other users not to be able to start the VEOS Simulator. If required, the installation script will ask for superuser privileges.

- 6** Verify that the CodeMeter server process is running by executing the following command:

```
systemctl status codemeter.service
```

If the process is running, you will see the following output:

```
● codemeter.service - CodeMeter RunTime Server
   Loaded: loaded (/lib/systemd/system/codemeter.service; enabled; vendor preset:
   Active: active (running) since Thu 2020-06-04 07:23:32 PDT; 38min ago
     Main PID: 740 (CodeMeterLin)
        Tasks: 11 (limit: 2266)
      CGroup: /system.slice/codemeter.service
              └─740 /usr/sbin/CodeMeterLin -f

Jun 04 07:23:32 ubuntu systemd[1]: Started CodeMeter RunTime Server.
```

To continue, press q.

If the process is not running, it will be displayed as inactive in the output in white letters. In this case, start the process with the following command:

```
systemctl start codemeter.service
```

Note

You require superuser privileges to start the process.

Per default, CodeMeter Runtime uses a hardware token. This token must be connected if you use this method to get licenses.

If you want to use floating network licenses and you did not use the installation script to enable license servers, use the following command in the shell to add a license server to the server list:

```
cmu --add-server <server IP or FQDN>
```

- 7 Verify that the RPC Binary Daemon is running by executing the following command:

```
systemctl status rpcbind.service
```

If the daemon is running, you will see the following output:

```
● rpcbind.service - RPC bind portmap service
   Loaded: loaded (/lib/systemd/system/rpcbind.service; enabled; vendor preset:
   Active: active (running) since Thu 2020-06-04 07:23:31 PDT; 1min 20s ago
     Docs: man:rpcbind(8)
     Main PID: 568 (rpcbind)
        Tasks: 1 (limit: 2266)
      CGroup: /system.slice/rpcbind.service
              └─568 /sbin/rpcbind -f -w

Jun 04 07:23:31 ubuntu systemd[1]: Starting RPC bind portmap service...
Jun 04 07:23:31 ubuntu systemd[1]: Started RPC bind portmap service.
```

To continue, press q.

If the daemon is not running, it will be displayed as inactive in the output in white letters. In this case, activate the daemon with the following command:

```
systemctl start rpcbind.service
```

Note

You require superuser privileges to activate the daemon.

Result

You installed dSPACE VEOS 5.0 on Ubuntu Linux 18.04 LTS.

The installation is located under `/opt/dspace/`.

The following table provides an overview of the relevant folder content.

Subfolder	Content
/common/dskvm/5.0	/bin: Contains the dSPACE KVM hypervisor utility, which is required for the simulation of adaptive V-ECUs.
	/util: Contains shell scripts for configuring permissions required by KVM.
/share	/<GUID>/log: Folder for saving simulation log files.
	/veos/config: Contains the 5.0.config XML file for configuring the VEOS installation.
/veos5.0	/bin: Contains all the VEOS executables and related library files.
	/tools/shell: Contains shell scripts for activating the VEOS environment.

Next steps

- You can start the VEOS Simulator with the `/opt/dspace/veos5.0/bin/veoskernel` command. Make sure not to do this with superuser privileges.
If the VEOS Simulator starts successfully, you will see the following output:

```
2020-06-08 08:00:58.158 Connected to VEOS Kernel.
2020-06-08 08:00:58.168 Starting RPC service thread...
2020-06-08 08:00:58.174 RPC service thread started.
2020-06-08T08:00:58.265-07:00 [Trace] VEOS Simulator startup completed.
2020-06-08T08:00:58.265-07:00 [Trace] Waiting for VEOS Service...
```

You can now start working with VEOS.

Note

To enable remote access to the VEOS Simulator, use the `/opt/dspace/veos5.0/bin/veoskernel enableremote` command. This lets you locate and control the VEOS Simulator with other dSPACE tools by means of a network connection.

The `install-dspace-veos-5.0.sh` script executes this command by default.

To disable remote access, use the `/opt/dspace/veos5.0/bin/veoskernel disableremote` command.

- For more convenient control of VEOS, you can activate the VEOS environment in the shell with the following command:
`. /opt/dspace/veos5.0/tools/shell/veos-env.sh`
 Make sure to observe the space after the dot.
 The `(dspace-veos)` prefix is added to the prompt.
 While the VEOS environment is active, you can use the `veos sim` command from any directory. If you are using Bash, you can also use autocompletion via the Tab key.

To deactivate the VEOS environment, execute the `dspace_veos_deactivate` command.

How to Contact dSPACE

Mail:	dSPACE GmbH Rathenaustraße 26 33102 Paderborn Germany
Tel.:	+49 5251 1638-0
Fax:	+49 5251 16198-0
E-mail:	info@dspace.de
Web:	http://www.dspace.com

© 2020, dSPACE GmbH. All rights reserved. Brand names or product names are trademarks or registered trademarks of their respective companies or organizations.

