

HEEDS Professional Linux Installation Guide

Version 5.2.1



4572 South Hagadorn Rd., Suite 3A
East Lansing, Michigan 48823
Phone: 517.664.1137
www.redcedartech.com

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of Red Cedar Technology, Inc.

The information in this manual is subject to change without notice and should not be construed as a commitment by Red Cedar Technology, Inc. While every effort has been made to ensure the accuracy of the material, Red Cedar Technology, Inc. assumes no responsibility or liability for any errors, inaccuracies or omissions that may be present in this manual.

Copyright © 2008 by Red Cedar Technology, Inc. All rights reserved.

HEEDS is a trademark of Red Cedar Technology, Inc. Abaqus is a trademark or registered trademark of Dassault Systèmes and its subsidiaries in the United States and/or other countries. Other brand or product names that may appear in this manual or in the illustrations are the registered trademarks or trademarks of their respective holders.

Contents

1. Introduction	1
System Requirements	1
Licensing	1
Technical Support.....	2
2. Installing the Software	3
Using the HEEDS Installer.....	3
Installing from the Product Files.....	10
Environment Variables.....	11
3. Using the License Server	13
How HEEDS Licensing Works	13
Obtaining the License File	13
Starting the License Server.....	15
Linking to the License File	15
Shutting down the License Server	16
Updating the License File	16
4. Starting the HEEDS Modeler.....	17
Troubleshooting.....	17

1. Introduction

When you purchase our HEEDS Professional software, the installation files are available to you either on CD or as a download from our Web site. If you wish to download the software, please contact us for instructions. Regardless of the method you choose, you will receive files for installing both HEEDS Professional and the license server. How you install them depends on whether you are running a single-user installation or are installing on a network.

System Requirements

For a Linux installation, the computer(s) on which you intend to run HEEDS must meet the following minimum requirements:

Component	Requirements
Operating system	RHEL4 or RHEL 5
Processor	Pentium 550 MHz
RAM	128 MB for HEEDS and whatever is needed for your evaluation software to run. Consult your analysis software manuals for these requirements.
Disk space	At least 60 MB of free disk space for the Modeler.

Licensing

All HEEDS installations require a license, which you need to obtain from Red Cedar Technology. This license is monitored by the license manager, which is part of the license server:

- **If you are installing a single-user system**, the license server and the HEEDS product must be installed on the same system. You will only be able to run HEEDS on one computer.
- **If you are installing on a network**, one copy of the license server must be installed on the network. It can be placed on your network server (if you have one) or on another machine in the network. There can only be one installation of the license server.
- **If you have a network license**, the HEEDS product itself can be installed on any machine in your network. It does not matter how many copies you install. However, you will only be able to simultaneously run the number the number of copies for which you are actually licensed.

Technical Support

Red Cedar Technology offers technical support from 9:00 a.m. to 5:00 p.m. Eastern Time, Monday through Friday.

To obtain technical support:

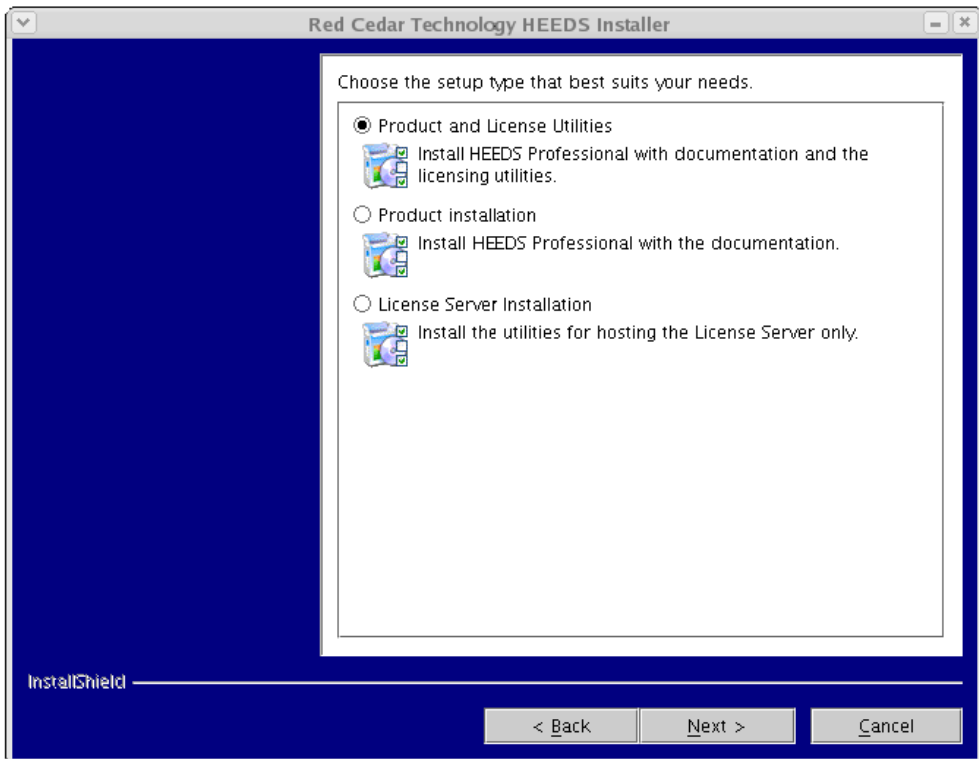
Phone: 1.517.664.1137

Email: support@redcedartech.com

2. Installing the Software

Using the HEEDS Installer

Depending on your needs, when you install the software, you can choose one of three setups:



- The **Product and License Utilities** setup installs the HEEDS Professional software and the license server at the same time. This is probably the easiest way to install a single-user installation. If you want to use this setup, see *Product and License Utilities Installation* on page 4 for instructions.
- The **Product Installation** setup just installs the HEEDS software and documentation. This installation is the best option when you are installing HEEDS on other machines in your network. If you want to use this setup, see *Product Installation* on page 7 for instructions.

- The **License Server Installation** setup only installs the license server. This is the best option if you are placing the license server on a network server or on a machine where you are not going to install a copy of HEEDS. If you want to use this setup, see *License Server Installation* on page 8 for instructions.

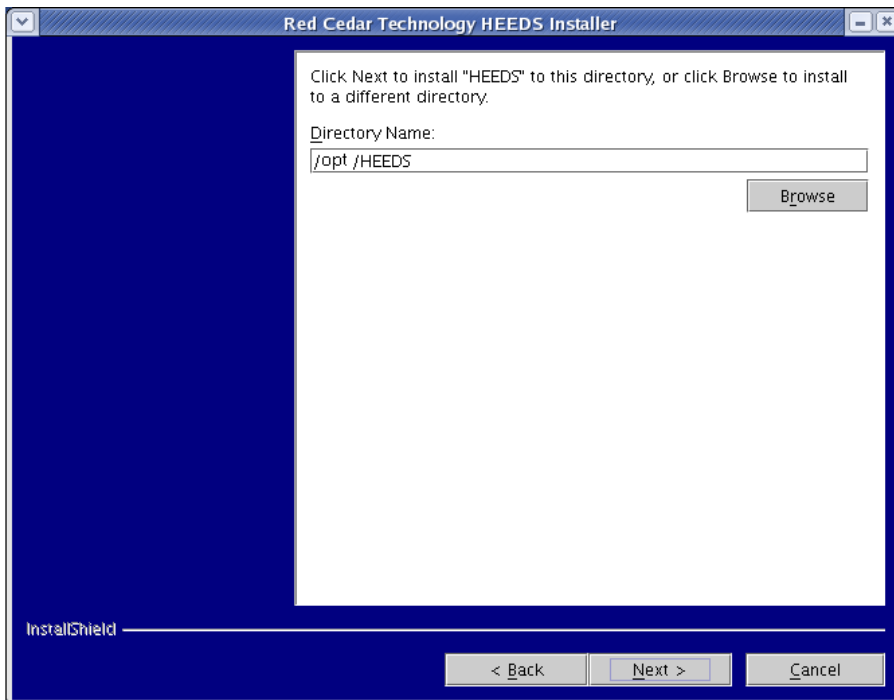
Regardless of the setup option you choose, you must be signed on as **Administrator** to install the software.

Product and License Utilities Installation

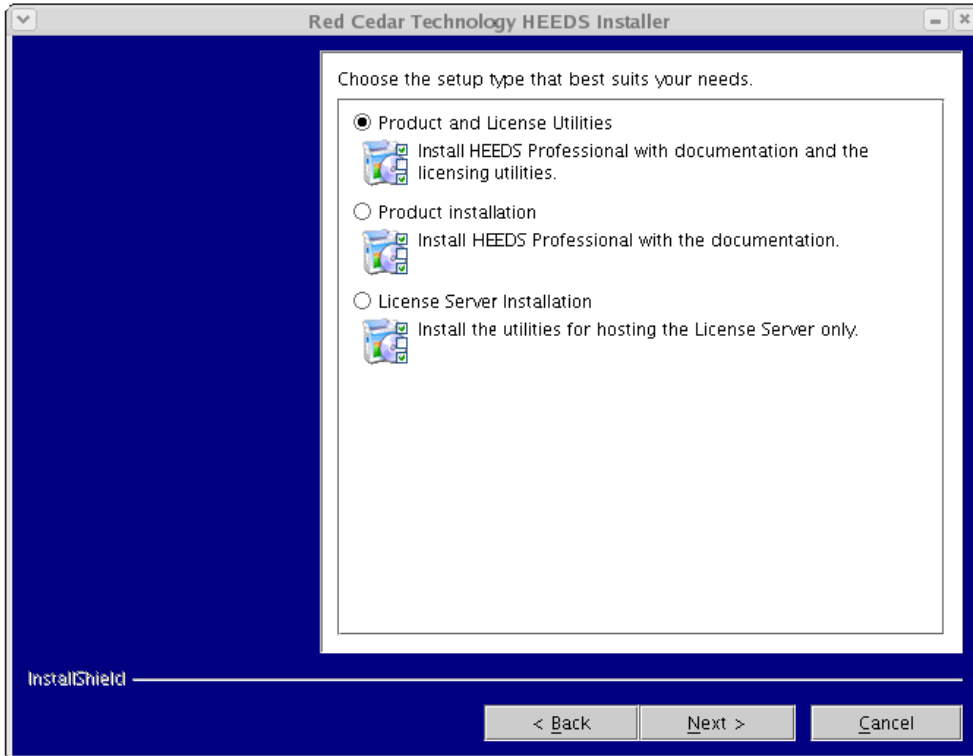
If this is the first time you have installed HEEDS and are setting up a single-user installation, this option is the easiest way to install it. It will place both HEEDS and the license server in the same directory.

► To install from CD (Option 1)

1. Mount the CD-ROM.
2. Open a terminal, and change directory to the mount point.
3. Type **./setuplinux.bin**, and press **Enter** to start the java-based installer.
4. On the first screen, a default **Directory Name** will appear. You can accept the default, or click **Browse** to select another.



5. Click **Next**.
6. On the next screen, select **Product and License Utilities**.



7. Click **Next**.
8. You will see a summary of your installation choices and the components that will be installed. Click **Next**.
9. Once you have installed HEEDS on your machine, you will need to link HEEDS to the license file.
 - Prior to using HEEDS, the following environment variable must be set:
RCTECH_LICENSE_FILE = @hostname or port@hostname
where **hostname** is the hostname of the machine where the license server is installed.

► **To download and install files from the Web (Option 2)**

1. Download all the installation files to a single directory.
2. Open a terminal and change directory to the folder where the installation files are located.
3. Unzip the files using the command: **tar-xzvf HEEDS_v5.*_Linux_x86-*.tar.gz**

Note: *Make sure that the file permissions are set properly before starting the installation process. The **setuptools.bin** file should have execute permission.*

4. Type **./setuptools.bin**, and press **Enter** to start the java-based installer.
5. On the first screen, a default **Directory Name** will appear. You can accept the default, or click **Browse** to select another.
6. Click **Next**.
7. On the next screen, select **Product and License Utilities**, and click **Next**.
8. You will see a summary of your installation choices and the components that will be installed. Click **Next**.
9. Once you have installed HEEDS on your machine, you will need to link HEEDS to the license file.
 - Prior to using HEEDS, the following environment variable must be set:
RCTECH_LICENSE_FILE = @hostname or port@hostname
where **hostname** is the hostname of the machine where the license server is installed.

Product Installation

The instructions in this section apply both to new installations and to upgrades. Follow them to install HEEDS on multiple computers or to install an upgrade to your existing product.

If you are installing a single-user system and have already installed the license server, you must install HEEDS on the same machine. It is recommended that you install it in the directory where the folder containing the license server files is located.

Note: Log in as **root** (This is required for product installation. The license server can be installed by a regular user).

► To install from CD (Option 1)

1. Mount the CD-ROM.
2. Open a terminal, and change directory to the mount point.
3. Type **./setuplinux.bin**, and press **Enter** to start the java-based installer.
4. On the first screen, a default **Directory Name** will appear. You can accept the default, or click **Browse** to select another.
5. Click **Next**.
6. On the next screen, select **Product Installation**, and click **Next**.
7. You will see a summary of your installation choices and the components that will be installed. Click **Next**.
8. Log off and log back on for the installation to be complete.
9. Once you have installed HEEDS on your machine, you will need to link HEEDS to the license file.
 - Prior to using HEEDS, the following environment variable must be set:
RCTECH_LICENSE_FILE = @hostname or port@hostname
where **hostname** is the hostname of the machine where the license server is installed.

► To download and install files from the Web (Option 2)

1. Download all the installation files to a single directory.
2. Open a terminal and change directory to the folder where the installation files are located.
3. Unzip the files using the command: **tar-xzvf HEEDS_v5.*_Linux_x86-*.tar.gz**

Note: *Make sure that the file permissions are set properly before starting the installation process. The **setuplinux.bin** file should have execute permission.*

4. Type **./setuplinux.bin**, and press **Enter** to start the java-based installer.
5. On the first screen, a default **Directory Name** will appear. You can accept the default, or click **Browse** to select another.
6. Click **Next**.
7. On the next screen, select **Product Installation**, and click **Next**.
8. You will see a summary of your installation choices and the components that will be installed. Click **Next**.
9. Once you have installed HEEDS on your machine, you will need to link HEEDS to the license file.
 - Prior to using HEEDS, the following environment variable must be set:
RCTECH_LICENSE_FILE = @hostname or **port@hostname**
where **hostname** is the hostname of the machine where the license server is installed.

License Server Installation

If you are installing HEEDS on a network, you will need to install one copy of the license server. It can be located on either your network server or on another machine in your network, as long as it is accessible from all machines that will be running HEEDS Professional.

► To install from CD (Option 1)

1. Mount the CD-ROM.
2. Open a terminal, and change directory to the mount point.

3. Type **./setuptools.bin**, and press **Enter** to start the java-based installer.
4. On the first screen, a default **Directory Name** will appear. You can accept the default, or click **Browse** to select another.
5. Click **Next**.
6. On the next screen, select **License Server Installation**, and click **Next**.
7. You will see a summary of your installation choices and the components that will be installed. Click **Next**.
8. Once you have installed HEEDS on your machine, you will need to link HEEDS to the license file.
 - Prior to using HEEDS, the following environment variable must be set:
RCTECH_LICENSE_FILE = @hostname or port@hostname
where **hostname** is the hostname of the machine where the license server is installed.

► To download and install files from the Web (Option 2)

1. Download all the installation files to a single directory.
2. Open a terminal and change directory to the folder where the installation files are located.
3. Unzip the files using the command: **tar-xzvf HEEDS_v5.*_Linux_x86-*.tar.gz**

Note: Make sure that the file permissions are set properly before starting the installation process. The **setuptools.bin** file should have execute permission.

4. Type **./setuptools.bin**, and press **Enter** to start the java-based installer.
5. On the first screen, a default **Directory Name** will appear. You can accept the default, or click **Browse** to select another.
6. Click **Next**.
7. On the next screen, select **License Server Installation**, and click **Next**.
8. You will see a summary of your installation choices and the components that will be installed. Click **Next**.
9. Once you have installed HEEDS on your machine, you will need to link HEEDS to the license file.

- Prior to using HEEDS, the following environment variable must be set:
RCTECH_LICENSE_FILE = @hostname or port@hostname
where **hostname** is the hostname of the machine where the license server is installed.

Installing from the Product Files

To install HEEDS from the product files, perform the following steps as **root**:

***Note:** If you do not have root access, you can install to another directory for which you do have write permission. Simply use that directory's path instead of **/opt/HEEDS/** in Steps 1 and 2. And in Step 5, choose one of the three shell files listed (you will not be able to change **/etc/profile**).*

1. Make a directory for the HEEDS files:

```
mkdir -p /opt/HEEDS/
```

2. Copy files (**HEEDS_v5.2.1_Linux_x86-xx.tar.gz**) to **/opt/HEEDS/**.
3. Unzip the archive (**Note:** Replace **xx** with the correct numbers):

```
gzip -d HEEDS_v5.2.1_Linux_x86-xx.tar.gz
```

4. Untar the archive:

```
tar -xvf HEEDS_v5.2.1_Linux_x86-xx.tar
```

5. Set the environment variables (listed in *Environment Variables* on page 11) in the file of your choice:

```
.cshrc (c shell)
```

```
.kshrc (k shell)
```

```
.bashrc (Bourne-again shell)
```

```
/etc/profile (system-wide change)
```

6. In the file you chose in step 5, add an environment variable for the HEEDS license server name:

```
export RCTECH_LICENSE_FILE=@hostname or port@hostname
```

7. Again, in file you chose in Step 5, append **\$HEEDS_ROOT** to the **\$PATH** environment variable:

```
export PATH=$PATH:$HEEDS_ROOT
```

8. Before HEEDS can be used, you will need to either source the file used in step 5, or log off and back on.

Environment Variables

When you install the HEEDS software, a number of environment variables are created:

Variable	Description	Default Setting
HEEDS_ROOT	The path to the HEEDS folder.	/opt/HEEDS/Ver5.2
HEEDS_TEMP	The path to the folder where HEEDS will perform the MPD evaluations.	/tmp
PVM_ROOT	The path to the PVM folder.	/opt/HEEDS/Ver5.2/pvm3
PVM_ARCH	Tells PVM the architecture of the machine.	LINUX64
PVM_TMP	The path to the temp directory where PVM scratch files will be created.	/tmp
PVM_DPATH	The path to the pvmd3 file.	/opt/HEEDS/Ver5.2/pvm3/lib/LINUX64/pvmd3
PVM_RSH	The path to the rsh or ssh file.	/usr/bin/ssh

HEEDS_ROOT is used for all installations. The others are only used for MPD projects. The following paths are added to the **Path** variable:

- **/opt/HEEDS/Ver5.2**
- **/opt/HEEDS/Ver5.2/libs**
- **/opt/HEEDS/Ver5.2/pvm3/lib/LINUX64**

Important: *If you did not log in as **Administrator** when you installed your software, the environment variables will not be created. If you find they are missing, you can either create them on your own or reinstall HEEDS with an **Administrator** logon.*

You may change the path defined in **HEEDS_TEMP** if you want the evaluation files for MPD projects placed in a different directory. No other paths should be changed.

3. Using the License Server

The license server manages all HEEDS activity. You can use the license server to start, stop, and monitor this activity on your system.

After you install the license server, you need to obtain a license file, start the license server, and link HEEDS to the license file.

How HEEDS Licensing Works

HEEDS manages usage via a token system. When your company purchased HEEDS, it purchased the number of tokens that will support the anticipated activity for your company.

The tokens are allotted as follows:

Component	Tokens
HEEDS Modeler	1 “modeler” token per running copy
HEEDS Professional	1 “heeds” token
HEEDS Professional with MPD	1 “heeds” token for the job 1 “heedsMPD” token for the job 1 “evaluator” token per evaluator
HEEDS CAE portal 1	“*_portal” token per agent group where * will be the abbreviation for the portal type (e.g., aba_portal for Abaqus).

Obtaining the License File

After you install the license server, you will need a key to use it. If you have not already requested a license key from Red Cedar Technology, follow these steps to obtain one:

1. Start an xterm terminal.
2. Change directory to the **HEEDS/License Directory**. The default location is:

/opt/HEEDS/License

3. Type **./lmhostid** after the prompt. Output similar to the following will appear on the prompt screen.

lmhostid - Copyright (c) 1989-2003 by Macrovision Corporation. All rights reserved. The FLEXlm host ID of this machine is "003668bc8b1b"

4. Write down the host ID.
5. Type **hostname** after the new prompt. Write down the host name that appears after the prompt.
6. Email the hostname and the host ID to Red Cedar Technology.

Upon receipt of this information, we will issue a license key and send you the license file, **license.dat**.

Starting the License Server

Note: The user trying to start the license server must have write permissions in the License directory.

► To start the license server

1. Copy the **license.dat** file (from Red Cedar Technology) to the License directory under the HEEDS installation folder. (If it is named differently, rename it **license.dat**).
2. Open an xterm terminal.
3. Change the directory to the license directory under the HEEDS installation folder.
4. At the prompt, type in:
./lmgrd -c (Path to the License directory)/license.dat -l +(Path to the License directory)/debug.log

For example:

If the installation directory is:

/opt/HEEDS/License

Then the command would be:

lmgrd -c /opt/HEEDS/License/license.dat -l +/opt/HEEDS/License/debug.log

Linking to the License File

The first time you use HEEDS, you need to tell the HEEDS Modeler where to find the license file.

Prior to using HEEDS, the following environment variable must be set:

RCTECH_LICENSE_FILE = @hostname

where **hostname** is the hostname of the machine where the license server is installed.

Shutting down the License Server

The license server will shut down automatically when you shut down the system. To shut it down while the system is still running, do the following:

1. Open an xterm terminal.
2. Change the directory to the license directory under the HEEDS installation folder.
3. At the prompt, type in: `./lmdown -c (Path to the License directory)/license.dat`
4. Enter **y** when prompted to stop the server.

Updating the License File

► **To replace your license file with a new one**

1. Shut down the license server (see *Shutting down the License Server* on page 16).
2. Replace the license file.
3. Restart the server. (see *Starting the License Server* on page 15).

4. Starting the HEEDS Modeler

The HEEDS Modeler can be started from any directory by opening an xterm terminal and typing **modeler_5.2.sh**.

Troubleshooting

If HEEDS Modeler does not start up after typing **modeler_5.2.sh**, there are two possible causes:

1. The environment variables have not been set properly. See *Environment Variables* on page 11 for a summary of the environment variables that should have been set during the installation.
2. If all the above variables are set properly, and the Modeler still doesn't start up, then the license server is not running. Try the following:
 - Please start the license server.
 - Check in the **debug.log** file to check for any reported errors during the license server startup.