

Installing Proteus WorkBench

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Installing Proteus WorkBench

This document contains specific information to prepare for and verify installation of Proteus WorkBench, as well as links to installation instructions.

Note: The installation instructions in this document are the most up-to-date instructions available at the time of production. However, changes might have occurred. For the latest installation information, see the product release notes or documentation.

This document contains the following sections:

- [Media Availability and Supported Platforms](#)
- [Memory and Disk Space Requirements](#)
- [Installing the Software](#)
- [Setting Up the User Environment](#)
- [Verifying the Proteus WorkBench Installation](#)
- [Accessing Proteus WorkBench Documentation](#)
- [Verifying the Proteus MetroKit Installation](#)

To install Synopsys tools, it is recommended that you have system administrator privileges. You need write permission for the installation directory.

Media Availability and Supported Platforms

The Proteus WorkBench tool is available by electronic software transfer (EST) download or as tangible media (DVD or CD, depending on the image size). Obtain the appropriate binary executable files based on the operating system (OS) you need.

Chapter :
Media Availability and Supported Platforms

Table 1 lists the supported compute platforms, operating systems, corresponding Synopsys platform keywords, and window environments for this release. Many platforms require operating system patches.

For detailed information, see the Licensing, Installation, and Compute Platforms page on the Synopsys Web site. Go to <http://www.synopsys.com/products/platforms>.

Under Licensing, Installation, and Compute Platforms, select the appropriate foundation for your release. This Web page provides information about supported hardware, operating systems, and required OS patches. If the required patch described on this page is not available from the platform vendor, install the most recent patch instead.

Table 1 Supported Platforms, Operating Systems, and Keywords

Platform	Operating system	Synopsys platform keyword	Window environment
X86_64	Red Hat Enterprise Linux v4, 5 ¹	amd64 (64-bit mode) ²	GNOME
X86_64	SUSE Enterprise Linux Server v9, 101	suse64 (64-bit mode)	KDE

1. *Binary-compatible hardware platform or operating system. Note, however, that binary compatibility is not guaranteed. See <http://www.synopsys.com/products/platforms> for the latest information.*

2. *The 64-bit (x86_64) Linux software is binary compatible with the Intel EM64T or AMD Opteron running Red Hat Enterprise Linux. See <http://www.synopsys.com/products/platforms> for the latest information.*

Note: The Proteus WorkBench software is configured so that multiple platforms of this version can be installed in a single installation directory (*install_dir*).

Memory and Disk Space Requirements

Make sure you have enough memory and disk space for Proteus WorkBench installation. The minimum memory requirements are:

Physical memory	512 MB Recommended: 4+ GB ¹
Swap space	1 GB Recommended: 2+ GB

1. For maximum success, Proteus WorkBench ProGen Model Builder should be run as a dedicated process and not share CPUs with other tools.

The disk space requirement varies depending on the platform and the tool selected for installation. Table 2 shows the minimum space required for installing Proteus WorkBench on a particular platform.

Table 2 Proteus WorkBench Disk Space Requirements

Synopsys Platform Keyword	Megabytes
amd64	500
suse64	525
All Platforms	925

Installing the Software

Proteus WorkBench uses the Synopsys Installer tool, which allows you to use a graphical user interface (GUI) or a text script. For information about downloading Synopsys Installer and Proteus WorkBench, see *Installing Synopsys Tools*, available at http://www.synopsys.com/support/installation/install_guide.html.

To install Proteus WorkBench by EST or from the DVD or CD, follow the procedures described in *Installing Synopsys Tools*.

Important: You must install the software from a supported platform (see [Media Availability and Supported Platforms on page 1](#)). If you attempt to install the software from an unsupported platform, the install will fail.

Installing Synopsys Tools shows an example Synopsys media installation script for the synthesis tools. Proteus WorkBench is installed in a similar manner.

Note: You must install Proteus to use the Proteus WorkBench OPC Recipe Tuner Module.

You must install ProGen to use the Proteus WorkBench ProGen Model Builder Module.

For information on the compatible versions of Proteus and ProGen, see the *Proteus WorkBench Release Notes*.

Proteus WorkBench is a stand-alone product and cannot be installed over an existing Synopsys product, including a prior version of Proteus WorkBench. You must create a new directory for Proteus WorkBench.

Setting Up the User Environment

A platform-independent wrapper script is provided for Proteus WorkBench. This script automatically determines the OS platform at runtime, which simplifies the setup required to use Proteus WorkBench.

The platform-independent wrapper script is located at *install-dir/bin* and includes *-32bit* and *-64bit* options.

Note: If you select a platform executable file that is not available, an automatic switch is made to an available platform based on your current environment. No warning message is issued.

To set up the user environment, you must

- Specify executable file locations
- Set the `$DISPLAY` environment variable
- Set the `SNPSLMD_LICENSE_FILE` variable
- Optionally, set up distributed processing

Specifying Executable File Locations

You need to add the following to the `$PATH` environment variable:

- Directory containing the Proteus WorkBench executable file
- Directory containing a compatible version of Proteus
- Directory containing a compatible version of ProGen

If you are using the C shell, add the following line for each executable to the `.cshrc` file:

```
setenv PATH install_dir/bin:{$PATH}
```

If you are using the Bourne, Korn, or Bash shell, add the following line for each executable to the `.profile`, `.kshrc`, or `.bashrc` file:

```
PATH=install_dir/bin:$PATH  
export PATH
```

Setting the \$DISPLAY Environment Variable

Set the `$DISPLAY` environment variable for your workstation.

For C shell users:

```
setenv DISPLAY my_display:0.0
```

For Bourne, Korn, or Bash shell users:

```
DISPLAY=my_display:0.0  
export DISPLAY
```

Setting the SNPSLMD_LICENSE_FILE Environment Variable

You must install the Synopsys Common Licensing (SCL) software, retrieve your license key file, and define the `SNPSLMD_LICENSE_FILE` environment variable before you can verify the Proteus WorkBench installation.

For information about downloading and installing SCL and on setting the license variable, see the *Synopsys Licensing QuickStart Guide*, which is available from <http://www.synopsys.com/Support/Licensing/Licensing/Pages/default.aspx>.

Setting Up Distributed Processing

Some of the Proteus WorkBench modules use distributed processing on multiple compute resources. The following needs to be set up for each of the resources used for distributed processing:

- Set up remote shell (`rsh`) or secure shell (`ssh`) so that no password is required. System administrator assistance may be required to set this up. Users can also add hosts or a plus sign (+) to a `.rhosts` file to allow access without a password if the administrator has already enabled remote shell processes.
- Ensure the number of allowed remote or secure shell processes is sufficient for the number of hosts in a DP regression. The recommended memory per CPU is 4 GB. UNIX administrator assistance may be required to set this up.
- Mount the drives with data and executable using the same directory path name on every system. The user's working directory (the directory containing the input files and where Proteus WorkBench is run) must exist on all hosts with the same absolute path name.
- If you use Load Sharing Facility (LSF) or Sun Grid Engine (SGE), the system must be a submit or admin host. To determine if the machine is a submit or admin host, issue one of the following commands and make sure that the host is listed:

For LSF, enter:

```
lshosts | grep hostname
```

For SGE, enter:

```
qconf -ss | grep hostname
```

- If using LSF or SGE, ensure the grid commands (such as `bsub` or `qcrsh`) are in the users path. To confirm, the user should be able to enter `qstat` for SGE or `bhosts` for LSF from the shell command line. If these commands are not available, contact the grid administrator.
- Test the remote environment setup.

To test the remote environment:

1. In the shell in which you start Proteus WorkBench, use the `which` command to determine the path to Proteus WorkBench and, if necessary, ProGen and Proteus. Record the full path.

Note: This local path result is used to call the remote binaries.

2. Use the `rsh` or `ssh` command to open a remote shell on the target host. Confirm that each program (`pwb`, `progen`, `proteus`) is accessible using the same path recorded in the previous step.

Verifying the Proteus WorkBench Installation

To verify the Proteus WorkBench installation:

1. Make sure you are in a directory where you have read/write privileges.

```
% cd $HOME/bin
```

2. Invoke the tool by entering

```
% pwb -v
```

If you see information about the product version, production date, and copyright, the installation was successful.

Note: If you did not add the path to the executable to your `$PATH` environment variable, you need to specify the full path.

Accessing Proteus WorkBench Documentation

The documentation for Proteus WorkBench is available as PDF files. See the Proteus WorkBench Help menu.

In order for the user to view the Proteus WorkBench release notes in Adobe Reader from the product's help menu, you must put the release note PDF in *install_dir/pwb/doc*.

Viewing and Printing Proteus WorkBench Documentation in Portable Document Format

To view and print Proteus WorkBench documentation in PDF, you must have Adobe Acrobat Reader installed on your machine.

Verifying the Proteus MetroKit Installation

To verify the Proteus MetroKit installation:

1. Make sure you are in a directory where you have read/write privileges.

```
% cd $HOME
```

2. Invoke Proteus MetroKit by entering:

```
% pwb -mk
```

Proteus MetroKit outputs standard release copyright information before launching the GUI. This standard information is similar to the following.

```
-bash-3.00$                               Proteus MetroKit
                                             D-2010.06.1234567 Production

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*** confidential and proprietary to Synopsys, Inc.    ***
*** Your use or disclosure of this software is subject to ***
*** the terms and conditions of a written license agreement ***
*** between you, or your company, and Synopsys, Inc. ***
```

If the GUI appears, the installation was successful.

Setting Up Sentaurus Lithography Resist Calibrator

Before using the Sentaurus Lithography Resist Calibrator from within Proteus WorkBench, you must set the base path for Sentaurus Lithography by using the following command in the Proteus WorkBench command line:

```
default slitho_base_path <path>
```

where <path> is the path to the Sentaurus Lithography installation.

For information on installing Sentaurus Lithography software, see *Installing Sentaurus Lithography*. For information on the Sentaurus Lithography Resist Calibrator, see the *Sentaurus Lithography Resist Calibrator User Guide*, which is available from the Proteus WorkBench Help menu under Help > ICWB > Topics.