

Altair® Flux® & Altair® FluxMotor® 2023

Installation Guide

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Altair® RTLvision PRO™ ©2002-2023

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Altair[®] Panopticon[™] ©2004-2023

Altair[®] Panopticon[™] BI ©2011-2023

Altair® SLCTM ©2002-2023

Altair[®] SLC Hub[™] ©2002-2023

Altair[®] SmartWorks[™] ©2002-2023

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Altair® RapidMiner® Cloud ©2001-2023

Altair® RapidMiner® Studio ©2001-2023

Altair One® ©1994-2023

Altair[®] License Utility[™] ©2010-2023

2023

July 19, 2023



Technical Support

Altair provides comprehensive software support via web FAQs, tutorials, training classes, telephone, and e-mail.

Altair One

Altair One (https://altairone.com/) is Altair's customer portal giving you access to the Marketplace, the Community, Managed Licenses, Altair Drive, My Apps, and the Learning Center. We recommend that all users create an Altair One account and use it as their primary portal for everything Altair.

Altair Community

Visit the Altair Community (https://community.altair.com/community) where you can participate in forums, share insights, access knowledge base articles, and contact Support. Once you login to the Altair Community, subscribe to the forums and user groups to get up-to-date information about release updates, upcoming events, and questions asked by your fellow members.

These valuable resources help you discover, learn and grow, all while having the opportunity to network with fellow explorers like yourself.

Once your Altair One account is set up, use this link to access the Altair support page: www.altair.com/customer-support/

Altair Learning

Altair's in-person, online, and self-paced trainings provide hands-on introduction to our products, focusing on overall functionality. Trainings are conducted at our corporate and regional offices.

For more information visit: https://learn.altair.com/

If you are interested in training at your facility, contact your account manager or technical specialist for more details.

Telephone and E-mail

If you are unable to contact Altair support via the customer portal, you may reach out to technical support via phone or e-mail. Use the following table as a reference to locate the support office for your region.

Altair support portals are available 24x7 and our global support engineers are available during normal Altair business hours in your region.

When contacting Altair support, specify the product and version number you are using along with a detailed description of the problem. It is beneficial for the support engineer to know what type of workstation, operating system, RAM, and graphics board you have, so include that in your communication.

Location	Telephone	E-mail
Australia	+61 3 9866 5557	anzsupport@altair.com
Brazil	+55 113 884 0414	br_support@altair.com

Location	Telephone	E-mail
Canada	+1 416 447 6463	support@altairengineering.ca
China	+86 400 619 6186	support@altair.com.cn
France	+33 141 33 0992	francesupport@altair.com
Germany	+49 703 162 0822	hwsupport@altair.de
Greece	+30 231 047 3311	eesupport@altair.com
India	+91 806 629 4500	support@india.altair.com
Israel		israelsupport@altair.com
Italy	+39 800 905 595	support@altairengineering.it
Japan	+81 3 6225 5830	jp-support@altair.com
Malaysia	+60 32 742 7890	aseansupport@altair.com
Mexico	+52 55 5658 6808	mx-support@altair.com
New Zealand	+64 9 413 7981	anzsupport@altair.com
South Africa	+27 21 831 1500	support@altair.co.za
South Korea	+82 704 050 9200	support@altair.co.kr
Spain	+34 910 810 080	support-spain@altair.com
Sweden	+46 46 460 2828	support@altair.se
United Kingdom	+44 192 646 8600	support@uk.altair.com
United Kingdom/Data Analytics	+44 (0) 8081 892481 +44 203 868 0230	dasupport@altair.com
United States	+1 248 614 2425	hwsupport@altair.com
United States/Data Analytics	+1-800-988-4739 +1 978.275.8350	dasupport@altair.com

If your company is being serviced by an Altair partner, you can find that information on our web site at https://www.altair.com/PartnerSearch/.

See www.altair.com for complete information on Altair, our team, and our products.



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This installation guide provides instructions for the Altair Flux & FluxMotor 2023 installation on supported platforms.

This installation includes the following Altair Simulation 2023 applications:

- Altair Flux
- Altair FluxMotor

where each application makes use of the Altair Units (AUs) licensing system.

The Altair Units licensing allows the Altair License Management (ALM) system to be used if ALM is installed and properly configured. The Altair License Management licensing allows the flexibility to use other Altair Simulation 2023 applications.

In order to run Altair Simulation 2023 applications, you need to connect the applications to the Altair License Management System 15.2 (or higher, using the latest version is recommended). Details of the installation and how to start the Altair License Manager can be found in the *Altair License Management System 15.2 Installation Guide*. The license packages are available on Altair Connect or Altair One Marketplace.

System Requirements

Before you install Altair Flux & FluxMotor 2023, we recommend that you verify that your computer meets or exceeds the minimum system requirements.

This chapter covers the following:

- 2.1 Supported Operating Systems (p. 12)
- 2.2 Required Hardware Configuration (p. 13)

2.1 Supported Operating Systems

This section presents the operating systems supported by Altair Flux & FluxMotor 2023.

Windows

The Altair Flux & FluxMotor installation is for 64-bit Microsoft Windows.

The supported Windows versions are:

- Windows 10
- Windows 11

Linux

The Altair Flux workstation installation is for 64-bit Linux workstation platforms.

The supported Linux versions are:

- Red Hat Enterprise Linux 8.4 / Oracle Linux 8.4
- SUSE Linux Enterprise Server 15 SP3



Note: Altair FluxMotor is only supported on Windows operating system.

Support

For all the operating systems mentioned above, Altair provides full technical support.

For all the other ones, Altair will give no guarantee regarding the providing of technical support.



2.2 Required Hardware Configuration

This section presents the hardware configurations required for Altair Flux 2D, Skew, 3D and PEEC & FluxMotor 2023.

Processor

The processors required to run Altair Flux 2D, Skew, 3D and PEEC & FluxMotor should have the following characteristics:

Element	Characteristics
Processor	Intel or AMD64 bitsmulti-core

Minimum configuration (hard disk and RAM)

The minimum configuration required to run Altair Flux 2D, Skew, 3D and PEEC & FluxMotor are:

	Flux 2D & FluxMotor	Flux Skew/3D	Flux PEEC
Hard disk	250 GiB	500 GiB	50 GiB
RAM	8 GiB	16 GiB	16 GiB

Recommended configuration (hard disk and RAM)

The recommended configuration required to run Altair Flux 2D, Skew, 3D and PEEC & FluxMotor are:

	Flux 2D & FluxMotor	Flux Skew/3D	Flux PEEC
Hard disk	500 GiB	1 TiB	100 GiB
RAM	16 GiB	64 GiB	64 GiB



Graphic card for Altair Flux

The graphic cards required to run Altair Flux 2D, Skew, 3D and PEEC should have the following characteristics:

Element	Characteristics
Graphic card	 OPENGL V2.0 compatible for an optimal graphic quality (see below) NVIDIA chipset recommended

Altair Flux uses the OPENGL V2.0 graphic technology. This technology provides improved rendering and smoother motion when moving objects.

This technology requires:

- the use of a graphic card compatible with OPENGL V2.0
- the latest version of the graphic card driver supplied by the manufacturer

A summary of the conditions of use is presented in the table below:

Conditions of use

Installation of a graphic card compatible with OPENGL V2.0:

- NVIDIA GeForce 6200 and higher
- ATI Radeon X1300 and higher

Installation of the latest version of the card driver

- For NVIDIA: http://www.nvidia.com/page/home.html
- For ATI: http://amd.com





This chapter deals with the installation on Windows of Altair Flux & FluxMotor 2023.

This chapter covers the following:

- 3.1 Introduction (p. 16)
- 3.2 Installation Modes (p. 17)
- 3.3 GUI Mode (p. 18)
- 3.4 Silent Mode (p. 26)

3.1 Introduction

Each version (major and minor) is a completely independent version. It is installed by default in its own directory and is able to coexist with the older versions.

The software installation runs automatically.

Installed components

The automatic installation installs the following components:

- For Altair Flux:
 - The Altair Flux Version 2023 software
 - The Altair Flux Version 2023 documentation and examples:
 - · the documentation in English version: installation guide and user guide,
 - · the documentation in French version: user guide,
 - the examples: tutorials and technical papers (in English version only), with the corresponding Flux projects and/or command files.
- For Altair FluxMotor:
 - The Altair FluxMotor Version 2023 software

Installation directories

These components are installed:

- by default:
 - with a user account: in the directory C:\Users\<username>\Altair\2023
 - with an administrator account: in the directory C:\Program Files\Altair\2023
- or in any other directory specified by the user during the installation*.

In the chosen installation directory:

- For Altair Flux:
 - The Altair Flux 2023 software is installed in the sub-directory flux.
 - The Altair Flux 2023 documentation and examples are installed in the sub-directory flux\Flux\DocExamples.
- For Altair FluxMotor:
 - The Altair FluxMotor 2023 software is installed in the sub-directory fluxmotor.
- * The full installation directory path must not include any special characters.



3.2 Installation Modes

Different modes

Install Altair Flux & FluxMotor 2023 on a machine using either graphical user interface (GUI) mode or silent mode.

The choice of installation modes allows for flexibility in selecting the installation mode that best suits your needs and environment.

GUI mode

The graphical user interface (GUI) mode installation is in the form of a GUI wizard with step-by-step instructions.

Silent mode

A silent mode installation installs Altair Flux & FluxMotor 2023 without requiring any user interaction. The installer makes use of a response file that contains the installation options to run the installation from start to end without any user input.



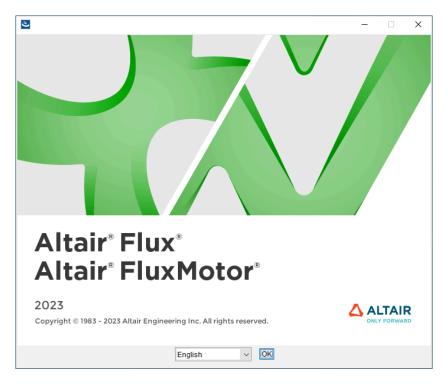
3.3 GUI Mode

In order to install Altair Flux & FluxMotor Version 2023, follow these instructions:

- **1.** Close all the applications in use
- 2. Download the Altair Flux & FluxMotor 2023 installer: hwFluxFluxMotor2023_win64.exe from the Altair One site: https://altairone.com/

And save it locally

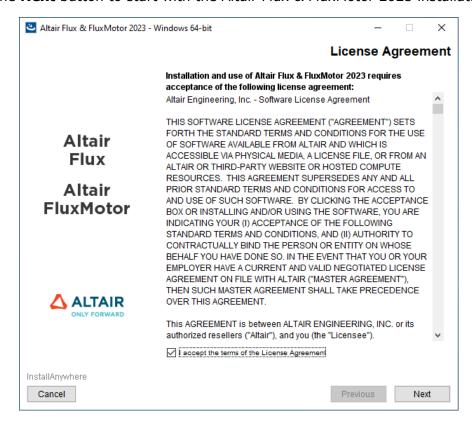
- 3. Run the executable file hwFluxFluxMotor2023_win64.exe
- Select a language
 - Click on the **OK** button





5. In the Altair Flux & FluxMotor 2023 - Windows 64-bit window (License Agreement panel):

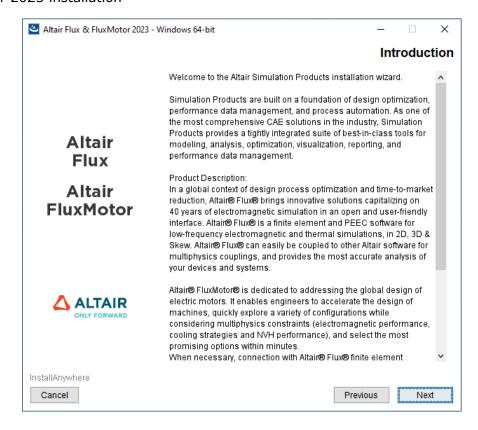
- Read through the license agreement and if you accept the terms of the License Agreement, then check the I accept the terms of the License Agreement box
- Click on the Next button to start with the Altair Flux & FluxMotor 2023 installation





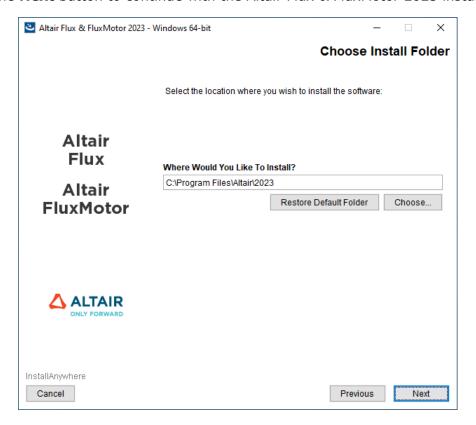
6. In the next Altair Flux & FluxMotor 2023 - Windows 64-bit window (Introduction panel):

 Read the introduction and click on the **Next** button to continue with the Altair Flux & FluxMotor 2023 installation





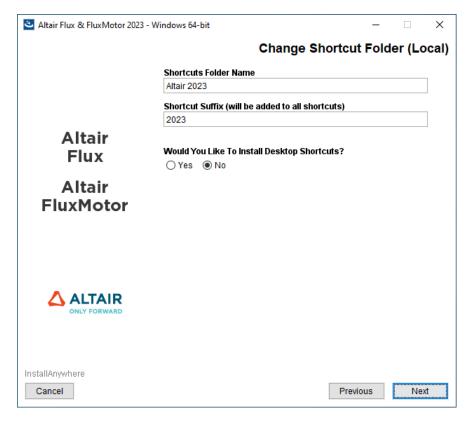
- 7. In the next Altair Flux & FluxMotor 2023 Windows 64-bit window (Choose Install Folder panel):
 - Choose an installation directory:
 - By default:
 - with a user account: the installation directory is C:\Users\<username>\Altair\2023
 - with an administrator account: the installation directory is C:\Program Files \Altair\2023
 - You can specify another installation directory, however, make sure that the full directory path does not include any special characters, then click on the **Choose** button
 - Click on the **Next** button to continue with the Altair Flux & FluxMotor 2023 installation





8. In the next Altair Flux & FluxMotor 2023 – Windows 64-bit window (Change Shortcut Folder (Local) panel):

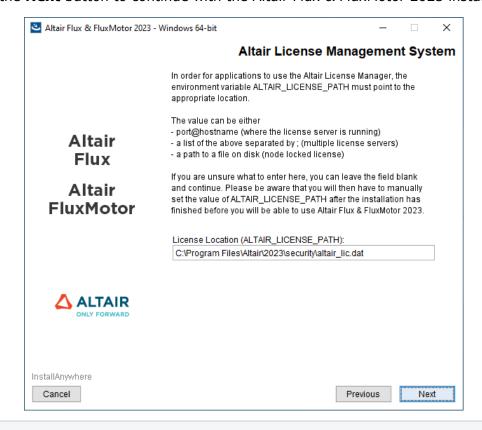
- Specify the folder name that will contain the start menu shortcuts.
- Specify the suffix string to be added to the shortcuts (Optional).
- Select one of the following options:
 - Yes if you want to add the Altair Flux & FluxMotor shortcuts on the desktop
 - No if you do not want to add the Altair Flux & FluxMotor shortcuts on the desktop
- Click on the Next button to continue with the Altair Flux & FluxMotor 2023 installation





9. In the next Altair Flux & FluxMotor 2023 – Windows 64-bit window (Altair License Management System panel):

- Enter the license location:
 - If you have a network license, then enter port@hostname
 where port is the TCP/IP port number used by the license server and hostname is the name of the license server computer
 - If you have a local license (standalone license), then enter the full pathname of the license file
- Click on the Next button to continue with the Altair Flux & FluxMotor 2023 installation

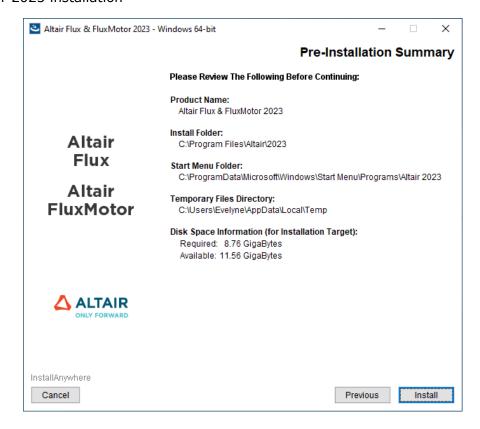


Note: This window is only displayed if the license has not yet been configured.



10. In the next Altair Flux & FluxMotor 2023 – Windows 64-bit window (Pre-Installation Summary panel):

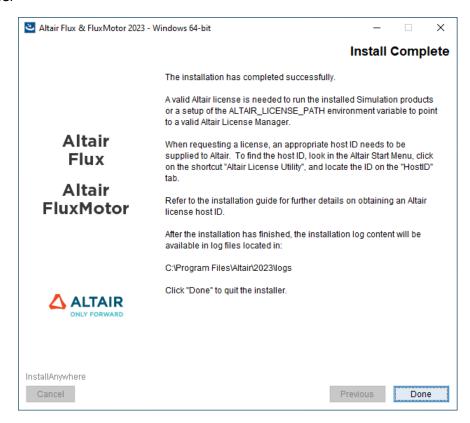
 Review the installation details and click on the **Install** button to start the Altair Flux & FluxMotor 2023 installation





11. In the last **Altair Flux & FluxMotor 2023 – Windows 64-bit** window (**Install Complete** panel):

Click on the **Done** button to complete the Altair Flux & FluxMotor 2023 installation and exit
the installer





3.4 Silent Mode

Introduction

A silent mode installation installs Altair Flux & FluxMotor 2023 without requiring any user interaction. The installer makes use of a response file that contains the installation options to run the installation from start to end without any user input.

Silent Mode

1. Create a response file. Run the installer in interactive mode with the r option to save the installation properties to a response file.

```
[INSTALLER_NAME] -r "[RESPONSE_PATH]\installer.properties"
```

- **2.** Trigger a silent mode installation from the command line using one of the following options:
 - Use the default property values as provided by the installer package.

```
[INSTALLER NAME] -i silent -DACCEPT EULA=YES
```



Important:

- Setting -DACCEPT_EULA=YES means that you accept the terms of the License Agreement and allows you to proceed with Altair Flux & FluxMotor installation
- If nothing is specified for ACCEPT_EULA variable or if -DACCEPT_EULA=NO then Altair Flux & FluxMotor will not be installed
- Specify properties.

```
[INSTALLER_NAME] -i silent -D[Property]=[VALUE]
```

For example:

```
-DACCEPT_EULA=YES -DUSER_INSTALL_DIR=C:\\Program Files\\Altair\\2023
```

Use a response file containing properties.

```
[INSTALLER_NAME] -i silent -f "[RESPONSE_PATH]\installer.properties"
```



Note:

- [INSTALLER NAME] is the installer binary.
- [RESPONSE PATH] is the path where the response file resides.
- Use quotes around directory and pathnames that contain spaces.
- Do not use spaces between VARIABLE=VALUE statements in the response file.



3.4.1 Response Files

Introduction

A response file is an installer properties file used to provide properties for an installer running in silent mode. The files contain text in a simple *VARIABLE=VALUE* format.

Response files

The properties in the response files are captured by executing the installer and the captured variables are then used as default values for future silent installs. The installer automatically checks the same directory as the installer for a file called <code>installer.properties</code> to use as input to the installer.

Note: Spaces should not be used between VARIABLE=VALUE statements in the response file.



3.4.2 Response File Properties

General properties

Variable	Definition
ACCEPT_EULA	 YES: You accept the terms of the License Agreement and it allows you to proceed with Altair Flux & FluxMotor installation NO: You do not accept the terms of the License Agreement and Altair Flux & FluxMotor will not be installed
USER_INSTALL_DIR	The default install folder is C:\Program Files \Altair\2023
SET_START_MENU_FOLDER	Specify the name of the start menu folder
INSTALL_DESKTOP_SHORTCUTS	0: No shortcuts are created1: Shortcuts are created



Installation on Linux - Altair Flux only

4

This chapter deals with the installation on Linux of Altair Flux 2023.

This chapter covers the following:

- 4.1 Introduction (p. 30)
- 4.2 Installation Modes (p. 31)
- 4.3 GUI Mode (p. 32)
- 4.4 Console Mode (only supported on Linux) (p. 38)
- 4.5 Silent Mode (p. 39)

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Note: Altair FluxMotor is only supported on Windows operating system.

4.1 Introduction

Each Altair Flux version (major and minor) is a completely independent version. It is installed by default in its own directory and is able to coexist with the older versions.

The software installation runs automatically.

Installed components

The automatic installation installs the following components:

- The Altair Flux Version 2023 software
- The Altair Flux Version 2023 documentation and examples:
 - the documentation in English version: installation guide and user guide,
 - the documentation in French version: user guide,
 - the examples: tutorials and technical papers (in English version only), with the corresponding Flux projects and/or command files.

Installation directories

These components are installed:

- by default:
 - with an unprivileged account: in the directory /home/<username>/2023
 - with the root account: in the directory /root/2023
- or in any other directory specified by the user during the installation*.

In the chosen installation directory:

- The Altair Flux 2023 software is installed in the sub-directory altair/flux.
- The Altair Flux 2023 documentation and examples are installed in the sub-directory altair/flux/Flux/DocExamples.
- * The full installation directory path must not include any special characters.



4.2 Installation Modes

Different modes

Install Altair Flux 2023 on a machine using either graphical user interface (GUI) mode, console mode or silent mode.

The choice of installation modes allows for flexibility in selecting the installation mode that best suits your needs and environment.

GUI mode

The graphical user interface (GUI) mode installation is in the form of a GUI wizard with step-by-step instructions.

Console mode (only supported on Linux)

A console mode installation process mimics the default GUI wizard steps, but uses only the standard input and output. Console mode allows for text to be output to the console.

Silent mode

A silent mode installation installs Altair Flux 2023 without requiring any user interaction. The installer makes use of a response file that contains the installation options to run the installation from start to end without any user input.



4.3 GUI Mode

In order to install Altair Flux Version 2023, follow these instructions:

- 1. Close all the applications in use
- 2. Download the Altair Flux 2023 installer: hwFlux2023_linux64.bin

from the Altair One site: https://altairone.com/

And save it locally

- **3.** Execute the file hwFlux2023_linux64.bin
- Select a language
 - Click on the **OK** button





5. In the Altair Flux 2023 – Linux 64-bit window (License Agreement panel):

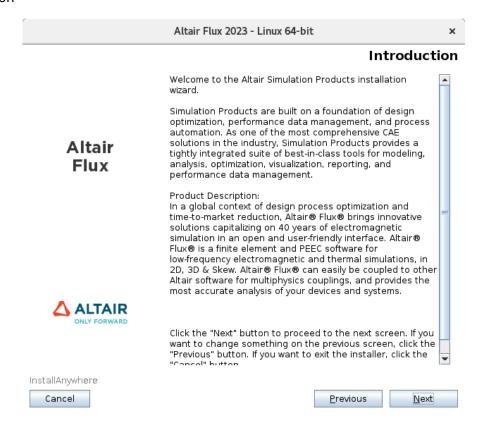
- Read through the license agreement and if you accept the terms of the License Agreement, then check the I accept the terms of the License Agreement box
- Click on the Next button to start with the Altair Flux 2023 installation





6. In the next Altair Flux 2023 - Linux 64-bit window (Introduction panel):

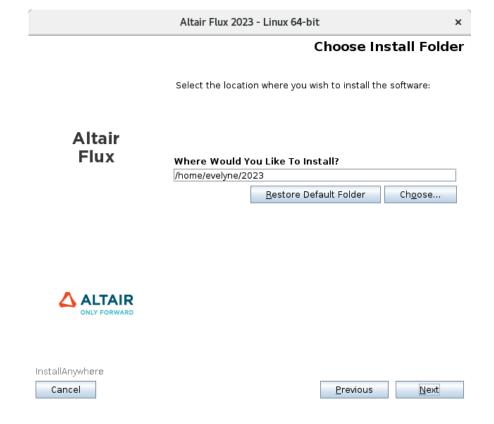
Read the introduction and click on the **Next** button to continue with the Altair Flux 2023 installation





7. In the next Altair Flux 2023 - Linux 64-bit window (Choose Install Folder panel):

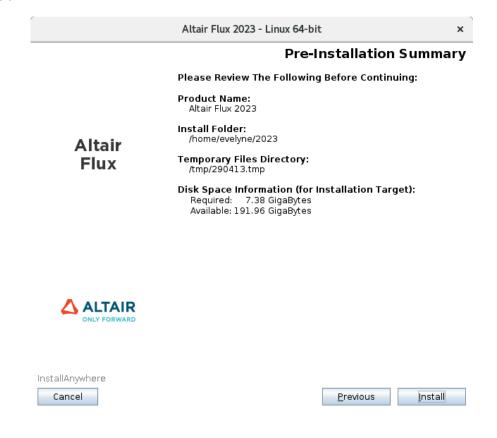
- Choose an installation directory:
 - By default:
 - with an unprivileged account: the installation directory is /home/<username>/2023
 - with the root account: the installation directory is /root/2023
 - You can specify another installation directory, however, make sure that the full directory path does not include any special characters, then click on the **Choose** button
- Click on the Next button to continue with the Altair Flux 2023 installation





8. In the next Altair Flux 2023 - Linux 64-bit window (Pre-Installation Summary panel):

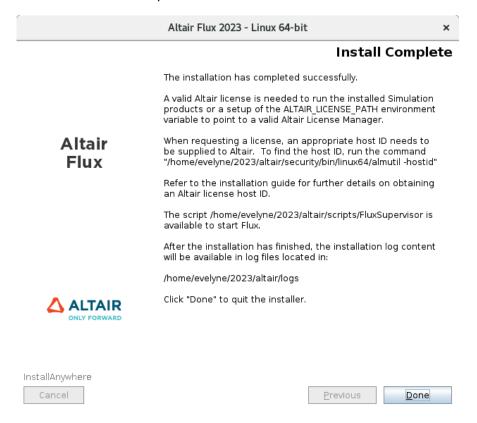
Review the installation details and click on the **Install** button to start the Altair Flux 2023 installation





9. In the last Altair Flux 2023 - Linux 64-bit window (Install Complete panel):

Click on the **Done** button to complete the Altair Flux 2023 installation and exit the installer





4.4 Console Mode (only supported on Linux)

Introduction

A console mode installation process mimics the default GUI wizard steps, but uses only the standard input and output. Console mode allows for text to be output to the console.



Note:

- Installing Altair Flux using console mode is only supported on Linux.
- If the terminal does not have any GUI/X capabilities (such as a pure SSH terminal session), launching the installer without any additional options will automatically start the console mode.

Console mode

Trigger a console mode installer from the command line by appending the following command parameter to the installer:

-i console

Procedure

In order to use the console mode, open a command terminal:

- 1. Change directory to the location where the installer resides with the cd command
- **2.** Execute the sh command on the installer binary where <code>[INSTALLER_NAME]</code> is the installer binary with the additional command parameter:

sh [INSTALLER_NAME] -i console



4.5 Silent Mode

Introduction

A silent mode installation installs Altair Flux 2023 without requiring any user interaction. The installer makes use of a response file that contains the installation options to run the installation from start to end without any user input.

Silent Mode

1. Create a response file. Run the installer in interactive mode with the r option to save the installation properties to a response file.

```
[INSTALLER_NAME] -r "[RESPONSE_PATH]\installer.properties"
```

- 2. Trigger a silent mode installation from the command line using one of the following options:
 - Use the default property values as provided by the installer package.

```
[INSTALLER NAME] -i silent -DACCEPT EULA=YES
```



Important:

- Setting -DACCEPT_EULA=YES means that you accept the terms of the License Agreement and allows you to proceed with Altair Flux installation
- If nothing is specified for ACCEPT_EULA variable or if -DACCEPT_EULA=NO then Altair Flux will not be installed
- Specify properties.

```
[INSTALLER_NAME] -i silent -D[Property]=[VALUE]
```

For example:

```
-DACCEPT_EULA=YES -DUSER_INSTALL_DIR=/home/<username>/2023/altair
```

Use a response file containing properties.

```
[INSTALLER_NAME] -i silent -f "[RESPONSE_PATH]\installer.properties"
```



Note:

- [INSTALLER NAME] is the installer binary.
- [RESPONSE PATH] is the path where the response file resides.
- Use quotes around directory and pathnames that contain spaces.
- Do not use spaces between VARIABLE=VALUE statements in the response file.



4.5.1 Response Files

Introduction

A response file is an installer properties file used to provide properties for an installer running in silent mode. The files contain text in a simple *VARIABLE=VALUE* format.

Response files

The properties in the response files are captured by executing the installer and the captured variables are then used as default values for future silent installs. The installer automatically checks the same directory as the installer for a file called <code>installer.properties</code> to use as input to the installer.

Note: Spaces should not be used between *VARIABLE=VALUE* statements in the response file.



4.5.2 Response File Properties

General properties

Variable	Definition
ACCEPT_EULA	 YES: You accept the terms of the License Agreement and it allows you to proceed with Altair Flux installation NO: You do not accept the terms of the License Agreement and Altair Flux will not be installed
USER_INSTALL_DIR	The default install folder is /home/ <username>/2023/altair</username>
SET_START_MENU_FOLDER	Specify the name of the start menu folder
INSTALL_DESKTOP_SHORTCUTS	0: No shortcuts are created1: Shortcuts are created



In order to uninstall Altair Flux & FluxMotor 2023, please refer to the Altair Simulation Quick Installation Guide.