



## **Atelier B**

Installation Guide

2024-11-13

## Contents

<b>1</b>	<b>Introduction</b>	<b>3</b>
<b>2</b>	<b>Linux Installation Guide</b>	<b>3</b>
2.1	Installation of the Linux Debian 64 package . . . . .	3
2.2	Installation of the Linux RPM package (Fedora) . . . . .	3
2.3	Installation of the Linux RPM package (Suse Linux) . . . . .	4
2.4	Running the software . . . . .	4
2.5	Freedesktop entry file . . . . .	5
<b>3</b>	<b>macOS Installation Guide</b>	<b>5</b>
<b>4</b>	<b>Windows Installation Guide</b>	<b>8</b>
<b>5</b>	<b>Projects and Workspaces</b>	<b>15</b>
<b>6</b>	<b>Troubleshooting</b>	<b>16</b>
<b>7</b>	<b>Lexicon</b>	<b>17</b>

## 1 Introduction

This guide provides installation instructions for Atelier B 24.04.2, available from Atelier B's [web site](#).

Atelier B and bbatch are integrated development environments (IDE) for the B method and Event-B. Atelier B provides a graphical user interface (GUI) and bbatch is a command-line interface (CLI).

This guide provides installation guidelines for Atelier B and bbatch.

There is one chapter for each supported platform: [Linux](#), [macOS](#) and [Windows](#). Projects and workspaces are a source of confusion for new users, a [chapter](#) is dedicated to them. Finally a [lexicon](#) is provided to help the reader to understand the terminology used in this guide.

## 2 Linux Installation Guide

### 2.1 Installation of the Linux Debian 64 package

These instructions correspond to a successful install in a bare Debian 12.5 Slim, assuming the package “atelierb-full-24.04.2-debian12.deb” has been downloaded and is present in the current directory.

Open a terminal and issue the following command:

```
1 apt-get update
2 apt install --yes ./atelierb-free-24.04.2-debian12.deb
```

This should download and install all dependencies that are not already present, then install Atelier B itself.

### 2.2 Installation of the Linux RPM package (Fedora)

These instructions correspond to a successful install on a bare Fedora 39 system and assumes that the package “atelierb-free-24.04.2-fedora-39.rpm” has been downloaded and is present in the current directory.

Open a terminal and issue the following command:

```
1 dnf -y install atelierb-free-24.04.2-fedora-39.rpm
```

This should download and install all dependencies that are not already present, then install Atelier B itself.

## 2.3 Installation of the Linux RPM package (Suse Linux)

These instructions correspond to a successful install on a bare Suse Linux 15 system and assumes that the package “atelierb-free-24.04.2-suse-15.rpm” has been downloaded and is present in the current directory.

Open a terminal and issue the following command:

```
1 sudo zypper install atelierb-free-24.04.2-suse-15.rpm
```

This should download and install all dependencies that are not already present, then install Atelier B itself.

## 2.4 Running the software

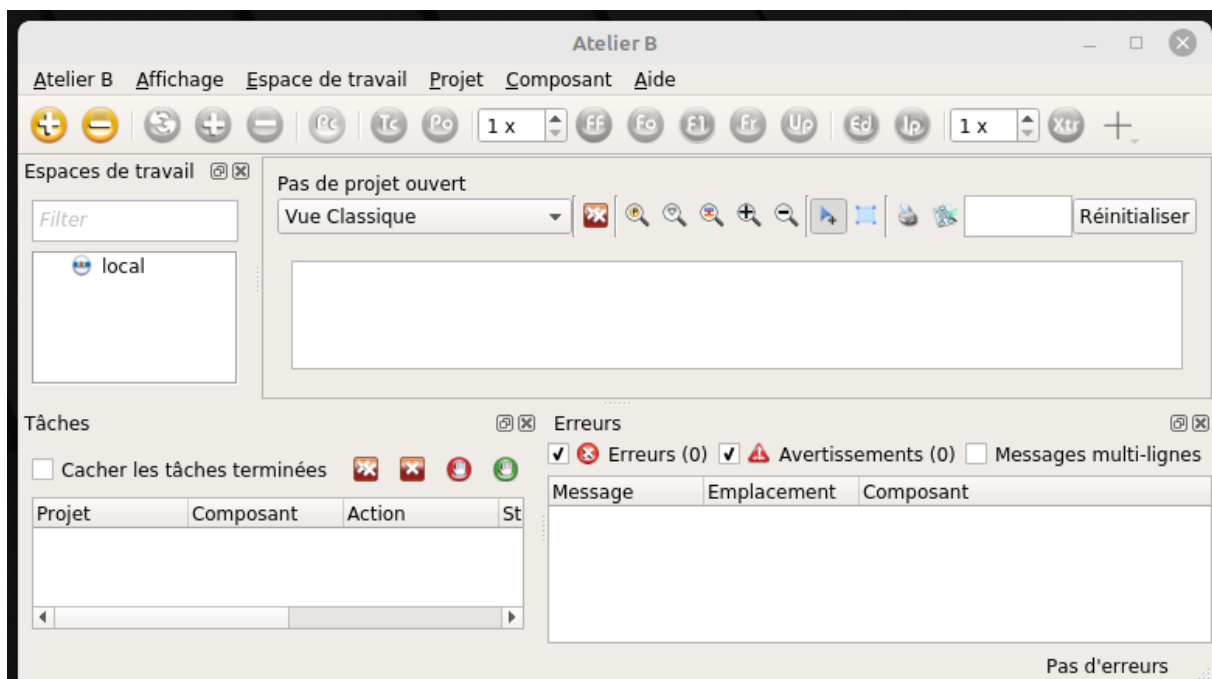
The software is installed in the following directory:

```
1 /opt/atelierb-free-24.04.2
```

To open Atelier B GUI, issue the following command:

```
1 /opt/atelierb-free-24.04.2/bin/AtelierB
```

Atelier B is now open



To open bbatch CLI, issue the following command:

```
1 /opt/atelierb-free-24.04.2/bin/bbatch
```

## 2.5 Freedesktop entry file

A file compliant with the [Freedesktop](#) entry specification is available in the distribution. It is installed with the path `/opt/atelierb-free-24.04.2/share/freedesktop/AtelierB.desktop`.

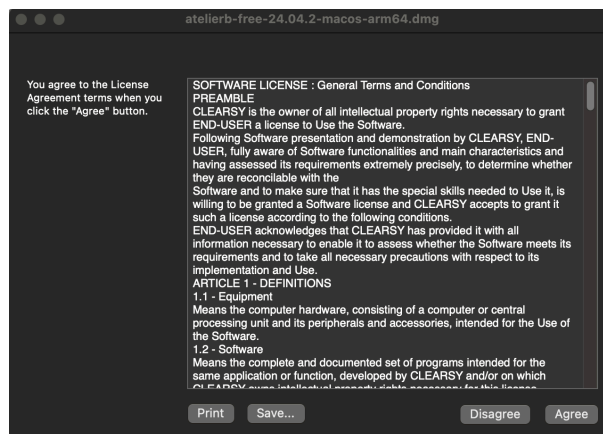
To install it for all users, issue the following command:

```
1 sudo desktop-file-install \  
2 /opt/atelierb-free-24.04.2/share/freedesktop/AtelierB.desktop
```

## 3 macOS Installation Guide

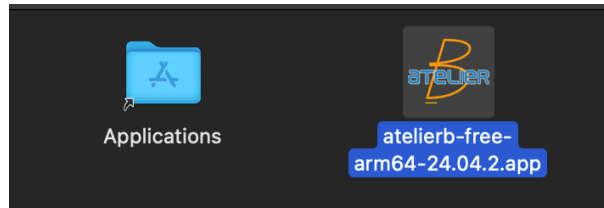
These instructions correspond to a successful install in a macOS 15.0 (Sequoia) environment. They should be applicable to other versions of macOS.

Control-click on the dmg file to start the installation process. This displays the license agreement dialog.



**Figure 1:** License agreement. Read carefully and click on "Agree" to proceed.

Read carefully and click on "Agree" to proceed. A finder window is opened, it contains a shortcut to the application folder and the Atelier B icon.

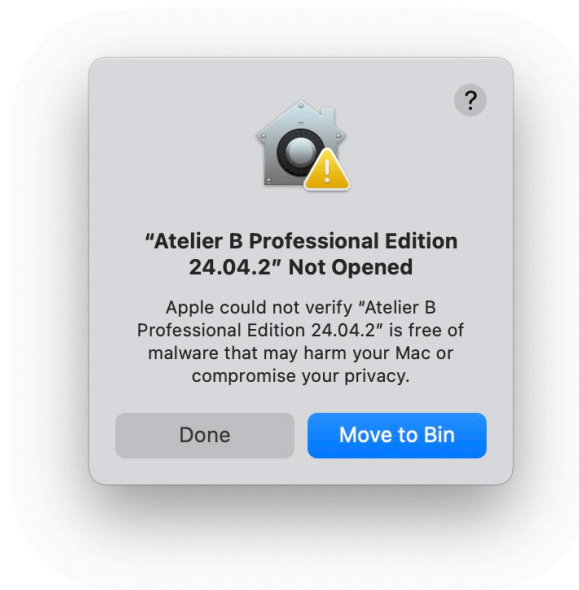


**Figure 2:** Contents of Finder window after opening DMG file. Drag app bundle to "Applications" folder.

Drag the Atelier B icon to drop it into the "Applications" folder.

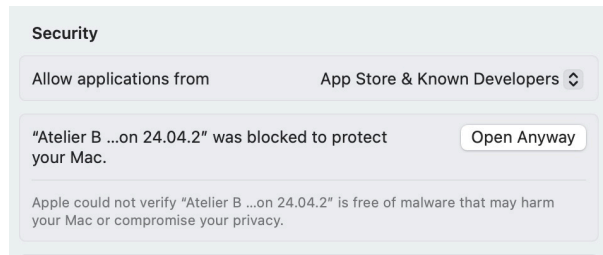
The Atelier B bundle is auto-signed and macOS will not let you execute it unless you take the following steps to clear it.

The first time Atelier B is opened, the following dialog is displayed.



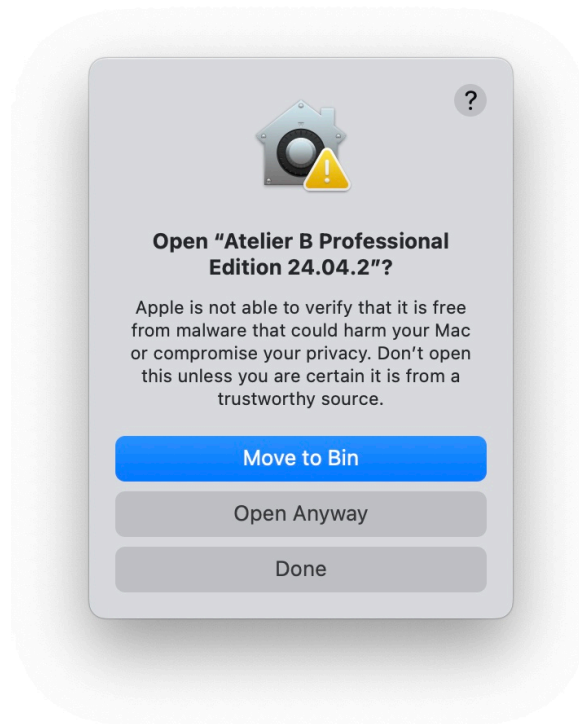
**Figure 3:** Alert dialog from macOS. Click "Done".

Clicking "Done" confirms the execution is stopped and prevents macOS from deleting the application. Open the system settings, and scroll to the "Confidentially and Security settings". In these, go to the application security part. There locate the button labeled "Open anyway" next to Atelier B.



**Figure 4:** Confidentiality and security settings. Click "Open Anyway"

A macOS dialog asks for confirmation, click "Open Anyway" to confirm you wish to open Atelier B.



**Figure 5:** Confirmation dialog. Click "Open Anyway".

After that you will be asked to enter your credentials using the standard dialog.

When all these steps have been taken, you may launch Atelier B by double-clicking it in the Applications folder. It is also possible to execute the CLI interface `bbatch`. Its path is

/Applications/atelierb-full-arm64-24.04.2.app/Contents/Resources/bin/bbatch

## 4 Windows Installation Guide

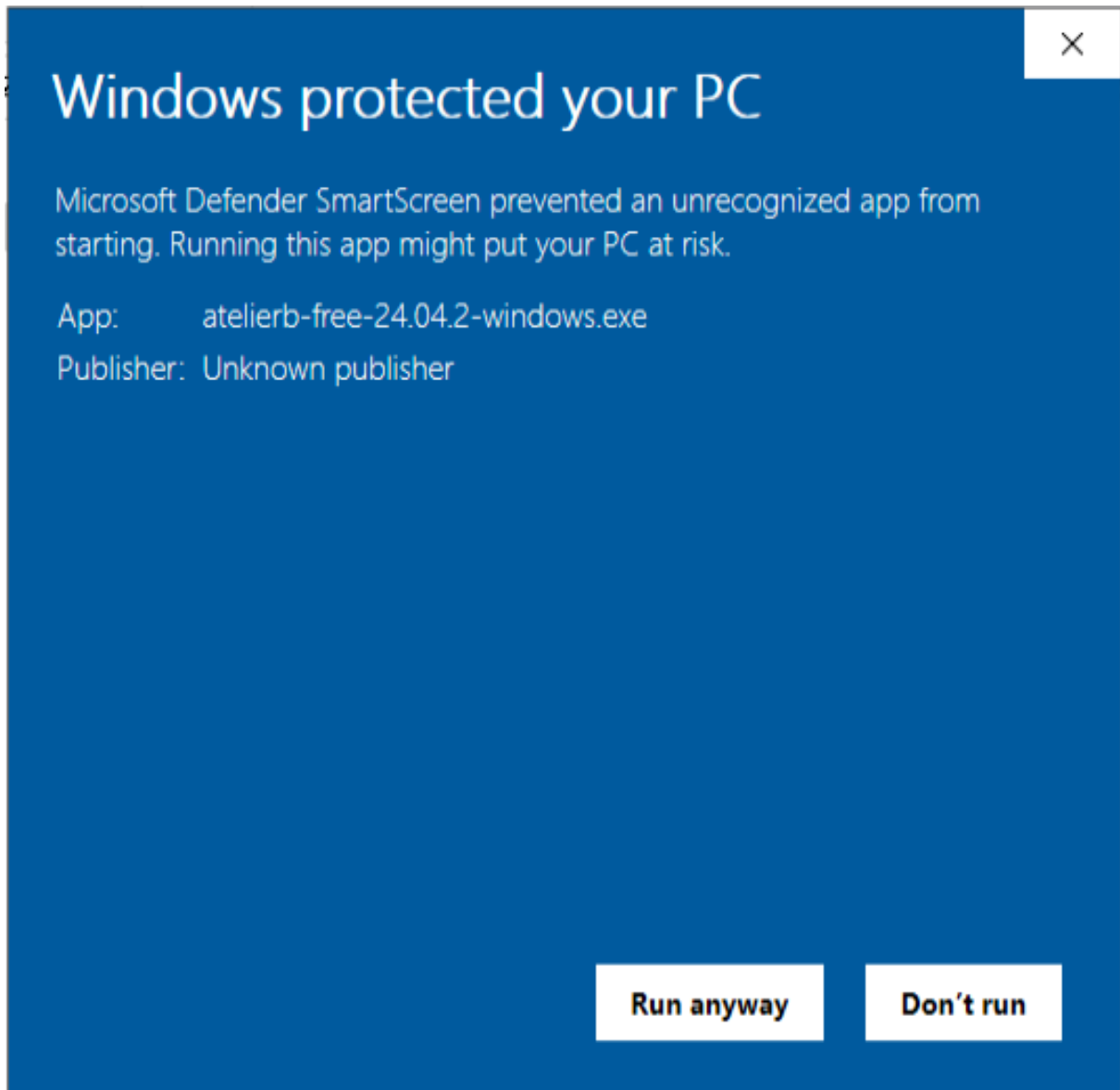
These instructions correspond to a successful install in a Windows 10 environment. They should be applicable to other versions of Windows.

Double-click on the installer file to start the installation process.



Windows Defender Smartscreen may warn you that it does not know recognize this installer. Click on "More info". The dialog is now the following:

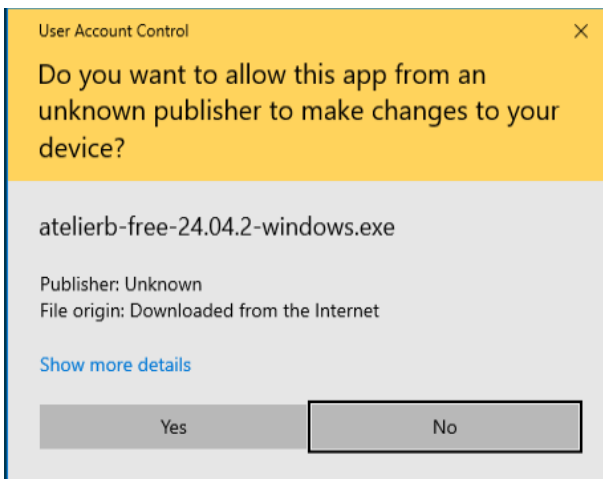




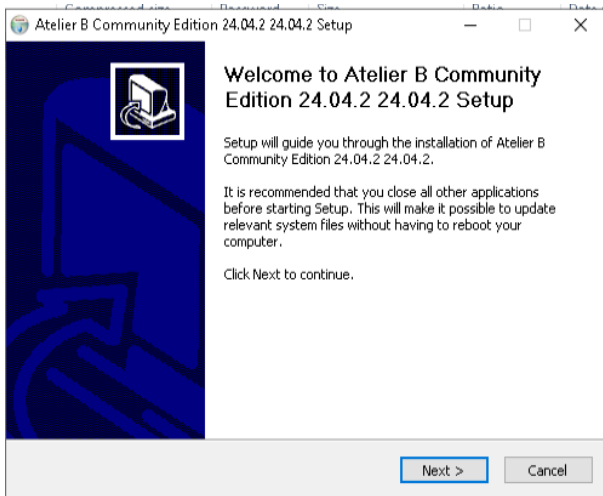
Click on "Run anyway" to proceed.



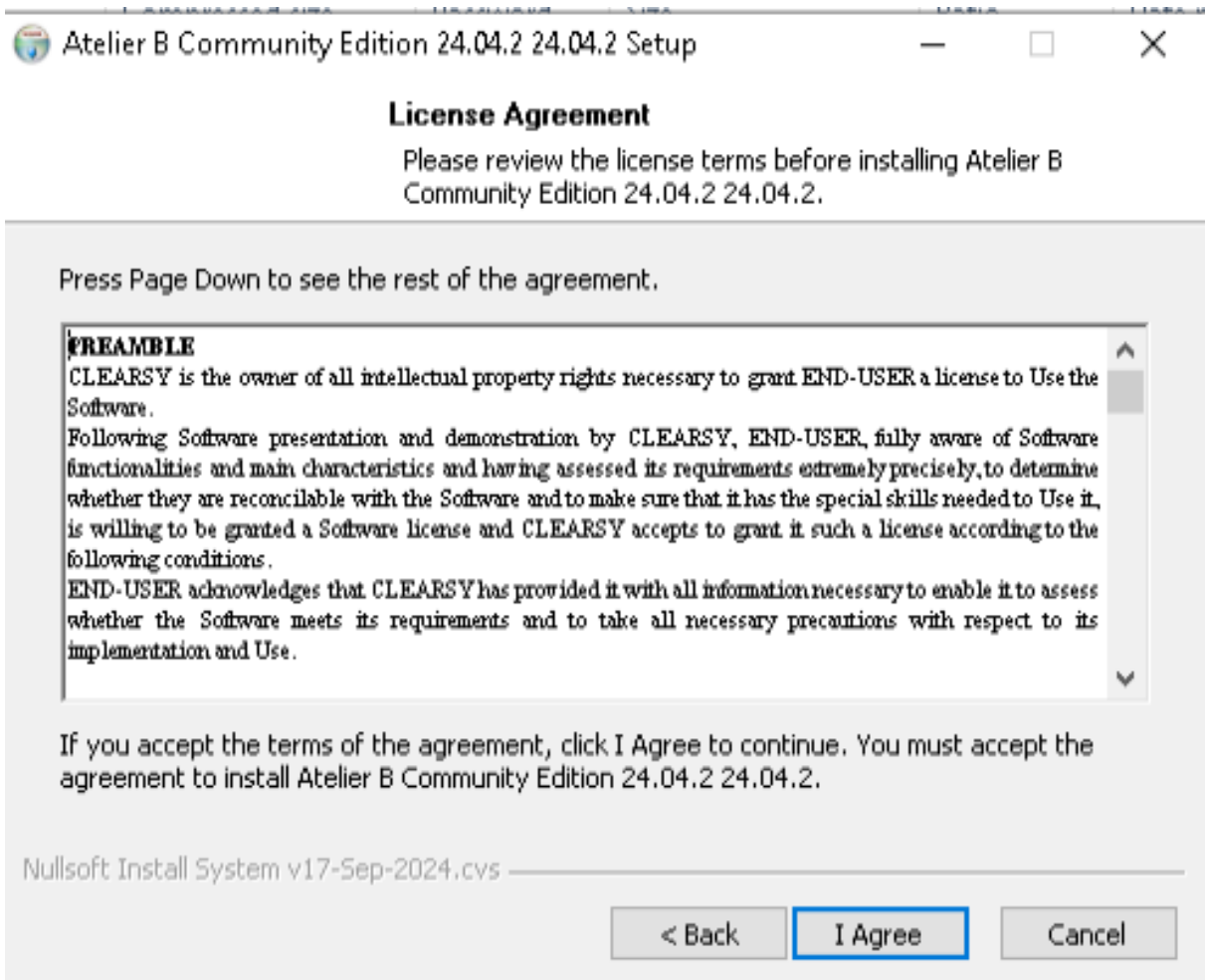
Windows User Access Control warns you that it does not know the software publisher. Click on “Yes” to proceed.



This opens the installer setup dialog.

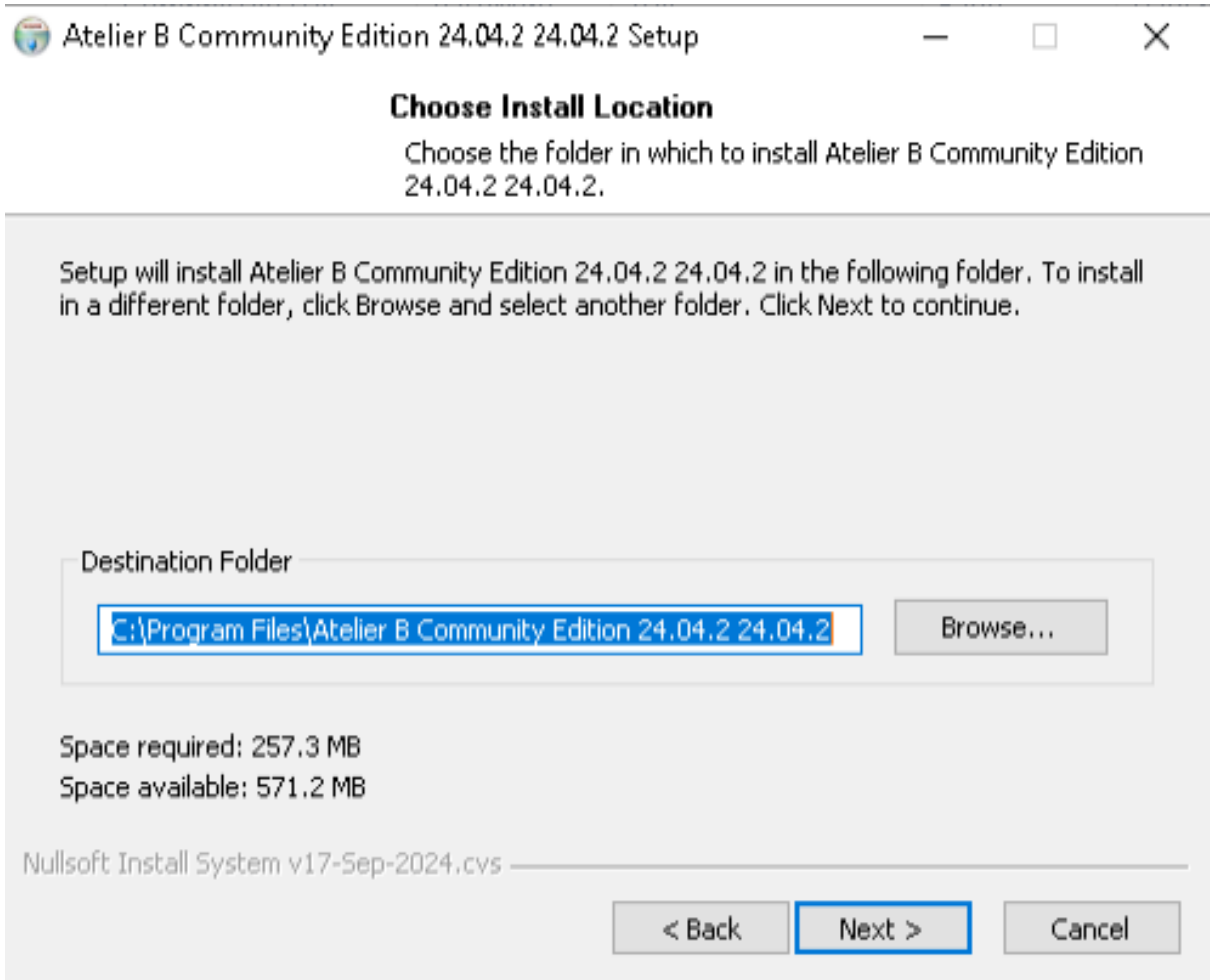


Click on “Next” to proceed. The license agreement dialog is displayed.

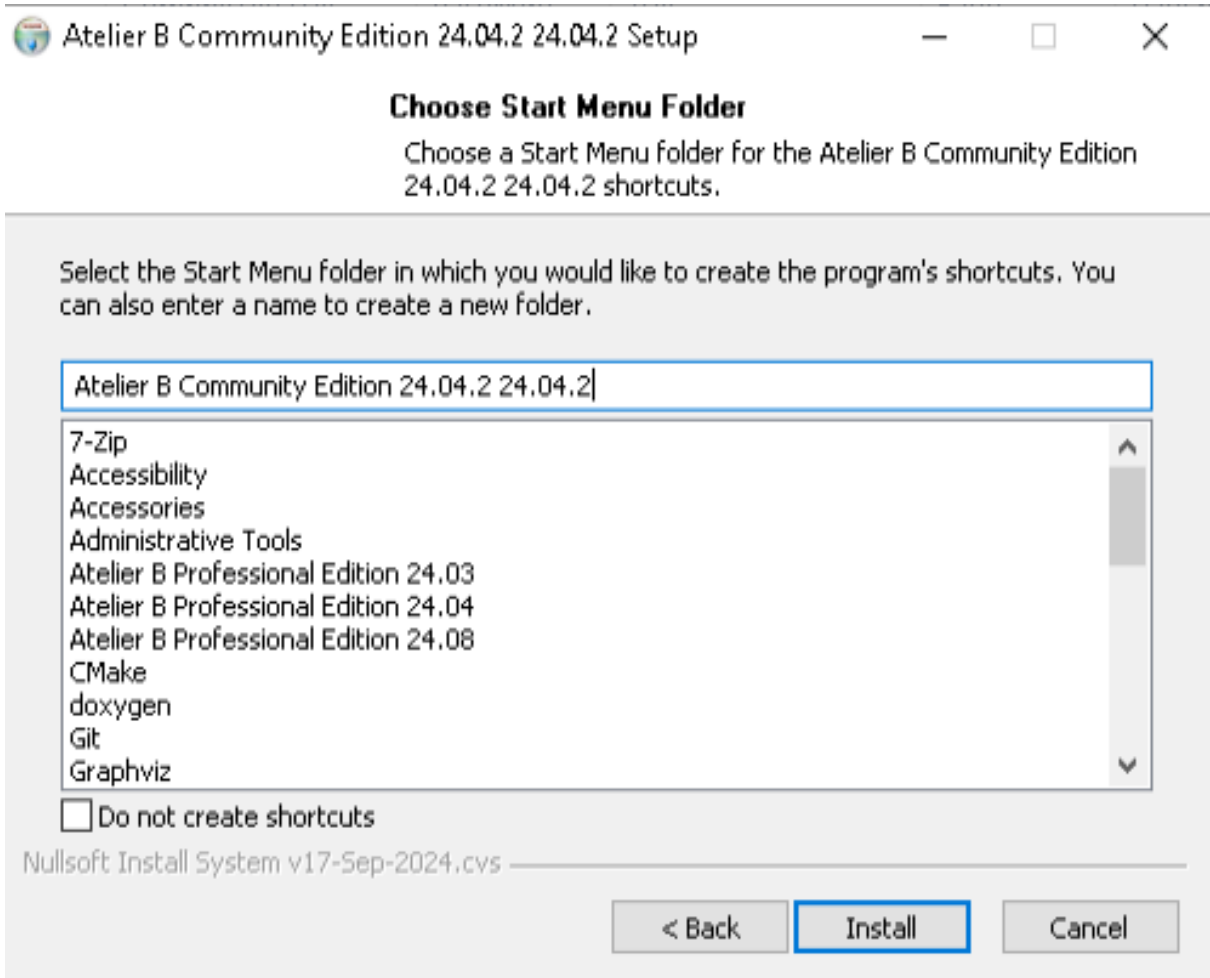


Click on “I Agree” to proceed (otherwise do not use the software). The installation folder dialog is

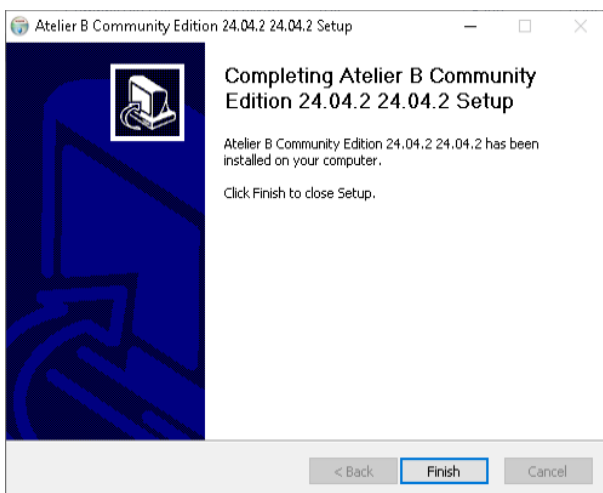
displayed.



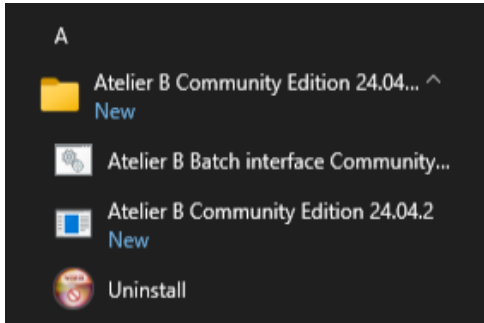
Choose a directory with full access rights (in this setup, we stick with the default location). Click on "Next" to proceed. The startup menu folder dialog is displayed.



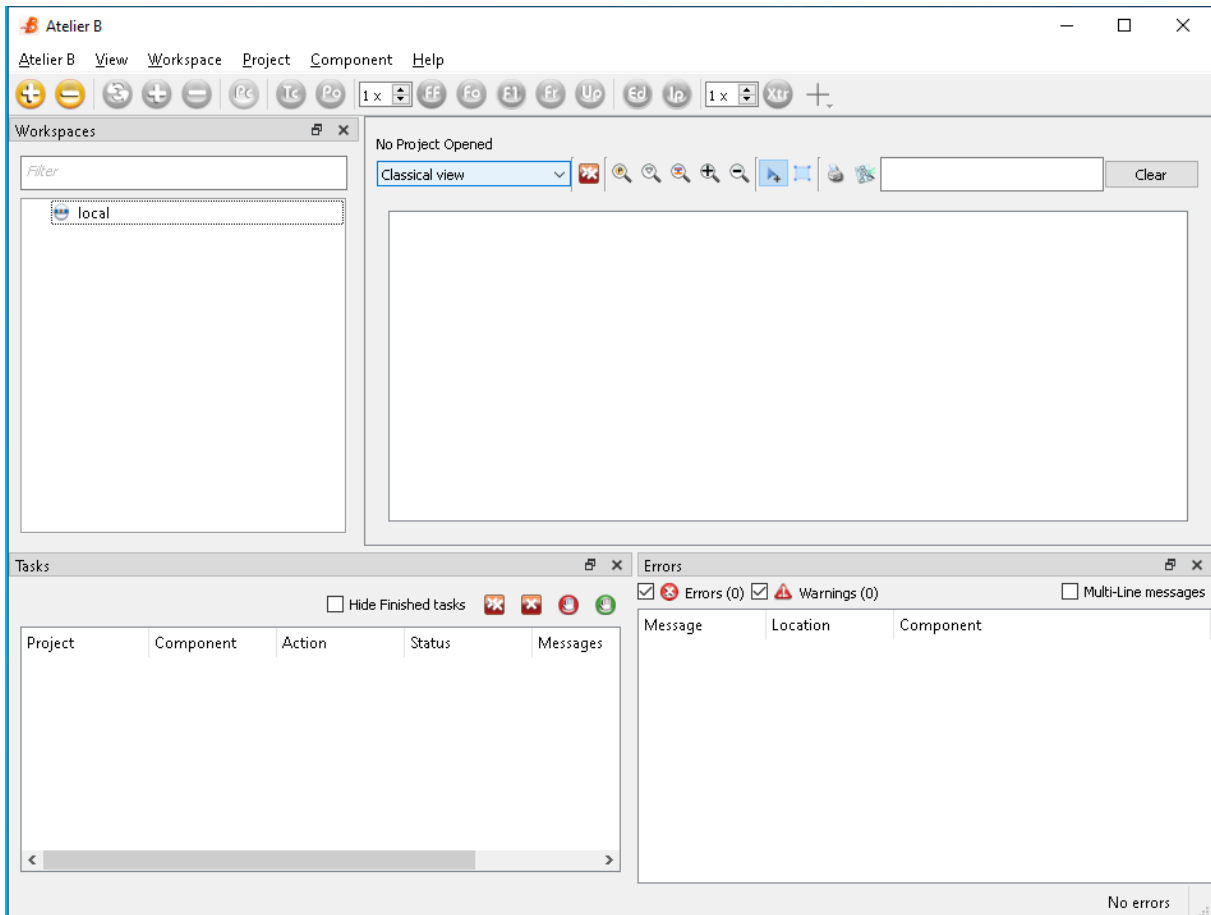
You may safely leave the default value. Click on “Install” to proceed. A progress dialog appears. When the installation is finished, the following dialog is displayed.



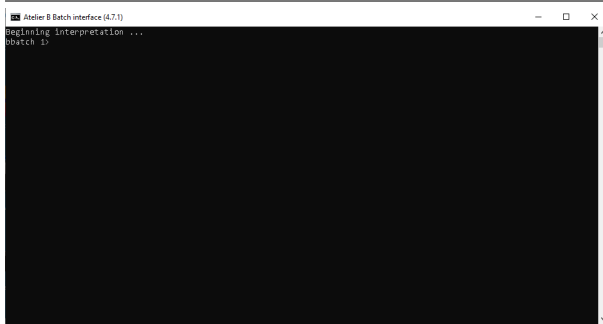
Click on “Finish”: installation is complete and the software is ready to use. The startup menu folder now contains two entries for Atelier B: one for the GUI and one for the CLI.



If you double-click on the “Atelier B Community Edition 24.04.2” entry, the GUI is started.



If you double-click on the “Atelier B Batch interface Community Edition 24.04.2” entry, the CLI is started.



You may encounter errors due to access controls on the directories that the tools need to access. If this is the case, read through carefully the chapter on [projects and workspaces](#).

## 5 Projects and Workspaces



When you install and use Atelier B and bbatch, you must be make sure to have read/write access to workspace(s) and project(s) directories.

In both Atelier B and bbatch, developments are organized in so-called **B projects**. Each B project has a data base directory (bdp) and a language directory (lang).

- The data base directory (bdp) contains all the internal artifacts necessary for Atelier B and bbatch to work.
- The language directory (lang) contains the files in a programming language, such as C, that are produced from the B components of the project.

The B project is made up of a number of source files. Source files are either B / Event-B components. The list of the source files of a B project is stored in the bdp in an XML file with the extension `db`.

For each B component, there is a corresponding PMM file with the same name and the extension `pmm`, containing proof rules and proof tactics for this component. The PMM file shall be stored in the same directory as the corresponding source file.



It is good practice to store the source files of a B project in a single directory.

Atelier B lets the user have several **workspaces**, each workspace being a collection of projects. In practice, a workspace is associated to a project data base directory (bdb), where each file ending

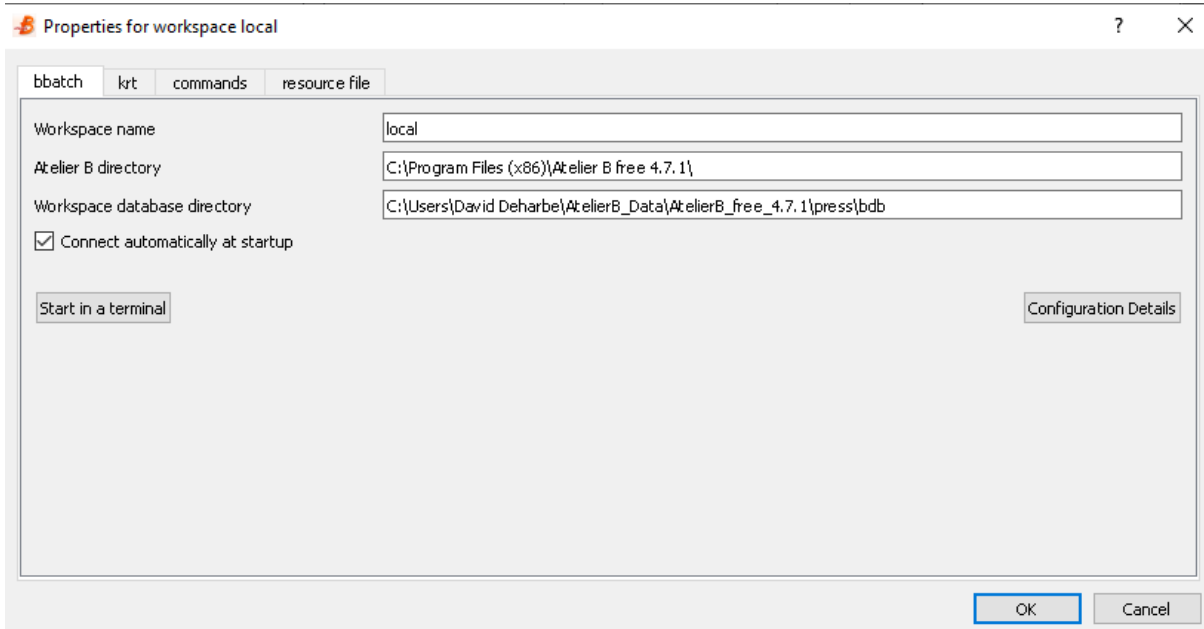
with the `desc` extension corresponds to a project. Actually, the contents of the `desc` file is only the path to the `bdp` and `lang` directories of the project.

`bbatch` does not have the concept of workspace. It is the user's responsibility to provide the path to the `bdb` of some workspace.

## 6 Troubleshooting

A fresh install creates an empty workspace named "local" and associates it with a directory (`bdb`) located in the user's home directory.

To know what is the `bdb` of a workspace, right-click on the workspace in Atelier B and select "Properties". This opens the workspace properties dialog.



The dialog has four tabs, and initially presented with the "bbatch" tab. There, the following information is displayed:

- the name of the workspace (in this case, "local"),
- the path of the installation of Atelier B,
- the path to the `bdb` of the workspace (namely, the workspace database directory),
- a checkbox to indicate whether the workspace is the default workspace.

It is currently not possible to change the path to the `bdb` of a workspace from the GUI. You may change the path to the `bdb` of a workspace by editing directly the settings of the tool.



- On Linux: The settings are stored in the `.config` directory as plain text files and may be edited with any text editor.
- On macOS: The settings are stored in file “`~/Library/Preferences/com.clearsy.AtelierB free 24.08.plist`” and may be edited with the Xcode application.
- On Windows: the settings are stored in the registry and may be viewed and edited with RegEdit. If you cannot change the path to the `bdb` of a workspace, you may create a new workspace (menu “Atelier B | New | Workspace”).

## 7 Lexicon

**bdb** See [Workspace](#).

**bdp** The **bdp** of a project is a directory that stores all the internal files necessary for the management of the project.

**lang** The **bdp** of a project is a directory that stores all the files resulting from the translation to a programming language of B components.

**pmm** A file containing proof rules and proof tactics for a B component.

**project** A **project** is a collection of B components and PMM files. It is referenced from a workspace thanks to a `desc` file. It contains a data base directory (`bdp`) and a language directory (`lang`).

**workspace** A **workspace** is a collection of projects. It is a directory containing a collection of `desc` files. Atelier B stores the workspaces in its settings (in registry on Windows, under the `$HOME/.config` directory on Linux and macOS).