



## MOSEK Installation Guide

*Release 9.3.8*

MOSEK ApS

27 October 2021

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# Chapter 1

## Introduction

This guide describes how to install the **MOSEK** Optimization Suite.

In general **MOSEK** Optimization Suite must be installed on any computer where **MOSEK** is used and this is called a *client installation*. In addition if a *floating license* is employed then a license token server must be set up, either on the client computer or on another computer. Note that trial licenses and academic licenses are NOT floating licenses.

## Chapter 2

# Contact Information

Phone	+45 7174 9373	
Website	<a href="http://mosek.com">mosek.com</a>	
Email		
	<a href="mailto:sales@mosek.com">sales@mosek.com</a>	Sales, pricing, and licensing
	<a href="mailto:support@mosek.com">support@mosek.com</a>	Technical support, questions and bug reports
	<a href="mailto:info@mosek.com">info@mosek.com</a>	Everything else.
Mailing Address		
	MOSEK ApS	
	Fruebjergvej 3	
	Symbion Science Park, Box 16	
	2100 Copenhagen O	
	Denmark	

You can get in touch with **MOSEK** using popular social media as well:

<b>Blogger</b>	<a href="https://blog.mosek.com/">https://blog.mosek.com/</a>
<b>Google Group</b>	<a href="https://groups.google.com/forum/#!forum/mosek">https://groups.google.com/forum/#!forum/mosek</a>
<b>Twitter</b>	<a href="https://twitter.com/mosektw">https://twitter.com/mosektw</a>
<b>Linkedin</b>	<a href="https://www.linkedin.com/company/mosek-aps">https://www.linkedin.com/company/mosek-aps</a>
<b>Youtube</b>	<a href="https://www.youtube.com/channel/UCvIyectEVLp31NXeD5mIbEw">https://www.youtube.com/channel/UCvIyectEVLp31NXeD5mIbEw</a>

In particular **Twitter** is used for news, updates and release announcements.

## Chapter 3

# License Agreement

Before using the **MOSEK** software, please read the license agreement available in the distribution at <MSKHOME>/mosek/9.3/mosek-eula.pdf or on the **MOSEK** website <https://mosek.com/products/license-agreement>.

**MOSEK** uses some third-party open-source libraries. Their license details follows.

### ***zlib***

**MOSEK** includes the *zlib* library obtained from the [zlib website](#). The license agreement for *zlib* is shown in [Listing 3.1](#).

Listing 3.1: *zlib* license.

```
zlib.h -- interface of the 'zlib' general purpose compression library
version 1.2.7, May 2nd, 2012

Copyright (C) 1995-2012 Jean-loup Gailly and Mark Adler

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Jean-loup Gailly          Mark Adler
jloup@gzip.org            madler@alumni.caltech.edu
```

## *fplib*

**MOSEK** includes the floating point formatting library developed by David M. Gay obtained from the [netlib website](#). The license agreement for *fplib* is shown in [Listing 3.2](#).

Listing 3.2: *fplib* license.

```
/*
 *
 * The author of this software is David M. Gay.
 *
 * Copyright (c) 1991, 2000, 2001 by Lucent Technologies.
 *
 * Permission to use, copy, modify, and distribute this software for any
 * purpose without fee is hereby granted, provided that this entire notice
 * is included in all copies of any software which is or includes a copy
 * or modification of this software and in all copies of the supporting
 * documentation for such software.
 *
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 * WARRANTY. IN PARTICULAR, NEITHER THE AUTHOR NOR LUCENT MAKES ANY
 * REPRESENTATION OR WARRANTY OF ANY KIND CONCERNING THE MERCHANTABILITY
 * OF THIS SOFTWARE OR ITS FITNESS FOR ANY PARTICULAR PURPOSE.
 *
 *****/
```

## *Zstandard*

**MOSEK** includes the *Zstandard* library developed by Facebook obtained from [github/zstd](#). The license agreement for *Zstandard* is shown in [Listing 3.3](#).

Listing 3.3: *Zstandard* license.

```
BSD License

For Zstandard software

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ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES
```

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### *mimalloc*

**MOSEK** includes the *mimalloc* memory allocator library from [github/mimalloc](https://github.com/mimalloc). The license agreement for *mimalloc* is shown in [Listing 3.4](#).

Listing 3.4: *mimalloc* license.

MIT License

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### *blis*

**MOSEK** includes the *blis* implementation of BLAS library from [github/blis](https://github.com/blis). The license agreement for *blis* is shown in [Listing 3.5](#).

Listing 3.5: *blis* license.

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### **OpenBLAS**

**MOSEK** includes the *OpenBLAS* implementation of BLAS library from [github/OpenBLAS](https://github.com/OpenBLAS). The license agreement for *OpenBLAS* is shown in [Listing 3.6](#).

Listing 3.6: *openblas* license.

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# Chapter 4

## Installation

### 4.1 External channels

**MOSEK** client can be installed from the following package managers and repositories:

- Anaconda for Python (<https://anaconda.org/MOSEK/mosek>):

```
conda install -c mosek mosek
```

- PIP for Python (<https://pypi.org/project/Mosek/>):

```
pip install Mosek
```

- Nuget.org for .NET Core (<https://www.nuget.org/packages/Mosek/>)

```
dotnet add package Mosek
```

Note that this only installs the client package. If you need the floating license server or the OptServer you still need to download the full distribution as described below.

### 4.2 General setup

This section describes how to install **MOSEK** from the full distribution packages downloaded from our website.

#### 4.2.1 Linux

1. Download the Linux 64bit x86 or Linux ARM64 **MOSEK** Optimization Suite distribution from <https://mosek.com/downloads/> and unpack it into a chosen directory.
2. Optionally add the path

```
<MSKHOME>/mosek/9.3/tools/platform/<PLATFORM>/bin
```

to the OS variable PATH, where <MSKHOME> is the directory where **MOSEK** was installed and <PLATFORM> is linux64x86 or linuxaarch64 depending on the version of **MOSEK** installed.

### 4.2.2 Mac OS

1. Download the MAC OS 64bit x86 **MOSEK** Optimization Suite distribution from <https://mosek.com/downloads/> and unpack it into a chosen directory.
2. Run the command

```
python <MSKHOME>/mosek/9.3/tools/platform/osx64x86/bin/install.py
```

where <MSKHOME> is the directory where **MOSEK** was installed. This will set up the appropriate shared objects required when using **MOSEK**.

3. Optionally add the path

```
<MSKHOME>/mosek/9.3/tools/platform/osx64x86/bin
```

to the OS variable PATH.

4. Troubleshooting:

- **Missing otool.** If running the `install.py` script produces errors such as:

```
xcrun: error: invalid active developer path (/Library/Developer/
↳ CommandLineTools), missing xcrun at: /Library/Developer/CommandLineTools/
↳ usr/bin/xcrun
...
CalledProcessError: Command '['otool', '-L', '/users/username/mosek/9.0/
↳ tools/platform/osx64x86/bin/MOSEKLM']' returned non-zero exit status 1
```

then you need to install the command line tools, in particular `otool`. Depending on the OS version, this should be possible with one of the commands:

```
xcode-select --install
xcode-select --switch /Library/Developer/CommandLineTools
```

- **Security exception in MacOS 10.15 (Catalina).** If an attempt to run **MOSEK** on Mac OS 10.15 (Catalina) and later produces security exceptions (`developer cannot be verified` and similar) then use `xattr` to remove the quarantine attribute from all **MOSEK** executables and binaries. This can be done in one go with

```
xattr -dr com.apple.quarantine mosek
```

where `mosek` is the folder which contains the full **MOSEK** installation or **MOSEK** binaries. See <https://themosekblog.blogspot.com/2019/12/macOS-1015-catalina-mosek-installation.html> for more information. If that does not help, use the system settings to allow running arbitrary unverified applications.

### 4.2.3 Windows, MSI installer

1. Make the right choice between the 32bit and 64bit versions. For instance if you plan to use **MOSEK** with 32bit Python or MATLAB the 32bit version of **MOSEK** should be selected. In general it is recommend to use the 64bit version though.
2. Download the Windows 32bit x86 or Windows 64bit x86 **MOSEK** Optimization Suite MSI installer from <https://mosek.com/downloads/>.
3. Run the installer to complete the installation.
4. Check that the path

```
<MSKHOME>\mosek\9.3\tools\platform\<PLATFORM>\bin
```

was added to the OS variable PATH, where <MSKHOME> is the directory where **MOSEK** was installed and <PLATFORM> is win64x86 or win32x86 depending on the version of **MOSEK** installed. This is necessary for Windows to locate the **MOSEK** shared libraries.

#### 4.2.4 Windows, Manual installation

1. Make the right choice between the 32bit and 64bit versions. For instance if you plan to use **MOSEK** with 32bit Python or MATLAB the 32bit version of **MOSEK** should be selected. In general it is recommend to use the 64bit version though.
2. Download the Windows 32bit x86 or Windows 64bit x86 **MOSEK** Optimization Suite distribution from <https://mosek.com/downloads/> and unpack it into a chosen directory.
3. Add the path

```
<MSKHOME>\mosek\9.3\tools\platform\<PLATFORM>\bin
```

to the OS variable PATH, where <MSKHOME> is the directory where **MOSEK** was installed and <PLATFORM> is win64x86 or win32x86 depending on the version of **MOSEK** installed. This is necessary for Windows to locate the **MOSEK** shared libraries, especially if **MOSEK** is to be used e.g. from MATLAB.

### 4.3 Setting up the License

Regardless of the method of installation, **MOSEK** requires a license file to run.

#### Token server setup

If you are using a floating license with a token server then follow the instructions in the [Licensing Guide](#). This step is NOT required for trial and personal academic licenses in particular.

#### Client setup

In practice the license is contained in a file called

```
mosek.lic
```

which should typically be saved to a file called

%USERPROFILE%\mosek\mosek.lic	(Windows)
\$HOME/mosek/mosek.lic	(Linux, MacOS)

If the folder **mosek** in the home directory does not exists, then it should be created. The license can be tested with the program **msktestlic**. For further information about the license system, and other non-standard ways of setting up the license, please consult the [License Guide](#).

### 4.4 Finishing up

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#### Important:

- See the [Licensing Guide](#) if you need more advanced help setting up the license.
  - For most languages and interfaces some additional steps are required. Please follow the instructions in the relevant interface documentation available from <https://mosek.com/documentation/>.
-