# MOSEK Installation Guide

*Release 9.2.40*

MOSEK ApS

10 March 2021

# Contents

# 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 | mosek.com | |
| Email | | |
| | sales@mosek.com | Sales, pricing, and licensing |
| | support@mosek.com | Technical support, questions and bug reports |
| | info@mosek.com | 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:

| | |
|---|---|
| **Blogger** | https://blog.mosek.com/ |
| **Google Group** | https://groups.google.com/forum/#!forum/mosek |
| **Twitter** | https://twitter.com/mosektw |
| **Linkedin** | https://www.linkedin.com/company/mosek-aps |
| **Youtube** | https://www.youtube.com/channel/UCvIyectEVLP31NXeD5mIbEw |

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/9.2/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.

```
/****************************************************************
 *
```

(continues on next page)

(continued from previous page)

```
 * 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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 * 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 THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT
(INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS
SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.
```

# 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 **MOSEK** Optimization Suite distribution from https://mosek.com/downloads/ and unpack it into a chosen directory.
2. Optionally add the path

   ```
   <MSKHOME>/mosek/9.2/tools/platform/linux64x86/bin
   ```

   to the OS variable `PATH`, where `<MSKHOME>` is the directory where **MOSEK** was 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/9.2/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/9.2/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\9.2\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\9.2\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/.

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