

Ansys Granta MI 2021 R2

MI Scripting Toolkit 2.3 for Python

Overview and Installation

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1 MI Scripting Toolkit Overview

The MI Scripting Toolkit enables you to analyze and transform the materials data in your Granta MI system using Python. Data can be extracted based on known record lists or on user-supplied criteria, and the results of the analysis can be written back to the Granta MI database with full traceability.

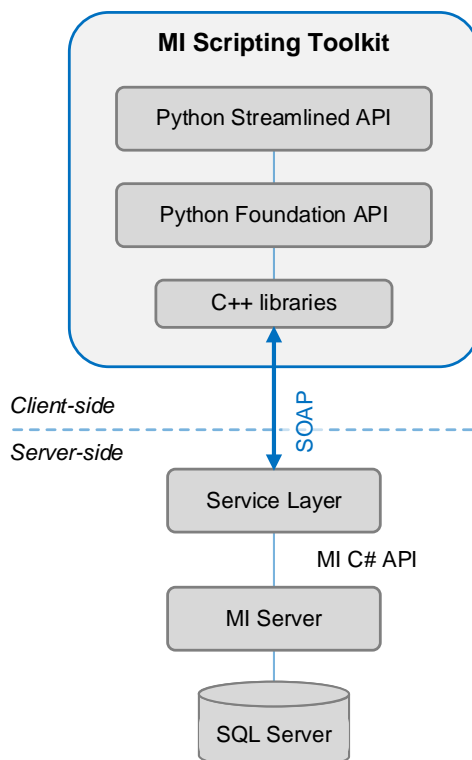
The toolkit supports the manipulation of the following Granta MI data types:

- Numerical (Point, Range, Integer)
- Text (Short Text, Long Text, Discrete)
- Functional (Float Functional)
- Tabular
- Record links
- Picture
- Other (Logical, Date, File, Hyperlink)

1.1 Architecture

The MI Scripting Toolkit comprises the Streamlined API, the Foundation API, and C++ libraries.

It is installed locally and connects to your Granta MI application server (MI Server) via the Service Layer.



2 Installation instructions for Windows

2.1 Download package

The MI Scripting Toolkit for Python download package includes:

- This document
- *MI Scripting Toolkit 2.3 for Python Release Notes*
- Help (module reference and example Python Notebooks)
- The installer file for Windows: *MIScriptingToolkit-2.3.xxx-py3-none-win_amd64.whl*

2.2 System requirements

- Windows® 10 64-bit
- Granta MI Version 11 Update 3 or later, with Service Layer Interface 18/04 or later
- Python 3.6 64-bit or later

2.3 Installation instructions

1. Before installing MI Scripting Toolkit, please uninstall any earlier versions.
2. To install the MI Scripting Toolkit, enter the following into the windows command line:

```
$ pip install MIScriptingToolkit-2.3.xxx-py3-none-win_amd64.whl
```

Or, if you have multiple versions of Python installed:

```
$ python -m pip install MIScriptingToolkit-2.3.xxx-py3-none-win_amd64.whl
```

When installation is complete, the MI Scripting Toolkit for Python files are installed into the Python site-packages location.

3 Installation instructions for Linux

3.1 Download package

The MI Scripting Toolkit for Python download package includes:

- This document
- *MI Scripting Toolkit 2.3 for Python Release Notes*
- Help (module reference and example Python Notebooks)
- An installer file for your version of Linux:

Linux version	Installer file name
CentOS 7.6 & 7.9	CentOS7x\MIScriptingToolkit-2.3.xxx-py3-none-any.whl
Debian 9.11	Debian9\MIScriptingToolkit-2.3.xxx-py3-none-any.whl
Red Hat Enterprise 7.6 & 7.9	RHEL7x\MIScriptingToolkit-2.3.xxx-py3-none-any.whl
SUSE Enterprise 15.2	SLES15\MIScriptingToolkit-2.3.xxx-py3-none-any.whl
Ubuntu 18	Ubuntu18\MIScriptingToolkit-2.3.xxx-py3-none-any.whl

For information on required shared libraries, see Section 3.4 on page 7.

3.2 System requirements

3.2.1 Supported Linux distributions

The following Linux distributions and versions are supported. The MI Scripting Toolkit 2.3 has been tested and certified on the specific OS versions indicated in the right-hand column:

Distribution	Version	Certified on
CentOS	CentOS 7	7.9.2009
Debian	Debian 9	9.11.0
Red Hat Enterprise Linux	RHEL 7	RHEL Client 7.9
Ubuntu	Ubuntu 18	18.04.9
SUSE Enterprise	SUSE Enterprise 15.2	15.2

For information on required shared libraries, see Section 3.4.

3.2.2 Granta MI version

Granta MI Version 11 Update 3 or later, with Service Layer Interface 18/04 or later.

3.2.3 Python

Python 3.6 64-bit or later.

3.3 Installation instructions

1. Before installing MI Scripting Toolkit, first uninstall any earlier versions:

```
$ sudo python3 setup.py uninstall
```

2. To install MI Scripting Toolkit, enter the following into the Linux command line (using the appropriate installer file for your Linux version):

```
$ pip install MIScriptingToolkit-2.3.xxx-py3-none-any.whl
```

Or, if you have multiple versions of Python installed:

```
$ python -m pip install MIScriptingToolkit-2.3.xxx-py3-none-any.whl
```

When installation is complete, the MI Scripting Toolkit for Python files are installed into the Python site-packages location.

3.4 Required shared libraries

In the tables in this section, the required shared library names are listed in the left-hand column; these usually represent symbolic links to shared libraries. The shared library may have a different name, containing a more specific version number, and so, to aid the diagnosis of potential problems, the full names of the shared libraries on our test systems are listed in the right-hand column.

3.4.1 Debian 9 shared libraries

Required shared library name	Full library name on our Debian 9.11 test system
/lib64/ld-linux-x86-64.so.2	/lib/x86_64-linux-gnu/ld-2.24.so
libc.so.6	libc-2.24.so
libcrypt.so.6	libcrypt-2.24.so
libdl.so.2	libdl-2.24.so
libgcc_s.so.1	libgcc_s.so.1
libm.so.6	libm-2.24.so
libpthread.so.0	libpthread-2.24.so
libreadline.so.5	libreadline.so.5.2
librt.so.1	librt-2.24.so
libstdc++.so.6	libstdc++.so.6
libtinfo.so.5	libtinfo.so.5.9
libutil.so.6	libutil-2.24.so
libuuid.so.1	libuuid.so.1.3.0
libz.so.1	libz.so.1.2.8
linux-vdso.so.1	(Virtual dynamic shared object)

3.4.2 CentOS 7 shared libraries

Required shared library name	Full library name on our CentOS 7.9.2009 test system
/lib64/ld-linux-x86-64.so.2	/lib64/ld-2.17.so
libc.so.6	libc-2.17.so
libcom_err.so.2	libcom_err.so.2.1
libcrypto.so.1	libcrypto.so.1.0.2k
libdl.so.6	libdl-2.17.so
libffi.so.6	libffi.so.6.0.1
libgcc_s.so.1	libgcc_s-4.8.5-20150702.so.1
libgssapi_krb5.so.2	libgssapi_krb5.so.2.2
libkeyutils.so.1	libkeyutils.so.1.5
libkrb5.so.3	libkrb5.so.3.3
libkrb5support.so.0	libkrb5support.so.0.1
libk5crypto.so.3	libk5crypto.so.3.1
libm.so.6	libm-2.17.so
libpcre.so.1	libpcre.so.1.2.0
libpthread.so.0	libpthread-2.17.so
libpython3.6m.so.1	libpython3.6m.so.1.0
libreadline.so.5	libreadline.so.6.2
libresolv.so.6	libresolv-2.17.so
librt.so.1	librt-2.17.so
libseline.so.1	libseline.so.1
libssl.so.1	libssl.so.1.0.2k
libstdc++.so.6	libstdc++.so.6.0.19
libtinfo.so.5	libtinfo.so.5.9
libutil.so.6	libutil-2.17.so
libuuid.so.1	libuuid.so.1.3.0
libz.so.1	libz.so.1.2.7
linux-vdso.so.1	(Virtual dynamic shared object)

3.4.4 Red Hat Enterprise Linux 7 shared libraries

Required shared library name	Full library name on our RHEL 7.9 test system
/lib64/ld-linux-x86-64.so.2	/lib64/ld-2.17.so
libc.so.6	libc-2.17.so
libcom_err.so.2	libcom_err.so.2.1
libcrypto.so.1	libcrypto.so.1.0.2k
libdl.so.6	libdl-2.17.so
libffi.so.6	libffi.so.6.0.1
libgcc_s.so.1	libgcc_s-4.8.5-20150702.so.1
libgssapi_krb5.so.2	libgssapi_krb5.so.2.2
libkeyutils.so.1	libkeyutils.so.1.5
libkrb5.so.3	libkrb5.so.3.3
libkrb5support.so.0	libkrb5support.so.0.1
libk5crypto.so.3	libk5crypto.so.3.1
libm.so.6	libm-2.17.so
libpcre.so.1	libpcre.so.1.2.0
libpthread.so.0	libpthread-2.17.so
libpython3.6m.so.1	libpython3.6m.so.1.0
libreadline.so.6	libreadline.so.6.2
libresolv.so.6	libresolv-2.17.so
librt.so.1	librt-2.17.so
libseline.so.1	libseline.so.1
libssl.so.1	libssl.so.1.0.2k
libstdc++.so.6	libstdc++.so.6.0.19
libtinfo.so.5	libtinfo.so.5.9
libutil.so.6	libutil-2.17.so
libuuid.so.1	libuuid.so.1.3.0
libz.so.1	libz.so.1.2.7
linux-vdso.so.1	(Virtual dynamic shared object)

3.4.6 Ubuntu 18 shared libraries

Required shared library name	Full library name on our Ubuntu 18.04.5 test system
/lib64/ld-linux-x86-64.so.2	/lib/x86_64-linux-gnu/ld-2.27.so
libc.so.6	libc-2.27.so
libdl.so.2	libdl-2.27.so
libexpat.so.1	libexpat.so.1.6.7
libgcc_s.so.1	libgcc_s.so.1
libm.so.6	libm-2.27.so
libpthread.so.0	libpthread-2.27.so
libreadline.so.6	libreadline.so.7.0
librt.so.1	librt-2.27.so
libstdc++.so.6	libstdc++.so.6.0.21
libtinfo.so.5	libtinfo.so.5.9
libutil.so.6	libutil-2.27.so
libuuid.so.1	libuuid.so.1.3.0
libz.so.1	libz.so.1.2.11
linux-vdso.so.1	(Virtual dynamic shared object)

3.4.7 SUSE Linux Enterprise 15 shared libraries

Required shared library name	Full library name on our SUSE Enterprise 15.2 test system
/lib64/ld-linux-x86-64.so.2	/lib64/ld-2.26.so
libc.so.6	libc-2.26.so
libcrypto.so.1	libcrypto.so.1.1
libdl.so.2	libdl-2.26.so
libffi.so.6	libffi.so.7.1.0
libgcc_s.so.1	libgcc_s.so.1
libm.so.6	libm-2.26.so
libpthread.so.0	libpthread-2.26.so
libreadline.so.6	libreadline.so.7.0
librt.so.1	librt-2.26.so
libssl.so.1	libssl.so.1.1
libstdc++.so.6	libstdc++.so.6.0.28
libtinfo.so.5	libtinfo.so.6.1
libutil.so.6	libutil-2.26.so
libuuid.so.1	libuuid.so.1.3.0
libz.so.1	libz.so.1.2.11
linux-vdso.so.1	(Virtual dynamic shared object)