

GT 4.2.1 pyGlobus: System Administrator's Guide

GT 4.2.1 pyGlobus: System Administrator's Guide

Introduction

pyGlobus provides a Python API to the pre-OGSI GT API (GT2). This guide contains installation and configuration information for system administrators installing pyGlobus. It explains how to install, configure and test the installation.

Important

This information is in addition to the basic Globus Toolkit prerequisite, overview, installation, security configuration instructions in the [Installing GT 4.2.1](#). Read through this guide before continuing!

Table of Contents

| | |
|---|---|
| 1. Building and installing | 1 |
| 2. Configuring | 2 |
| 3. Deploying | 3 |
| 4. Testing | 4 |
| 5. Security considerations | 5 |
| 1. Security Considerations for PyGlobus | 5 |
| 6. Troubleshooting | 6 |

Chapter 1. Building and installing

pyGlobus requires python¹ version 2.2 or newer and the GT2 libraries built with a threaded flavor. The full source installation of GT 4.2.1 will build the prerequisite libraries with the correct flavor.

¹ <http://www.python.org>

Chapter 2. Configuring

pyGlobus requires that the environment variables `GLOBUS_LOCATION` and `GPT_LOCATION` are set. These are set to the base of your globus installation and gpt installation. In GT 4.2.1 GPT (Grid Packaging Toolkit) is installed in the same place as globus, so you can set both of these environment variables to the same location.

Chapter 3. Deploying

To install pyGlobus, set the GLOBUS_LOCATION and GPT_LOCATION environment variables. Use the python distutils setup script:

```
%python setup.py install
```

Chapter 4. Testing

pyGlobus comes with unittests that are arranged by module. To run the unittests you first must be able to create a valid user proxy using `grid-proxy-init`. You must edit `config.txt` in the `pyGlobus/test` directory.

To run all of the tests:

```
%python test_pyGlobus.py
```

If you only wish to run tests from a single module, for example the security module:

```
%python test_security.py
```

Chapter 5. Security considerations

1. Security Considerations for PyGlobus

pyGlobus has a security module which allows for proxy creation, signing, encryption, and the creation and inquiry of security contexts. Care must be taken when developing applications which use GSI to ensure that authentication information will not be compromised. When creating a security context, one must ensure that the context will have the properties that they desire. For example, should the context use confidentiality or integrity? These concerns are not specific to pyGlobus but rather to any application developer who is using low level security APIs.

Chapter 6. Troubleshooting

See our [FAQ](#)¹ and [web page](#)² for any problems concerning pyGlobus.

You can also contact us on our mailing list python-discuss@globus.org³.

¹ <http://www.dsd.lbl.gov/gtg/projects/pyGlobus/FAQ.html>

² <http://www.dsd.lbl.gov/gtg/projects/pyGlobus/index.html>

³ <mailto:python-discuss@globus.org>

GT 4.2.1 Release Notes: pyGlobus

Table of Contents

| | |
|---|---|
| 1. Component Overview | 1 |
| 2. Feature Summary | 1 |
| 3. Changes Summary | 2 |
| 4. Bug Fixes | 2 |
| 5. Known Problems | 2 |
| 6. Technology Dependencies | 2 |
| 7. Supported Platforms | 2 |
| 8. Backward Compatibility Summary | 2 |
| 9. Associated Standards | 3 |
| 10. For More Information | 3 |

<titleabbrev>Release Notes</titleabbrev>

1. Component Overview

pyGlobus provides a high-level, object-oriented interface to the Globus Toolkit 2(r) libraries and related packages such as MyProxy. pyGlobus includes a series of modules that provide access to the full functionality of the Non-WS API while hiding much of the complexity. In addition, a number of servers and command line tools are provided, e.g., a GridFTP server, a GridFTP GUI client, pyglobusrun, and pyglobus-url-copy. pyGlobus supports the rapid development of non-WS applications, and allows for easy integration with C/C++ and Fortran code.

2. Feature Summary

Features new in release GT 4.2.1:

- None.

Other Supported Features

- security: X509 proxy generation, signing, verifying, context creation.
- gridFTP support, third party transfer, setting ftp buffer sizes, GSI authentication.
- GRAM: Ability to generate RSL strings, submit and monitor GRAM jobs.
- XIO: A socket API which can use the different drivers provided with the XIO package.
- GASS: The ability to cache, transfer and copy files, and to start up GASS servers.
- MyProxy: The ability to delegate and retrieve MyProxy credentials.
- RLS: The ability to make RLS requests to a RLS server.

Deprecated Features

- None

3. Changes Summary

No changes have been made to this component since 4.0.x.

4. Bug Fixes

No bugs were fixed for pyGlobus.

5. Known Problems

The following problems and limitations are known to exist for PyGlobus at the time of the 4.2.1 release:

5.1. Limitations

- pyGlobus does a large subset of the Globus C Toolkit.

5.2. Known Bugs

There are no known bugs to exist for pyGlobus at the time of the 4.2.1 release.

6. Technology Dependencies

pyGlobus depends on the following GT components:

- GT2 SDK bundles, built with a threaded flavor

pyGlobus depends on the following 3rd party software:

- [python](http://www.python.org)¹ 2.3 or newer

7. Supported Platforms

Tested Platforms for pyGlobus

- pyGlobus has been successfully tested on Linux, OSX, Solaris, and FreeBSD.

8. Backward Compatibility Summary

Protocol changes since GT version 4.0.x:

- None

API changes since GT version 4.0.x:

- Changes in the gassTransfer and Xio APIs.
- Bug fixes and new functionality allowing the denial of a gassTransfer request.

¹ <http://www.python.org>

- An XioSocket class was developed which has an interface similar to the Python 2.3 Socket API. For example, it allows timeouts.

Exception changes since GT version 4.0.x:

- None

Schema changes since GT version 4.0.x:

- None

9. Associated Standards

Associated standards for pyGlobus:

- RFC 2744
- RFC 2228
- RFC 3820

10. For More Information

See [pyGlobus](#) for more information about this component.