

# **GT 4.2.0 pyGridWare Contribution: System Administrator's Guide**

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## GT 4.2.0 pyGridWare Contribution: System Administrator's Guide

### Introduction

This guide contains advanced configuration information for system administrators working with pyGridWare, the python WS-Core. It provides references to information on procedures typically performed by system administrators, including installation, configuring, deploying, and testing the installation.

#### **Important**

This information is in addition to the basic Globus Toolkit prerequisite, overview, installation, security configuration instructions in the [Installing GT 4.2.0](#). Read through this guide before continuing!

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# Chapter 1. Dependencies

## 1. Technology Dependencies

Required (Use newest version if possible):

- [python 2.3](http://www.python.org)<sup>1</sup>
- [pyXML-0.8.4](http://pyxml.sourceforge.net/)<sup>2</sup>
- [4Suite-1.0a4](http://sourceforge.net/projects/foursuite/)<sup>3</sup>
- [Twisted-1.3.0](http://www.twistedmatrix.com/products/download)<sup>4</sup>

Optional: WS-Security: XML Digital Signatures, Secure Conversation, etc.

- [pyGlobus](http://dsd.lbl.gov/gtg/projects/pyGlobus/FAQ.html)<sup>5</sup> Python Wrapper for GT2, needs security and utility modules.
- [Globus 2 Security and utility packages](http://www.globus.org).<sup>6</sup>

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<sup>1</sup> <http://www.python.org>

<sup>2</sup> <http://pyxml.sourceforge.net/>

<sup>3</sup> <http://sourceforge.net/projects/foursuite/>

<sup>4</sup> <http://www.twistedmatrix.com/products/download>

<sup>5</sup> <http://dsd.lbl.gov/gtg/projects/pyGlobus/FAQ.html>

<sup>6</sup> <http://www.globus.org>

## Chapter 2. Building and installing

Untar the tarball or grab the CVS source, run pyGridWare distutils setup script, optionally regenerate all bindings.

1. Do one of the following:

2. Untar tarball:

```
%tar zxf pyGridWare-1.04b.tar.gz
```

3. Grab the CVS source:

```
%cvs -d :pserver:anonymous@bosshog.lbl.gov:/home/portnoy/u5/repository co login  
%cvs -d :pserver:anonymous@bosshog.lbl.gov:/home/portnoy/u5/repository co pyGridWare
```

4. Change directory

```
%cd pyGridWare
```

5. Run distutils

```
%python setup.py --regenerate install
```

If you want Message Level Security, build the GT2 libraries with a threaded flavor. You can install any GT3 All Source installer bundles. Directions for installing GT 3.2 can be found [here](#)<sup>1</sup>.

To build pyGlobus:

1. Set the environment variables *GLOBUS\_LOCATION* and *GPT\_LOCATION* to the location of the globus installation.
2. Run the pyGlobus distutils setup script:

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

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<sup>1</sup> [http://www.globus.org/toolkit/docs/3.2/installation/install\\_installing.html](http://www.globus.org/toolkit/docs/3.2/installation/install_installing.html)

# Chapter 3. Configuring

There are two configuration files:

## 1. pyGridWare/config.txt

Read by the distutils setup script when "regenerate" is specified. This is where all service WSDLs are specified. When setup is run, bindings will be created automatically.

[WSDL]

```
CounterService = share/schema/core/samples/counter/counter_service.wsdl
```

## 2. pyGridWare/bin/config.txt

Configuration parameters for logging, security, container location, and service paths. This file needs to be in the directory from where you are executing the client and/or server.

# Chapter 4. Deploying

Run the container script

1. Change to bin directory

```
%cd bin
```

2. Edit the file `server-config.tac` by adding or removing resources:

```
def GetResource(contextFactory=None):  
    root = Resource()  
    root.putChild('wsrf', Resource())  
  
    resource = Resource()  
    root.getStaticEntity('wsrf').putChild('services', resource)  
  
    resource.putChild('CounterService', Counter(post='/wsrf/services/CounterService'))
```

3. Run the start container script:

```
%./start-container.sh
```

# Chapter 5. Testing

To test your installation, run:

```
%python unittest
```

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# Chapter 6. Security considerations

## 1. Security Considerations for Python WS Core

Individual services can be configured with or without message security, but transport security is a characteristic of the entire container (either using ssl or plain tcp). Authentication and authorization of clients is performed using a callback mechanism.

### 1.1. Transport Security

Simply edit the file `config.txt` where the executable is being run and turn on ssl.

By default, pyGridWare will look in the user's home directory for the `.globus/usercert.pem` and `.globus/user-key.pem` files.

To use the grid proxy generated by `grid-proxy-init`, just specify the `/tmp/x509***` as the certfile and keyfile.

*Example pyGridWare/bin/config.txt*

```
[security]
ssl = 1
certfile =
keyfile =
```

# Chapter 7. Troubleshooting

1. Make sure all dependencies are met.
2. Building and installing problems:
3. python-2.3 problems We have recently discovered a problem running the distutils `--regenerate` that is caused by a bug in "urllib.basejoin". This is fixed in python2.4. ZSI needs to be patched to fix this problem in python-2.3.

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# GT 4.2.0 Release Notes: pyGridWare

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<titleabbrev>Release Notes</titleabbrev>

## 1. Component Overview

pyGridWare, the python WS Core, provides a basic python toolset for creating WSRF enabled web services, proven to interoperate with the Java WSRF. Performance is a primary concern and motivation. This WSRF project realizes a significant speedup by using C implementations at the performance critical security and DOM layers. WSRF support includes WS-Resource Lifetime, WS-Resource Properties, and WS-Notification. Updated security support for WS-Secure Conversation and Secure Message is also included. Client and service stubs have been generated from the most recent OASIS drafts and WS-Secure Conversation specification, but the bindings can be easily regenerated from WSDL via the setup script at install whenever WSDL needs to be updated.

## 2. Feature Summary

Features new in release GT 4.2.0:

- [list features]

Other Supported Features

- [list features]

Deprecated Features

- [list features]

## 3. Changes Summary

The following changes have occurred for Python WS Core since the last stable release, 4.0.x:

[summarize changes]

## 4. Bug Fixes

No bugs were fixed for Python WS Core.

## 5. Known Problems

The following problems and limitations are known to exist for Python WS Core at the time of the 4.2.0 release:

### 5.1. Limitations

- [list limitations]

### 5.2. Known Bugs

No problems are known to exist for Python WS Core at the time of the 4.2.0 release.

## 6. Technology Dependencies

Required (Use newest version if possible):

- [python 2.3](#)<sup>1</sup>
- [pyXML-0.8.4](#)<sup>2</sup>
- [4Suite-1.0a4](#)<sup>3</sup>
- [Twisted-1.3.0](#)<sup>4</sup>

Optional: WS-Security: XML Digital Signatures, Secure Conversation, etc.

- [pyGlobus](#)<sup>5</sup> Python Wrapper for GT2, needs security and utility modules.
- [Globus 2 Security and utility packages](#).<sup>6</sup>

## 7. Supported Platforms

Tested Platforms for pyGridWare:

- [list platforms for which component has been tested]

## 8. Backward Compatibility Summary

This implementation will not be backward compatible with any previous GT3 release.

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<sup>1</sup> <http://www.python.org>

<sup>2</sup> <http://pyxml.sourceforge.net/>

<sup>3</sup> <http://sourceforge.net/projects/foursuite/>

<sup>4</sup> <http://www.twistedmatrix.com/products/download>

<sup>5</sup> <http://dsd.lbl.gov/gtg/projects/pyGlobus/FAQ.html>

<sup>6</sup> <http://www.globus.org>

## 9. Associated Standards

Associated standards for Python WS Core:

- standard #1
- ...
- standard #n

## 10. For More Information

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

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