
GDA Installation Guide

Release 8.2

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CONTENTS

1	Installation	3
2	Software Prerequisites	5
2.1	Operating System	5
2.2	Running GDA - Required Software	5
2.3	Developing GDA - Required Software	5
2.4	Developing GDA - Optional Software	6
3	Download GDA	7
4	Building and Starting the GDA Server and Client	9
4.1	Building the distribution	9
4.2	Starting GDA	9
4.3	Stopping GDA	10
5	Indices and tables	11

Contents:

INSTALLATION

This document describes the procedure for downloading and installing GDA and its prerequisites, and validating the installation. It is suggested that you follow all the steps herein before you move on to the next documents, which describe how to actually use GDA, and how to extend it for your site.

These instructions assume that you are going to install GDA on a Linux workstation. The details will almost certainly change in future releases, with the aim of simplifying configuration.

SOFTWARE PREREQUISITES

This section describes the software that you need to install prior to using GDA.

2.1 Operating System

The GDA client software runs on Linux (32 or 64 bit). The GDA server software runs on Linux (32 or 64 bit). Currently, the GDA is not supported on Windows. This limitation is expected to be removed in a future release.

2.2 Running GDA - Required Software

2.2.1 Java 1.6 SDK

GDA requires the Sun Java SE Development kit (not the Runtime Environment), version 1.6. To check if this is already installed, open a command window, and type:

```
$ java -version
$ echo $JAVA_HOME
```

The java version should look something like “1.6.0_17”. It needs to start with 1.6. The `JAVA_HOME` environment variable should be a directory name (without trailing slash), parent of `bin/`, `jre/` etc. If this environment variable is not set, then set it appropriately:

```
$ export JAVA_HOME=/path/to/jdk/folder
```

If the Java SDK is not installed, download and install the Java SE Development kit (not the Runtime Environment) from <http://java.sun.com/javase/downloads>.

2.3 Developing GDA - Required Software

2.3.1 Eclipse

Eclipse 3.5.1 (“Galileo” Service Release 1) is required. Earlier releases are not supported. Eclipse can be downloaded from <http://www.eclipse.org/downloads/>, and you need to select the “Eclipse for RCP/Plug-in Developers” package (other packages may not include all the Eclipse-supplied plugins which we use).

2.3.2 Python

Python 2.5 or higher is required.

2.4 Developing GDA - Optional Software

Pygments - for documentation

Sphinx - for documentation

DOWNLOAD GDA

Go to <ftp://ftpanon.diamond.ac.uk/GDA/> and download:

1. `release_8.0.tar.gz` (156MB) - this contains the GDA distribution, plus an example configuration.
2. `GDA_release_8.0_thirdparty.tar.gz` (141MB) - this contains various third-party libraries required to build and run GDA.
3. `GDA_release_8.0_docs.tar.gz` (5MB) - this contains the GDA documentation in HTML and .PDF form.

Untar `release_8.0.tar.gz` into a location of your choice; hereafter this location will be referred to as `$GDA_WORKSPACE`.

Untar `GDA_release_8.0_thirdparty.tar.gz`, then move the resulting `GDA_release_8.0_thirdparty/thirdparty` directory into `$GDA_WORKSPACE` (so that `thirdparty` is immediately below `$GDA_WORKSPACE` in the directory hierarchy).

`$GDA_WORKSPACE` will contain a symbolic link from a directory `config/` to `example-config`. If you are running on Windows, which does not support symbolic links, you should rename `example-config` to `config`.

BUILDING AND STARTING THE GDA SERVER AND CLIENT

Building GDA means compiling the Java code into `.class` files. The GDA distribution does not include these files, so you need to run a build before you can start using GDA.

4.1 Building the distribution

The GDA distribution includes, in addition to the base GDA, an example plugin, and an example configuration to run it. The GDA Developer Guide uses this to illustrate how to extend the GDA.

The command to build GDA is:

```
$ cd $GDA_WORKSPACE
$ python builder/gda-build.py --nowarn --product=example clean build
```

This results in the Java code in each plugin being compiled into the `bin` directory for the plugin (except for the `uk.ac.gda.core` plugin which is compiled into the `classes` directory). The GDA server runs using these `.class` files.

Additionally, a new directory called `client` is created, which holds the GDA client (an Eclipse RCP application).

4.2 Starting GDA

Once you have built GDA, start the GDA servers (there are several, a Name Server, an Event server, and an Object Server, etc), and then the GDA client. Although the servers and client would normally run on separate machines, the example configuration that comes with this release expects them on the same machine.

To start the servers:

```
$ cd $GDA_WORKSPACE
$ ./config/bin/GDA_StartServers
```

You can add the `--verbose` if you wish. Ignore `Motor Position File` error messages, and wait for the `Server initialisation complete` message:

```
ERROR gda.device.motor.MotorBase - Motor Position File <path>/JT_RRMotor not found - setting JT_RR
...
INFO gda.util.ObjectServer - Server initialisation complete. xmlFile = <$GDA_WORKSPACE>/config/x
```

To start the client:

```
$ cd $GDA_WORKSPACE
$ ./config/bin/GDA_StartRCP
```

Various configuration related errors can be ignored. Once the GUI has launched and you have logged in, switch to the “Scripting” perspective. The GDA Developer Guide has a number of commands that you can try out.

4.3 Stopping GDA

To stop the client, `Exit` from the `File` menu usually works!

To stop the servers:

```
$ cd $GDA_WORKSPACE
$ ./config/bin/GDA_StartServers --stop
```

On shutdown, errors such as `Retries exceeded, couldn't reconnect to 127.0.0.1` can be ignored.

INDICES AND TABLES

- *Index*
- *Module Index*
- *Search Page*