

Quick Start

De Wiki

Aller à : [navigation](#), [rechercher](#)

[Quick Start](#)

In this Quick Start page, we will see how (very easily) we will create an application to display and convert orbit data. Nevertheless, we assume that the user has already used the [GENIUS](#) library. Thus, he can refer to its own [Quick start](#) page. Of course, we also assume that he is familiar with the [Java](#) language as well as the [Eclipse](#) environment.

Sommaire

- [1 Create the test class](#)
- [2 Adding display\(\) and generic\(\) methods](#)
- [3 Create a GPORbit object](#)
- [4 Create a Frame](#)
- [5 Link with PATRIUS_DATASET](#)
- [6 See your widget !](#)
- [7 Code](#)

Create the test class

So, first, we have to create a class extending from the [GPanel](#) one with a main method ...

New Java Class

Java Class

⚠ The use of the default package is discouraged.

Source folder: GenopusTutorials/src/main/java Browse...

Package: (default) Browse...

☐ Enclosing type: Browse...

Name: OrbitTest

Modifiers: ☒ public ☐ package ☐ private ☐ protected
☐ abstract ☐ final ☐ static

Superclass: fr.cnes.genius.lowLevel.GPanel Browse...

Interfaces: Add...
Remove

Which method stubs would you like to create?

☒ public static void main(String[] args)
☐ Constructors from superclass
☐ Inherited abstract methods

Do you want to add comments? (Configure templates and default value [here](#))
☐ Generate comments

? Finish Cancel

Adding display() and generic() methods

Then, you will have to add unimplemented methods `display()` and `generic()`...

```
1 import fr.cnes.genius.lowLevel.GPanel;
2
3 public class OrbitTest extends GPanel {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7     }
8 }
9
10 }
11
```

[Eclipse](#) helps you to do it very quickly by clicking on the error sign:

```

1 import fr.cnes.genius.lowLevel.GPanel;
2
3 public class OrbitTest extends GPanel {
4
5     public static void main(String[] args) {
6         // TODO Auto-generated method stub
7     }
8
9 }
10
11

```

Context menu options for `OrbitTest`:

- Add unimplemented methods
- Make type 'OrbitTest' abstract
- Rename in file (Ctrl+2, R)
- Rename in workspace (Alt+Shift+R)

You will obtain this:

```

1 import fr.cnes.genius.exception.GException;
2 import fr.cnes.genius.lowLevel.GPanel;
3
4 public class OrbitTest extends GPanel {
5
6     public static void main(String[] args) {
7         // TODO Auto-generated method stub
8     }
9
10
11     @Override
12     public void display() throws GException {
13         // TODO Auto-generated method stub
14     }
15
16
17     @Override
18     public void generic() throws GException {
19         // TODO Auto-generated method stub
20     }
21
22 }
23
24

```

Create a GPOrbit object

Then, create a [GPOrbit](#) object and decide to display it using the `put()` method:

```

1 import fr.cnes.genius.exception.GException;
2 import fr.cnes.genius.lowLevel.GPanel;
3 import fr.cnes.genopus.orbits.GPOrbit;
4
5 public class OrbitTest extends GPanel {
6
7     private final GPOrbit orbit;
8
9     public OrbitTest () {
10         orbit = new GPOrbit("MyOrbit");
11     }
12
13     public static void main(String[] args) {
14         // TODO Auto-generated method stub
15
16     }
17
18     @Override
19     public void display() throws GException {
20         put(orbit);
21     }
22
23     @Override
24     public void generic() throws GException {
25         // TODO Auto-generated method stub
26
27     }
28
29 }

```

Create a Frame

In the main method, create a frame using the [GFrame](#) class to put our OrbitTest panel inside ...

```

1 import fr.cnes.genius.exception.GException;
2 import fr.cnes.genius.lowLevel.GFrame;
3 import fr.cnes.genius.lowLevel.GPanel;
4 import fr.cnes.genopus.orbits.GPOrbit;
5
6 public class OrbitTest extends GPanel {
7
8     private final GPOrbit orbit;
9
10    public OrbitTest () {
11        orbit = new GPOrbit("MyOrbit");
12    }
13
14    public static void main(String[] args) {
15        final GFrame frame = new GFrame("OrbitTest", new OrbitTest());
16        frame.display();
17    }
18
19    @Override
20    public void display() throws GException {
21        put(orbit);
22    }
23
24    @Override
25    public void generic() throws GException {
26        // TODO Auto-generated method stub
27    }
28
29 }
30
31

```

Link with PATRIUS_DATASET

Do not forget to refer to the [PATRIUS_DATASET](#) (to get for example information about time scales) else you will get error messages.

```

1 import fr.cnes.genius.exception.GException;
2 import fr.cnes.genius.lowLevel.GFrame;
3 import fr.cnes.genius.lowLevel.GPanel;
4 import fr.cnes.genopus.orbits.GPOrbit;
5 import fr.cnes.sirius.addons.patriusdataset.PatriusDataset;
6 import fr.cnes.sirius.patrius.utils.exception.PatriusException;
7
8 public class OrbitTest extends GPanel {
9
10     private final GPOrbit orbit;
11
12     public OrbitTest () {
13         orbit = new GPOrbit("MyOrbit");
14     }
15
16     public static void main(String[] args) throws PatriusException {
17         PatriusDataset.addResourcesFromPatriusDataset();
18         final GFrame frame = new GFrame("OrbitTest", new OrbitTest());
19         frame.display();
20     }
21
22     @Override
23     public void display() throws GException {
24         put(orbit);
25     }
26
27     @Override
28     public void generic() throws GException {
29         // TODO Auto-generated method stub
30     }
31 }
32
33 }
34

```

See your widget !

And when you will execute, you will obtain this:

The screenshot shows the 'OrbitTest' application window. It features a 'MyOrbit' tab with a 'Pivot' button and a 'TLE Convert' button. Below these is a 'Deactivate conversions' checkbox. The 'Date' field is set to '01/01/2000 00h00m00s' with a 'UTC +/-' button. The 'Frame' is set to 'GCRF' and the 'Type' is set to 'Keplerian'. Under 'Keplerian Parameters', there are input fields for 'a' (0.0 km), 'e' (0.0), 'i' (0.0 deg), 'Ω' (0.0 deg), 'ω' (0.0 deg), and 'Anomaly' (0.0 deg) with a 'true' checkbox. A 'μ' field is set to '398600.4415 km^3/s^2' with a 'Select' button.

Code

Here is the code of this example (to copy it, if you want). Simple isn't it ?

```
import fr.cnes.genius.exception.GException;
import fr.cnes.genius.lowLevel.GFrame;
import fr.cnes.genius.lowLevel.GPanel;
import fr.cnes.genopus.orbits.GP0rbit;
import fr.cnes.sirius.addons.patriusdataset.PatriusDataset;
import fr.cnes.sirius.patrius.utils.exception.PatriusException;

public class OrbitTest extends GPanel {

    private final GP0rbit orbit;

    public OrbitTest () {
        orbit = new GP0rbit("MyOrbit");
    }

    public static void main(String[] args) throws PatriusException {
        PatriusDataset.addResourcesFromPatriusDataset();
        final GFrame frame = new GFrame("OrbitTest", new OrbitTest());
        frame.display();
    }

    @Override
    public void display() throws GException {
        put(orbit);
    }

    @Override
    public void generic() throws GException {
    }

}
```

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Menu de navigation

Outils personnels

- [3.136.154.103](#)
- [Discussion avec cette adresse IP](#)
- [Créer un compte](#)
- [Se connecter](#)

Espaces de noms

- [Page](#)
- [Discussion](#)

Variantes

Affichages

- [Lire](#)
- [Voir le texte source](#)
- [Historique](#)
- [Exporter en PDF](#)

Plus

Rechercher

GENOPUS

- [Welcome](#)
- [Quick Start](#)
- [News](#)

User Manual

- [BasicPrinciples](#)
- [GPAbsoluteDate](#)
- [GPOrbit](#)
- [GPFramesConfiguration](#)
- [GPVehicle](#)
- [GPForceModels](#)
- [GPManeuverSequence](#)
- [GPAttitudeSequence](#)
- [GPIntegrator](#)
- [GPAxisCoordinates](#)
- [GPGeodeticPoint](#)
- [GPOneAxisEllipsoid](#)
- [GPRotation](#)
- [GPConstants](#)
- [Events](#)

- [GPCorrelation](#)

Evolutions

- [Main differences between V2.4.1 and V2.4.2](#)
- [Main differences between V2.3.3 and V2.4.1](#)
- [Main differences between V2.2.1 and V2.3.3](#)
- [Main differences between V2.2 and V2.2.1](#)
- [Main differences between V2.1.1 and V2.2](#)
- [Main differences between V2.1 and V2.1.1](#)
- [Main differences between V2.0.1 and V2.1](#)
- [Main differences between V2.0 and V2.0.1](#)
- [Main differences between V1.3.1 and V2.0](#)
- [Main differences between V1.3 and V1.3.1](#)
- [Main differences between V1.2.1 and V1.3](#)

Training

- [Make your own propagator tool!](#)
- [Tutorials package for V2.4.1](#)
- [Tutorials package for V2.3.3](#)
- [Tutorials package for V2.2](#)
- [Tutorials package for V2.1.1](#)
- [Tutorials package for V2.0 and V2.0.1](#)
- [Tutorials package for V1.3 and V1.3.1](#)
- [Training slides](#)

Links

- [CNES freeware server](#)

Outils

- [Pages liées](#)
- [Suivi des pages liées](#)
- [Pages spéciales](#)
- [Adresse de cette version](#)
- [Information sur la page](#)
- [Citer cette page](#)

- Dernière modification de cette page le 10 novembre 2018 à 18:38.

- [Politique de confidentialité](#)
- [À propos de Wiki](#)
- [Avertissements](#)

