Getting started

DIRAC Tutorial

Outline

- DIRAC information system
  - Documentation sources

- DIRAC users and groups
  - Registration with DIRAC

- Getting DIRAC credentials
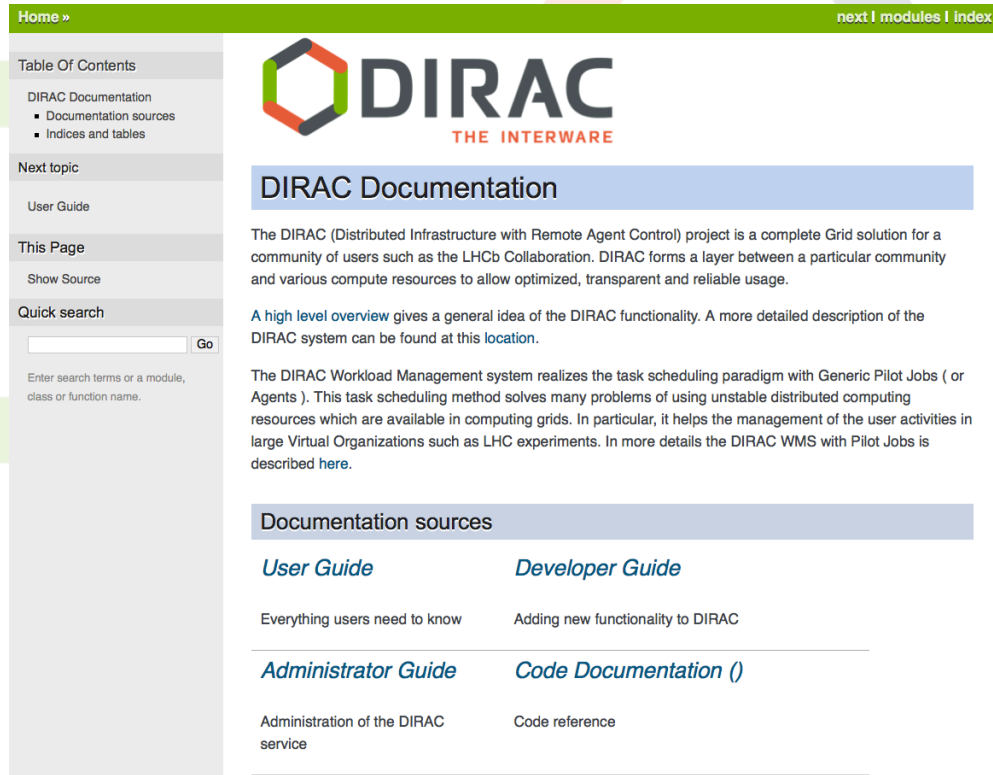 - Getting the certificates right
  - Registering user proxies

- Web portal interface

- Hello world! job

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- DIRAC Project Web site contains entry points to various docs

  This is being rapidly developed now, more info to come

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DIRAC users and groups

In order to work with DIRAC users should be registered

- In one or several groups

- For traceability, accounting, etc

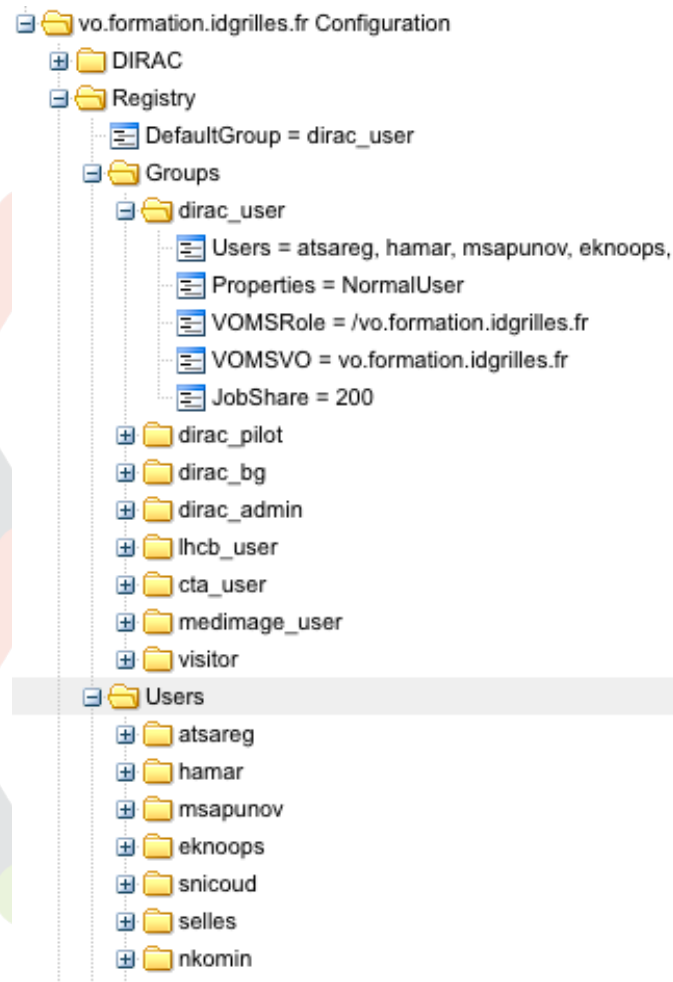User's rights are determined by the *Properties* of the group

- E.g. *NormalUser* can submit jobs
  but can not change the DIRAC Configuration data

Each group has its share of jobs that it can run

- Determines the group priority

Groups are mapped onto VOMS VO groups/roles


```
vo.formation.idgrilles.fr Configuration
  DIRAC
  Registry
    DefaultGroup = dirac_user
    Groups
      dirac_user
        Users = atsareg, hamar, msapunov, eknoops,
        Properties = NormalUser
        VOMSRole = /vo.formation.idgrilles.fr
        VOMSVO = vo.formation.idgrilles.fr
        JobShare = 200
      dirac_pilot
      dirac_bg
      dirac_admin
      lhcb_user
      cta_user
      medimage_user
      visitor
    Users
      atsareg
      hamar
      msapunov
      eknoops
      snicoud
      selles
      nkomin
```

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User credentials

Grid users are identified by their certificates

Individual certificates, X509 PKI infrastructure

Obtaining the certificates is not part of the tutorial

All the students have a generic tutorial certificate

Individual certificates can be used if any

▸ Please, check your case

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Proxy Management

- DIRAC has a full featured Proxy Management system
  - Secure Proxy repository – ProxyManager service
    - Can be configured to use MyProxy server
  - Supply user proxies to various components
    - Automatic proxy renewal if necessary

Before using DIRAC a long living proxy must be uploaded to the Proxy Repository

In the Web Portal:

https://dirac.france-grilles.fr/DIRAC

- Tools > Upload Proxy
- Choose certificate file
- Provide password

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DIRAC: user interfaces

Unix command line interface

- Historically the first one
- Suitable for Unix addicts
  - Easy to use in shell scripts
- Too many commands
  - Even more switches

Python API

- Originally for DIRAC developers
- More users are starting to use it
- The most versatile
  - Build your own DIRAC applications

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DIRAC: user interfaces

Web interface – *https://dirac.france-grilles.fr/DIRAC*

User friendliness is the goal

That's why we start with this one

No security compromises

Less flexibility than with other interfaces

But still in rapid development

More exciting functionalities

More application specific extensions

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Loading certificate into the browser

- Before using the Web portal the user grid certificate must be loaded into the browser
  - Used to authenticate the user to the DIRAC services

  Firefox

  Preferences > Advanced > Encryption > View Certificates

  Import certificate
  - From .p12 file
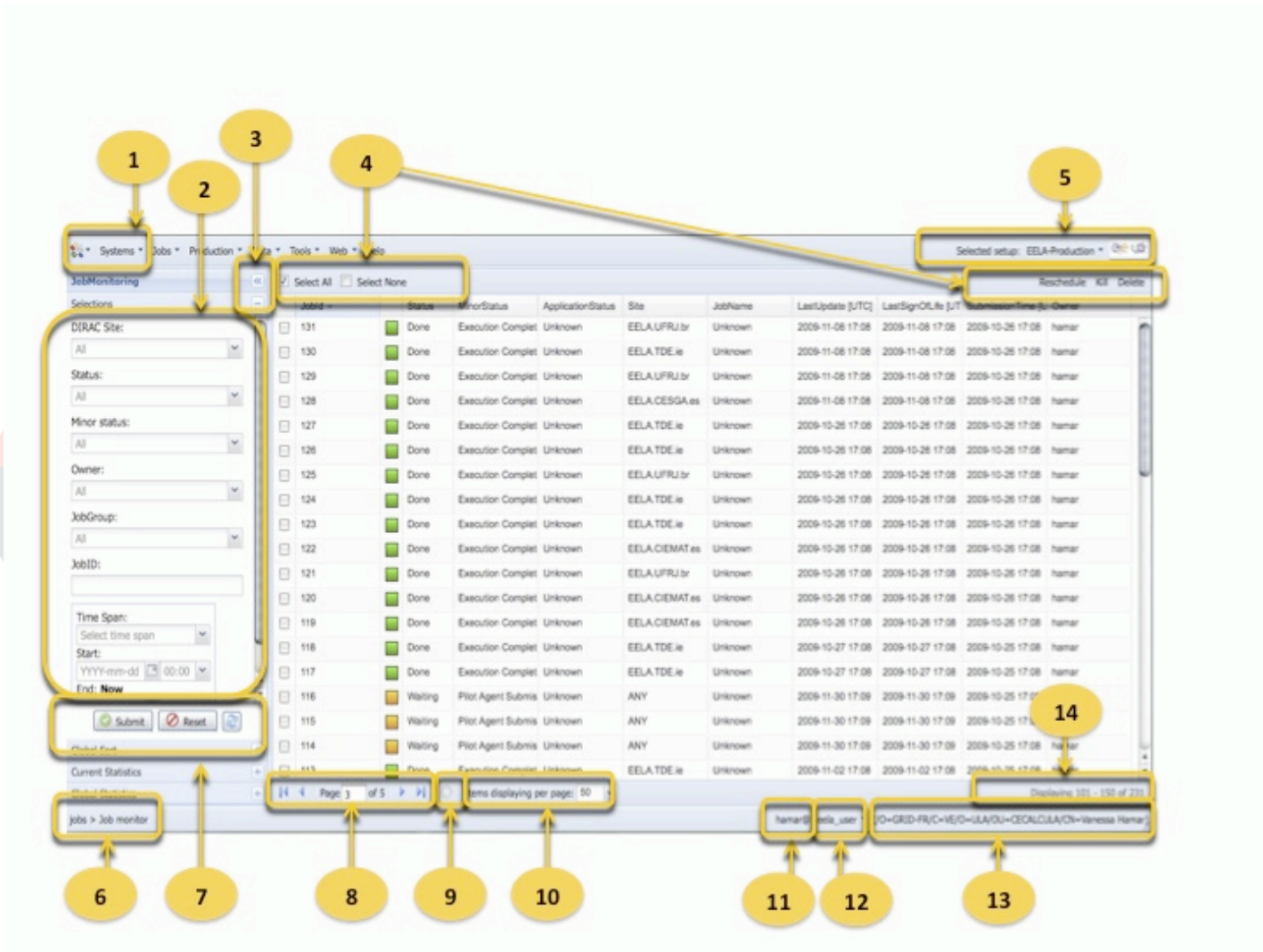 - Password required

  Exporting certificate in Firefox

  Preferences > Advanced > Encryption > View Certificates

  Backup certificate

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Web Portal: general layout

1. **Main Menu**: This menu offers options for systems, jobs, tools and help.

2. **Selections**: Shows a set of selectors than permits generate customs selections.

3. **Buttons to open/collapse panels**: Permit open or collapse left menu.

4. **Actions to perform for job(s)**: These actions permits select all, select none, reset, kill or submit

5. **Menu to change DIRAC setup**: Users can change between different setups.

6. **Current location**: Indicates where the user is located inside the portal.

7. **Buttons to submit or reset the form**: After options are selected its possible to submit and execute the selection or reset the selectors.

8. **Pagination controls**: Permits navigate between the pages, and also show in which page the user is navigating.

9. **Refresh table**: Reload the page without loose the previous selection and show the new status.

10. **Items per page**: This option allow the users to specify how many items are going to be displayed by page.

11. **User DIRAC login**: Login assigned to the user connected to DIRAC web portal.

12. **DIRAC Group**: The user could belong to different groups and perform actions depending of the group previously selected.

13. **Certificate DN**: Web portal shows the distinguish name of user certificate what is being used to realize the connection.

14. **Index items displayed**: Display the range of items displayed in the page.

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Web Portal: job submission

Launchpad applet

Jobs > JobMonitoring > Tools

Job submission with the real owner credentials

Job description

Executable, arguments
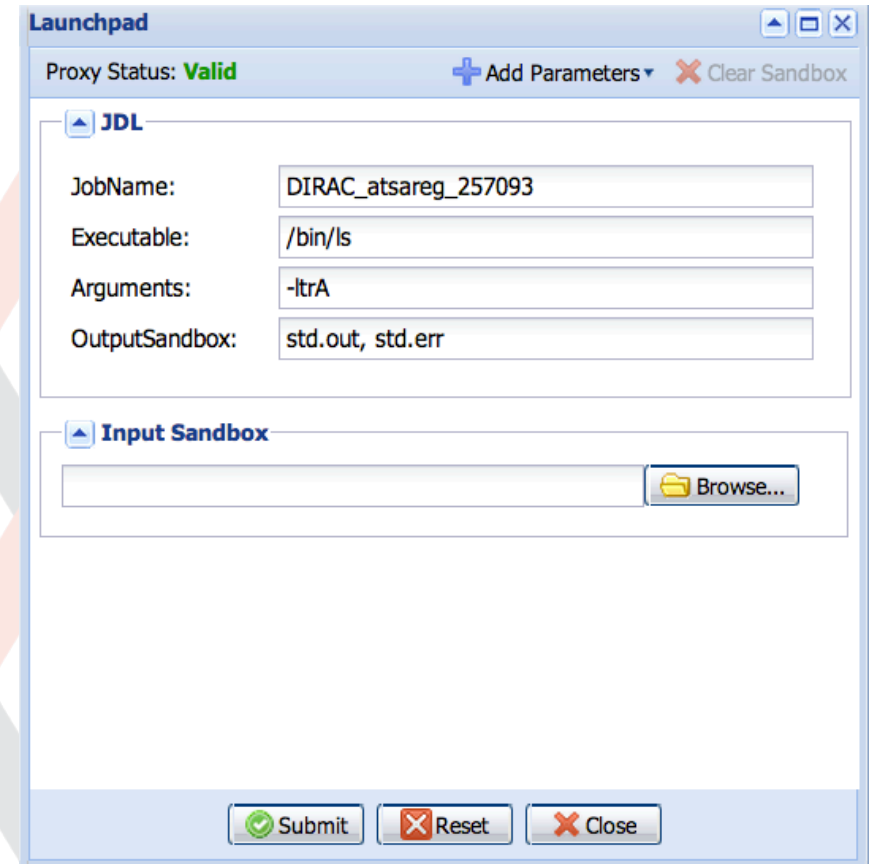
Sandboxes

Input/Output data

Extra parameters

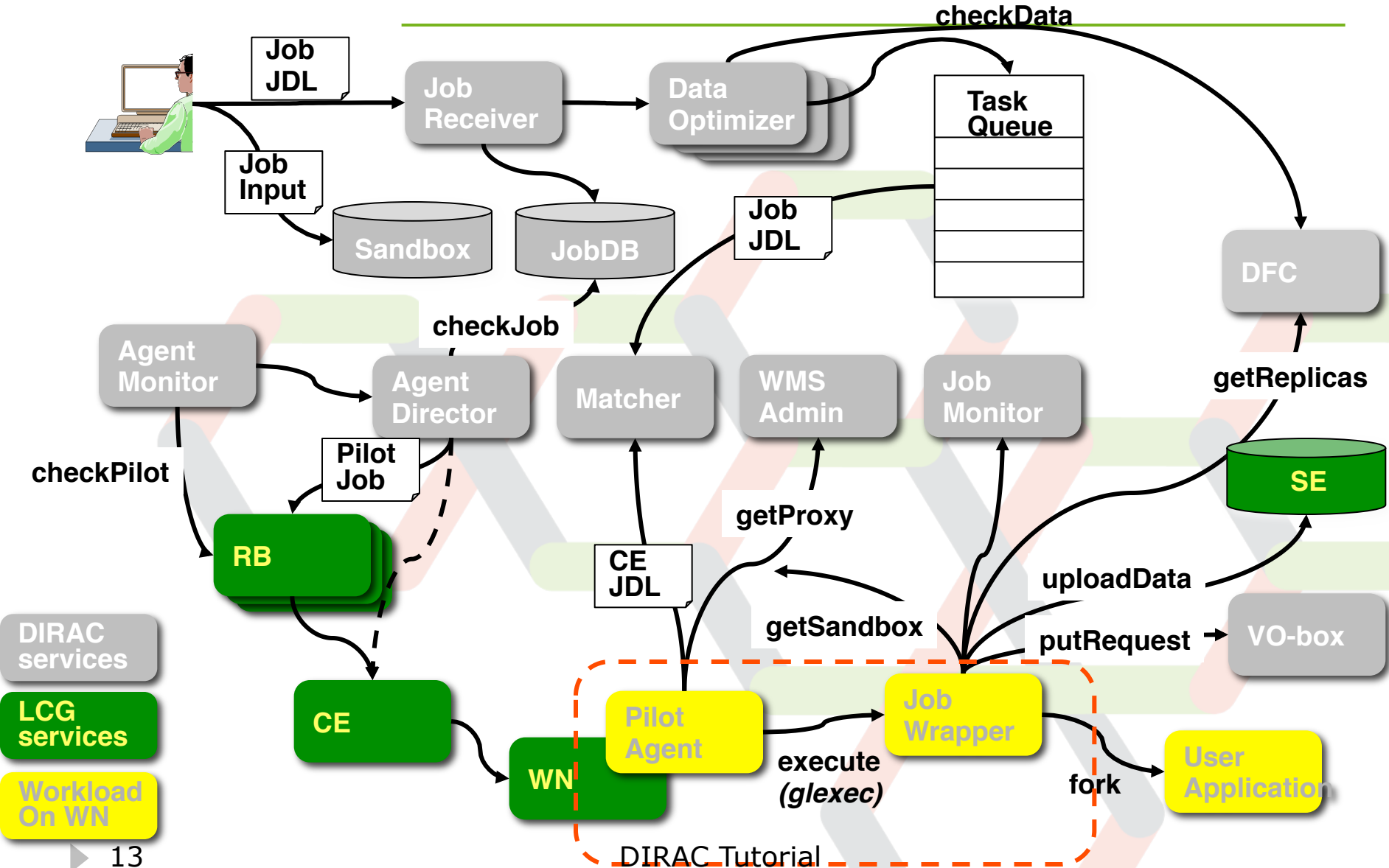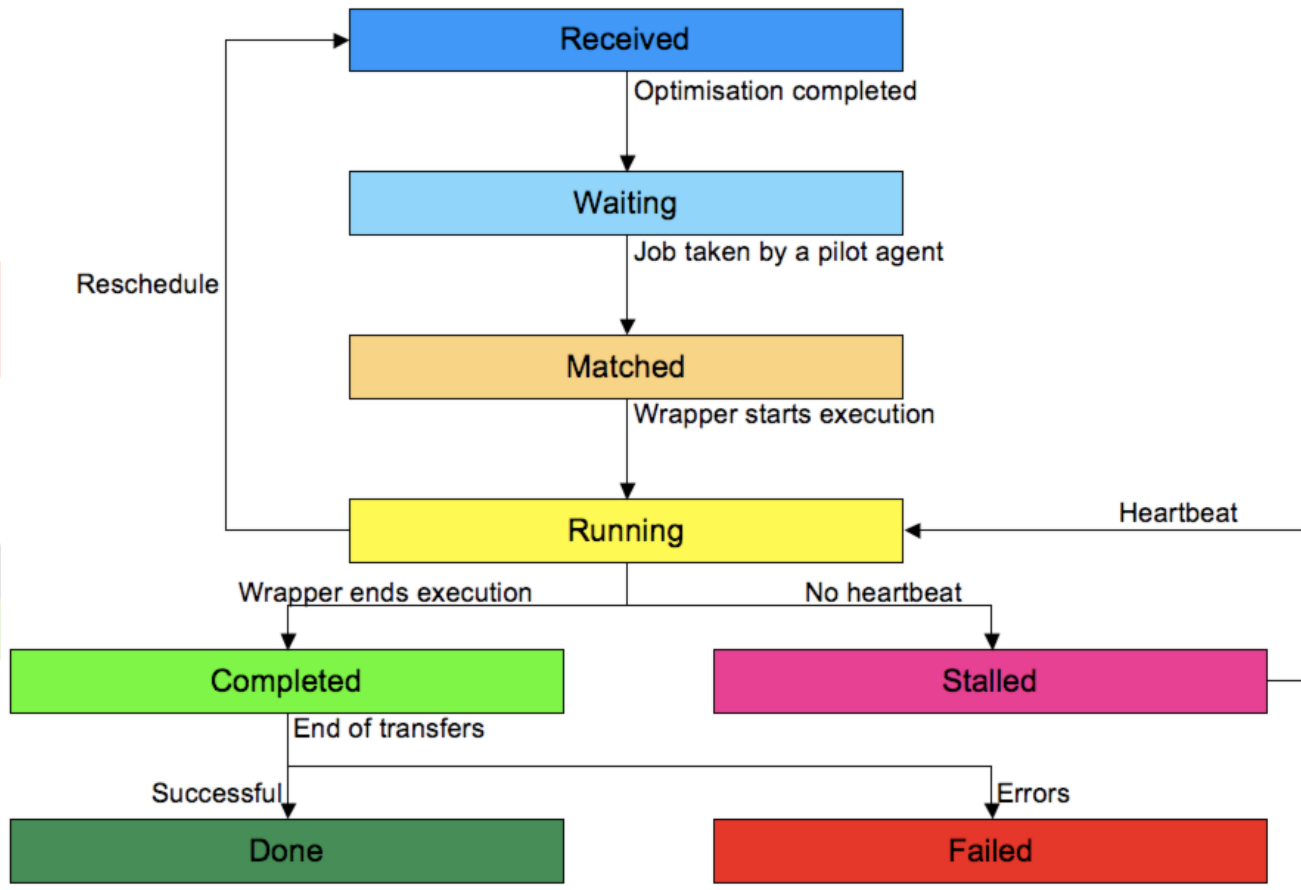Input Sandbox

Upload local files

Simple application

Mostly for demonstration purposes

Evolving into a more versatile toole

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DIRAC job life cycle

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Job Monitoring page

Everything you need to know about your jobs

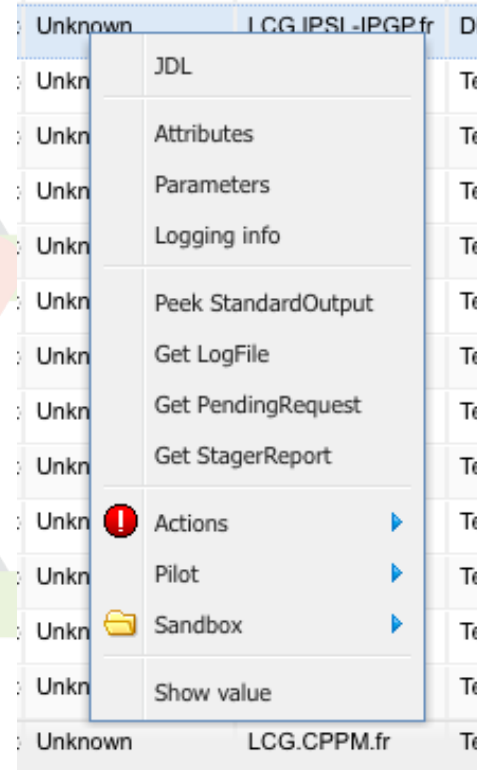Use **Help** button for detailed explanations

Job Menu

Job info

Actions

▸ Reschedule, delete, kill

Pilot output access

Useful for debugging

Sandbox download

Job selections

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Tutorial

Submit "Hello, world!" job with Web Launchpad

Basic job description

Monitor it

Get results

Submit job with Input and Output Sandbox

Simple processing

Getting results

Goals

Understand job description

Understanding job Web monitoring and manipulation tools

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