

# Getting started

*IHEP, Beijing,  
13-15 November 2013*



- ▶ DIRAC information system

  - Documentation sources

- DIRAC users and groups

  - Registration with DIRAC

- Getting DIRAC credentials

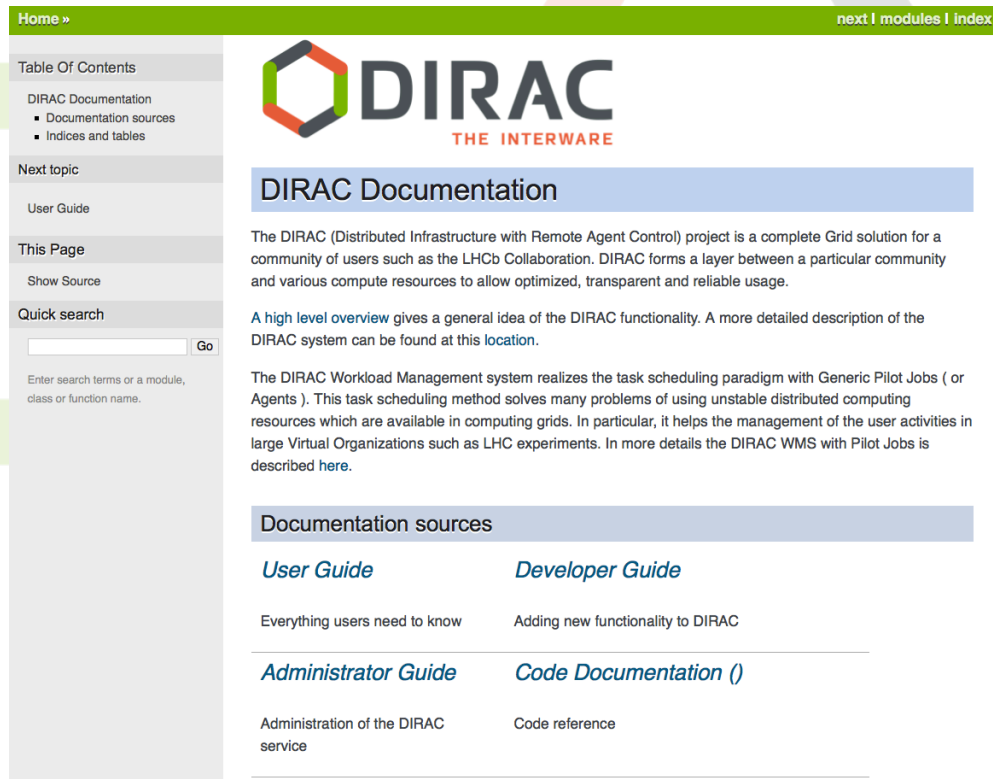
  - Getting the certificates right
  - Registering user proxies

- ▶ Web portal interface

- ▶ Hello world! job

- ▶ DIRAC Project Web site contains entry points to various docs

This is being rapidly developed now, more info to come



The screenshot shows the DIRAC Documentation website. At the top, there is a green navigation bar with "Home »" on the left and "next | modules | index" on the right. Below this is a sidebar on the left containing a "Table Of Contents" with links to "DIRAC Documentation" (subdivided into "Documentation sources" and "Indices and tables"), "Next topic" (User Guide), "This Page" (Show Source), and a "Quick search" box. The main content area features the DIRAC logo and the heading "DIRAC Documentation". The text describes the project as a complete Grid solution for communities like the LHCb Collaboration. It includes a "high level overview" link and a link to a more detailed description. Below this is a section titled "Documentation sources" with four links: "User Guide" (Everything users need to know), "Developer Guide" (Adding new functionality to DIRAC), "Administrator Guide" (Administration of the DIRAC service), and "Code Documentation ()" (Code reference).

In order to work with DIRAC users should be registered

In one or several groups

For traceability, accounting, etc

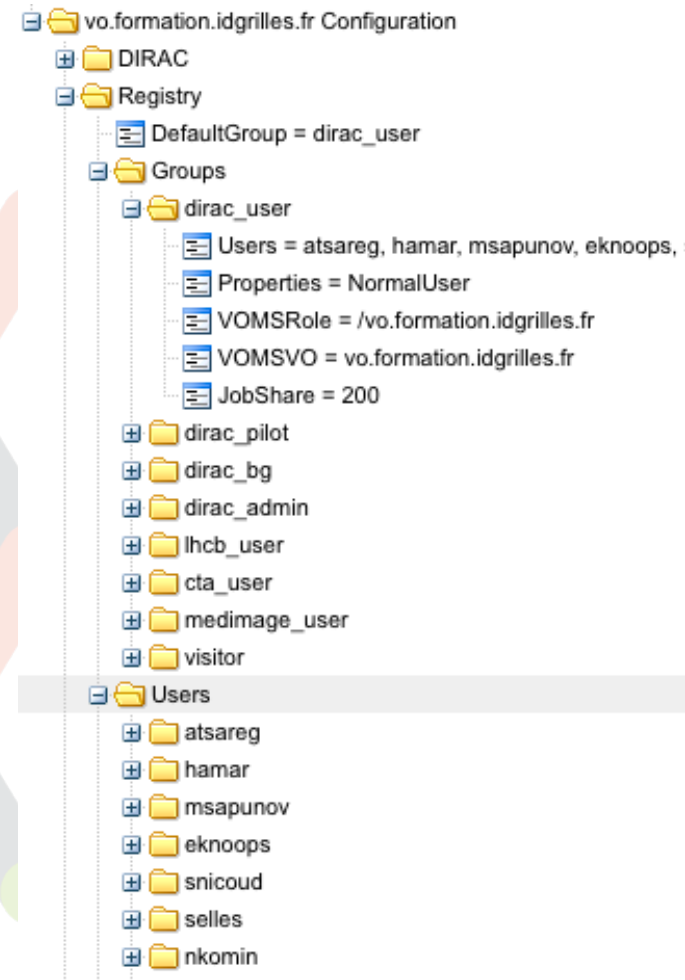
User's rights are determined by the **Properties** of the group

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



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 personal certificate

In the opposite case few generic certificates are available

Please, check your case

- ▶ 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.ihep.ac.cn/DIRAC>

Tools > Upload Proxy

Choose certificate file

Provide password



The screenshot shows a web browser window titled "Proxy upload". The form contains the following fields and controls:

- Certificate:** A text input field with a "Browse..." button to its right.
- Input password for:** A section header for the password fields.
- p12 certificate:** A text input field with a password strength indicator below it.
- personal key:** A text input field with a password strength indicator below it.
- Disclaimer:** A paragraph of text stating: "We are not keeping neither your private key nor password for certificate or private key on our service. While we try to make this process as secure as possible by using SSL to encrypt the key when it is sent to the server, for maximum security, we recommend that you manually convert and upload the proxy using DIRAC client commands: `dirac-cert-convert.sh CERT_FILE_NAME.p12` and `dirac-proxy-init -UP`".
- Buttons:** Three buttons at the bottom: "Submit" (with a green checkmark icon), "Reset" (with a red 'X' icon), and "Close" (with a red 'X' icon).

## 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

Web interface – <https://dirac.ihep.ac.cn/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



- ▶ 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

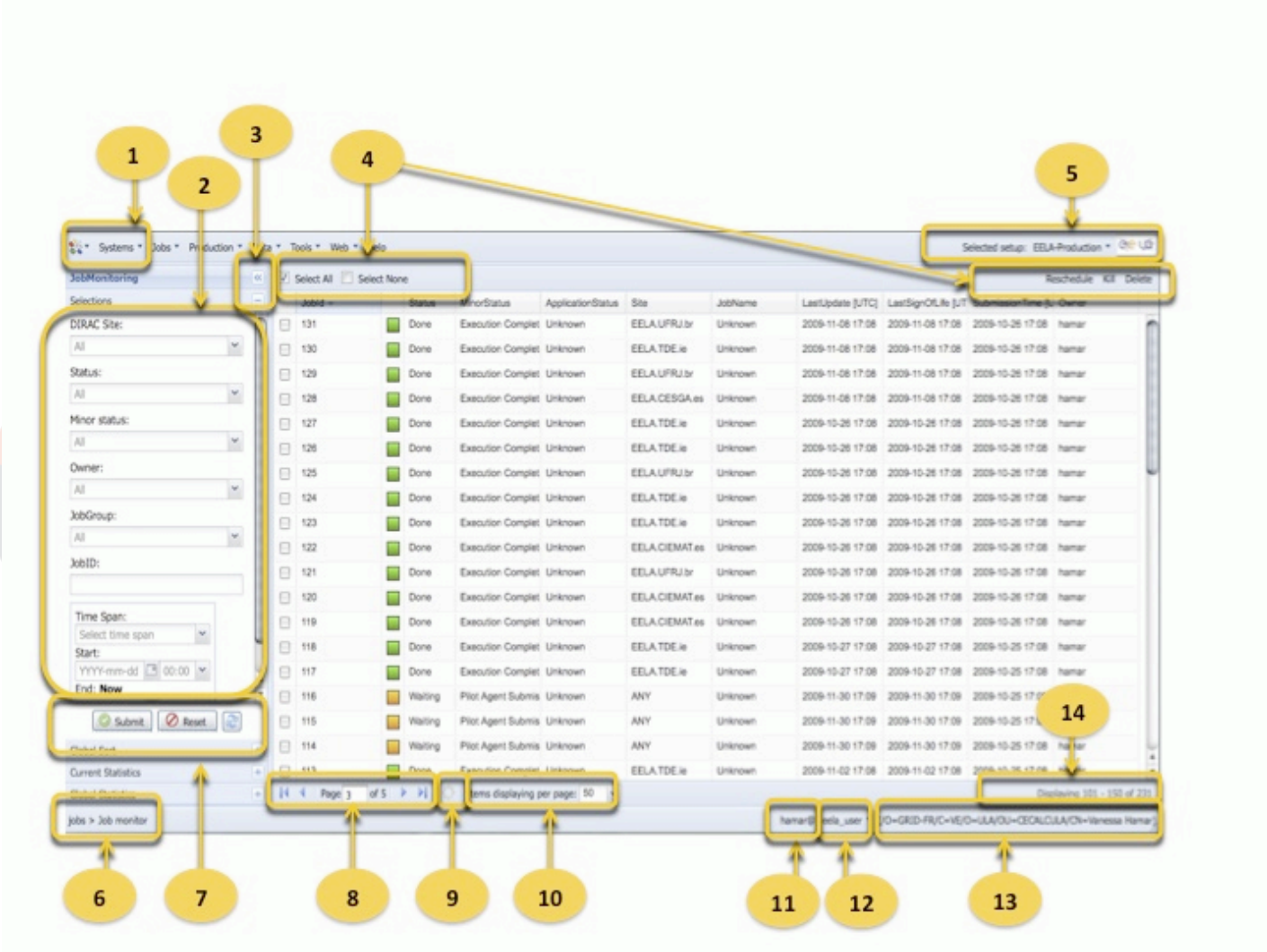
- ▶ From .p12 file

Password required

## Exporting certificate in Firefox

Preferences > Advanced > Encryption > View Certificates

Backup certificate



The screenshot shows the DIRAC web portal interface with 14 numbered callouts highlighting specific UI elements:

- 1**: Navigation menu (Systems, Jobs, Production, Tools, Web, Help)
- 2**: JobMonitoring header
- 3**: Selections sidebar (DIRAC Site, Status, Minor status, Owner, JobGroup, JobID, Time Span)
- 4**: Action buttons (Select All, Select None)
- 5**: Selected setup (EELA-Production) and actions (Reschedule, Kill, Delete)
- 6**: Submit and Reset buttons
- 7**: Current Statistics section
- 8**: Page navigation (Page 3 of 5)
- 9**: Items displaying per page (50)
- 10**: Jobs > Job monitor link
- 11**: User name (hamar)
- 12**: User role (eela\_user)
- 13**: User ID (ID=GRID-FR/C=IN/OU=JLA/OU=CEA/CJLA/DN=Vivienne Hamar)
- 14**: Job ID (131)

JobID	Status	MinorStatus	ApplicationStatus	Site	JobName	LastUpdate [UTC]	LastSignOffLife [UTC]	SubmissionTime [UTC]	Owner
131	Done	Execution Complet	Unknown	EELA.UFRJ.br	Unknown	2009-11-08 17:08	2009-11-08 17:08	2009-10-26 17:08	hamar
130	Done	Execution Complet	Unknown	EELA.TDE.ie	Unknown	2009-11-08 17:08	2009-11-08 17:08	2009-10-26 17:08	hamar
129	Done	Execution Complet	Unknown	EELA.UFRJ.br	Unknown	2009-11-08 17:08	2009-11-08 17:08	2009-10-26 17:08	hamar
128	Done	Execution Complet	Unknown	EELA.CESGA.es	Unknown	2009-11-08 17:08	2009-11-08 17:08	2009-10-26 17:08	hamar
127	Done	Execution Complet	Unknown	EELA.TDE.ie	Unknown	2009-10-26 17:08	2009-10-26 17:08	2009-10-26 17:08	hamar
126	Done	Execution Complet	Unknown	EELA.TDE.ie	Unknown	2009-10-26 17:08	2009-10-26 17:08	2009-10-26 17:08	hamar
125	Done	Execution Complet	Unknown	EELA.UFRJ.br	Unknown	2009-10-26 17:08	2009-10-26 17:08	2009-10-26 17:08	hamar
124	Done	Execution Complet	Unknown	EELA.TDE.ie	Unknown	2009-10-26 17:08	2009-10-26 17:08	2009-10-26 17:08	hamar
123	Done	Execution Complet	Unknown	EELA.TDE.ie	Unknown	2009-10-26 17:08	2009-10-26 17:08	2009-10-26 17:08	hamar
122	Done	Execution Complet	Unknown	EELA.CIEMAT.es	Unknown	2009-10-26 17:08	2009-10-26 17:08	2009-10-26 17:08	hamar
121	Done	Execution Complet	Unknown	EELA.UFRJ.br	Unknown	2009-10-26 17:08	2009-10-26 17:08	2009-10-26 17:08	hamar
120	Done	Execution Complet	Unknown	EELA.CIEMAT.es	Unknown	2009-10-26 17:08	2009-10-26 17:08	2009-10-26 17:08	hamar
119	Done	Execution Complet	Unknown	EELA.CIEMAT.es	Unknown	2009-10-26 17:08	2009-10-26 17:08	2009-10-26 17:08	hamar
118	Done	Execution Complet	Unknown	EELA.TDE.ie	Unknown	2009-10-27 17:08	2009-10-27 17:08	2009-10-25 17:08	hamar
117	Done	Execution Complet	Unknown	EELA.TDE.ie	Unknown	2009-10-27 17:08	2009-10-27 17:08	2009-10-25 17:08	hamar
116	Waiting	Pilot Agent Submis	Unknown	ANY	Unknown	2009-11-30 17:09	2009-11-30 17:09	2009-10-25 17:08	hamar
115	Waiting	Pilot Agent Submis	Unknown	ANY	Unknown	2009-11-30 17:09	2009-11-30 17:09	2009-10-25 17:08	hamar
114	Waiting	Pilot Agent Submis	Unknown	ANY	Unknown	2009-11-30 17:09	2009-11-30 17:09	2009-10-25 17:08	hamar
113	Done	Execution Complet	Unknown	EELA.TDE.ie	Unknown	2009-11-02 17:08	2009-11-02 17:08	2009-10-26 17:08	hamar

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.

# 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

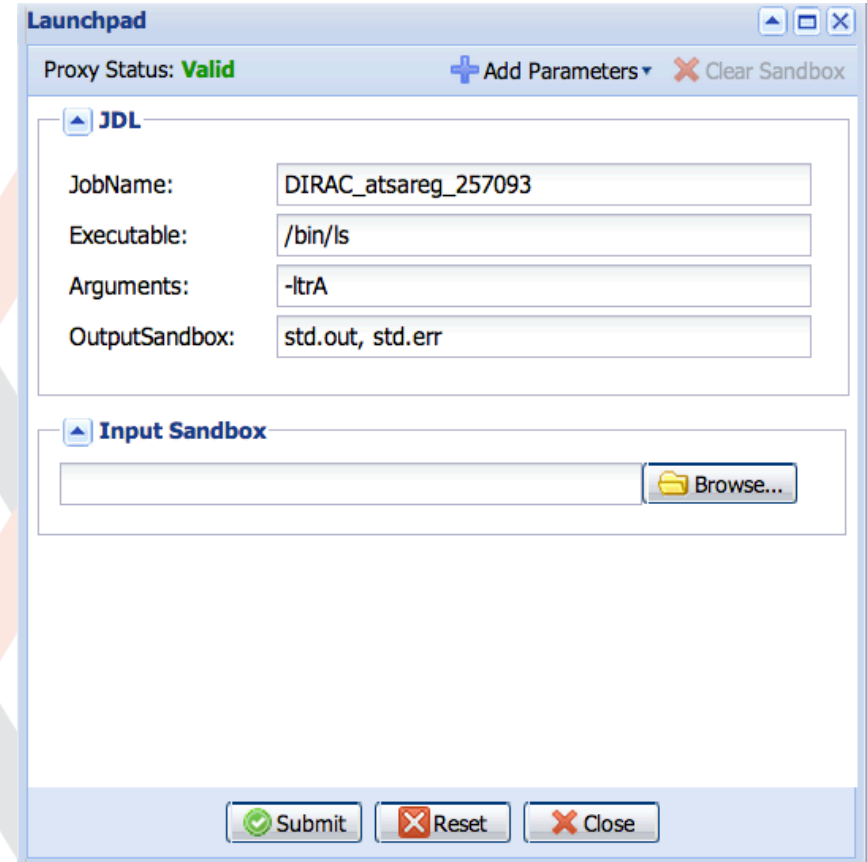
## Input Sandbox

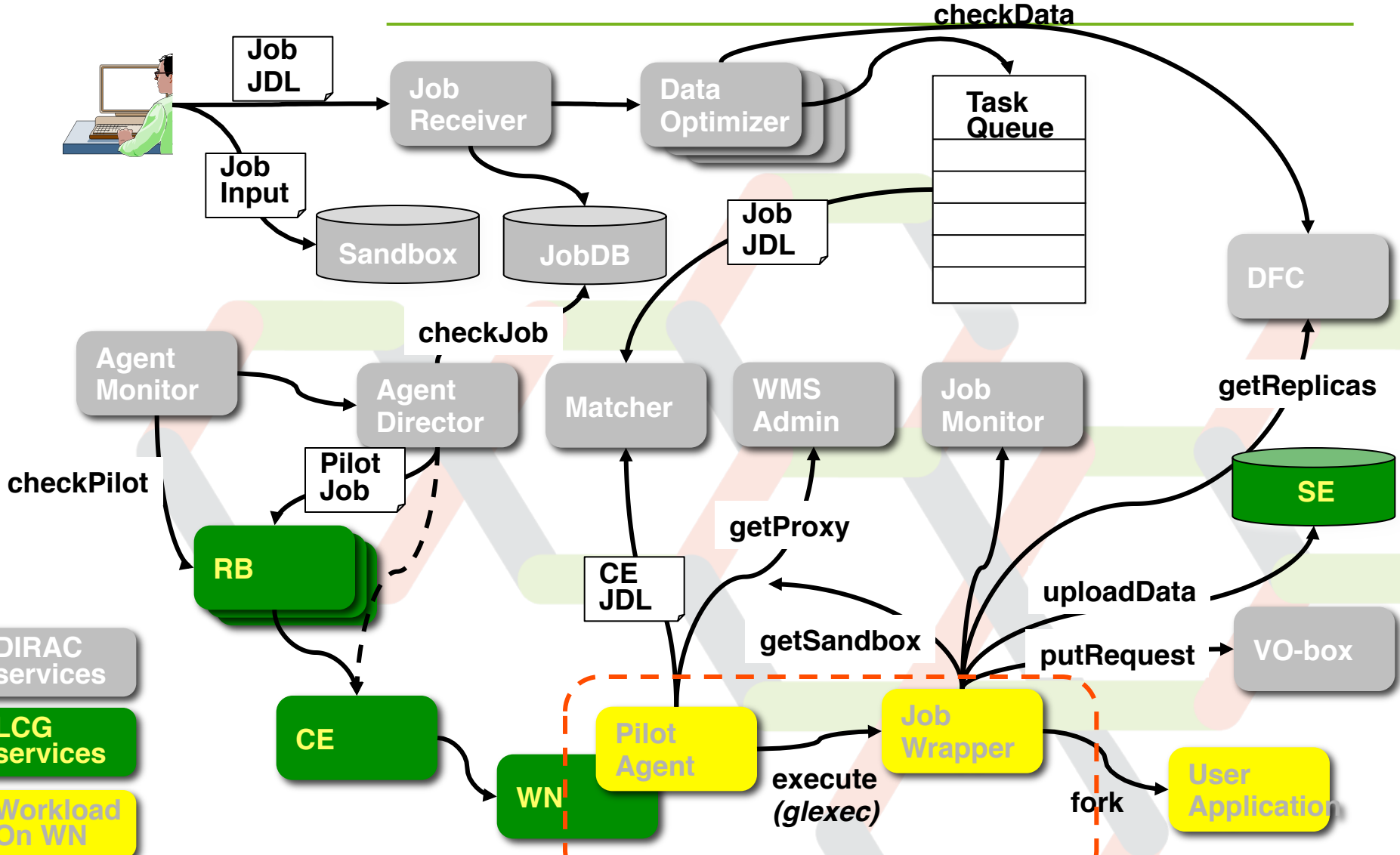
Upload local files

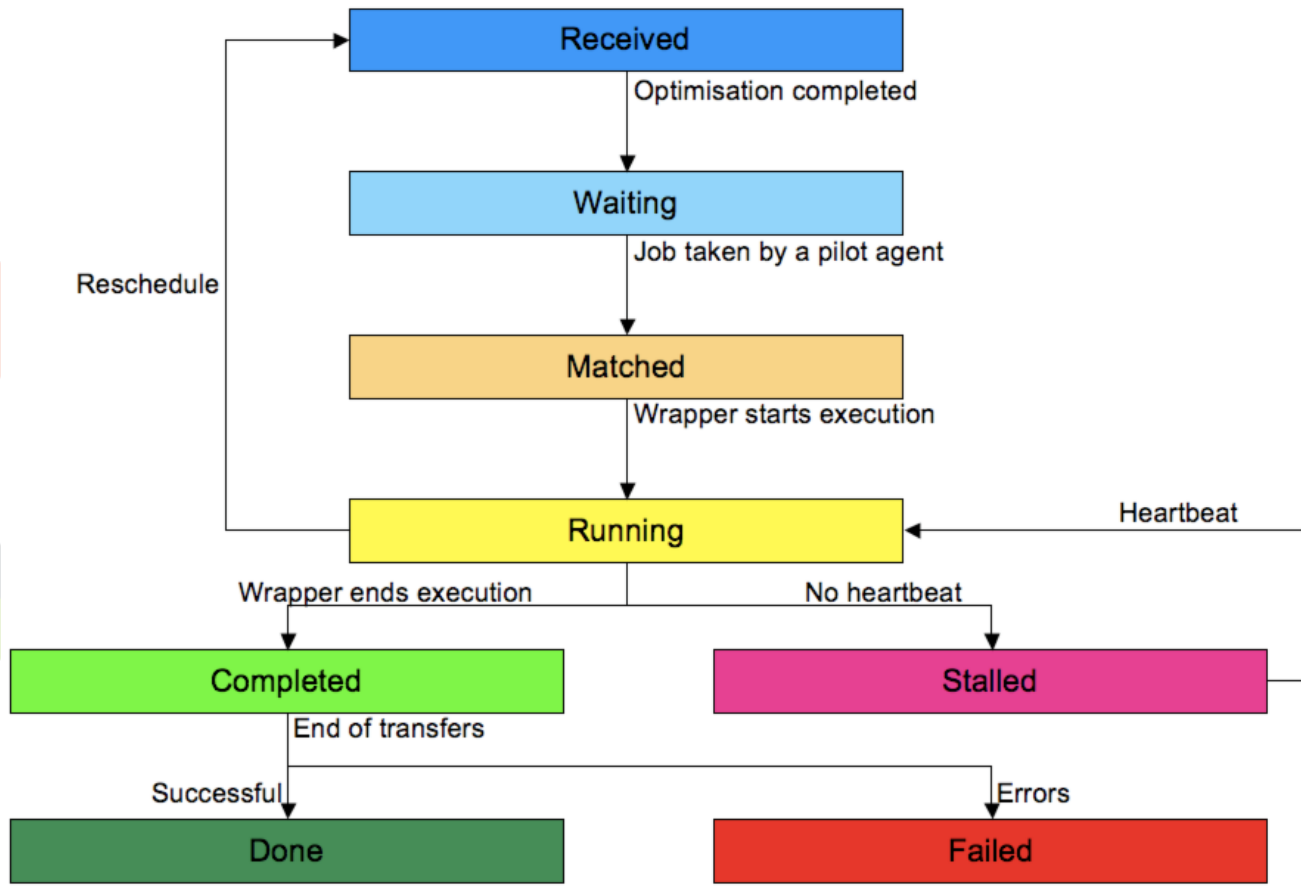
## Simple application

Mostly for demonstration purposes

Evolving into a more versatile tool







## Job Monitoring page

Everything you need to know about your jobs

Use *Help* button for detailed explanations

## Job Menu

Job info

Actions

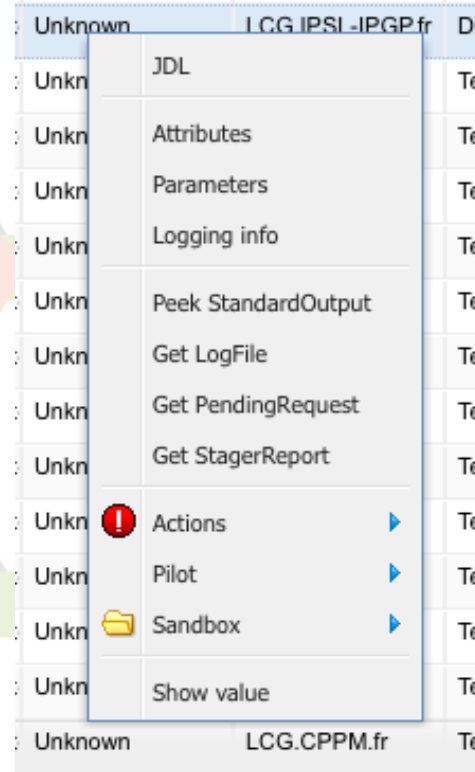
▶ Reschedule, delete, kill

Pilot output access

Useful for debugging

Sandbox download

## Job selections



## 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