

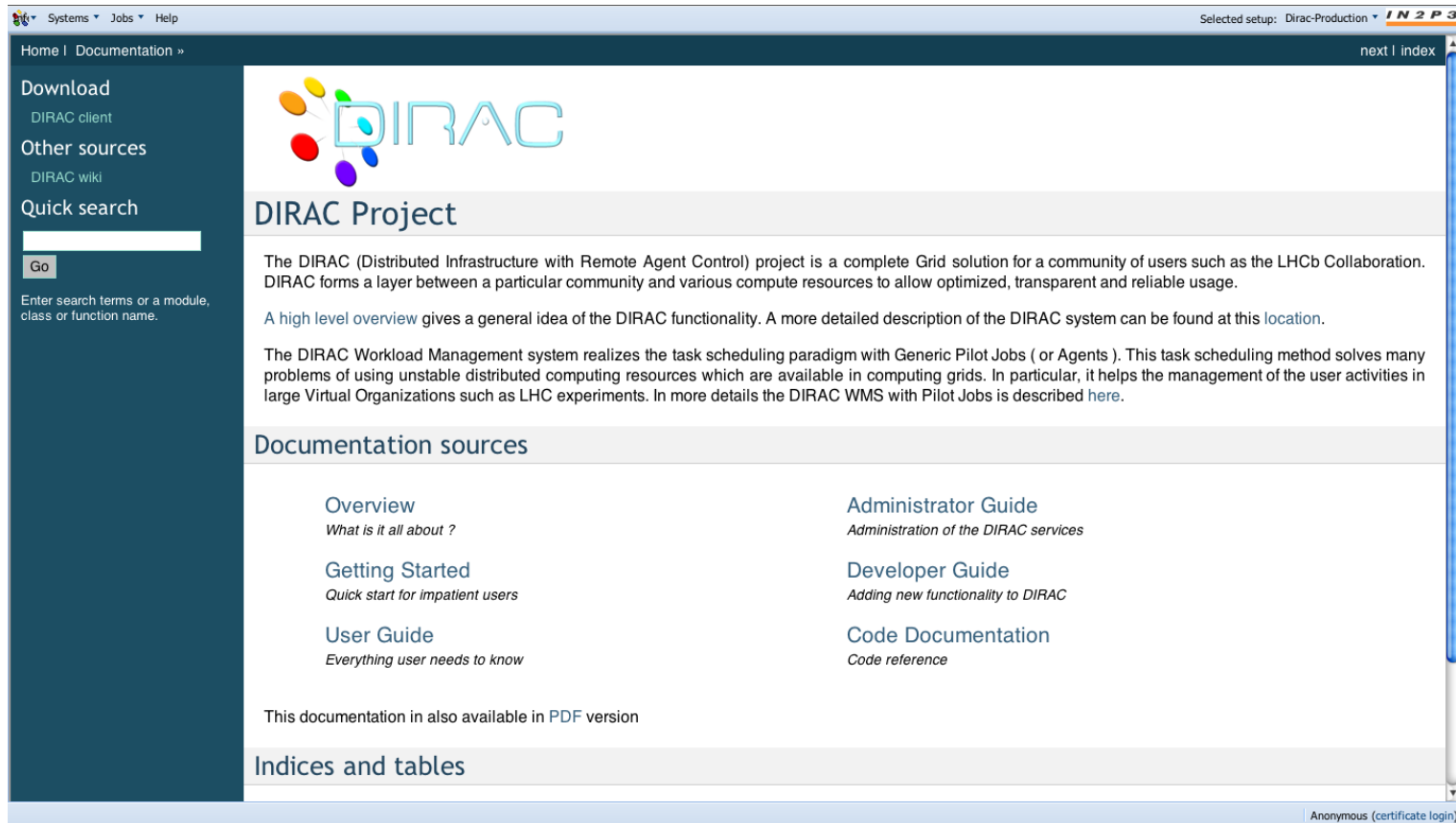


# Getting started

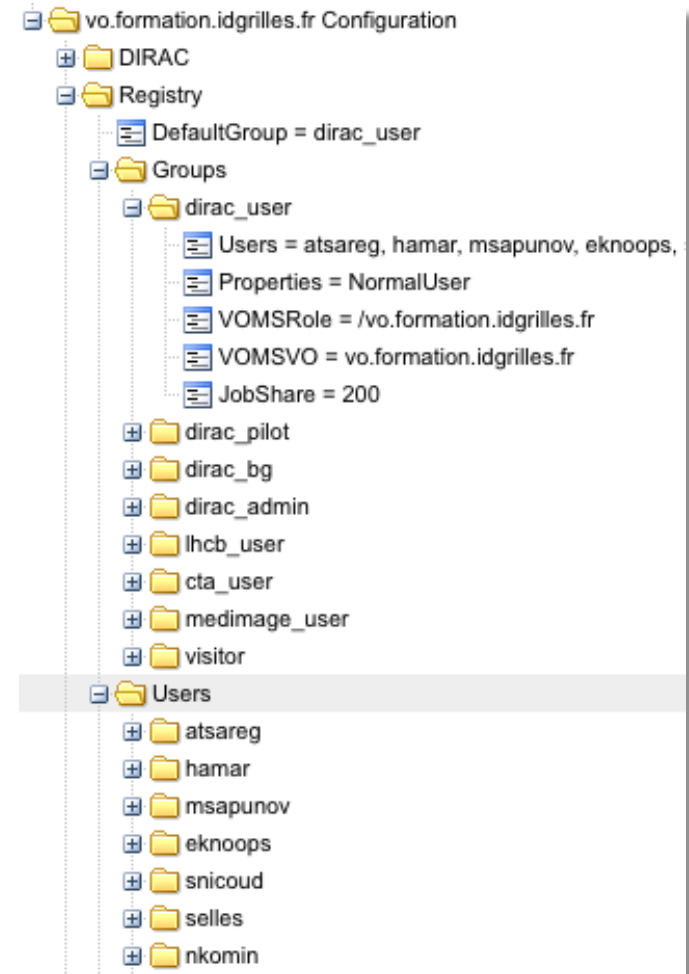
DIRAC Project

- ▶ **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

A screenshot of a web browser displaying the DIRAC Project website. The browser's address bar shows 'Selected setup: Dirac-Production IN2P3'. The website has a dark blue sidebar on the left with navigation links: 'Home | Documentation', 'Download' (with 'DIRAC client' below it), 'Other sources' (with 'DIRAC wiki' below it), and 'Quick search' with a search input field and a 'Go' button. The main content area features the DIRAC logo at the top, followed by the heading 'DIRAC Project'. Below this is a paragraph describing the project as a complete Grid solution for communities like the LHCb Collaboration. A second paragraph offers a high-level overview and a link to a more detailed description. A third paragraph explains the DIRAC Workload Management system and its task scheduling paradigm. Below the text is a section titled 'Documentation sources' containing six links: 'Overview' (What is it all about?), 'Getting Started' (Quick start for impatient users), 'User Guide' (Everything user needs to know), 'Administrator Guide' (Administration of the DIRAC services), 'Developer Guide' (Adding new functionality to DIRAC), and 'Code Documentation' (Code reference). At the bottom of this section, it states 'This documentation is also available in PDF version'. The footer of the page includes 'Indices and tables' and 'Anonymous (certificate login)'.

- ▶ 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



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

A screenshot of a web browser window titled 'Proxy upload'. The window contains a form with the following fields: 'Certificate:' with a 'Browse...' button; 'Input password for' section with 'p12 certificate:' and 'personal key:' fields. Below the form is a disclaimer: '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 dirac-proxy-init -UP'. At the bottom are three buttons: 'Submit' (green checkmark), 'Reset' (red X), and 'Close' (red X).

Proxy upload

Certificate:

**Input password for**

p12 certificate:

personal key:

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**  
**dirac-proxy-init -UP**

- ▶ **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://volcd01.cern.ch>
  - ▶ 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



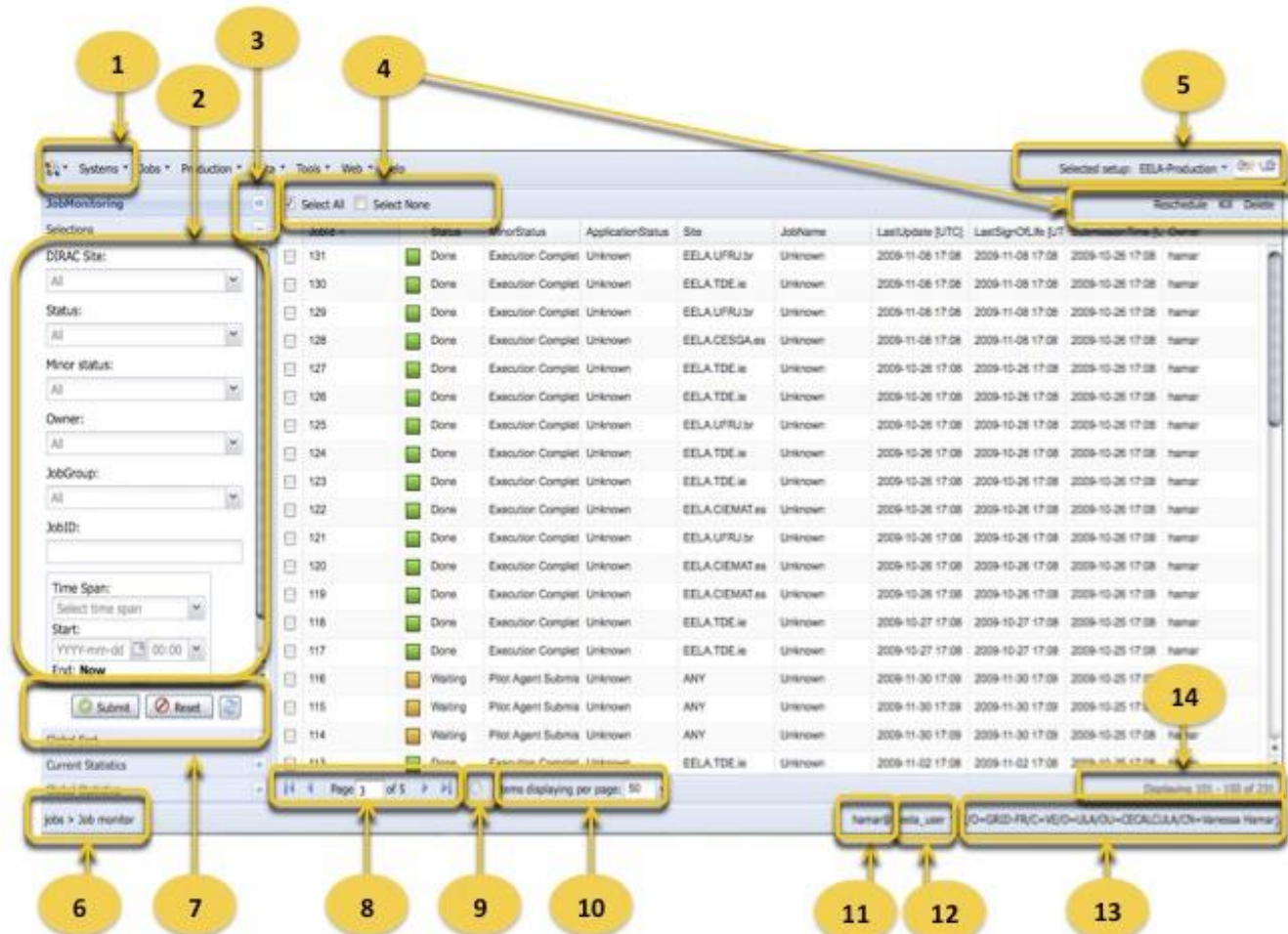
# Loading certificate into the browser

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- ▶ 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

- ▶ **Job submission**
  - ▶ Demonstrator
  
- ▶ **Job Monitoring**
  - ▶ Job status, access to the results
  
- ▶ **Data discovery**
  - ▶ E.g. LHCb Bookkeeping database interface
  - ▶ Generic Catalog Browser to come
  
- ▶ **Administrative tasks**
  - ▶ Configuration management
  - ▶ Users and groups, community policies
  - ▶ Accounting, services monitoring
  
- ▶ **Specific application Web Portals can be derived**
  - ▶ Community Application Servers
    - ▶ All the grid computational tasks steered on the web
    - ▶ E.g. LHCb Production Management System

# Web Portal: general layout

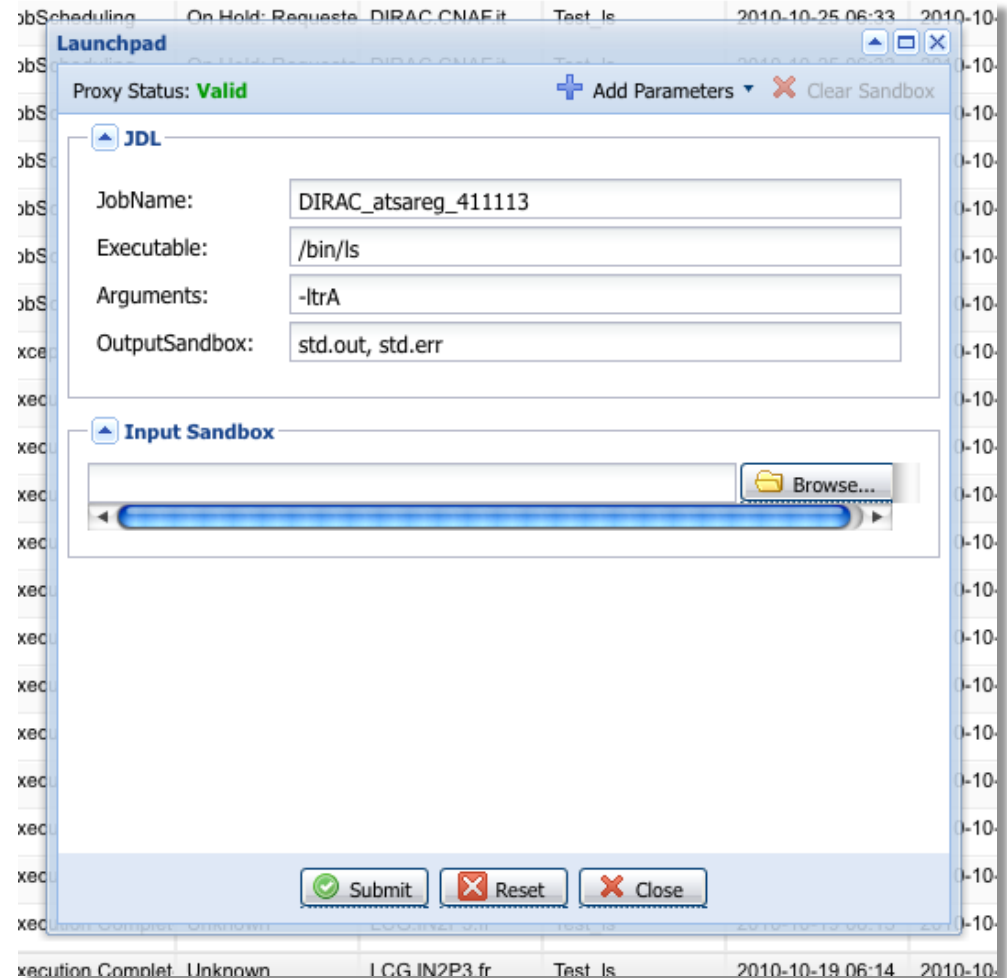


The screenshot shows the DIRAC Job Monitoring web portal interface. The main content is a table of job records with columns for JobID, Status, MinorStatus, ApplicationStatus, Site, JobName, LastUpdate [UTC], LastSignOff [UTC], and Owner. The interface includes a navigation menu at the top, a filter sidebar on the left, and a control panel at the bottom. Numbered callouts (1-14) point to specific UI elements:

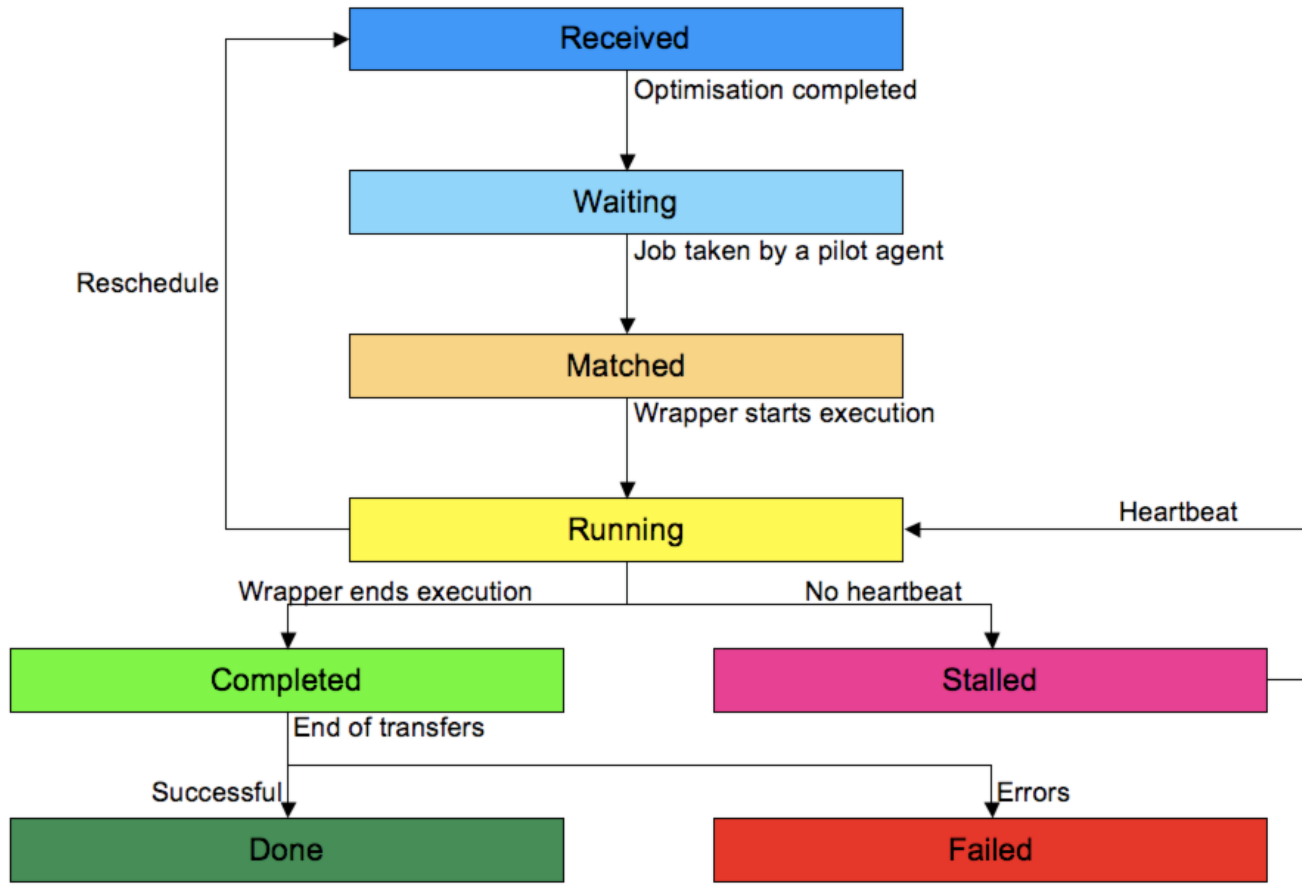
- 1: Navigation menu (Systems, Jobs, Production, etc.)
- 2: Filter sidebar (DIRAC Site, Status, Minor status, Owner, JobGroup, JobID)
- 3: Filter sidebar (Time Span, Start, From)
- 4: Filter sidebar (Submit, Reset buttons)
- 5: Selected setup: EELA-Production and user ID
- 6: jobs > Job monitor link
- 7: Current Statistics section
- 8: Page navigation (Page 3 of 5)
- 9: Items displaying per page: 50
- 10: Filter sidebar (Submit, Reset buttons)
- 11: User name: hemanth
- 12: User role: eela\_user
- 13: User email: IO-GRID-FR/C-HE/O-USA/OJ-CECAL/JAA/OJ-Wanessa.Hemanth
- 14: Job ID: 114

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.

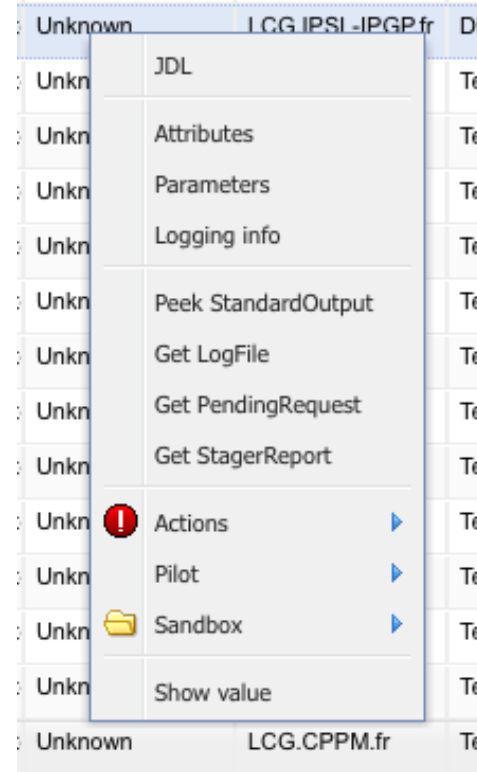
- ▶ **Launchpad applet**
  - ▶ Jobs > JobMonitoring > Tools
- ▶ Job submission with the real owner credentials
- ▶ Job description
  - ▶ Executable, arguments
  - ▶ Sandboxes
  - ▶ Input/Output data
  - ▶ Extra parameters
- ▶ **Input Sandbox**
  - ▶ Upload local files
- ▶ **Simple application**
  - ▶ Mostly for demonstration purposes







- ▶ 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