

# DIRAC Web 4.0

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- 3 Why web 4.0?
  - Current limitations
- 4 Web 4.0
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- It provides the facility to develop, manage and test web applications.
- It provides a complex web user interface, which hides the complexity of the DIRAC system.
- Concepts:
  - User friendly
  - Fast and reliable
  - Customised web applications.
  - Browser independence; supported browsers: Safari, Chrome, Firefox, etc.
  - Limited access by anonymous user.
  - Application/desktop sharing.
- We distinguish between **application**, **desktop**, **state** and **theme**.

# Application

- It is a web page used to monitor and interact with DIRAC components, monitoring and controlling the underlying computing resources, as well as the DIRAC system.

The screenshot displays the DIRAC Job Monitor web application. The interface is divided into several sections:

- Navigation Menu (Left):** A vertical list of application components, including Desktop Applications, Public State Manager, Job Monitor (highlighted with a red circle), Job Monitor, Activity Monitor, Accounting, Configuration Manager, Registry Manager, File Catalog, System Administration, Activity Monitor, Transformation Monitor, Request Monitor, Pilot Summary, Resource Summary, Site Summary, Proxy Manager, Component History, Job Summary, Simple Accounting, Bookkeeping Browser, BookkeepingSimDescription, RAW Integrity Monitor, Step Manager, Production Request, and State Occupant.
- Search and Filter Panel (Top Left):** A panel for selecting and filtering jobs. It includes fields for Site (LCG.CERN.ch), Status (Running), Minor Status, Application Status, Owner, OwnerGroup, Job Group, and Job Type. It also features a 'Time Span' dropdown set to 'Last Day' and a 'Reset Time Period' button.
- Main Table (Center/Right):** A table displaying a list of jobs. The columns are: JobId, Status, Minor, Application, Status, Site, JobName, LastUpdate(UTC), LastSyncCPLFile(UTC), and Submission. The table shows various jobs in different states (Running, Unknown, Executing) across different sites (LCG.CERN.ch).

# Desktop

- It is a container of web applications. Each web application is assigned to a desktop. It is the working environment.

The screenshot displays the DIRAC Job Monitor web application. The interface is divided into several sections:

- Sidebar (Left):** Contains navigation options such as 'Recruit Monitor', 'Pilot Summary', 'Resource Summary', 'Site Summary', 'Proxy Manager', 'Component History', 'Job Summary', 'Simple Accounting', 'Bookkeeping Browser', 'BookkeepingDescription', 'RAW Integrity Monitor', 'Step Manager', 'Production Request', 'Space Occupant', 'Downtimes', 'OidPortal', 'Help', 'DIRAC', and 'My Desktops'. The 'My Desktops' section is circled in red, showing 'Default' as the selected desktop.
- Control Panel (Middle-Left):** Includes filters for 'Site' (set to LCG.CERN.ch), 'Status' (set to Running), 'Minor Status', 'Application Status', 'Owner', 'OwnerGroup', 'Job Group', 'Job Type', 'Time Span' (set to Last Day), and 'From'/'To' date pickers. A 'Reset Time Panel' button is also present.
- Main Table (Right):** Displays a list of jobs with columns: JobID, Status, Minor, ApplicationStatus, Site, JobName, LastUpdate[UTC], LastSignOff[UTC], and Submission. The table shows various jobs in 'Running' status across different sites like LCG.CERN.ch.
- Bottom Navigation:** Shows 'Default', 'GEOC', and 'Shifter\_Overview' as active desktops.

# State

- It is the actual status of an application or a desktop.

The screenshot displays the DIRAC Job Monitor interface. On the left is a navigation menu with categories like Desktops/Applications, Job Monitor, and System Administration. The main area shows a search filter for 'LCG.CERN.ch' and a table of jobs. A red circle highlights the 'Status' column of the table.

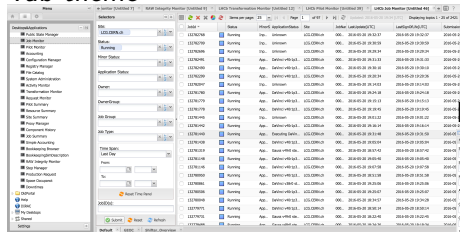
JobID	Status	Minor	Application	Site	JobName	LastUpdate(UTC)	LastSignOffLife(UTC)	Submitted
132782768	Running	Imp...	Unknown	LOG.CERN.ch	000...	2016-05-20 19:30:37	2016-05-20 19:32:37	2016-05-20
132782769	Running	Imp...	Unknown	LOG.CERN.ch	000...	2016-05-20 19:30:39	2016-05-20 19:30:39	2016-05-20
132782696	Running	Imp...	Unknown	LOG.CERN.ch	000...	2016-05-20 19:29:34	2016-05-20 19:29:34	2016-05-20
132782491	Running	App...	DeVinci v40r.tp3...	LOG.CERN.ch	000...	2016-05-20 19:31:33	2016-05-20 19:31:33	2016-05-20
132782490	Running	App...	DeVinci v40r.tp3...	LOG.CERN.ch	000...	2016-05-20 19:30:10	2016-05-20 19:30:10	2016-05-20
132782299	Running	App...	DeVinci v40r.tp3...	LOG.CERN.ch	000...	2016-05-20 19:20:34	2016-05-20 19:20:34	2016-05-20
132782047	Running	Imp...	Unknown	LOG.CERN.ch	000...	2016-05-20 19:14:03	2016-05-20 19:14:03	2016-05-20
132781780	Running	App...	DeVinci v40r.tp3...	LOG.CERN.ch	000...	2016-05-20 19:24:18	2016-05-20 19:24:18	2016-05-20
132781779	Running	App...	DeVinci v40r.tp3...	LOG.CERN.ch	000...	2016-05-20 19:15:13	2016-05-20 19:15:13	2016-05-20
132781778	Running	App...	DeVinci v40r.tp3...	LOG.CERN.ch	000...	2016-05-20 19:19:45	2016-05-20 19:19:45	2016-05-20
132781445	Running	Imp...	Unknown	LOG.CERN.ch	000...	2016-05-20 19:01:22	2016-05-20 19:01:22	2016-05-20
132781442	Running	App...	DeVinci v40r.tp3...	LOG.CERN.ch	000...	2016-05-20 19:16:14	2016-05-20 19:16:14	2016-05-20
132781440	Running	App...	Executing Davin...	LOG.CERN.ch	000...	2016-05-20 19:31:48	2016-05-20 19:31:50	2016-05-20
132781438	Running	App...	DeVinci v40r.tp3...	LOG.CERN.ch	000...	2016-05-20 19:05:04	2016-05-20 19:05:04	2016-05-20
132781319	Running	App...	Gauss v9R0 ste...	LOG.CERN.ch	000...	2016-05-20 18:57:42	2016-05-20 18:57:42	2016-05-20
132781148	Running	App...	DeVinci v40r.tp3...	LOG.CERN.ch	000...	2016-05-20 19:05:40	2016-05-20 19:05:40	2016-05-20
132781146	Running	App...	DeVinci v40r.tp3...	LOG.CERN.ch	000...	2016-05-20 19:07:58	2016-05-20 19:07:58	2016-05-20
132780950	Running	App...	DeVinci v40r.tp3...	LOG.CERN.ch	000...	2016-05-20 18:51:58	2016-05-20 18:51:58	2016-05-20
132780061	Running	App...	DeVinci v3R0 st...	LOG.CERN.ch	000...	2016-05-20 19:25:06	2016-05-20 19:25:06	2016-05-20
132780056	Running	App...	DeVinci v40r.tp3...	LOG.CERN.ch	000...	2016-05-20 19:25:07	2016-05-20 19:25:07	2016-05-20
132780048	Running	App...	DeVinci v40r.tp3...	LOG.CERN.ch	000...	2016-05-20 18:34:57	2016-05-20 19:34:28	2016-05-20
132779771	Running	App...	DeVinci v40r.tp3...	LOG.CERN.ch	000...	2016-05-20 18:50:14	2016-05-20 18:50:14	2016-05-20
132779731	Running	App...	Gauss v9R0 ste...	LOG.CERN.ch	000...	2016-05-20 18:22:40	2016-05-20 19:22:45	2016-05-20
132770488	Running	App...	Gauss v9R0 ste...	LOG.CERN.ch	000...	2016-05-20 18:34:34	2016-05-20 19:18:34	2016-05-20

Outline  
DIRAC Web framework  
Technology  
Why web 4.0?  
Web 4.0  
How to migrate?  
Plan

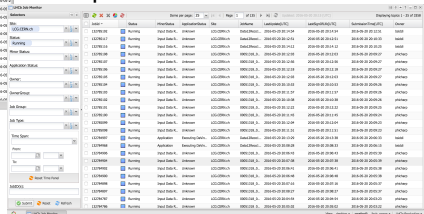
# Theme

- It is a graphical appearance of the web portal. It provides two themes: Desktop and Tab theme.

## Tab theme



## Desktop theme



- Programming languages: javascript in client side and python in server side.
- Front-end:
  - ExtJS and Google Visualization API (only one application)
- Back-end:
  - Tornado non-blocking web server and web application framework, NGINX high-performance HTTP server.

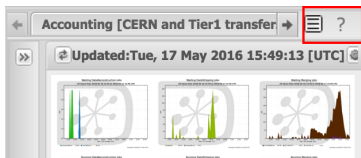


## Deployment

- It can not be fully installed using the SystemAdministrator, because it time out.
- *sencha-cmd* must be installed to the machine (It is used to compile JS)
- Each application has to be compiled, which requires enormous time
- It can happen that applications can not be opened during the installation

## Customised widgets

- customized widgets are very handful, but they are very slow.



LHCb Job Monitor

Selectors

Site: LCG.CERN.ch

Status: Running

Minor Status:

Application Status:

Owner:

OwnerGroup:

Site	Status	Minor Status	Application Status	Owner	OwnerGroup	Job Group	Job Type	Time Span
LCG.CERN.ch	Running	Running	Running	Running	Running	Running	Running	Running
	Running	Running	Running	Running	Running	Running	Running	Running
	Running	Running	Running	Running	Running	Running	Running	Running
	Running	Running	Running	Running	Running	Running	Running	Running
	Running	Running	Running	Running	Running	Running	Running	Running
	Running	Running	Running	Running	Running	Running	Running	Running
	Running	Running	Running	Running	Running	Running	Running	Running
	Running	Running	Running	Running	Running	Running	Running	Running
	Running	Running	Running	Running	Running	Running	Running	Running

## Quality of the software

- ExtJS 4 is released in 2011,
- Most of the bugs are fixed in ExtJs5 and ExtJs6
- It requires harder work for moving to the new version, if we wait too much
- benefit of the new widgets (we can drop Google Visualization API)

# What is new in Web 4.0?

- using the latest Extjs 6
- JS compilation performs in the tar creation
- using standard widgets

The screenshot displays the DIRAC Web framework interface. On the left is a navigation menu with categories like Desktops & Applications, Web, Tools, and Applications. The main content area shows the 'LHCb Job Monitor' page with a table of job data. The table has columns for JobId, Status, Application, Site, LastUpdate(UTC), LastSignOffLife(UTC), and Subr. The status of jobs is indicated by green 'Done' icons or orange 'Waiting' icons. The interface includes search filters for Site, Status, Minor Status, Application Status, Owner, OwnerGroup, Job Group, and Job Type. At the bottom, there are buttons for Submit, Reset, and Refresh.

JobId	Status	Application	Site	LastUpdate(UTC)	LastSignOffLife(UTC)	Subr
1320023	Done	Job Finishe...	LCG.NCBJ pi	2018-05-03 12:50:12	2018-05-03 12:50:12	2018
1320022	Done	Job Finishe...	LCG.NCBJ pi	2018-05-03 12:58:21	2018-05-03 12:58:21	2018
1320021	Done	Job Finishe...	LCG.NCBJ pi	2018-05-03 12:50:04	2018-05-03 12:50:04	2018
1320020	Done	Job Finishe...	LCG.NCBJ pi	2018-05-03 12:50:48	2018-05-03 12:50:48	2018
1320019	Done	Job Finishe...	LCG.NCBJ pi	2018-05-03 12:58:15	2018-05-03 12:58:15	2018
1320018	Done	Job Finishe...	LCG.NCBJ pi	2018-05-03 12:50:12	2018-05-03 12:50:12	2018
1320017	Done	Job Finishe...	LCG.NCBJ pi	2018-05-03 12:50:05	2018-05-03 12:50:05	2018
1320016	Done	System Admin...	LCG.NCBJ pi	2018-05-03 12:55:49	2018-05-03 12:55:49	2018
1320015	Done	Job Finishe...	LCG.NCBJ pi	2018-05-03 12:50:17	2018-05-03 12:50:17	2018
1320014	Done	Job Finishe...	LCG.NCBJ pi	2018-05-03 12:56:48	2018-05-03 12:56:48	2018
1319959	Waiting	Unknown	BOINC Wo...	2018-04-27 14:28:44	2018-04-27 14:28:44	2018
1319924	Waiting	Unknown	BOINC Wo...	2018-04-27 12:28:45	2018-04-27 12:28:45	2018
1319889	Done	Job Finishe...	LCG.NCBJ pi	2018-04-19 17:21:11	2018-04-19 17:21:11	2018
1319888	Done	Job Finishe...	LCG.NCBJ pi	2018-04-19 17:31:17	2018-04-19 17:31:17	2018
1319887	Done	Job Finishe...	LCG.NCBJ pi	2018-04-19 17:24:06	2018-04-19 17:24:06	2018
1319886	Done	Job Finishe...	LCG.NCBJ pi	2018-04-19 17:25:19	2018-04-19 17:25:19	2018
1319885	Done	Job Finishe...	LCG.NCBJ pi	2018-04-19 17:19:28	2018-04-19 17:19:28	2018
1319884	Done	Job Finishe...	LCG.NCBJ pi	2018-04-19 17:20:50	2018-04-19 17:20:50	2018

# What is new in Web 4.0?

- almost all bugs and new requests are implemented

Filters	Labels	Milestones	New Issue			
13 Open 118 Closed	Author	Labels	Projects	Milestones	Assignee	Sort
<input type="checkbox"/> Save the order of the columns in each Grid panel	#276 opened on 9 Aug 2017 by zmathe	v4.0				
<input type="checkbox"/> See the configuration changes before committing	#272 opened on 15 Mar 2017 by chaos	v4.0	waiting for release			1
<input type="checkbox"/> Colors in Job Monitor pie charts	#269 opened on 27 Jan 2017 by zmathe	v4.0	waiting for release			3
<input type="checkbox"/> SystemAdministrator should directly query ComponentMonitoring	#252 opened on 15 Aug 2016 by andreaslar					2
<input type="checkbox"/> Avoid displaying "Passwords" in ConfigurationManager web app	#244 opened on 13 Jul 2016 by fstraghi	v3.1/p2	waiting for release			1
<input type="checkbox"/> Menu refresh	#241 opened on 20 Jun 2016 by zmathe	v2.1/p1				
<input type="checkbox"/> update Extjs4 to Extjs 6	#239 opened on 25 May 2016 by zmathe	v4.0	waiting for release			
<input type="checkbox"/> Minor inconveniences	#234 opened on 28 Apr 2016 by andreaslar	7 of 7	waiting for release			6
<input type="checkbox"/> Sytem Administration App Issues	#230 opened on 16 Mar 2016 by andreaslar	6 of 6	enhancement waiting for release			3
<input type="checkbox"/> Side panel folders collapsed and expanded	#229 opened on 16 Feb 2016 by petriim	v2.1	enhancement			
<input type="checkbox"/> Custom background image, favicon and waiting animation	#228 opened on 16 Feb 2016 by petriim	v3.1/p4	waiting for release			4
<input type="checkbox"/> RSS "resources" page: ban all SEs of a site	#177 opened on 30 Jan 2015 by fstraghi		enhancement			
<input type="checkbox"/> FileCatalog	#122 opened on 2 Feb 2014 by graclari	v4.0	Understand			

- DIRAC installations:
  - without Web extension will be transparent
  - with Web extension may require modification: method names are changed or new properties are introduced
- recommendation for a DIRAC installation with Web extensions:
  - update your Web extension to ExtJs6 as soon as possible based on <https://github.com/DIRACGrid/WebAppDIRAC/pull/282>
  - check LHCbWebAppDIRAC extension: [https://gitlab.cern.ch/lhcb-dirac/LHCbWebDIRAC/merge\\_requests/30](https://gitlab.cern.ch/lhcb-dirac/LHCbWebDIRAC/merge_requests/30)
  - follow WebAppDIRAC developer guide

- WebAppDIRAC v4r0, will be part of V6r21
- testing, testing, testing
- release this year (Is it really VERY optimistic?)

Thank you! Questions?