

# Servicios de computación Área Grid&Cloud Computing

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# Proyectos



## ■ SpanishNGI/Ibergrid

- Iniciativa conjunta Grid Nacional española y portuguesa.  
<http://www.e-ciencia.es/ngi/>
- Conforman una infraestructura grid conjunta de mayor peso específico frente a Europa.
- Recursos computacionales y almacenamiento grid disponibles para todas las disciplinas investigadoras agrupadas en VOs.

Virtual Organisation	Scientific Discipline
<a href="http://phys.vo.ibergrid.eu">phys.vo.ibergrid.eu</a>	Physics and Space Sciences
<a href="http://life.vo.ibergrid.eu">life.vo.ibergrid.eu</a>	Life Sciences
<a href="http://eng.vo.ibergrid.eu">eng.vo.ibergrid.eu</a>	Engineering
<a href="http://ict.vo.ibergrid.eu">ict.vo.ibergrid.eu</a>	Information and Communication Technologies
<a href="http://earth.vo.ibergrid.eu">earth.vo.ibergrid.eu</a>	Earth Sciences
<a href="http://social.vo.ibergrid.eu">social.vo.ibergrid.eu</a>	Social Sciences
<a href="http://chem.vo.ibergrid.eu">chem.vo.ibergrid.eu</a>	Chemistry and Materials Science

# Proyectos



## ■ EGI-InSPIRE (2010-2014)

- Mayor infraestructura computacional distribuida
- Más de 50 instituciones de más de 40 países
- Más de 400000 cores de cálculo y más de 200 Pbytes de almacenamiento
- BIFI lidera la VO de fusion a nivel técnico albergando los servicios centrales de gestión

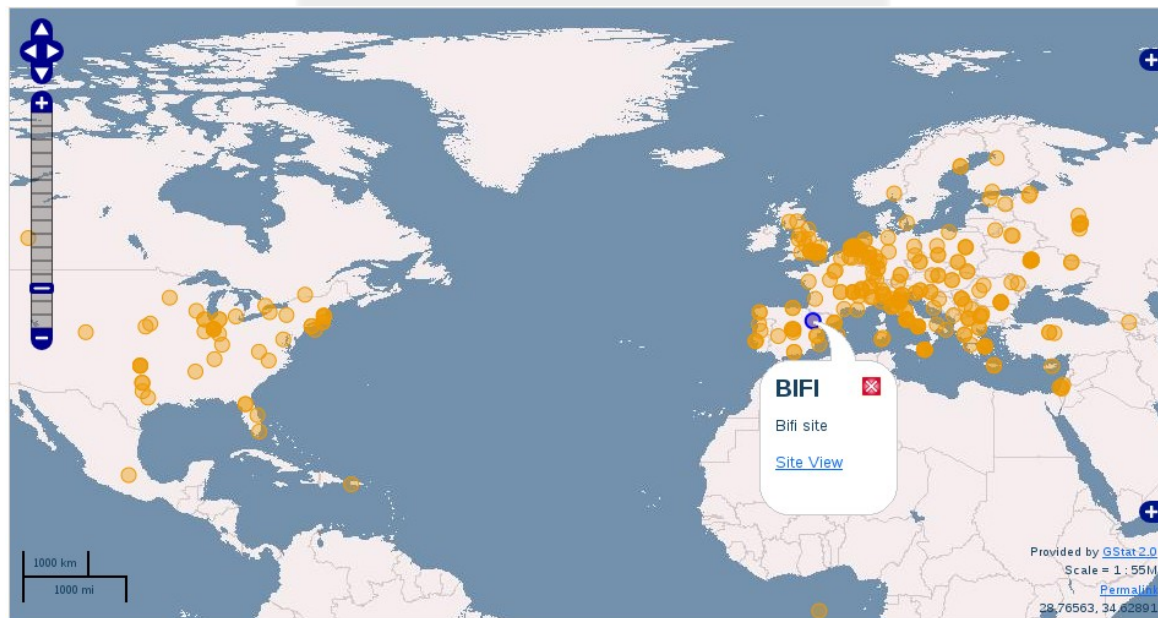
<http://fusion.bifi.unizar.es/>

( VOMS, LFC, WMS... )

CIEMAT responsable

científico

( Francisco Castejón)



# Proyectos

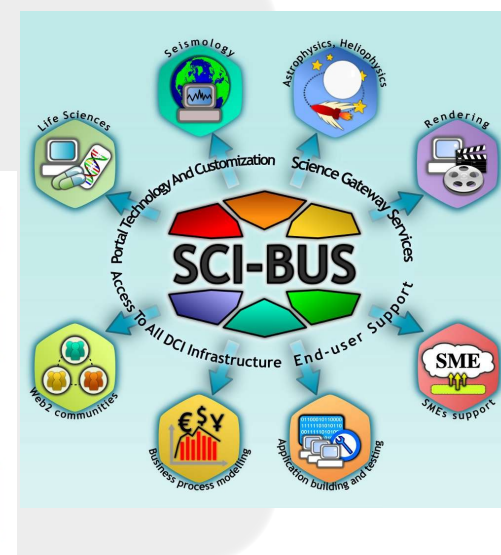
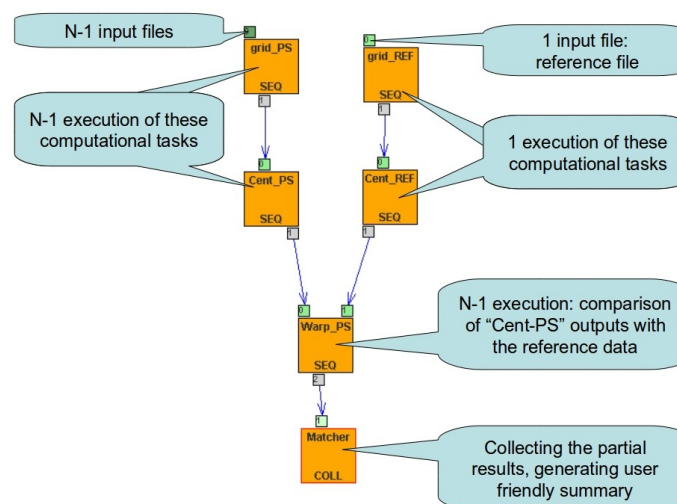


## ■ SCI-BUS (2011-2014) <http://www.sci-bus.eu/>

- Scientific gateway Based User Support
- Despliegue de portales web de acceso a infraestructuras de computación distribuidas (DCIs) service grid, desktop grid, clusters, cloud

■ Soporte a cualquier comunidad de usuarios científicos

■ Soporte para ejecución de workflows



# Proyectos

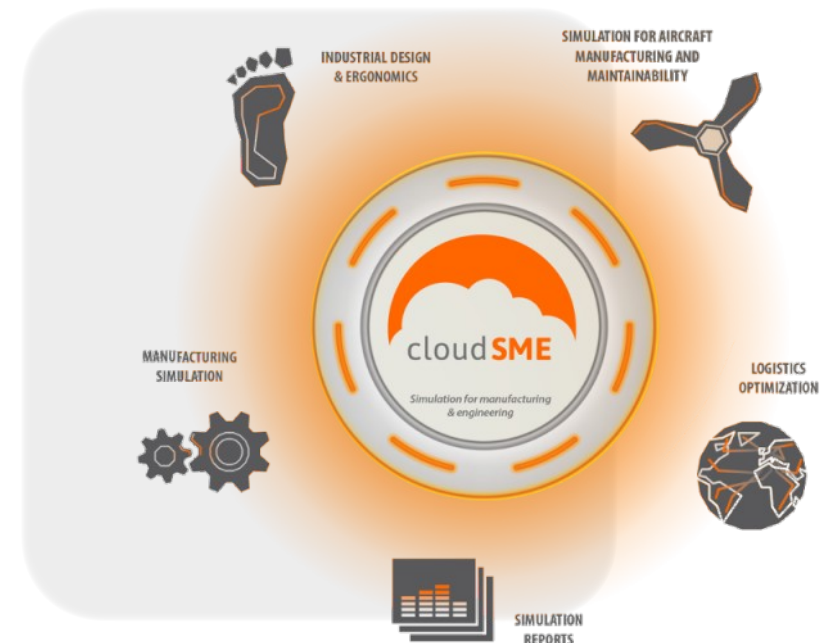


Simulation for  
manufacturing & engineering



## ■ CloudSME (2013-2015) <http://cloudsme.eu>

- El proyecto CloudSME desarrolla una plataforma escalable basada en cloud que proveerá una solución one-stop-shop
- Dedicada a simulaciones de pequeña y gran escala
- SMEs del campo de ingeniería y manufactura
- La plataforma de simulación de CloudSME ofrecerá SaaS y PaaS Utilizando WS-PGRADE y CloudBroker
- BIFI líder de difusión y proveedor de recursos cloud





# Infraestructuras computacionales



## ■ AraGrid

- Grid regional ( BIFI, Facultad de Ciencias, EPSH y EUPT)  
Gestionado completamente por el BIFI.
- Middleware gLite UMD.
  - SO Scientific Linux 5/6
- ~ 2000 cores de cálculo
- ~ 200 TB distribuidos
- 2GB RAM/core ~ 4TB RAM total
- Como acceder a AraGrid:  
[http://www.aragrid.es/wiki/index.php/Soporte\\_usuarios](http://www.aragrid.es/wiki/index.php/Soporte_usuarios)
- Directamente contactar con [grid-admin@bifi.es](mailto:grid-admin@bifi.es)

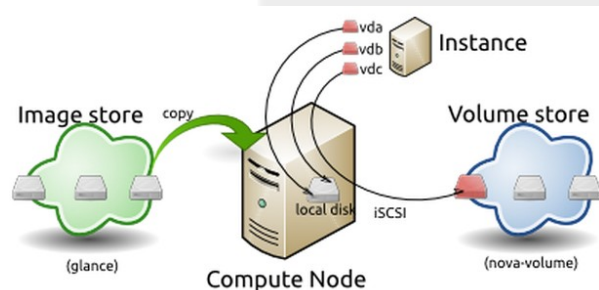
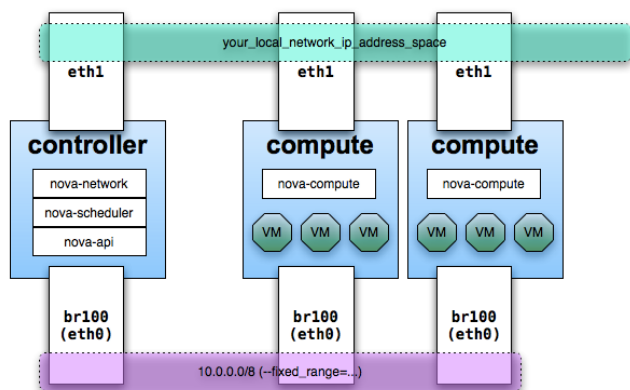


# Infraestructuras computacionales



## ■ Cloud OpenStack IaaS

- Testbed 240 cores ( Folsom ) dando servicio a SCI-BUS (Hadoop MapReduce Gateway)
- Testbed 480 cores ( Grizzly ) dando servicio a CloudSME
- A disposición de pruebas y colaboraciones con empresas





# Acceso a Grid



## Ibergrid / EGI

- <http://www.es-ngi.es/>
- <http://fusion.bifi.unizar.es/>
- <http://ibergrid.lip.pt>

Virtual Organisation Scientific Discipline

phys.vo.ibergrid.eu Physics and Space

Sciences

life.vo.ibergrid.eu Life Sciences

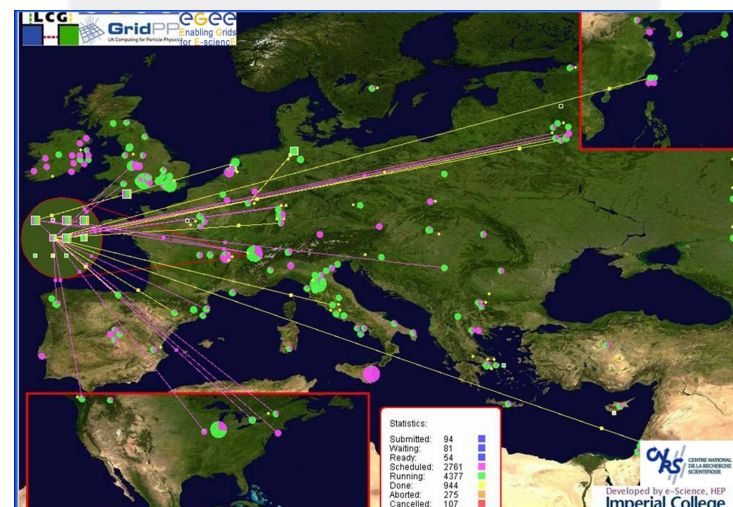
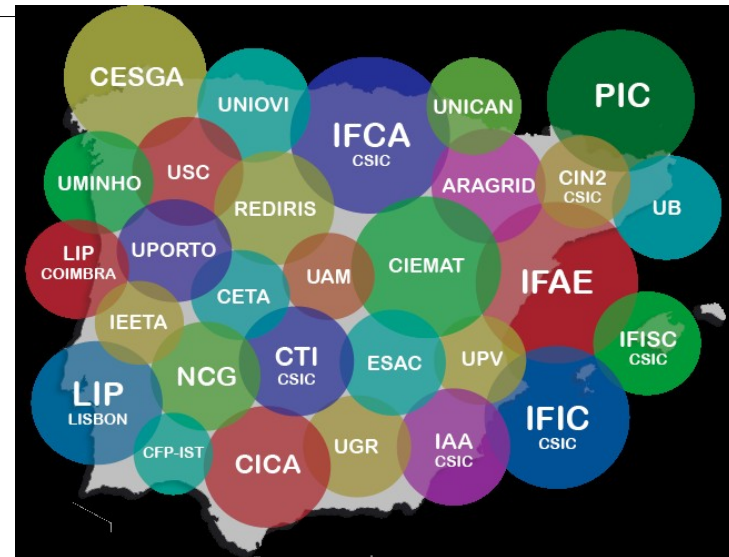
eng.vo.ibergrid.eu Engineering

ict.vo.ibergrid.eu Information and Communication Technologies

earth.vo.ibergrid.eu Earth Sciences

social.vo.ibergrid.eu Social Sciences

chem.vo.ibergrid.eu Chemistry and Materials Science

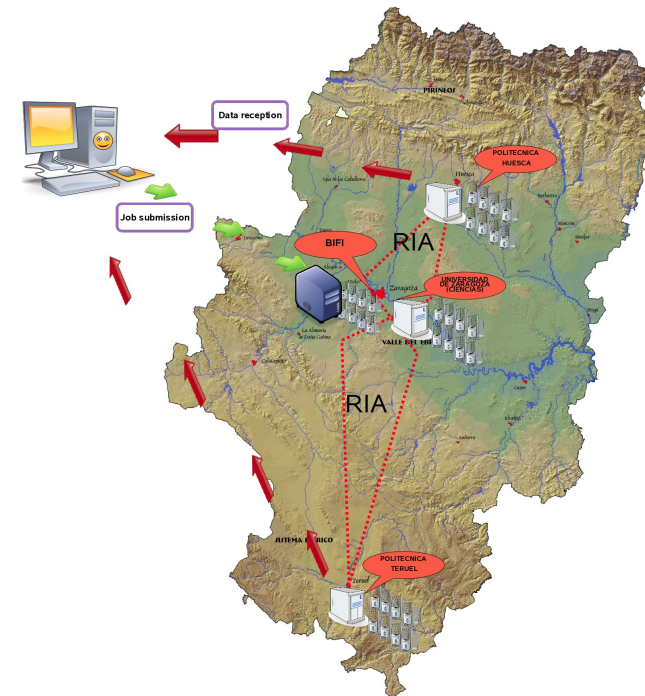
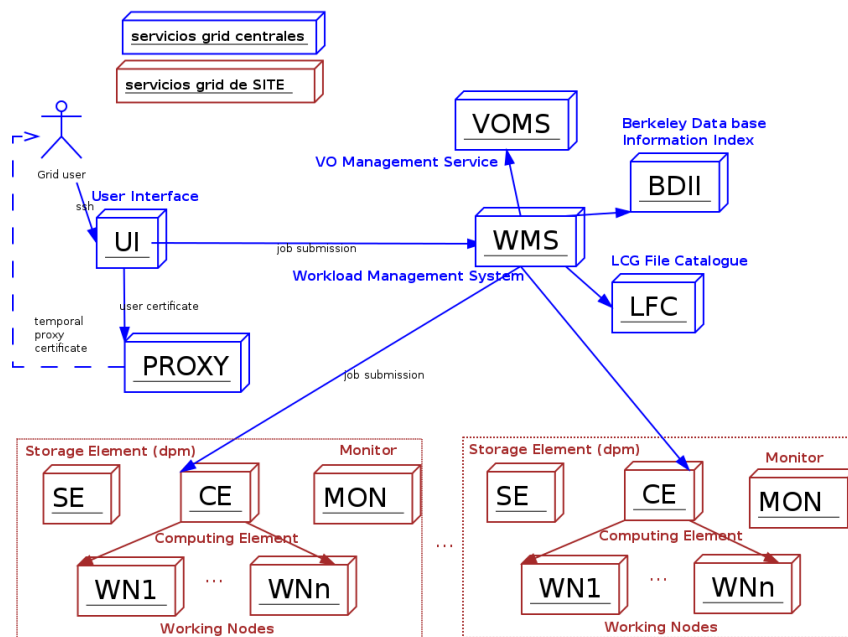


# Acceso a AraGrid



## ■ Línea de comandos

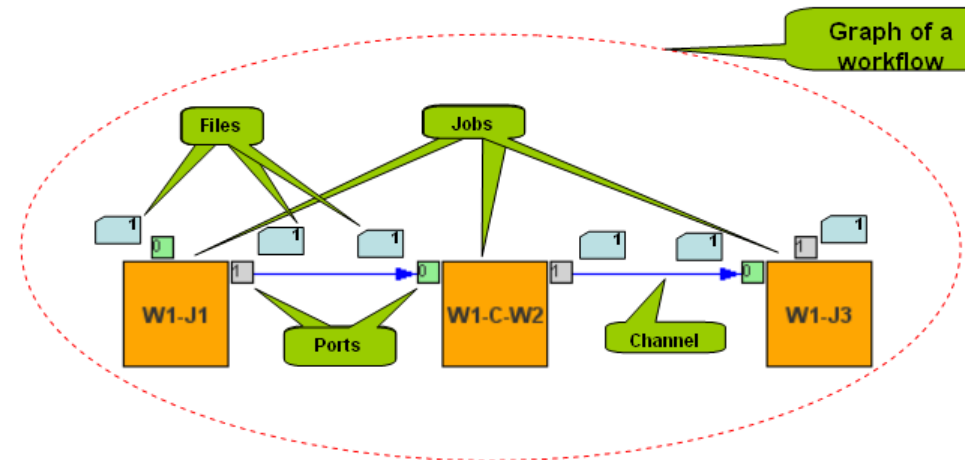
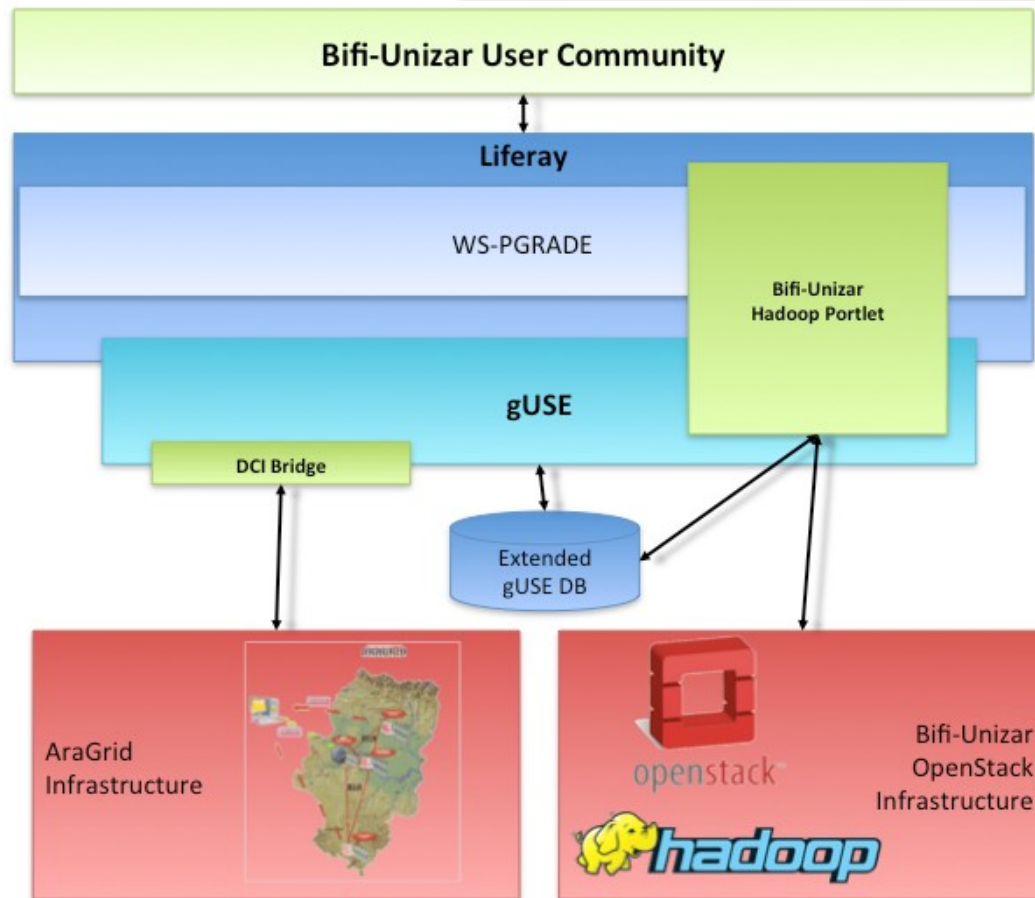
■ [http://www.aragrid.es/wiki/index.php/Soporte\\_usuarios](http://www.aragrid.es/wiki/index.php/Soporte_usuarios)



# Acceso AraGrid+Cloud



- Web interface: <http://gateway.bifi.unizar.es>



# Acceso cloud SaaS (Hadoop)



Welcome Statistics Publications Help

Gateway > Welcome

## Welcome to BIFI-Unizar portal

This is a portal developed by BIFI-UNIZAR based on WS-PGRADE and gUSE under the SCI-BUS framework project. BIFI-UNIZAR is a research institute of the University of Zaragoza that provides researches access to different computational infrastructures such as HPC, Grid, Cloud or Desktop Grids.

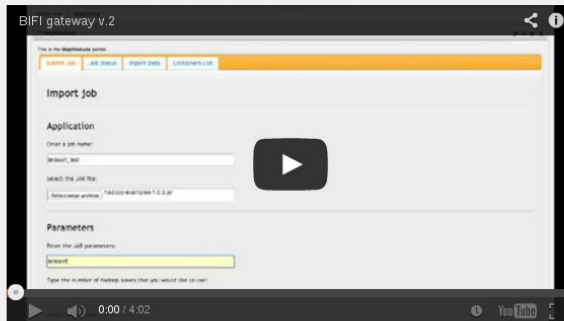
Here you can find more documentation about gUSE.

If you have any doubt you can go to the User Forum.

This portal is not oriented to any special community or research task. It's a general purpose tool for any scientific area that needs high computational power to run simulations. Distributed infrastructures are usually difficult to use for non-experienced users, because they have to use the terminal, manage advanced computing concepts and it requires the installation of additional software. Cloud also started to become more used because, besides the benefits of distributed computing, it's more flexible than Grid.

Furthermore, some of these users use Map-reduce paradigm to solve their problems, concretely they use Hadoop over Amazon. Some users demanded us this feature because although satisfied, they complained about some aspects as the price, the non availability of a development mode or non customization options. These reason made us create a gateway under SCI-BUS project that had all these features required.

This video shows a demo about how to use of the portal.



### MapReduce6.1

This is the MapReduce portlet.

[Submit Job](#) [Job Status](#) [Import Data](#) [Containers List](#)

## Import job

### Application

Enter a job name:

Select the JAR file:

No file selected.

### Parameters

Enter the JAR parameters:

Type the number of Hadoop slaves that you would like to use:

Flavor of the images to run:

### Input

Select the input type:

No file selected.



# Acceso cloud SaaS (Hadoop)



Gateway > MapReduce

### MapReduce6.1

This is the MapReduce portlet.

[Submit Job](#) [Job Status](#) [Import Data](#) [Containers List](#)

### MapReduce job status

Name	Status	Date	Size	Input	Output	Actions
vamossssss	Success	20/06/2013 16:26:41	3.12KB	<a href="#">Download</a>	<a href="#">Download</a>	<a href="#">View log</a> <a href="#">Delete</a>
job2	Success	20/06/2013 16:34:31	3.12KB	<a href="#">Download</a>	<a href="#">Download</a>	<a href="#">View log</a> <a href="#">Delete</a>
job2	Success	20/06/2013 16:34:40	3.12KB	<a href="#">Download</a>	<a href="#">Download</a>	<a href="#">View log</a> <a href="#">Delete</a>
lanzar	Success	20/06/2013 17:19:30	3.12KB	<a href="#">Download</a>	<a href="#">Download</a>	<a href="#">View log</a> <a href="#">Delete</a>
ruben	Success	20/06/2013 17:26:30	3.12KB	<a href="#">Download</a>	<a href="#">Download</a>	<a href="#">View log</a> <a href="#">Delete</a>
cloud_sme	Success	21/06/2013 11:16:26	3.12KB	<a href="#">Download</a>	<a href="#">Download</a>	<a href="#">View log</a> <a href="#">Delete</a>

### MapReduce6.1

This is the MapReduce portlet.

[Submit Job](#) [Job Status](#) [Import Data](#) [Containers List](#)

### Containers List

Container Name	Actions
isos	<a href="#">Show/Hide files</a> <a href="#">Delete Container</a>
output-25062013-154458	<a href="#">Show/Hide files</a> <a href="#">Delete Container</a>
output-25062013-173736	<a href="#">Show/Hide files</a> <a href="#">Delete Container</a>
salidaTrends	<a href="#">Show/Hide files</a> <a href="#">Delete Container</a>
trends	<a href="#">Show/Hide files</a> <a href="#">Delete Container</a>
daily_trends.py	5.87 KB Tue Jun 25 15:43:36 CEST 2013 <a href="#">Download</a> <a href="#">Delete</a>
pagecounts-20130101-000000.gz	76.38 MB Fri Jun 21 11:50:31 CEST 2013 <a href="#">Download</a> <a href="#">Delete</a>
pagecounts-20130101-010000.gz	75.97 MB Fri Jun 21 11:53:51 CEST 2013 <a href="#">Download</a> <a href="#">Delete</a>
pagecounts-20130101-020001.gz	74.25 MB Fri Jun 21 11:52:07 CEST 2013 <a href="#">Download</a> <a href="#">Delete</a>
pagecounts-20130101-040000.gz	71.52 MB Fri Jun 21 11:57:52 CEST 2013 <a href="#">Download</a> <a href="#">Delete</a>
pagecounts-20130101-090000.gz	78.03 MB Fri Jun 21 11:56:22 CEST 2013 <a href="#">Download</a> <a href="#">Delete</a>
pagecounts-20130101-130000.gz	89.37 MB Fri Jun 21 11:56:17 CEST 2013 <a href="#">Download</a> <a href="#">Delete</a>
pagecounts-20130101-210000.gz	98.03 MB Tue Jun 25 15:48:03 CEST 2013 <a href="#">Download</a> <a href="#">Delete</a>
pagecounts-20130102-010000.gz	85.12 MB Tue Jun 25 15:37:56 CEST 2013 <a href="#">Download</a> <a href="#">Delete</a>



# Acceso cloud IaaS



## ■ Horizon web interface

Instances

Logged in as: rvalles [Settings](#) [Help](#) [Sign Out](#)

[+ Launch Instance](#) [Terminate Instances](#)

<input type="checkbox"/>	Instance Name	IP Address	Size	Keypair	Status	Task	Power State	Actions
<input type="checkbox"/>	<a href="#">Windows7_Vol</a>	172.30.0.7 155.210.198.71	m1.small   2GB RAM   1 VCPU   20GB Disk	-	Active	None	Running	<a href="#">Create Snapshot</a> <a href="#">More ▾</a>
<input type="checkbox"/>	<a href="#">Test</a>	172.30.0.25 155.210.198.60	m1.medium   4GB RAM   2 VCPU   40GB Disk	Carlos	Active	None	Running	<a href="#">Create Snapshot</a> <a href="#">More ▾</a>
<input type="checkbox"/>	<a href="#">0290464b-ee86-4a44-a975-db1a7a93da36</a>	172.30.0.31	m1.small   2GB RAM   1 VCPU   20GB Disk	FARM-7-aedcf67e	Active	None	Running	<a href="#">Create Snapshot</a> <a href="#">More ▾</a>
<input type="checkbox"/>	<a href="#">a95206e1-8a24-4383-b3fa-fac23e39204b</a>	172.30.0.27	m1.small   2GB RAM   1 VCPU   20GB Disk	FARM-7-aedcf67e	Active	None	Running	<a href="#">Create Snapshot</a> <a href="#">More ▾</a>
<input type="checkbox"/>	<a href="#">50c755c3-93c5-44f1-85cf-064d2c0cc388</a>	172.30.0.22 155.210.198.70	m1.tiny   512MB RAM   1 VCPU   0 Disk	FARM-7-aedcf67e	Active	None	Running	<a href="#">Create Snapshot</a> <a href="#">More ▾</a>
<input type="checkbox"/>	<a href="#">Scalr</a>	172.30.0.42 155.210.198.66	m1.large   8GB RAM   4 VCPU   80GB Disk	Carlos	Active	None	Running	<a href="#">Create Snapshot</a> <a href="#">More ▾</a>
<input type="checkbox"/>	<a href="#">Drupal</a>	172.30.0.34 155.210.198.68	m1.small   2GB RAM   1 VCPU   20GB Disk	Carlos	Active	None	Running	<a href="#">Create Snapshot</a> <a href="#">More ▾</a>

Displaying 7 items

# Gracias por su atención

