Visita guiada pelo GeoServer

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GeoSolutions

GeoSolutions

- **Founded in late 2006**
- **Expertise**
  - **Image Processing, GeoSpatial Data Fusion**
  - **Java, Java Enterprise, C++, Python**
  - **JPEG2000, JPIP, Advanced visualization**
  - **Web Based Mashups, Mobile Solutions**
  - **OGC, ISO, INSPIRE Standards**
- **Supporting/Developing FOSS4G projects**
  - **MapStore, GeoServer, GeoNetwork**
  - **CKAN, GeoNode**
- **Clients**
  - **UN FAO (CIOK, FIGIS, NRL, FORESTRY, ESTG), UN WFP, World Bank, DLR, EUMETSAT, JRC, ARPAT, NATO CMRE**
  - **Private Companies all over the world**
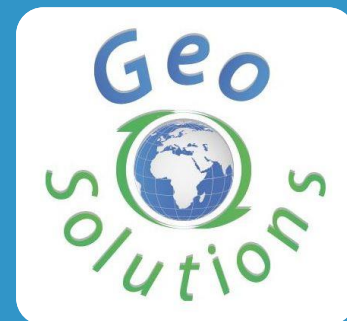
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Conteúdo

- *Overview* do projeto GeoServer
  - Recursos, documentação e comunidade
  - Ciclo de *release*
  - *Core*, extensões e *community modules*

- *Core*
  - *REST API*
  - *SQL Views*

- Extensões
  - INSPIRE e App-Schema
  - Monitorização
  - Control Flow

- *Community modules*
  - GeoFence
  - Clustering
  - Monitorização da instancia

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Overview do projeto GeoServer

GeoServer

GeoServer is an open source server for sharing geospatial data.

Designed for interoperability, it publishes data from any major spatial data source using open standards.

Download ⊕

Stable	Maintenance	Development
2.12.0 Nightly	2.11.3 Nightly	Master

Desenhado a pensar na interoperabilidade e para ser fácil de instalar e configurar !

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GeoServer Web UI

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Recursos

- **Documentação http://docs.geoserver.org/**
  - Manual do utilizador
  - Manual do programado
  - Manual sobre a documentação

- **Código https://github.com/geoserver**

- **Issues https://osgeo-org.atlassian.net**

- **Comunidade http://geoserver.org/comm**

  - Uma mailing lists para programadores e outra para utilizadores

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Ciclo de *Release*

- **Ciclo de *release* de 6 meses:**
  - *Maintenance*
  - *Stable*
  - *Development*

- **Plano de *release*:**
  https://github.com/geoserver/geoserver/wiki/Release-Schedule

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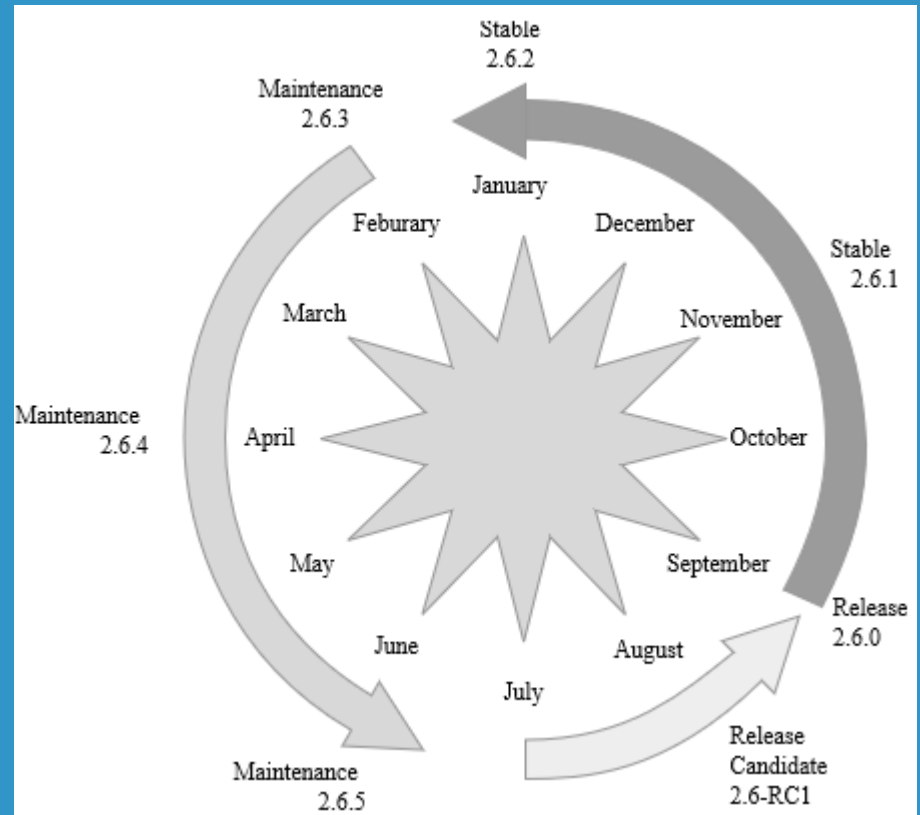
Funcionalidades *Core*

Packages

Platform Independent Binary
Operating system independent runnable binary.

Windows Installer
Installer for Windows platforms.

Mac OSX Installer
DMG for OSX platforms.

Web Archive
Web Archive (war) for servlet containers.

Documentation

User Guide HTML
Export of GeoServer user guide.

Javadoc
API documentation.

Source Code

zip | tar.gz
Source code packages for tag 2.12.0.

GitHub
Browse source code on GitHub.

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Extensions

Extensions

⬇ Extensions
GeoServer Extension downloads.

Vector Formats

- App Schema
- ArcSDE
- DB2
- H2
- MySQL
- Oracle
- Pregeneralized Features
- SQL Server
- Teradata

Miscellaneous

- Chart Symbolizer

Coverage Formats

- GDAL
- GRIB
- Image Pyramid
- JDBC Image Mosaic
- JPEG2K
- NetCDF

Output Formats

- DXF
- Excel
- Image Map
- JPEG Turbo

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Community Modules

http://docs.geoserver.org/stable/en/user/community/index.html

Community

Community Modules
Experimental community modules.

Index of /geoserver/2.12.x/community-latest/

../
geoserver-2.12-SNAPSHOT-activeMQ-broker-plugin.zip   19-Nov-2017 14:07
geoserver-2.12-SNAPSHOT-aggregate-plugin.zip   19-Nov-2017 14:07
geoserver-2.12-SNAPSHOT-authkey-plugin.zip   19-Nov-2017 14:07
geoserver-2.12-SNAPSHOT-colormap-plugin.zip   19-Nov-2017 14:07
geoserver-2.12-SNAPSHOT-dds-plugin.zip   19-Nov-2017 14:07
geoserver-2.12-SNAPSHOT-dyndimension-plugin.zip   19-Nov-2017 14:07
geoserver-2.12-SNAPSHOT-gdal-wcs-plugin.zip   19-Nov-2017 14:07
geoserver-2.12-SNAPSHOT-gdal-wps-plugin.zip   19-Nov-2017 14:07

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Funcionalidades *Core*

SQL Views

New Layer chooser

Add layer from cite:postgis

Here is a list of resources contained in the store 'postgis'. Click on the layer you wish to configure

| << | < | 1 | > | >> | Results 0 to 0 (out of 0 items) | 🔍 Search |

Published	Layer name	
✔	parks	Publish again
✔	pgstates	Publish again
	bc_parks_2001	Publish
	bc_roads	Publish
	newvector	Publish
	zips00	Publish

| << | < | 1 | > | >> | Results 0 to 0 (out of 0 items) |

You can also create a new feature type by manually configuring the attribute names and types. Create new feature type...
On databases you can also create a new feature type by configuring a native SQL statement. Configure new SQL view...

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SQL Views

Create new SQL view

Define a new SQL view and configure its identified and geometry columns

View Name

nstates

SQL statement

```
select gid, state_name, persons, the_geom from
pgstates where state_name ilike '%n%'
```

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SQL Views

Attributes
Refresh

Name	Type	SRID	Identifier
gid	Integer		☑
state_name	String		☐
persons	BigDecimal		☐
the_geom	MultiPolygon ▾	4326	☐

Save   **Cancel**

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SQL Views

View Name

popstates

SQL statement

select gid, state_name, the_geom from pgstates where persons between %low% and %high%

SQL view parameters

Guess parameters from SQL   Add new parameter   Remove selected

	Name	Default value	Validation regular expression
☐	high	100000000	^[\d]+$
☐	low	0	^[\d]+$

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REST API

- **Ponto de entrada:**

  - **http://<host>:<port>/geoserver/rest**

- **Todas as entidades têm uma representação:**

  - **HTML**

  - **JSON**

  - **XML**

- **Utilizada em pipelines de publicação de dados, aplicações WEB (MapStore2), aplicações terceiras, etc …**

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Extensões

INSPIRE e App-Schema

- A extensão INSPIRE permite configurar os meta-dados necessários para se ser conforme com a norma INSPIRE.

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INSPIRE e App-Schema

http://docs.geoserver.org/stable/en/user/data/app-schema/index.html

- **A extensão App-Schema permite disponibilizar dados através do serviço WFS que correspondam aos schema XML definidos pela norma INSPIRE.**

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INSPIRE e App-Schema

http://docs.geoserver.org/stable/en/user/data/app-schema/index.html
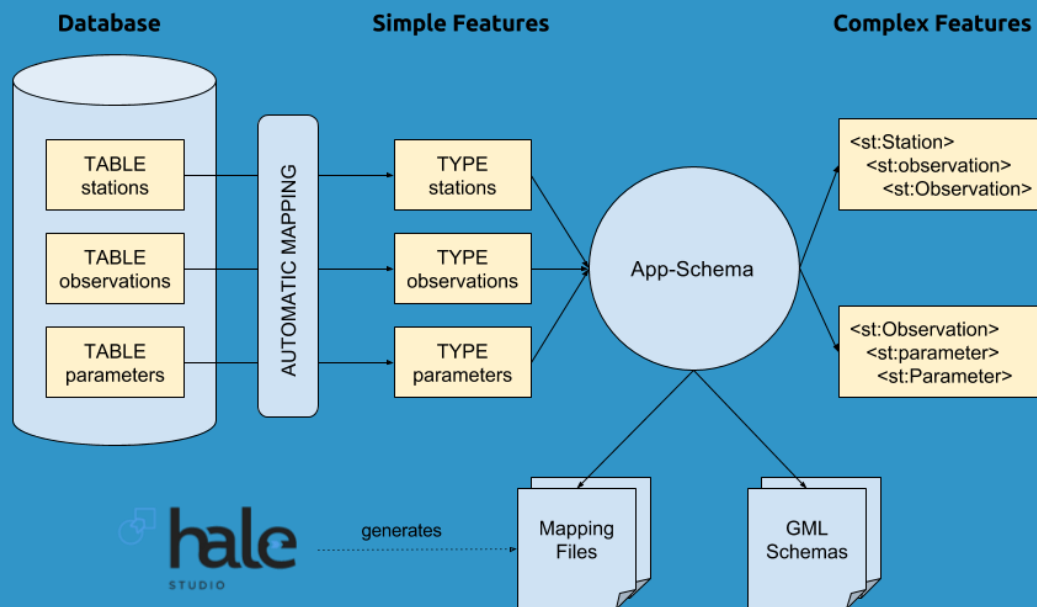
```
...
<st:Station gml:id="station.13">

  <st:stationCode>ALS</st:stationCode>
  <st:stationName>Alessandria</st:stationName>

  <st:observation>
    <st:Observation gml:id="observation.1">
      <st:timestamp>2016-12-19T11:26:40Z</st:timestamp>
      <st:value>20.0</st:value>

      <st:parameter>
        <st:Parameter gml:id="parameter.1">
          <st:parameter>temperature</st:parameter>
          <st:unit>C</st:unit>
        </st:Parameter>
      </st:parameter>

    </st:Observation>
  </st:observation>

  <st:observation>
    <st:Observation gml:id="observation.2">
      <st:timestamp>2016-12-19T11:27:13Z</st:timestamp>
      <st:value>155.0</st:value>
```

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Monitorização

- **Permite criar ficheiros de monitorização sobre cada pedido (request) que é executada pelo GeoServer.**

```
<#escape x as x?xml>
<Request id="${id!""}">
    <Service>${service!""}</Service>
    <Version>${owsVersion!""}</Version>
    <Operation>${operation!""}</Operation>
    <SubOperation>${subOperation!""}</SubOperation>
    <Resources>${resourcesList!""}</Resources>
    <Path>${path!""}</Path>
    <QueryString>${queryString!""}</QueryString>
    <#if bodyAsString??>
    <Body>
    ${bodyAsString}
    </Body>
    </#if>
    <HttpMethod>${httpMethod!""}</HttpMethod>
    <StartTime>${startTime?datetime?iso_utc_ms}</StartTime>
    <EndTime>${endTime?datetime?iso_utc_ms}</EndTime>
```

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Monitorização

- **Os ficheiros criados podem depois serem consumidos por uma infraestrutura de monitorização.**

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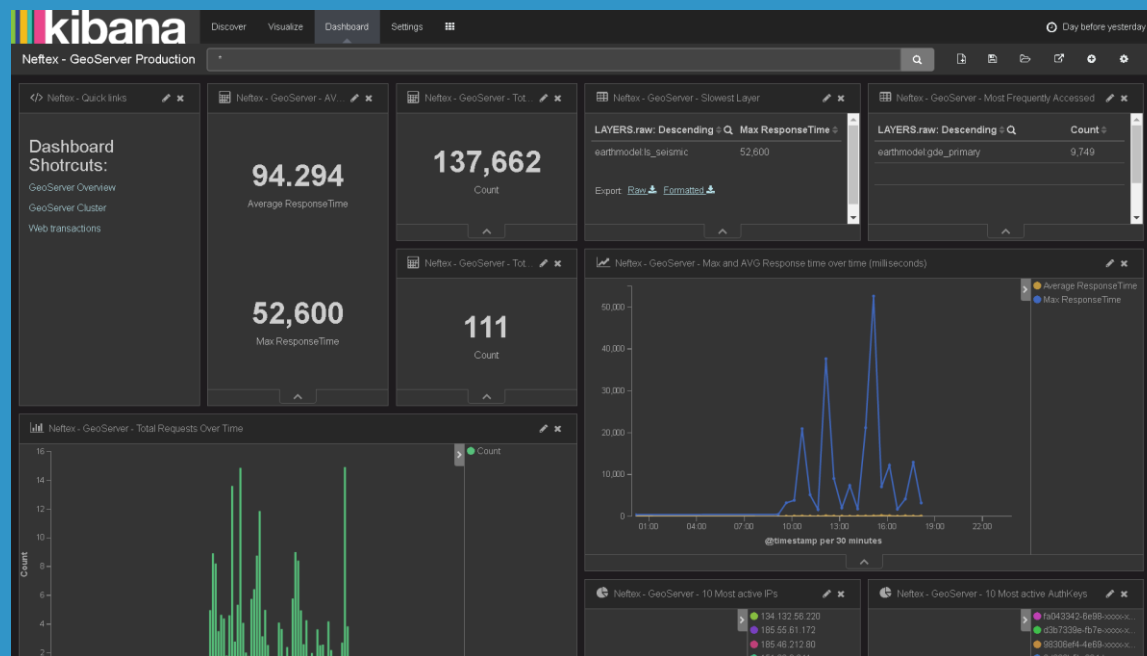
Control Flow

- **Permite gerir os pedidos que são executados pelo GeoServer.**

```
# if a request waits in queue for more than 60 seconds it's not worth executing,
# the client will  likely have given up by then
timeout=60
# don't allow the execution of more than 100 requests total in parallel
ows.global=100
# don't allow more than 10 GetMap in parallel
ows.wms.getmap=10
# don't allow more than 4 outputs with Excel output as it's memory bound
ows.wfs.getfeature.application/msexcel=4
# don't allow a single user to perform more than 6 requests in parallel
# (6 being the Firefox default concurrency level at the time of writing)
user=6
# don't allow the execution of more than 16 tile requests in parallel
# (assuming a server with 4 cores, GWC empirical tests show that throughput
# peaks up at 4 x number of cores. Adjust as appropriate to your system)
ows.gwc=16
```

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Community Modules

GeoFence

http://docs.geoserver.org/latest/en/user/community/geofence-server/index.html

- Estende o sistema de segurança do GeoServer com a possibilidade de autorizar um utilizador a ver apenas uma certa área, permite autorização baseada no IP do utilizador , esconder atributos por utilizador, etc …

	User	Group	Instance	Service	Request	Workspace	Layer	Grant			
0	admin	*	*	*	*	*	*	LIMIT	Edit rule	Details	Remove
1	tiger	*	default-gs	*	*	tiger	*	ALLOW	Edit rule	Details	Remove
3	tiger	*	default-gs	*	*	*	*	DENY	Edit rule	Details	Remove
6	*	*	default-gs	*	*	topp	gboundaries	ALLOW	Edit rule	Details	Remove
7	*	*	default-gs	*	*	topp	*	DENY	Edit rule	Details	Remove
9	*	*	default-gs	*	*	it.geosolutions	tasmania_roads	ALLOW	Edit rule	Details	Remove
10	*	*	*	*	*	*	*	ALLOW	Edit rule	Details	Remove

Page 1 of 1   Displaying 1 - 7 of 7   Add Rule
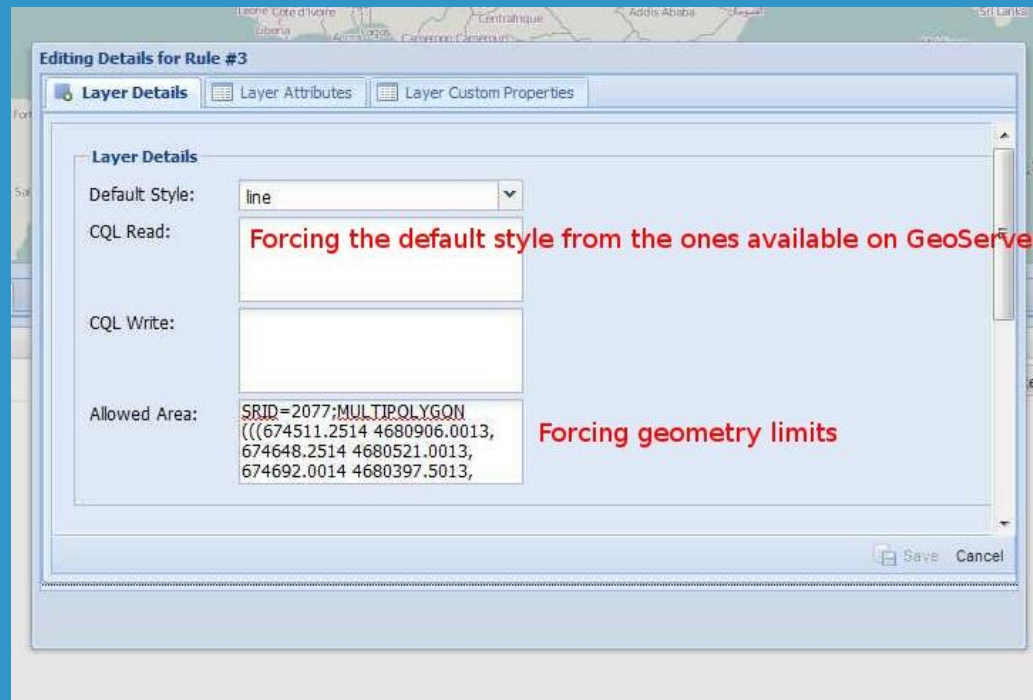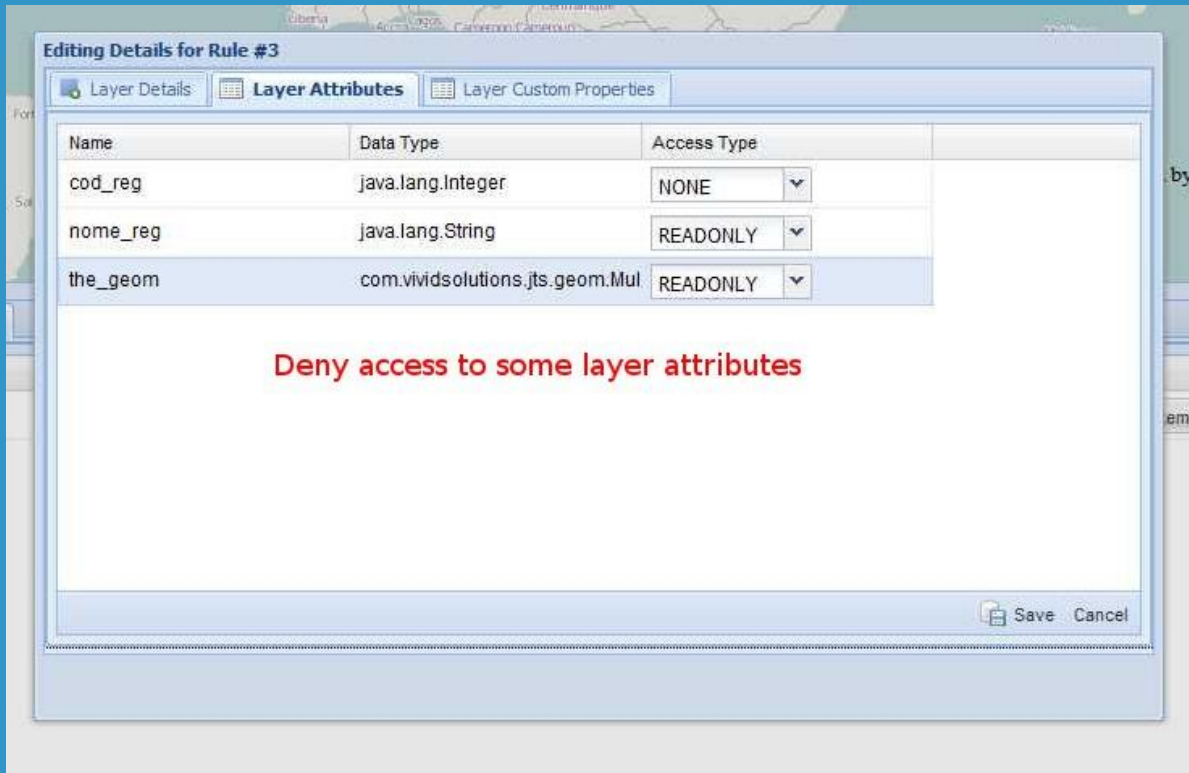
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GeoFence

http://docs.geoserver.org/latest/en/user/community/geofence-server/index.html

GeoFence

http://docs.geoserver.org/latest/en/user/community/geofence-server/index.html

GeoFence

GeoFence Server

Configure rules and settings for the internal GeoFence server.

- ⊕ Add new rule
- ⊖ *Remove selected rules*

| << | < | 1 | > | >> | Results 1 to 6 (out of 6 items) | 🔍 Search |

☐	P	Role	User	Service	Request	Workspace	Layer	Access	
☐	0	tiger_view	*	WMS	*	tiger	*	ALLOW	⬇ ✎
☐	1	*	tiger_admin	*	*	tiger	*	ALLOW	⬆ ⬇ ✎
☐	2	*	*	*	*	tiger	*	DENY	⬆ ⬇ ✎
☐	3	*	*	*	*	sf	archsites	DENY	⬆ ⬇ ✎
☐	4	*	*	*	*	sf	*	ALLOW	⬆ ⬇ ✎
☐	6	*	*	*	*	*	*	DENY	⬆ ✎

| << | < | 1 | > | >> | Results 1 to 6 (out of 6 items) |

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Clustering

- **O *community module jms-cluster p*ermite sincronizar de forma automática várias instancias do GeoServer.**

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Clustering

- **Permite fazer o *backup* de uma instancia do GeoServer e fazer o restauro desse *backup* na mesma instancia ou noutra instancia.**

Backup & Restore

New Backup/Restore Execution

Provide target archive full path *

/tmp/full_backup.zip   Browse...

Filter by Workspace (optional)

(all)   ▼

Perform a new GeoServer Backup

Backup Options

- ☑ Overwrite Existing Archive
- ☑ Skip Failing Resources

Start Backup   *Cancel*

Mandatory Fields *

Perform a new GeoServer Restore

Restore Options
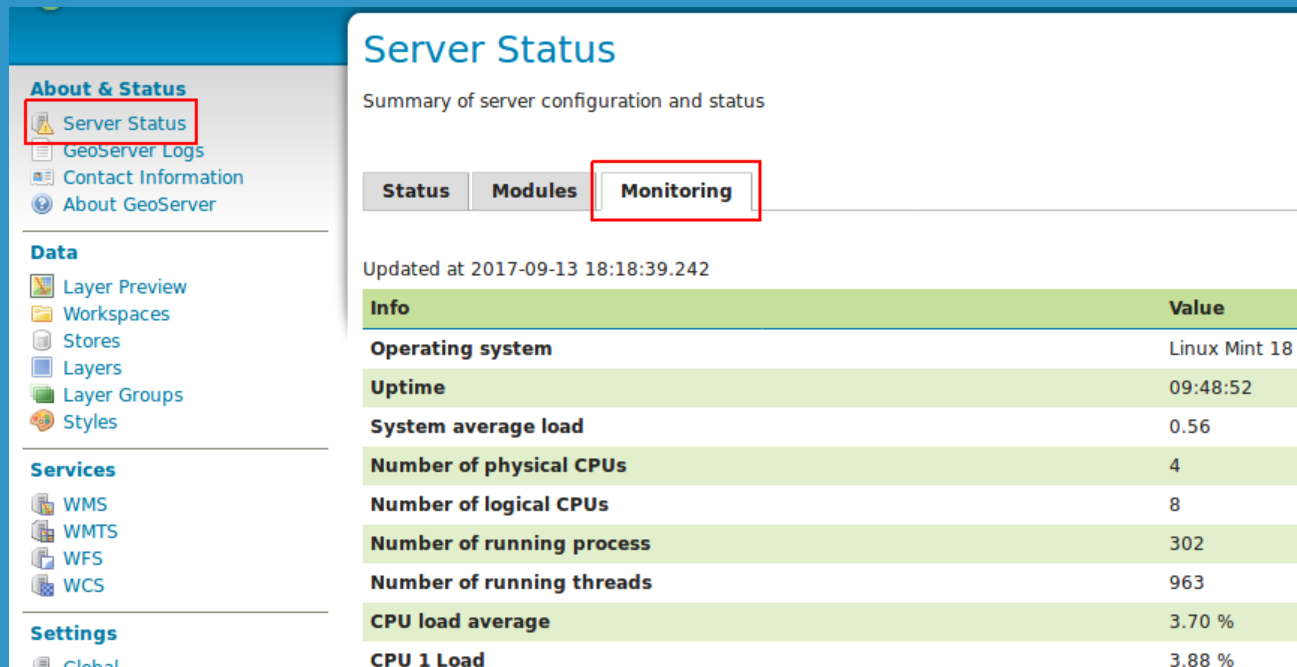
- ☑ Dry-Run
- ☐ Skip Failing Resources

Start Restore   *Cancel*

Mandatory Fields *

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Monitorização da instancia

http://docs.geoserver.org/stable/en/user/community/status-monitoring/index.html

- **Permite obter informação básica sobre o máquina onde a instancia do GeoServer está a correr.**

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That's all!
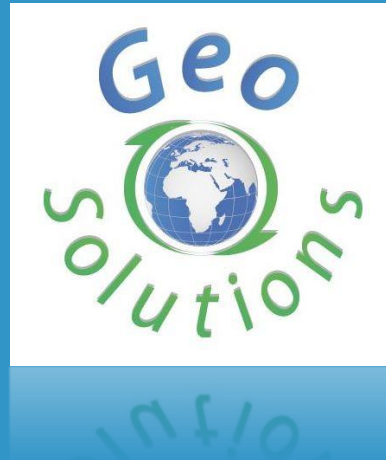
Questões?

info@geo-solutions.it

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