



GeoPlatform
by geoSDI

Geo-Platform Introduction

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geoSDI



CNR – IMAA

geoSDI is a Laboratory of the Institute of Methodologies for Environmental Analysis of the National Council of Research (CNR IMAA), which designs, manufactures and distributes geospatial web-based software systems, using an open source approach.



geo-platform Info

Start : **10 Oct 2010**

Licence : **GPLv3+CE**

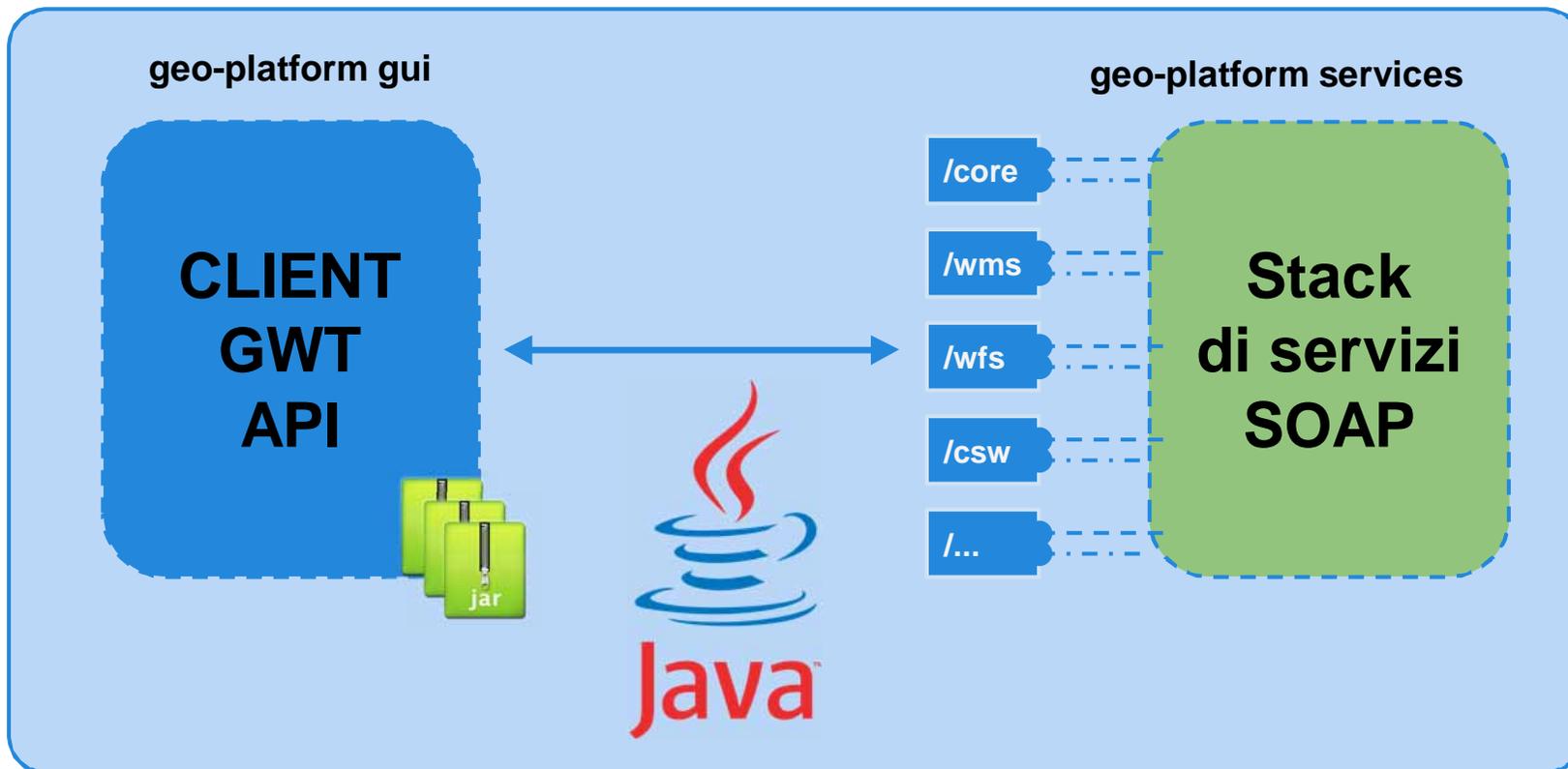
Version : **1.5**

Repo:<https://github.com/geosdi/geo-platform.git>

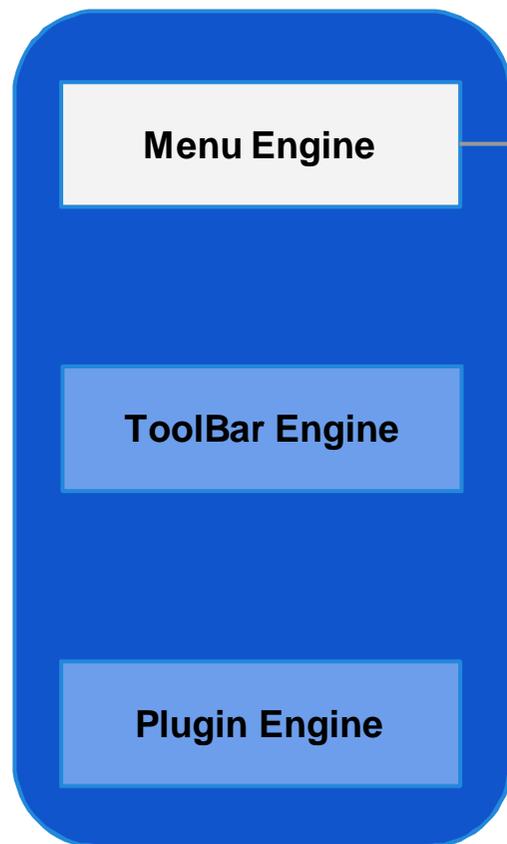
Modules: **100+**

65k code lines

geo-platform Architecture



Architettura di geo-platform (client)

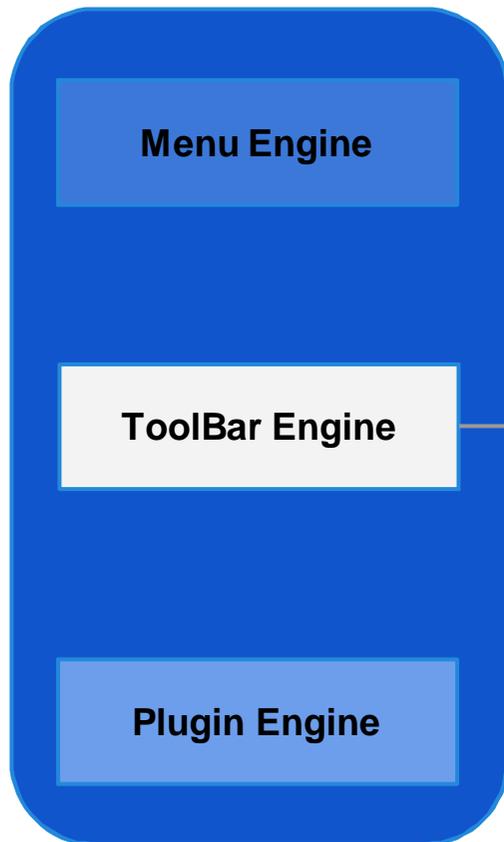


applicationContext-Menubar.xml

```
...  
  
<bean name="menuBarContainerTool"  
  class="org.geosdi.geoplatform.gui.impl.MenuBarContainerTool">  
  <property name="categories">  
    <list>  
      <ref bean="geoPlatform" />  
      <ref bean="widgets" />  
      <ref bean="aoe" />  
      <ref bean="mapOptions" />  
    </list>  
  </property>  
</bean>  
  
<bean name="geoPlatform"  
  class="org.geosdi.geoplatform.gui.configuration.menubar.MenuBarCategory">  
  <property name="text" value="Geo-Platform" />  
  <property name="enabled" value="true" />  
  <property name="order" value="10" />  
  <property name="tools">  
    <list>  
      <ref bean="manageProjects" />  
      <ref bean="manageUsers" />  
      <ref bean="manageRoles" />  
      <ref bean="separatorAbout" />  
      <ref bean="aboutGeoPlatform" />  
    </list>  
  </property>  
</bean>  
  
...
```

geo-platform Architecture (client)

applicationContext-Toolbar.xml

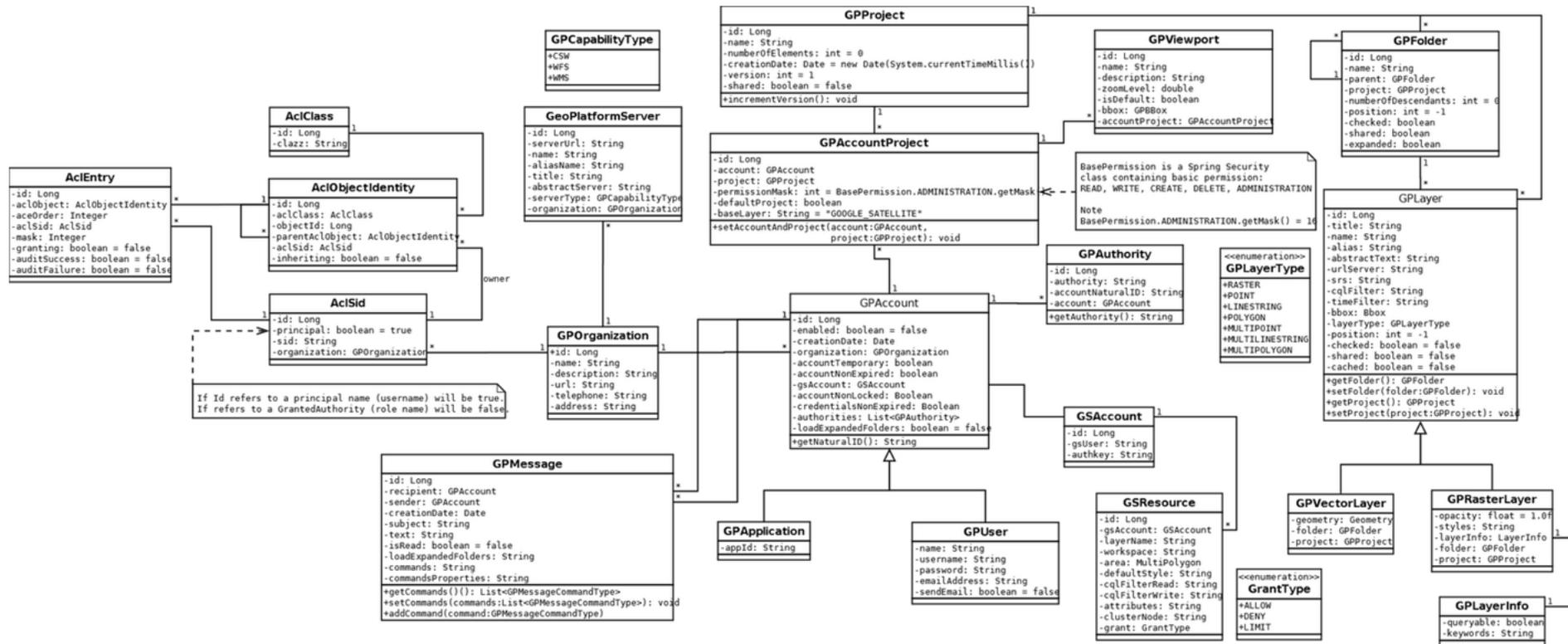


...

```
<bean name="infoApp"  
      class="org.geosdi.geoplatform.gui.configuration.toolbar.ToolbarActionTool">  
  <property name="id" value="{gpInfoApp.id}" />  
  <property name="type" value="{gpInfoApp.type}" />  
  <property name="enabled" value="{gpInfoApp.enabled}" />  
  <property name="order" value="{gpInfoApp.order}" />  
</bean>
```

...

geo-platform Architecture (server)



modello dei dati di geo-platform

geo-platform Architecture (server)

Available SOAP services:

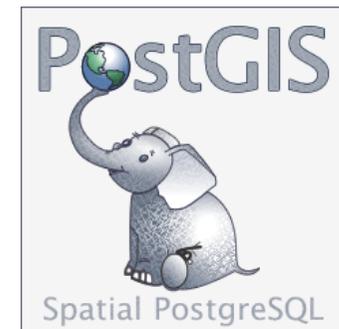
<p>GPSchedulerService</p> <ul style="list-style-type: none"> • checkTempAccount • sendEmailModification • sendEmailRegistration 	<p>Endpoint address: http://localhost:8080/geoplatform-service/scheduler</p> <p>WSDL : http://services.geoplatform.geosdi.org/GPSchedulerServiceImplService</p> <p>Target namespace: http://services.geoplatform.geosdi.org/</p>
<p>GPWFSService</p> <ul style="list-style-type: none"> • getFeature • describeFeatureType 	<p>Endpoint address: http://localhost:8080/geoplatform-service/wfs</p> <p>WSDL : http://services.geoplatform.geosdi.org/GPWFSServiceImplService</p> <p>Target namespace: http://services.geoplatform.geosdi.org/</p>
<p>GPWMSService</p> <ul style="list-style-type: none"> • getCapabilities • getShortServer 	<p>Endpoint address: http://localhost:8080/geoplatform-service/wms</p> <p>WSDL : http://services.geoplatform.geosdi.org/GPWMSServiceImplService</p> <p>Target namespace: http://services.geoplatform.geosdi.org/</p>
<p>GeoPlatformService</p> <ul style="list-style-type: none"> • updateServer • getAuthorities • saveDeletedLayerAndTreeModifications • fixCheckStatusLayerAndTreeModifications • insertMultiMessage • deleteFolder • getMessageDetail • getAccountProjectsByProjectID • saveLayerProperties • getNumberOfElementsProject • getUserDetailByUsername • getChildrenElements • insertAccountProject 	<p style="text-align: center; font-size: 2em;">/core</p> <div style="text-align: right;">  </div>

geo-platform Architecture (server)

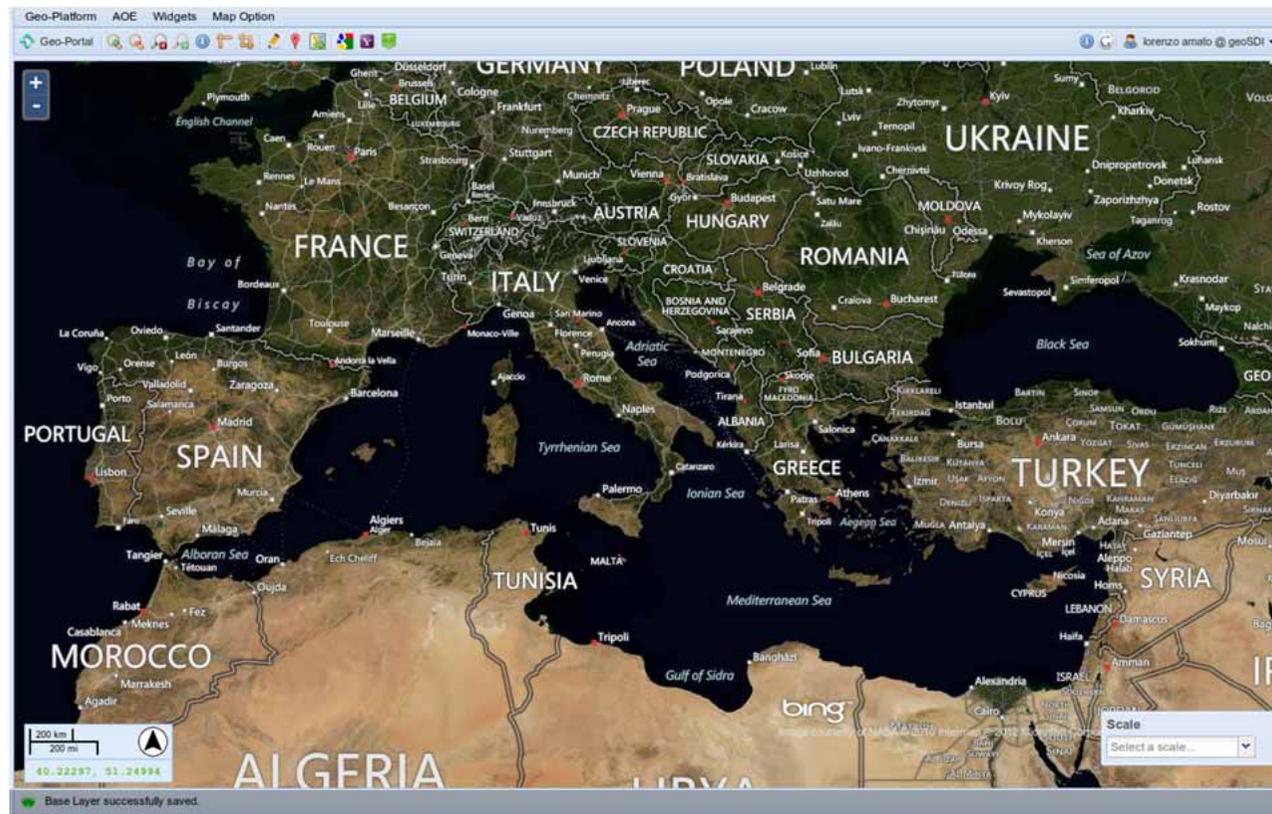
*geo-platform fornisce uno stack di servizi multi modulare
utile per la comunicazione con la parte client
e per rendere persistenti i dati prodotti dall'applicazione*



- Endpoint modulari
 - Avvio solo lo stack ws che mi serve
 - Scalabilità su più nodi
 - Di default viene avviato solo l'endpoint **/core**

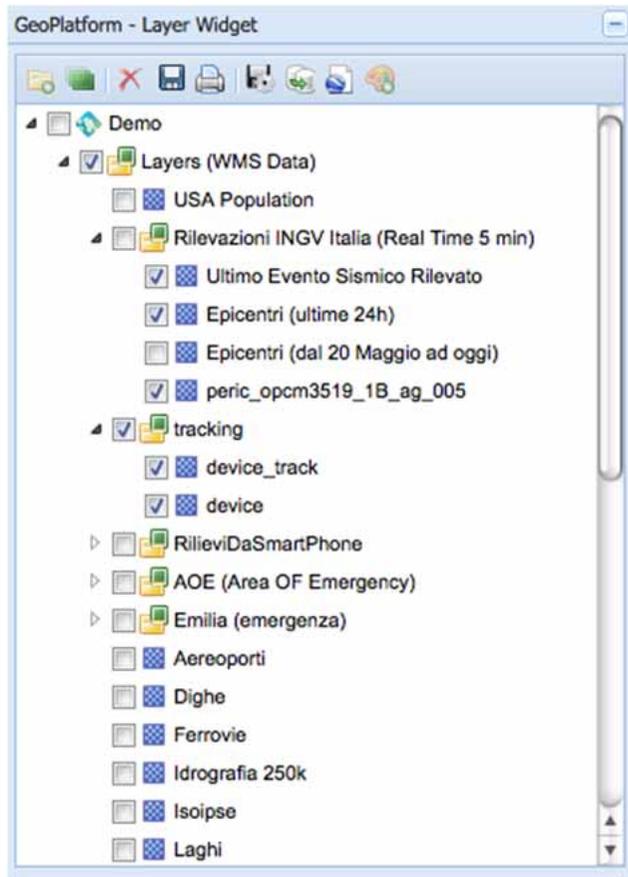


Widget - Map Widget



Widget

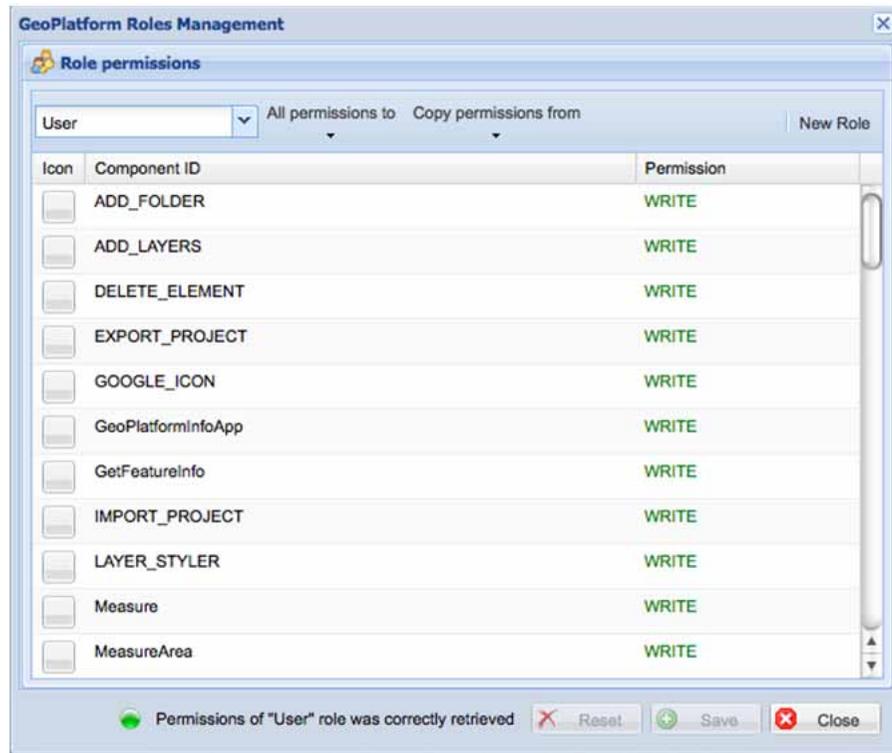
Layer tree



- Management scenarios at any level of nesting
- Drag & Drop of layers and folders
- Options on layers
- management transparency
- Management style associated
- Management Layer Name
- Export a project
- Import a project
- Saving a Project
- Copy & Paste of single and multiple layers

Users and Rules Manager

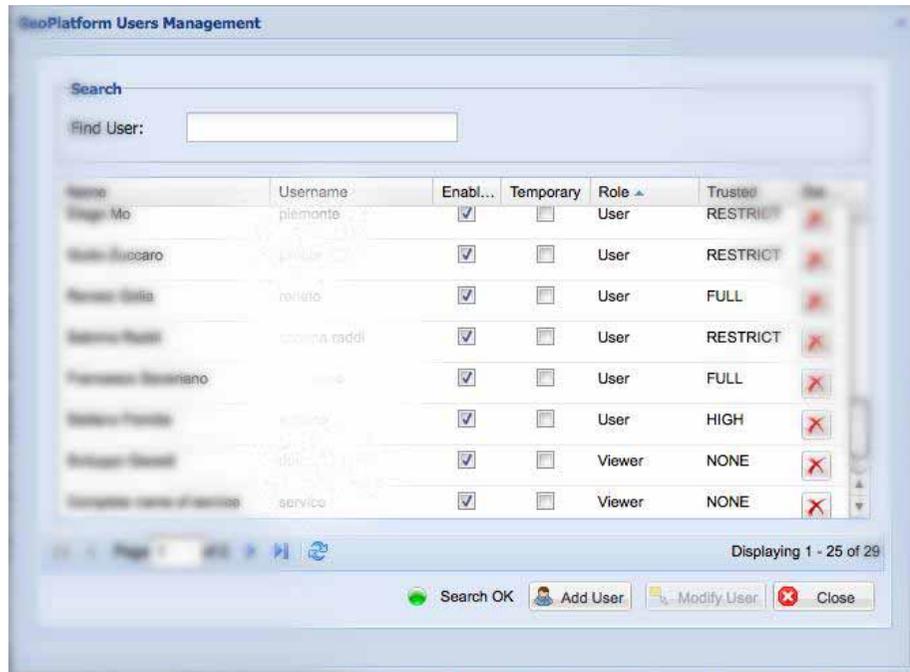
Rules Manager



- Managing permission of the components based on the role
- Creating New Roles
- Modifying existing roles

Users and Rules Manager

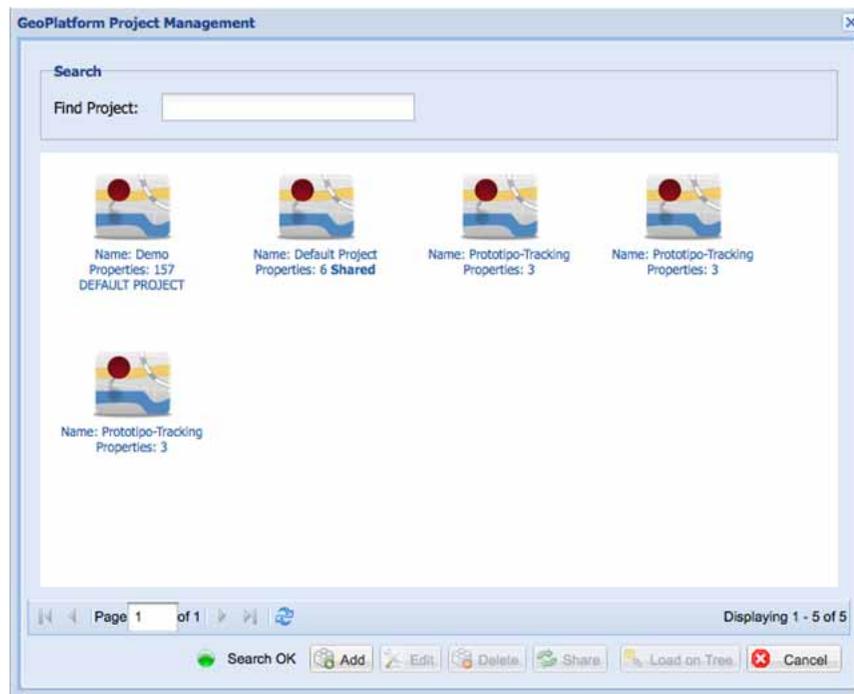
User Manager



- Creating new users
- assigning user name and password
- role assignment
- assignment of the type of user (temporary or permanent)
- assignment of trusted level
- Modifying existing roles
- Cancellation of existing users

- Concept of Organization!

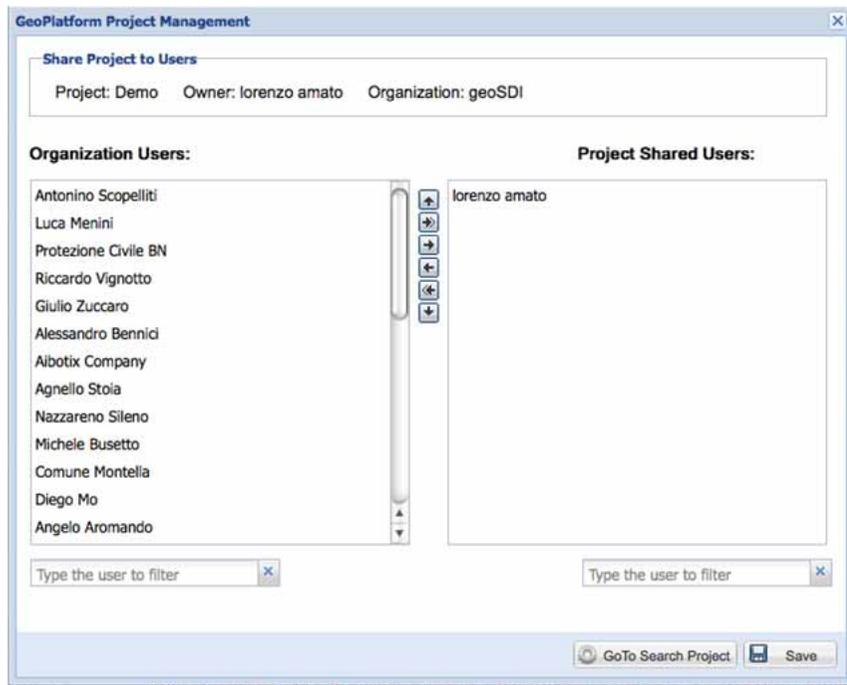
Project Manager



- Creating new projects
- Edit the project
- Change name
- Set default
- Loading onto the layer
- Cancellation of the project
- Sharing Project

Project manager – Share Proj

Share Projects



A new feature!

Currently in testing phase

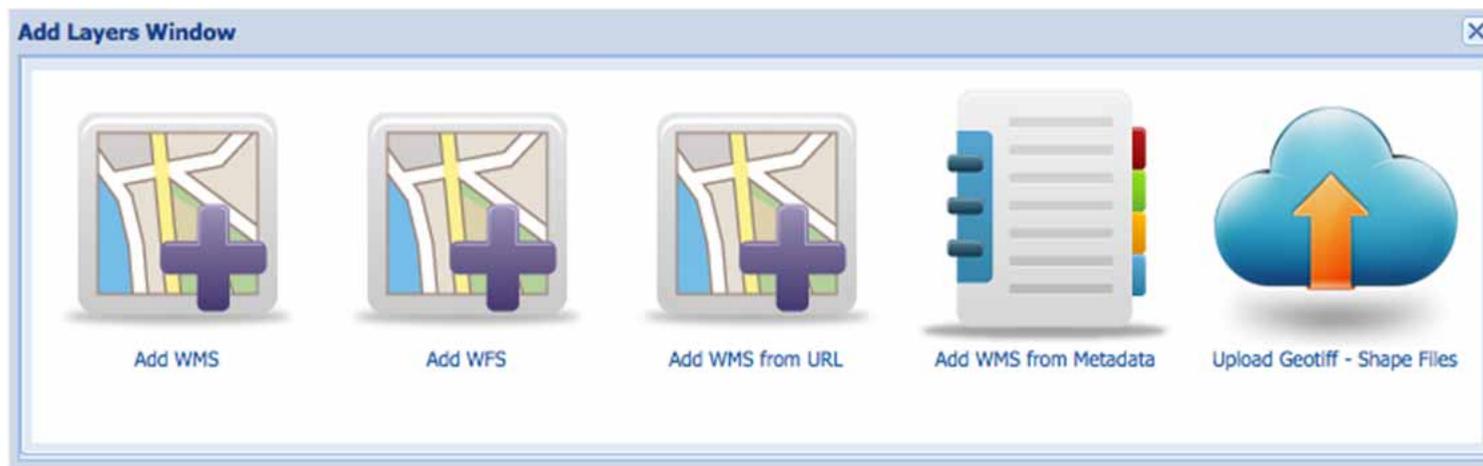
Allows you to share in "READING" a project

A master -> slave 1 .. n

All changes to the effectual reference design are propagated to all slaves via XMPP client:

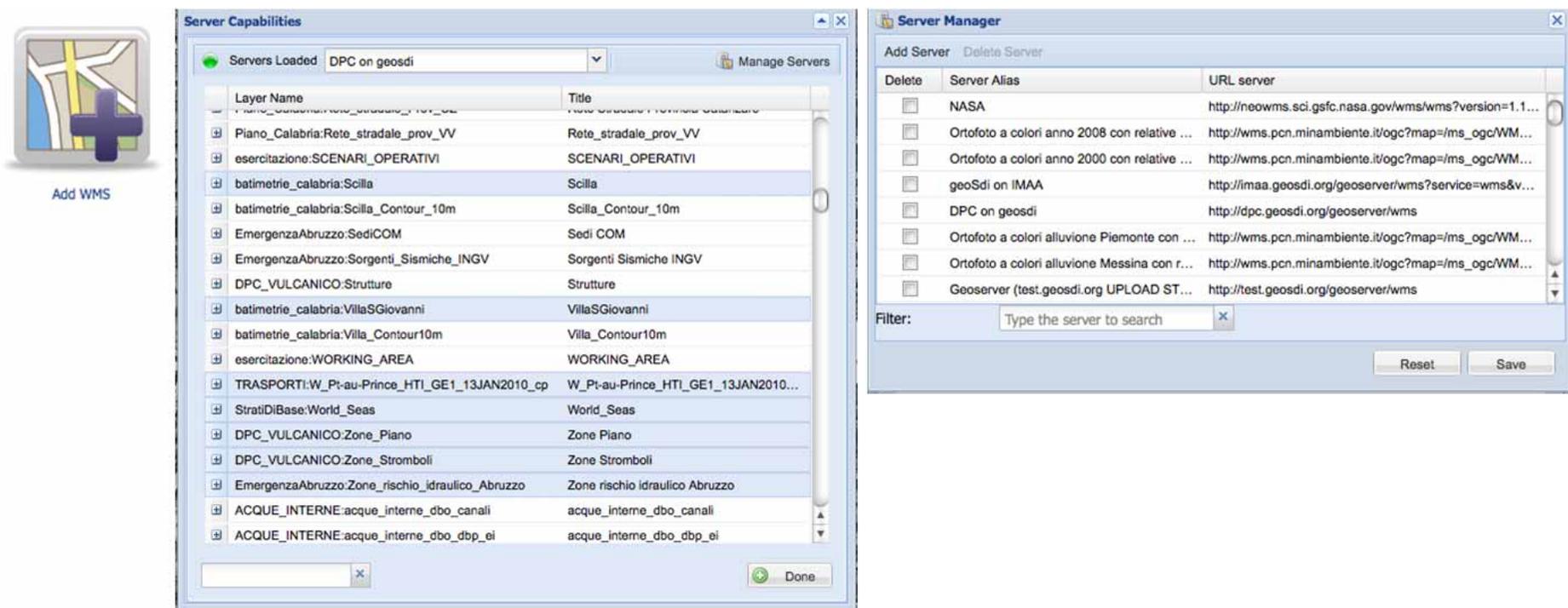
Adding layers, on / off, delete, drag & drop.

Layer Manager



- Adding a layer from a list of WMS servers
- Adding a layer from a Get-Map wms
- Adding a layer from a metadata catalog CSW
- Upload a layer of a Geotiff or Shape File

Layer Manager



The screenshot displays two windows from a GIS application. On the left is the 'Server Capabilities' window, which shows a list of WMS servers and their layers. On the right is the 'Server Manager' window, which allows for adding and deleting WMS servers.

Server Capabilities

Layer Name	Title
Piano_Calabria:Rete_stradale_prov_VV	Rete_stradale_prov_VV
esercitazione:SCENARI_OPERATIVI	SCENARI_OPERATIVI
batimetrie_calabria:Scilla	Scilla
batimetrie_calabria:Scilla_Contour_10m	Scilla_Contour_10m
EmergenzaAbruzzo:SediCOM	Sedi COM
EmergenzaAbruzzo:Sorgenti_Sismiche_INGV	Sorgenti Sismiche INGV
DPC_VULCANICO:Strutture	Strutture
batimetrie_calabria:VillaSGiovanni	VillaSGiovanni
batimetrie_calabria:Villa_Contour10m	Villa_Contour10m
esercitazione:WORKING_AREA	WORKING_AREA
TRASPORTI:W_Pt-au-Prince_HTI_GE1_13JAN2010_cp	W_Pt-au-Prince_HTI_GE1_13JAN2010...
StratiDiBase:World_Seas	World_Seas
DPC_VULCANICO:Zone_Piano	Zone Piano
DPC_VULCANICO:Zone_Stromboli	Zone Stromboli
EmergenzaAbruzzo:Zone_rischio_idraulico_Abruzzo	Zone rischio idraulico Abruzzo
ACQUE_INTERNE:acque_interne_dbo_canali	acque_interne_dbo_canali
ACQUE_INTERNE:acque_interne_dbo_dbp_ei	acque_interne_dbo_dbp_ei

Server Manager

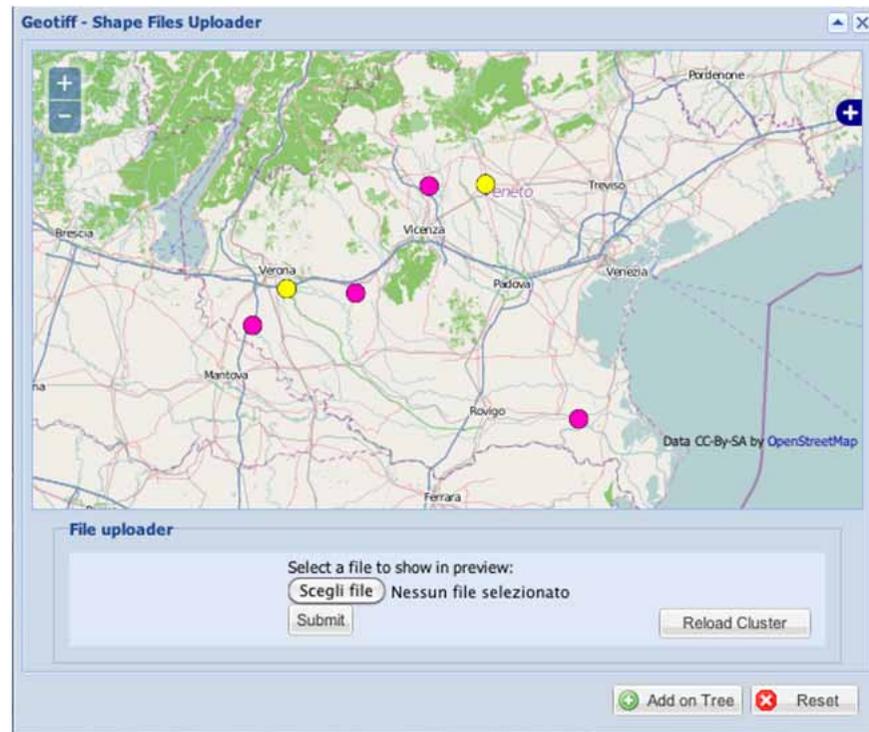
Delete	Server Alias	URL server
<input type="checkbox"/>	NASA	http://neowms.sci.gsfc.nasa.gov/wms/wms?version=1.1...
<input type="checkbox"/>	Ortofoto a colori anno 2008 con relative ...	http://wms.pcn.minambiente.it/ogc?map=/ms_ogc/WM...
<input type="checkbox"/>	Ortofoto a colori anno 2000 con relative ...	http://wms.pcn.minambiente.it/ogc?map=/ms_ogc/WM...
<input type="checkbox"/>	geoSdi on IMAA	http://imaa.geosdi.org/geoserver/wms?service=wms&v...
<input type="checkbox"/>	DPC on geosdi	http://dpc.geosdi.org/geoserver/wms
<input type="checkbox"/>	Ortofoto a colori alluvione Piemonte con ...	http://wms.pcn.minambiente.it/ogc?map=/ms_ogc/WM...
<input type="checkbox"/>	Ortofoto a colori alluvione Messina con r...	http://wms.pcn.minambiente.it/ogc?map=/ms_ogc/WM...
<input type="checkbox"/>	Geoserver (test.geosdi.org UPLOAD ST...	http://test.geosdi.org/geoserver/wms

- Selecting a WMS server
- Selecting layers to add to your tree
- Managing WMS 1.1.1 - WMS 1.3.0
- Adding Servers
- Editing server

Layer Manager



Upload Geotiff - Shape Files

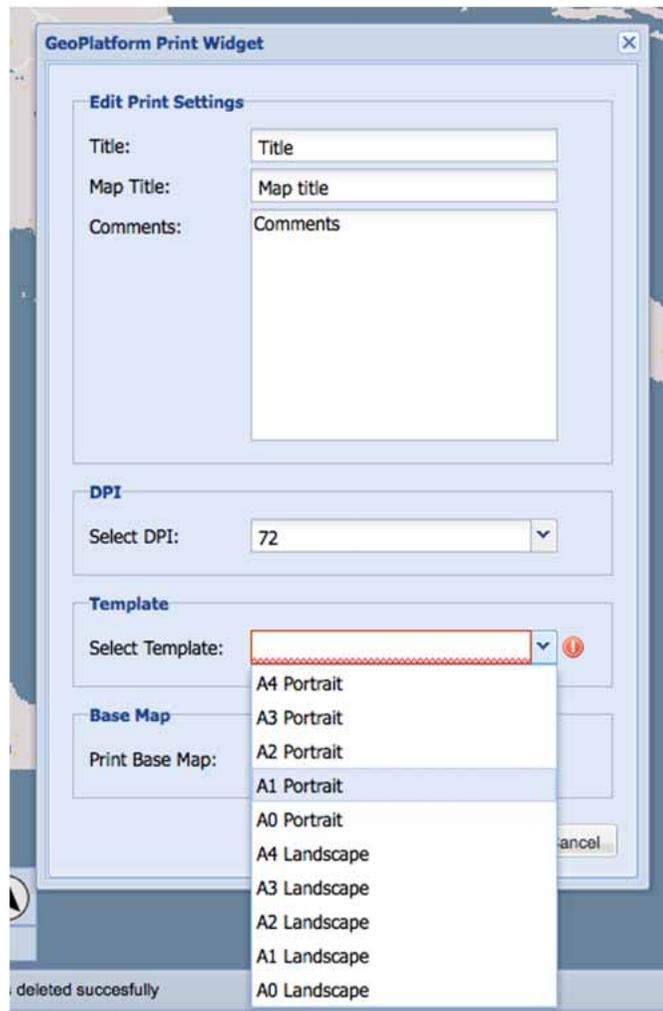


*you can upload to
GeoServer*

*The upload and
configuration is done
via REST using
GeoServer-manager*

- Selecting an archive package containing a shapefile Geotiff with possibly associated SLD
- Possibility of previewing in the preview map
- Ability to add it to the layer tree and make it available as a WMS layer

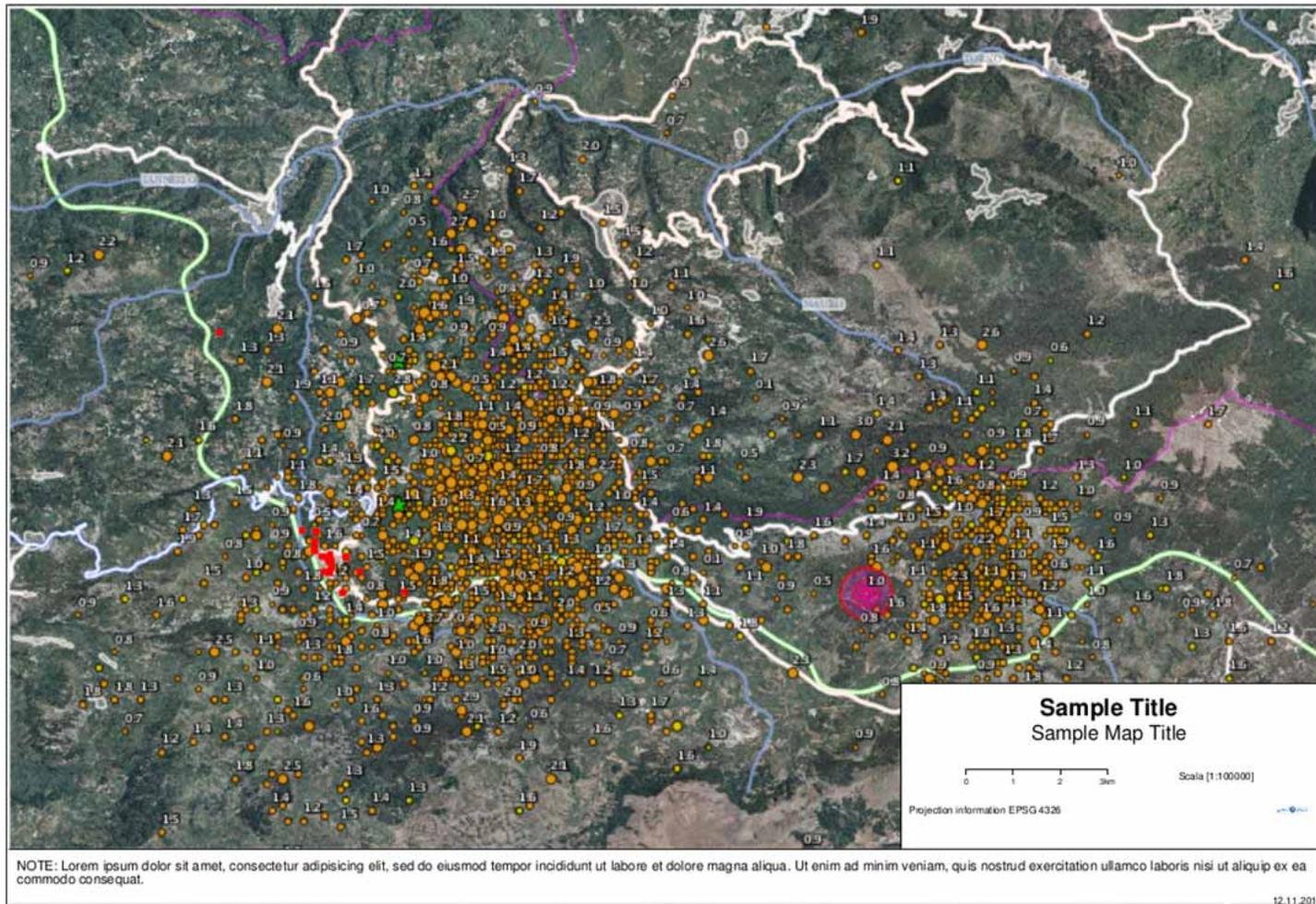
Print a map



Compiling the print template
title
map Title
Comments
Selection of PPE Printing
Selecting the print template
Select whether to print the base map

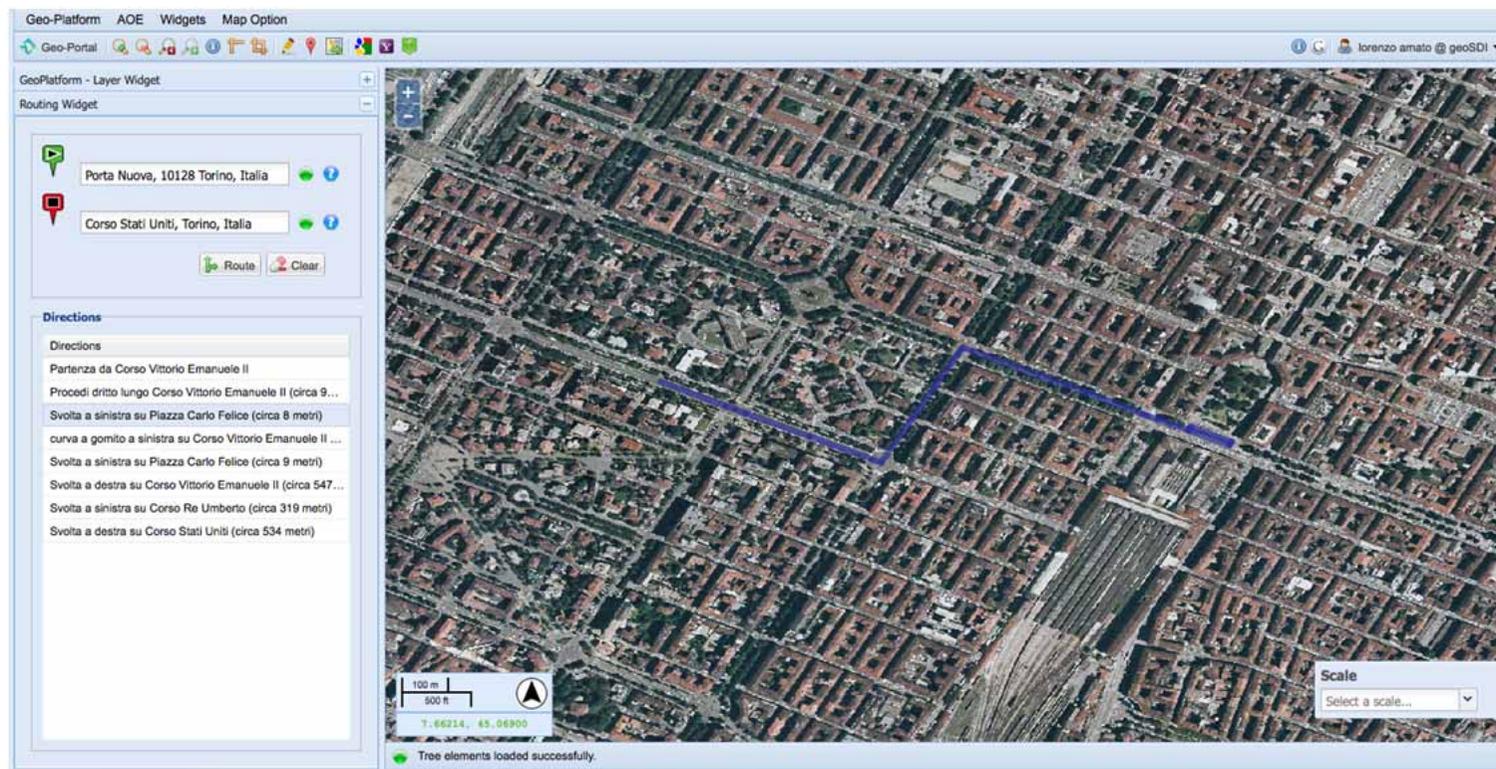
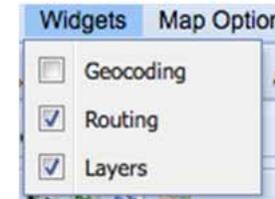
The current version is based on a servlet MapFish

Print Manager



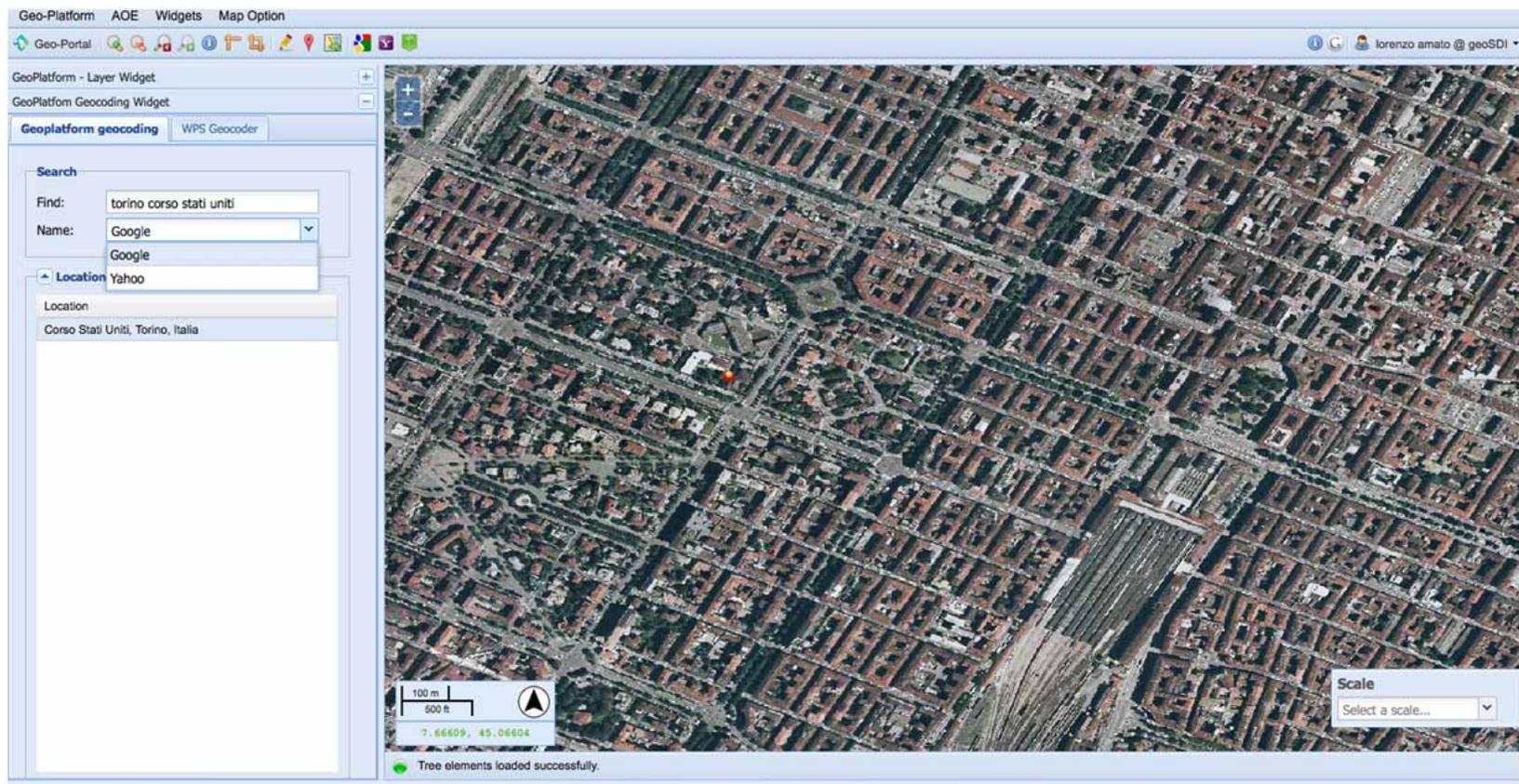
Routing on Open Street Map

- Select Start Point and End Point using Google Geocoding
- Shooting Star Algorithm on PGRouting of Open Street Map Data
- Calculation of Directions (Directions)



Geocoding

- Portion Of typing
- Provider Selection (Google, Yahoo)
- Return result list
- Click on the outcome of interest and positioning of the marker on the map



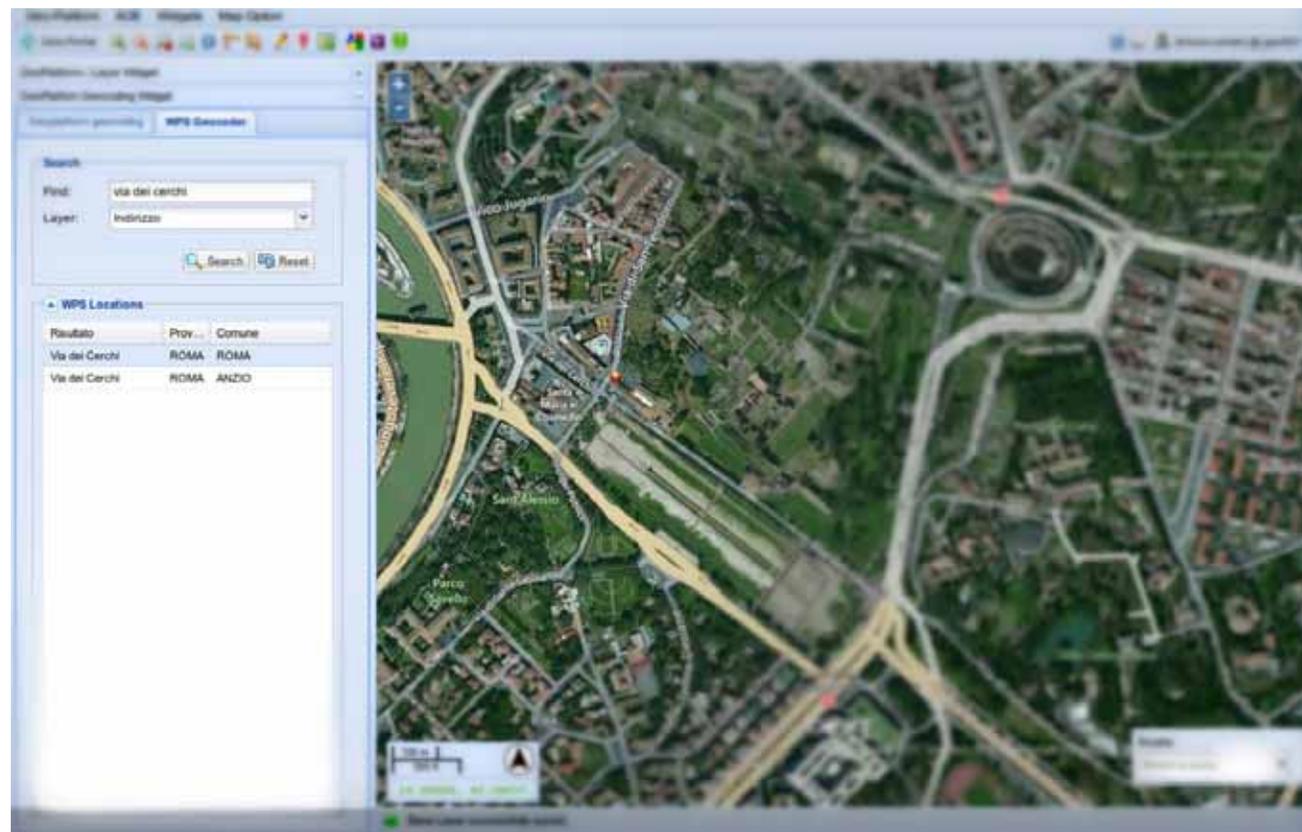
Reverse Geocoding

- Selection of the provider (google, yahoo)
- Click for map
- Return of Results



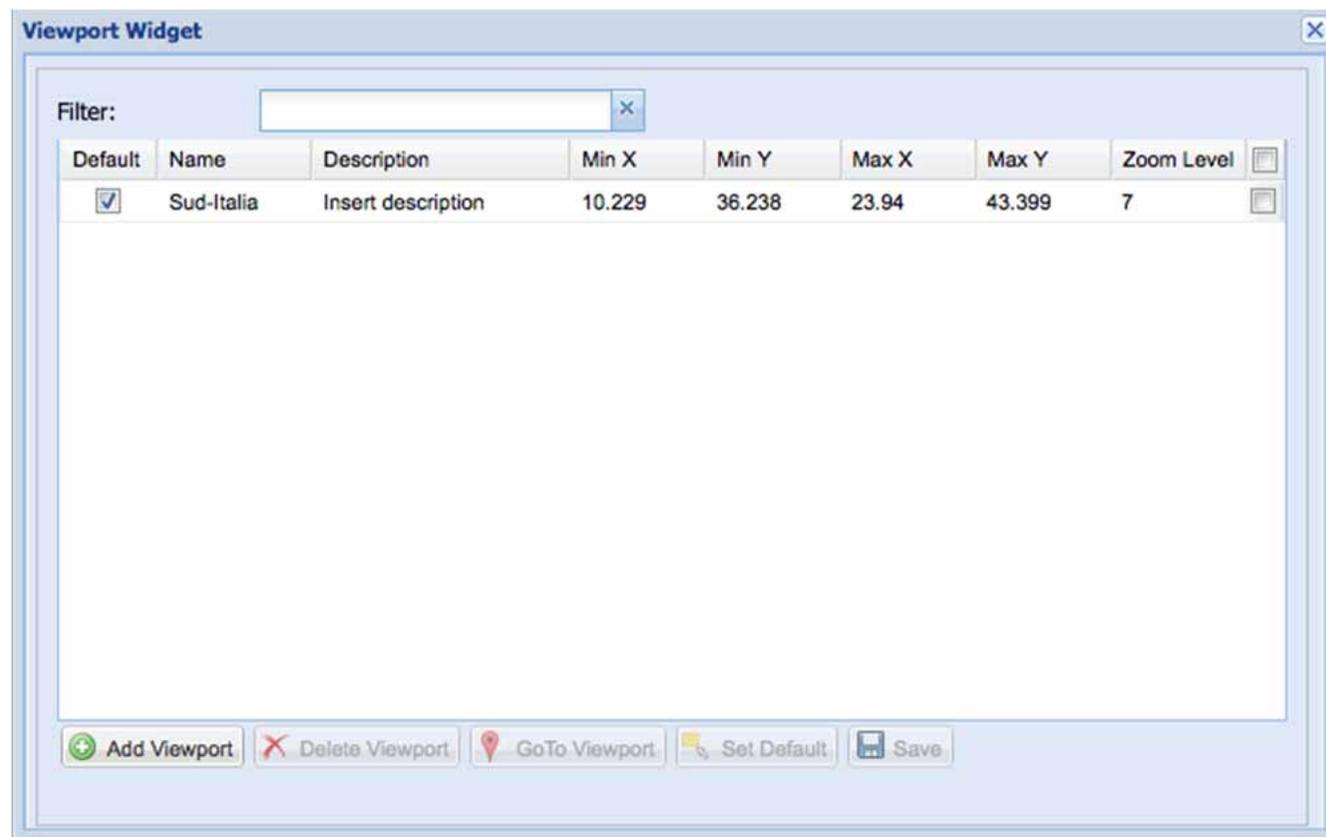
Geocoding WPS

- Type text to search
- Selecting the Layer of which require processing
- Starting the remote WPS process and presentation of results
- Click on the outcome of interest and positioning of the marker on the map



Viewport Management

- Creating viewport according to bbox zoom level shown in map
- Creating viewport to the bbox of a layer present in the tree panel
- Creating a viewport to bbox composed by the sum of bbox of layers present in a folder



Base Map Manager



- Selecting the base map provided by different providers
- Selecting the base map with different reference systems
- EPSG: 3857
- EPSG: 4326
- Apply the base map to the work session with the fly projection view the layers
- Saving the base map to make it the default in the project

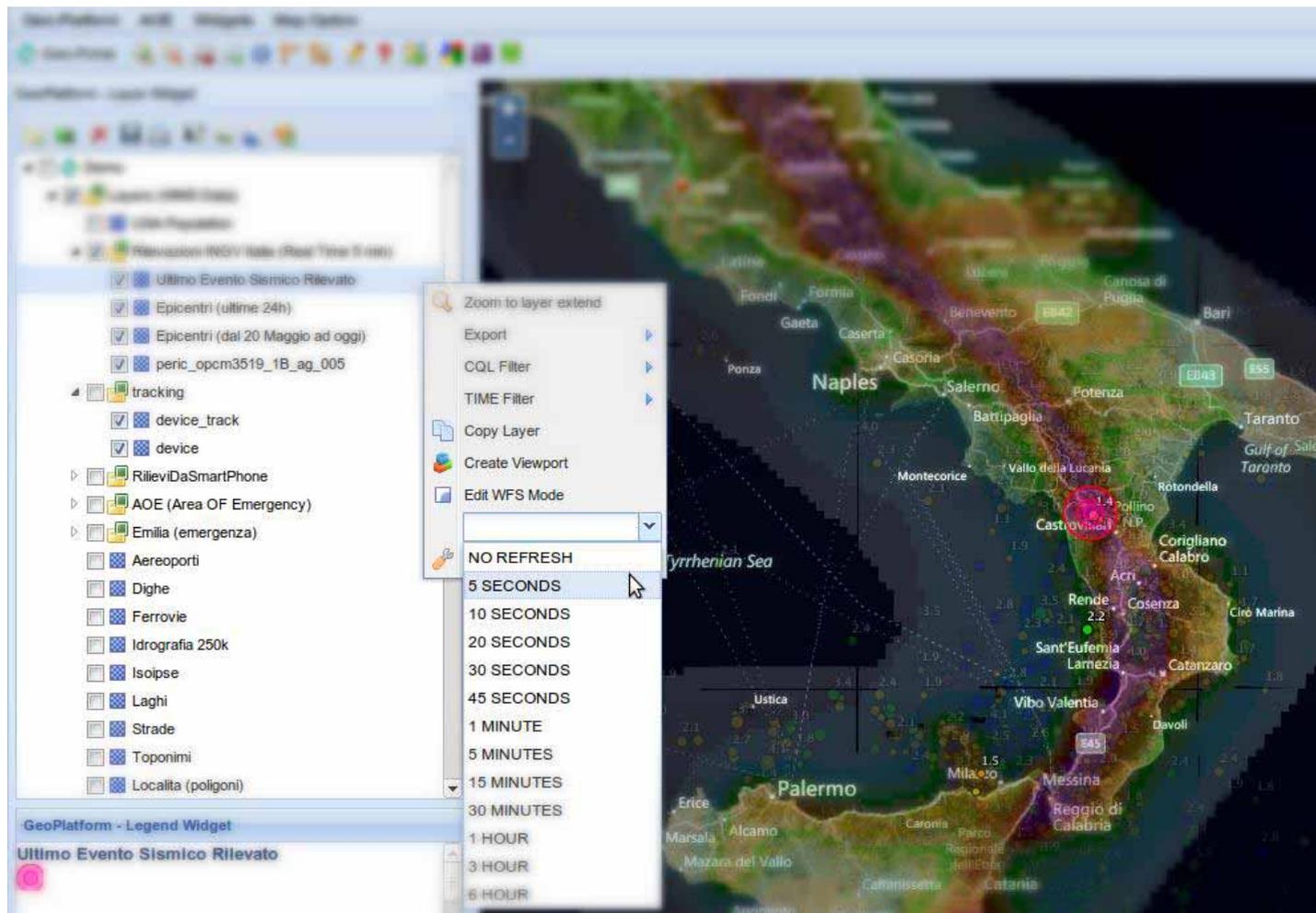
Layer Refresh (1)

- *Refresh the display of a layer with a time cadence. (eg every 60 sec)*
- *Useful for data sources that vengono updated by sensor networks (such as earthquakes ingv, rain gauges)*

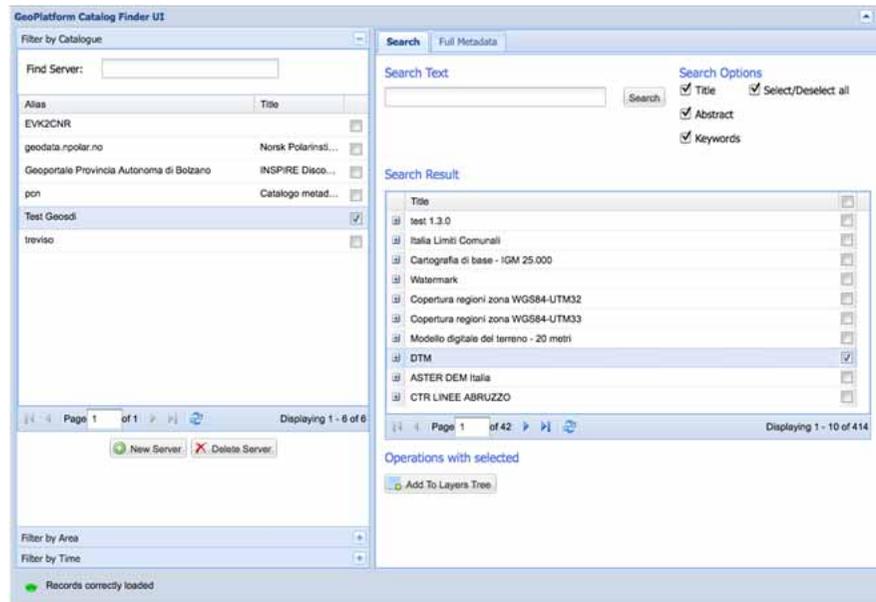
How does it work?

- *The Client you subscribe to a topic XMPP*
- *It is recorded that a scheduler Quartz reminds the client to refresh the layer (every x seconds)*
- *push notifications*

Layer Refresh (2)

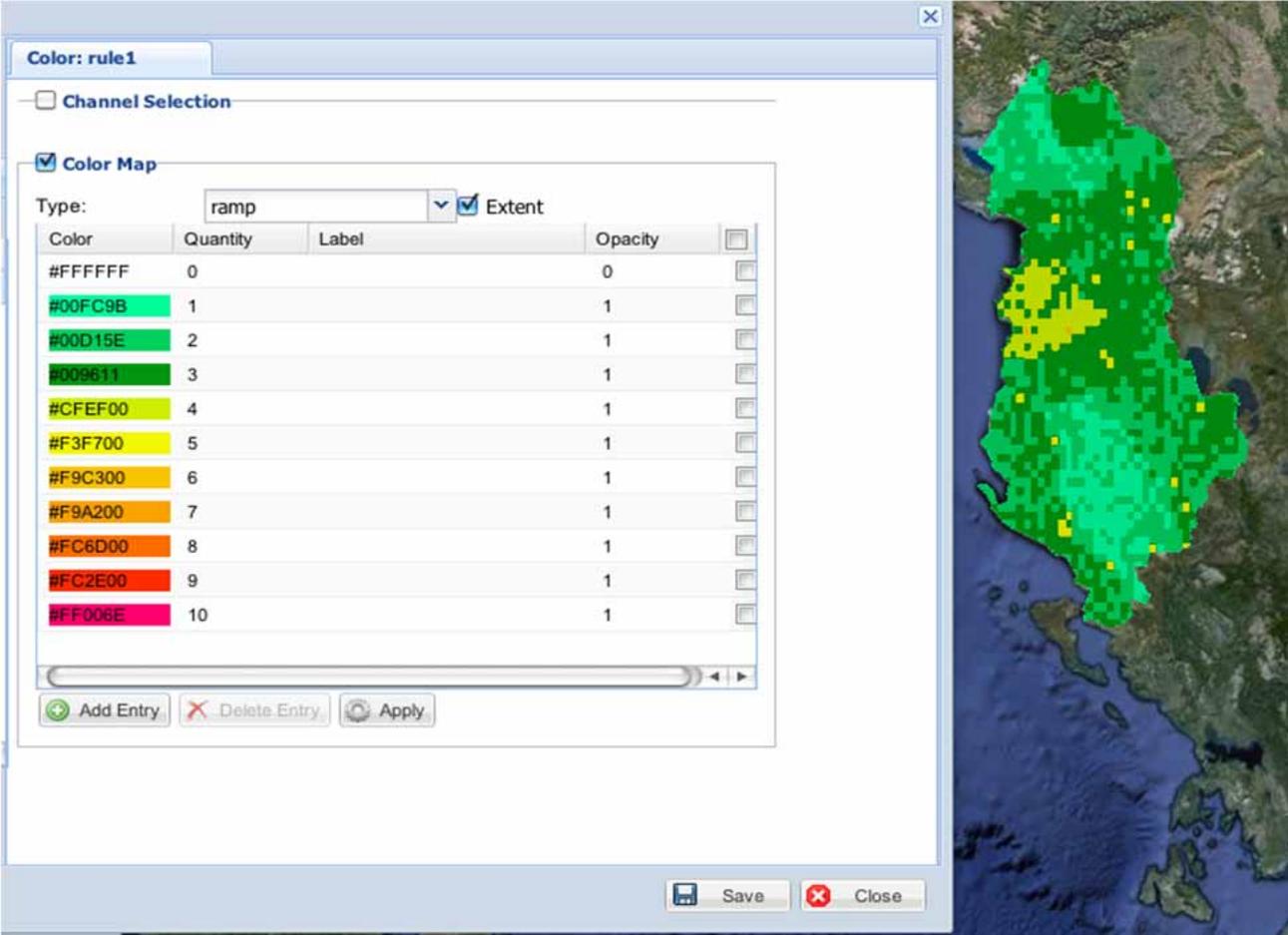


Advanced Widget : Catalog Finder



- Adding Servers CSW 2.0.2
- search Text
- title
- abstract
- Keywords
- search areal
- Encluses
- is
- overlap
- outside
- time Search
- Anytime
- Temporal Extend (applied at the date of creation)
- Adding a layer to the tree panel if metadata is contained in the online resouce WMS

Advanced Widget : Styler (Raster Symbolizer)



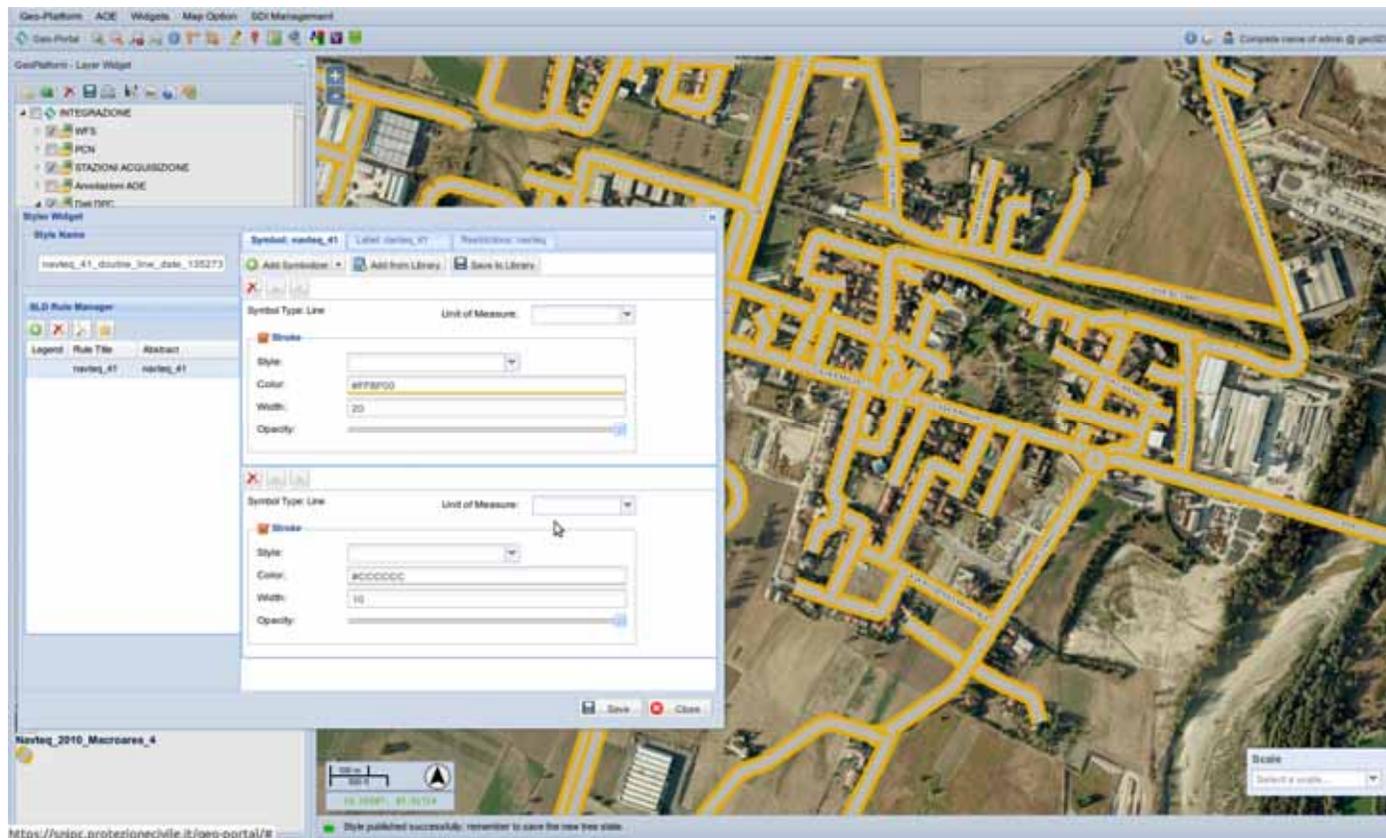
The screenshot displays the 'Color: rule1' dialog box, which is used for configuring a raster symbolizer. The dialog is divided into several sections:

- Channel Selection:** A checkbox labeled 'Channel Selection' is currently unchecked.
- Color Map:** A checkbox labeled 'Color Map' is checked. Below it, the 'Type' is set to 'ramp' and the 'Extent' checkbox is also checked.
- Legend Table:** A table with four columns: 'Color', 'Quantity', 'Label', and 'Opacity'. It lists 11 color swatches with their corresponding quantities and opacities.
- Buttons:** At the bottom of the dialog, there are three buttons: 'Add Entry', 'Delete Entry', and 'Apply'.
- Map Preview:** On the right side of the dialog, there is a vertical preview window showing a map of a region (likely the Balkans) with a color ramp applied to a raster layer. The colors transition from white to yellow, green, and red, matching the legend.
- Global Controls:** At the bottom right of the entire window, there are 'Save' and 'Close' buttons.

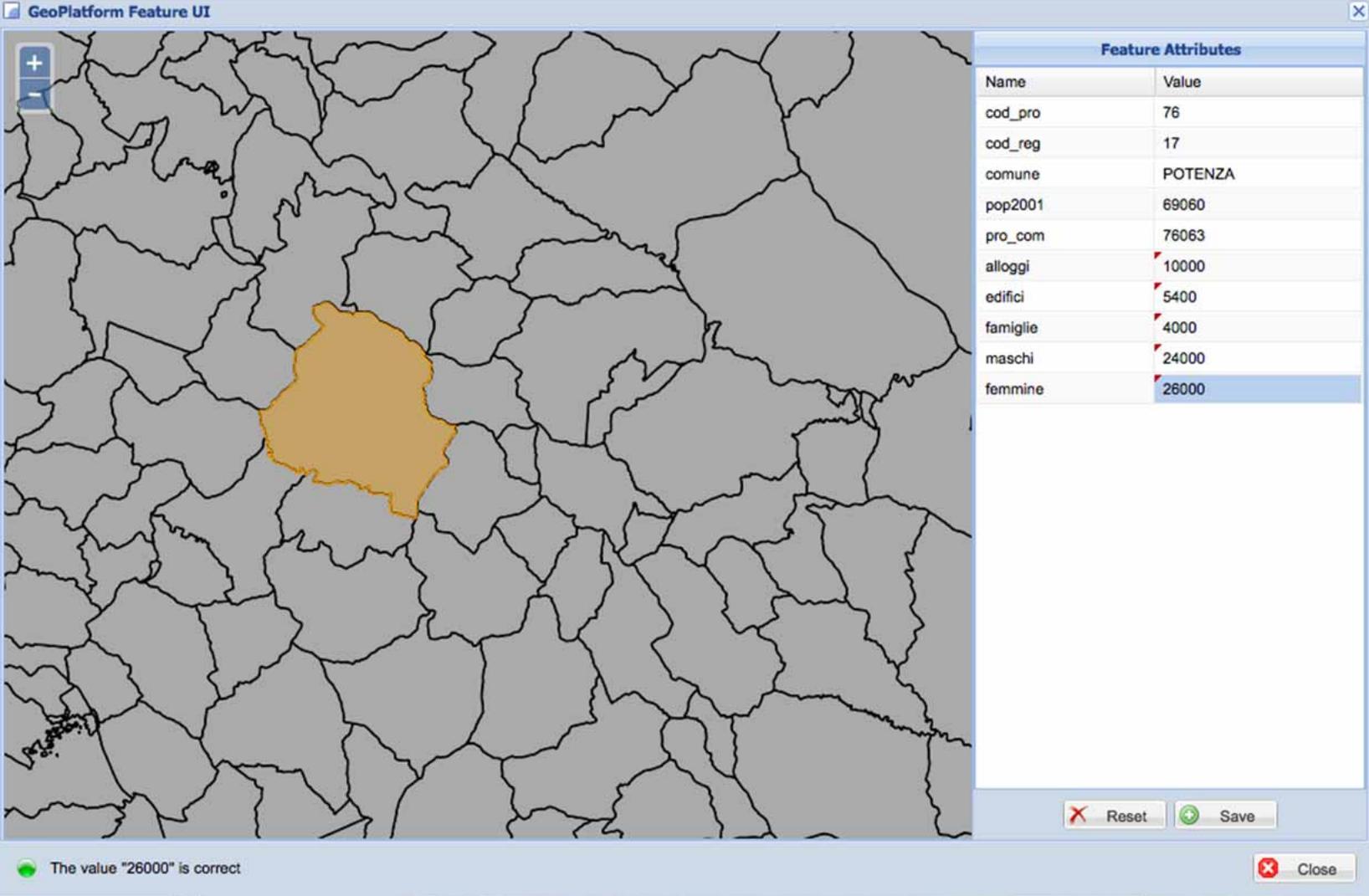
Color	Quantity	Label	Opacity
#FFFFFF	0		0
#00FC9B	1		1
#00D15E	2		1
#009611	3		1
#CFEF00	4		1
#F3F700	5		1
#F9C300	6		1
#F9A200	7		1
#FC6D00	8		1
#FC2E00	9		1
#FF006E	10		1

Advanced Widget : Styler (Vector Symbolizer)

- Esempio di creazione simbologie complesse (*costituite da più symbolizer sovrapposti*)



Advanced Widget : Editor WFS-T



The screenshot displays the GeoPlatform Feature UI editor. On the left, a map of Italy shows a central region highlighted in orange. On the right, a 'Feature Attributes' table lists various data points for the selected feature. The 'femmine' attribute is highlighted in blue, and a green checkmark icon is visible next to its value, 26000. At the bottom, a status bar indicates 'The value "26000" is correct' with a green checkmark icon. The interface includes a 'Reset' button (red X icon) and a 'Save' button (green plus icon) at the bottom right, and a 'Close' button (red X icon) at the bottom right corner.

Name	Value
cod_pro	76
cod_reg	17
comune	POTENZA
pop2001	69060
pro_com	76063
alloggi	10000
edifici	5400
famiglie	4000
maschi	24000
femmine	26000

The value "26000" is correct

Advanced Widget : WPS (process builder)

- Selection Process Remote to perform
- Inserting the input (eg layers to be processed, buffer size, ...)
- Request to perform remote job

The screenshot displays the 'WPS Operations Widget' interface. On the left, a list of operations is shown, with 'SITDPC Respect Zone' selected. The main area on the right is titled 'SITDPC Respect Zone' and contains the following configuration fields:

- Feature Class: sitdpc:comuni2001
- Respect Feature Class: sitdpc:regioni2001
- X: 1794646.3024581
- Y: 4946223.7936413
- Common EPSG: Choose EPSG...
- EPSG: EPSG:3857
- Buffer (meters): 1000

At the bottom right, there are two buttons: 'Reset' and 'Execute Process'.

Advanced Widget : WPS (process response)

- La feature collection risultante può essere aggiunta come nuovo layer
(*Pubblica automaticamente le features su geoserver utilizzando il wps gs:import*)

The screenshot displays the 'WPS Operations Widget' interface. On the left, a list of operations is shown, with 'SITDPC Respect Zone' selected. On the right, a table titled 'SITDPC Respect Zone' lists attribute keys and their corresponding values for two different regions.

Attribute Key	Attribute Value
regione	CAMPANIA
alloggi	0
edifici	0
cod_reg	15
femmine	0
ogc_fid	3
pop2001	5701931
famiglie	0
maschi	0
regione	PUGLIA
alloggi	0
edifici	0

Below the widget, a map shows the geographical context of the data, with a scale bar indicating 100 km and 50 mi, and coordinates 17.34770, 40.53916.

geo-platform: SITDPC



SITDPC

Sistema Informativo Territoriale
Dipartimento della Protezione Civile

Accesso a geoSDI

Nome Utente

Password

Accedi



Scarica l'App Android per le segnalazioni.



Informazioni sul sistema SITDPC

L'utilizzo di SITDPC è ammesso esclusivamente nell'ambito delle attività del Servizio Nazionale di Protezione Civile, attraverso apposito account non cedibile a terzi. Medesima restrizione si applica anche alle stampe dei contenuti informativi del sistema.

Non è consentito divulgare a terzi dati, informazioni ed immagini contenuti nel sistema, se non esplicitamente autorizzato dal Dipartimento della Protezione Civile.

E' disponibile un account pubblico per la sola visualizzazione dei dati: user: **demo** - password: **demo**

geo-platform: SANF2



Accesso a SANF

Nome Utente 

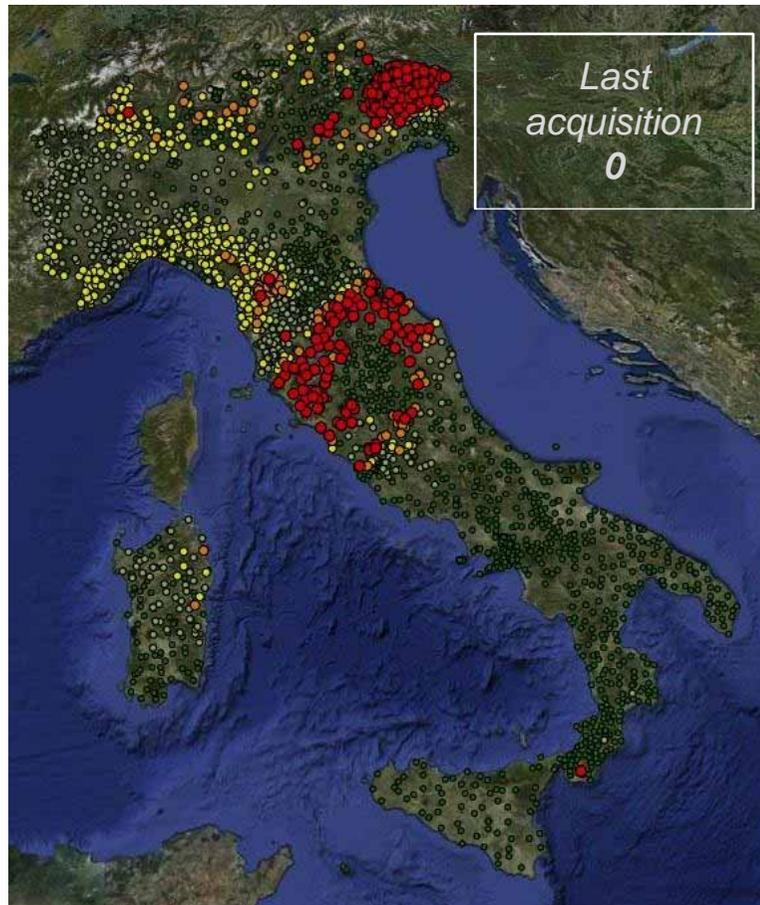
Password

Accedi

una recente applicazione

geo-platform: SANF2

Time Request



TIME FILTER EDITOR

Dimension Fixed Dimension Variable Dimension
strategy:

Dimension Size: 12

From Dimension to Display: 0

To Dimension to Display: 2012-11-12T11:30:01.000Z

Apply Close



Future Development

- short-term
- Documentation (!)
- Showcase of the main widget
- medium term
- Introduction more faces:
- pure GWT
- GWT bootstrap
-
- Long term (end of 2013)
- Mapping full OGC services:
- WMS 1.3.0
- WFS 2.0.0 WPS 1.0.0

How to create a webgis with geo-platform



The screenshot displays the GfNSS.it website interface. At the top left, the logo for GfNSS.it is shown, with the text "Associazione Italiana per l'Informazione Geografica Libera" below it. To the right of the logo is the OSGeo logo. The main content area features a login form titled "Accesso a geoSDI". The form includes two input fields: "Nome Utente" and "Password", followed by a blue "Accedi" button. Below the button is a small Android robot icon and the text "Scarica l'App Android per le segnalazioni." To the left of the login form is a "Free Live Demo" section. It contains a small image of a map with a location pin and the text "User: demo" and "Pass: demo". Below the demo section, there is a small text block: "Informazioni sull'applicazione Base App. Quest'applicazione è una versione minimale di un web-gis realizzato con geo-platform." At the bottom left corner, there is a small copyright notice: "© 2011-2012 geoSDI built with geo-platform".

geoSDI Team



Vincenzo Cuomo
Direzione Scientifica



Dimitri Dello Buono
Direzione Strategia



Francesco Izzi
Direzione Produzione



Giuseppe La Scaleia
Responsabile
Sviluppo



Lorenzo Amato
Responsabile
Web & Mobile Area



Donato Maio
Responsabile
Sistemi in cluster

www.geosdi.org

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