

A few mouse clicks away:

Configuration of deegree WCS, WFS and WMS with OpenJUMP



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Agenda

- short introduction
- initial situation & requirements
- approach & realisation
- workflow at a glance
- features & plug-ins

deegree

.org

joint project between AG GIS, Dept. of Geography, Uni Bonn and lat/lon
free software in terms of FSF: LGPL

.aim

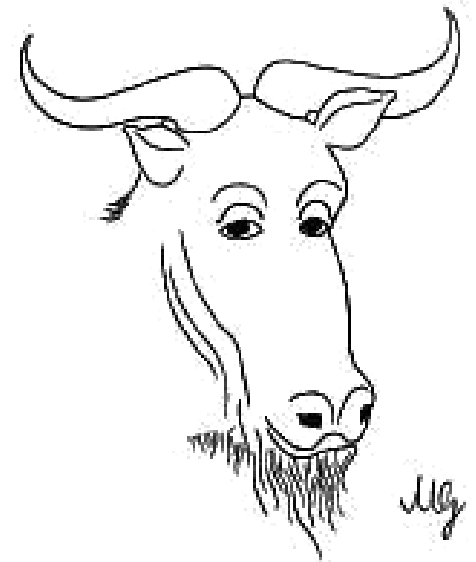
interoperability
management of geospatial data
setup of Spatial Data Infrastructure (SDI)

.how

ISO-models and OGC-interfaces
abstraction from data sources
~ 2000 classes

.now

most comprehensive implementation of OGC/ISO-standards in free software:
WMS & WCS (OGC reference implementations), WFS, CSW, WTS/WPVS, WPS



<http://www.deegree.org/>

initial situation & requirements

Initial Situation

- intended for: system administrators, GIS users without IT background, education
- challenging for beginners: complicated setup and customisation

- example of a "simple" deegree WMS configuration:

```
<UserDefinedSymbolization SupportSLD="1" UserLayer="1" UserStyle="1" RemoteWFS="1"/>
<!-- cascaded, optional and default false -->
<!-- TOP LAYER: As you are able to nest Layers as in this example please always make sure
that you have the appropriate number of opening layer tags <Layer> and closing layer tags </Layer> -->
<Layer queryable="0" cascaded="0" noSubsets="0" xmlns:app="http://www.deegree.org/app">
  <!-- deegree Demo WMS -->
  <!-- abstract and keyword are optional -->
  <Abstract>deegree demo WMS</Abstract>
  <KeywordList>
    <Keyword>deegree</Keyword>
    <Keyword>layer</Keyword>
  </KeywordList>
  <!-- Just add the <SRS> you wish to support with your WMS -->
  <!-- default = EPSG:4326 -->
  <SRS>EPSG:25832</SRS>
  <SRS>EPSG:4326</SRS>
  <SRS>EPSG:31467</SRS>
  <!-- It is strongly recommended that you set a LatLonBoundingBox; further <BoundingBox>es are
optional. Each layer inherits the BBoxes of the parent layer as long as no explicit one is set. -->
  <BoundingBox SRS="EPSG:25832" miny="5214907" maxy="6125958" minx="2998821" maxx="4203082" />
  <BoundingBox SRS="EPSG:31467" miny="5214907" maxy="6125958" minx="2998821" maxx="4203082" />
  <BoundingBox SRS="EPSG:4326" miny="42" maxy="56" minx="4" maxx="17" />
  <LatLonBoundingBox miny="42" maxy="56" minx="4" maxx="17"/>
  <!-- default 0 ; 9E99 -->
```

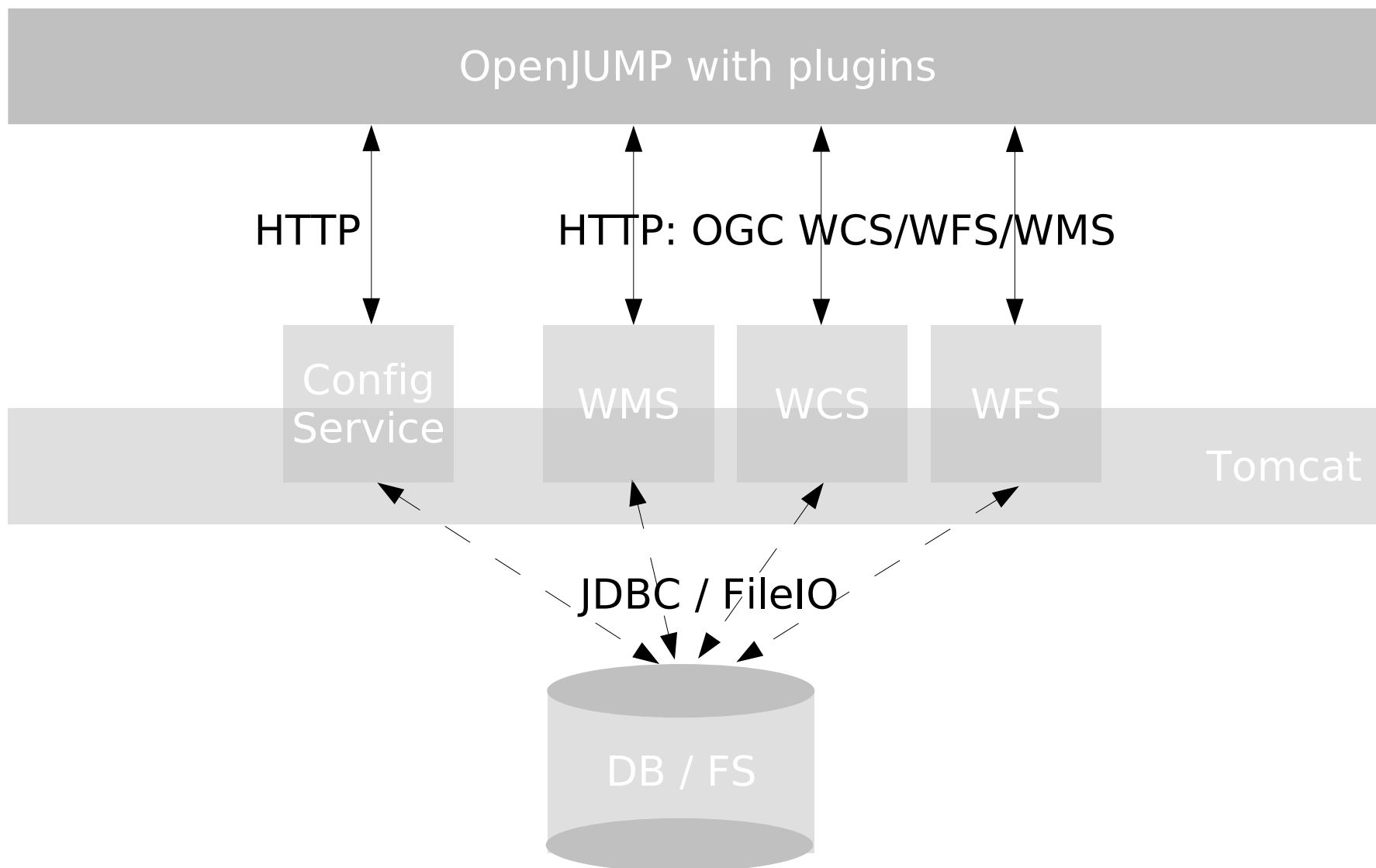
Requirements: Configuration Tool

- decentralise service administration
- configure via HTTP (remote) and FileIO (locally)
- provide multi-user support and access-rights control
- use OpenJUMP as SKOWYSIWYG* - map editor
- transfer geospatial data into a central PostGIS DB
- rename and select feature type attributes for responses of WFS::GetFeature and WMS::GetFeatureInfo
- SLD create, read, write, import, export
- edit service meta data

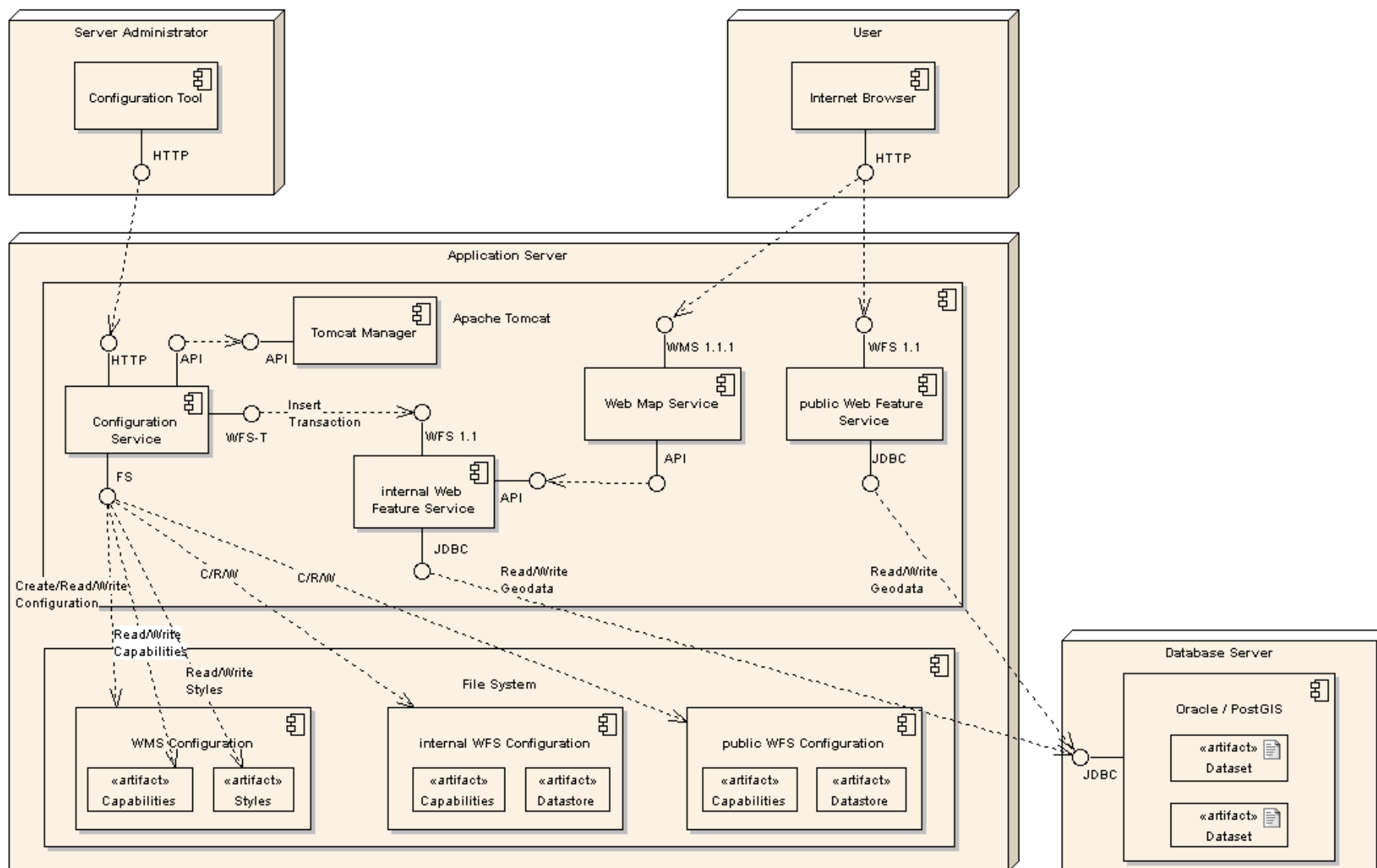
* some kind of: what you see is what you get

approach & realisation

Concept



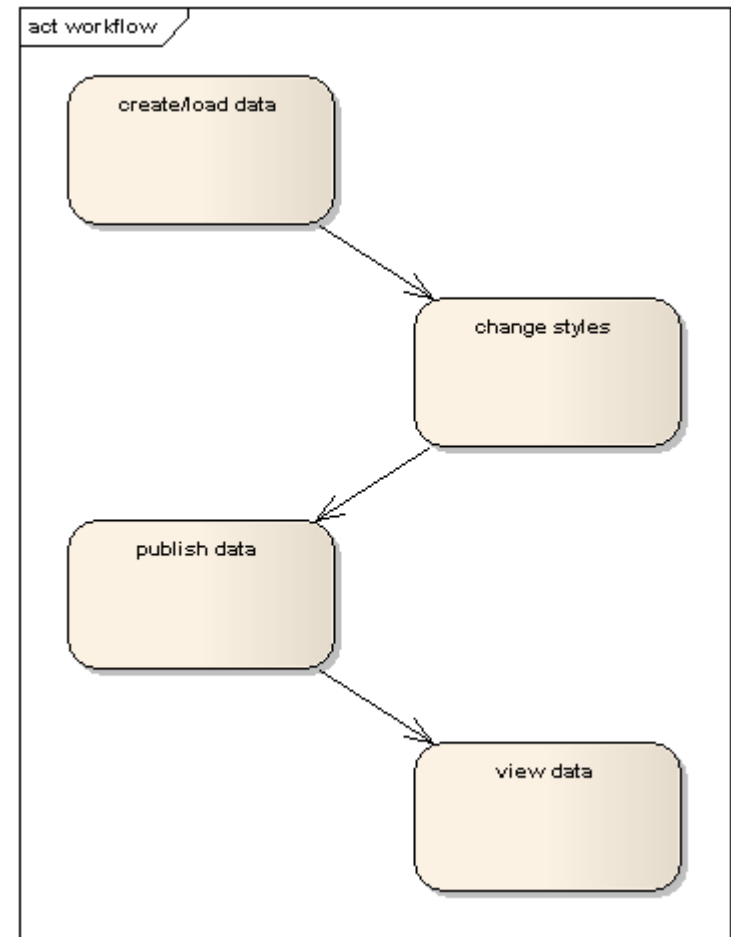
Architecture



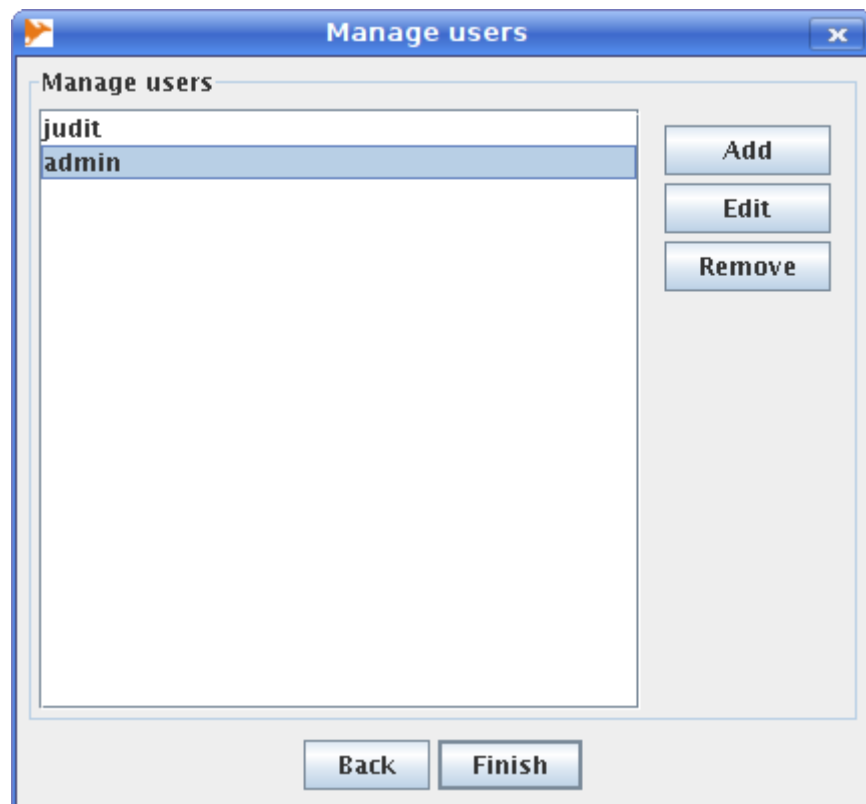
workflow at a glance

Workflow

- edit user data
- log in and administer services
- configure a Web Map Service
 - add layers
 - organise layers in a tree view
 - edit attributes and styles
- configure a Web Feature Service
 - add feature types
 - edit attributes of a feature type
- configure a Web Coverage Service



Edit User Data

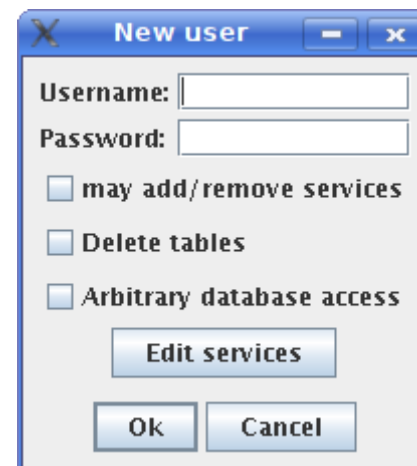


Manage users

judit
admin

Add
Edit
Remove

Back Finish



New user

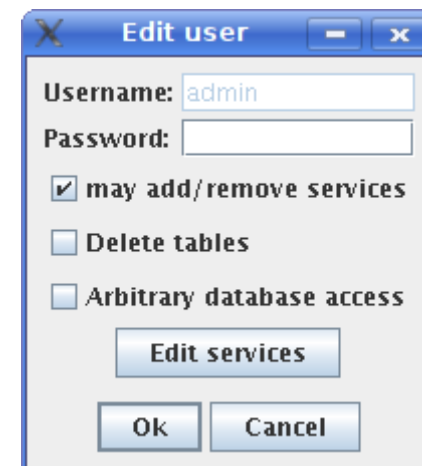
Username:

Password:

☐ may add/remove services
☐ Delete tables
☐ Arbitrary database access

Edit services

Ok Cancel



Edit user

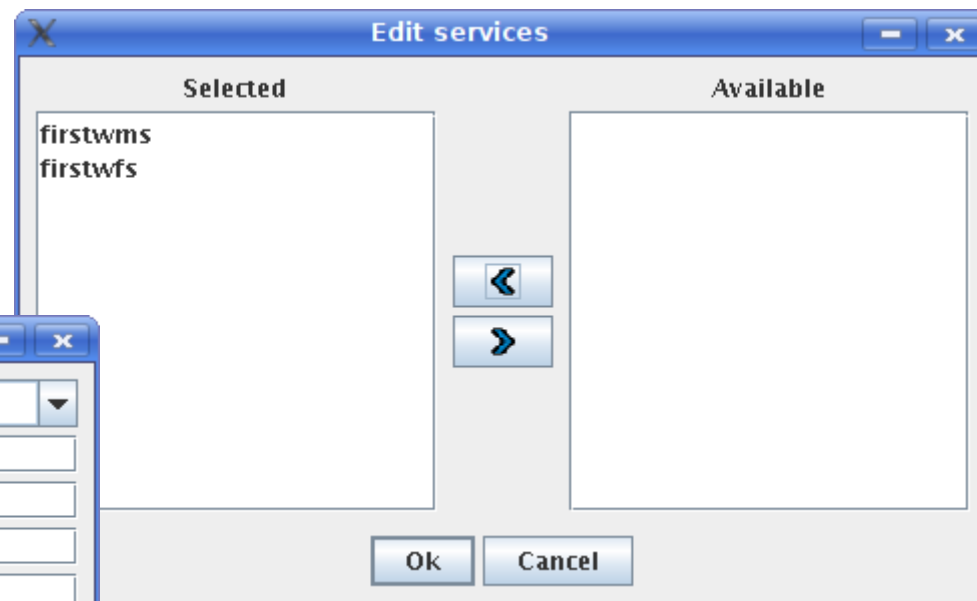
Username:

Password:

☒ may add/remove services
☐ Delete tables
☐ Arbitrary database access

Edit services

Ok Cancel

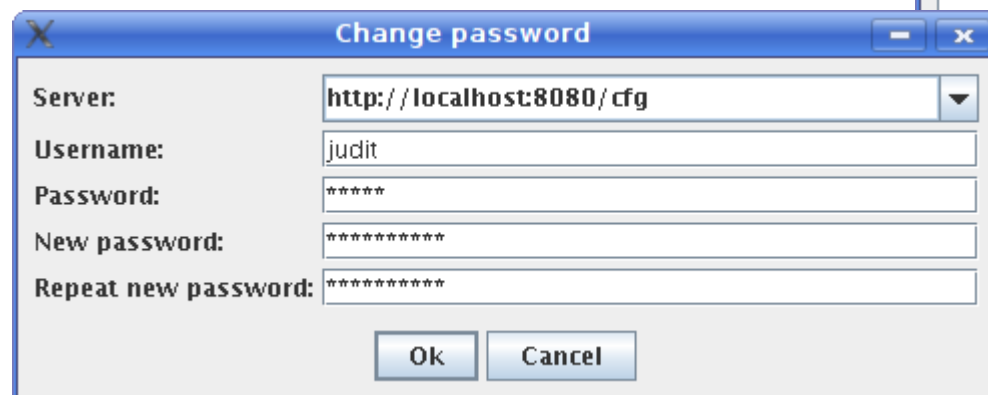


Edit services

Selected Available

firstwms
firstwfs

Ok Cancel



Change password

Server:

Username:

Password:

New password:

Repeat new password:

Ok Cancel

Log in and Administer Services

The image displays three overlapping windows from a software application:

- Remote login**: A window with fields for "Server:" (http://localhost:8080/GWSConfigurationService), "Username:" (admin), and "Password:" (masked with asterisks). It has "Back", "Next", and "Cancel" buttons at the bottom.
- Manage services**: A window showing a list of services with "WMS - firstwms (running)" selected. On the right, there are buttons for "Add", "Edit", "Remove", "Extract internal WFS", "Overwrite internal WFS", "Extract internal WCS", "Overwrite internal WCS", "Start", "Stop", and "Restart". At the bottom are "Back", "Finish", and "Cancel" buttons.
- New service**: A smaller dialog box with fields for "Enter the name of the new service:" (firstwms), "Choose the type of the new service:" (WMS), and "Enter the address of the new service:" (http://localhost:8080). It has "Ok" and "Cancel" buttons at the bottom.

Edit Service Meta Data

Edit WFS metadata

Title:	cite:deegree wfs
Abstract:	wms reference implementation
Contact person:	Andreas Poth
Contact organization:	lat/lon
Contact position:	Technical Director
Address type:	XXXX
Address:	Aennchenstr. 19
City:	Bonn
Region:	NRW
ZIP code:	53177
Country:	Germany
Telephone:	0049228184960
Fax:	00492281849629
email:	info@lat-lon.de
Fees:	none
Access constraints:	none
Service address:	tp://localhost:8080/firstwms/services

☒ Support for GetMap over HTTP GET **Formats**

☒ Support for GetMap over HTTP POST **Formats**

☒ Support for GetFeatureInfo **Formats**

☒ Support for GetLegendGraphic **Formats**

Edit exception formats

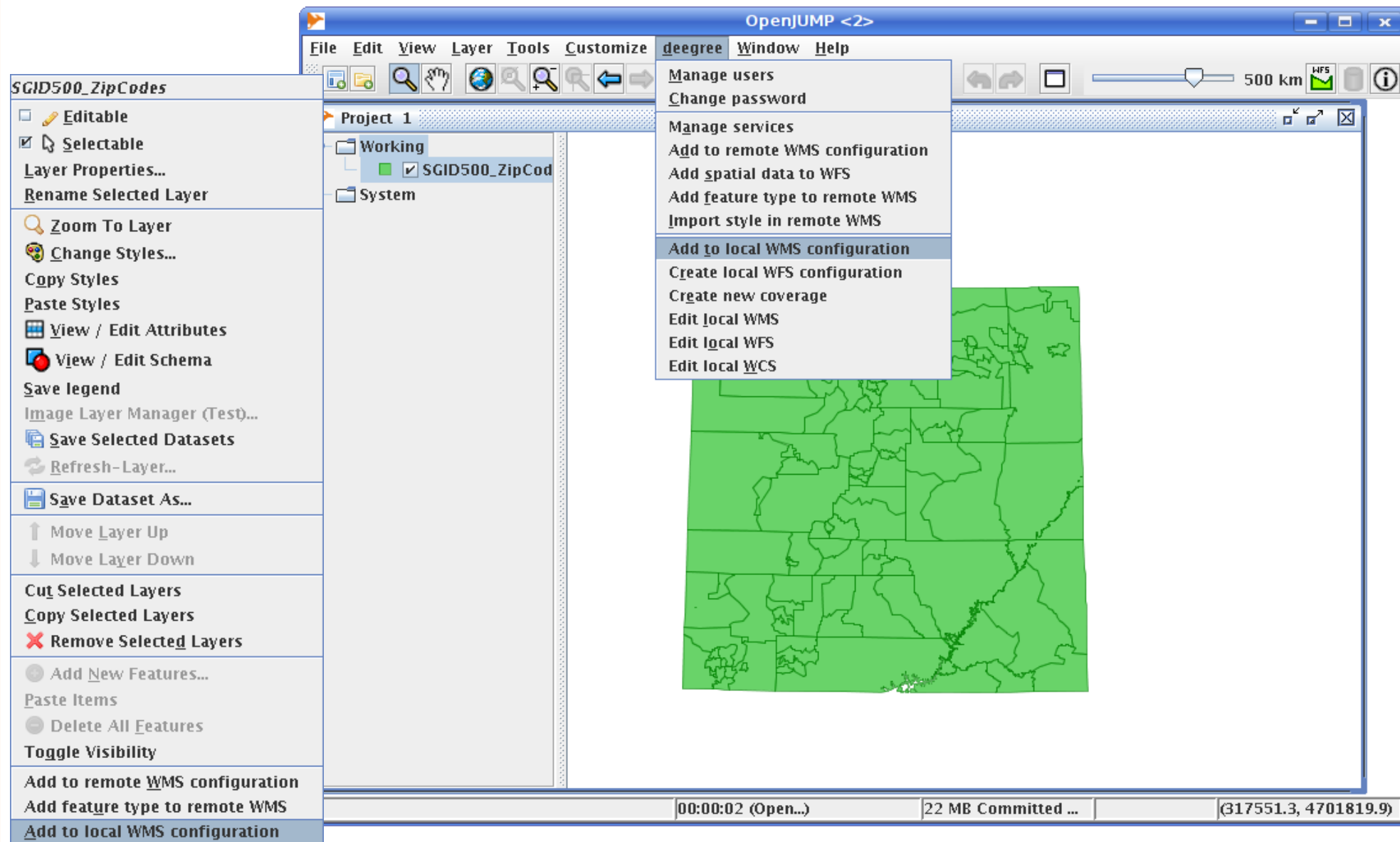
Ok **Cancel**

\$Message with key: WFSPropertiesPanel.par

Title:	My deegree WFS
Abstract:	is my own personalized deegree WFS
Provider name:	lat/lon GmbH
Provider site:	http://www.lat-lon.de
Contact person:	Markus Schneider
Contact position:	deegree WFS core developer
Address:	Aennchenstr. 19
City:	Bonn
Region:	Northrhine-Westfalia
ZIP code:	53177
Country:	Germany
Telephone:	+49 228 184960
Fax:	+49 228 1849629
email:	schneider@lat-lon.de
Contact site:	http://www.lat-lon.de
Contact hours:	24x7
Contact instructions:	Don't call us. We'll call you.
Administrator:	PointOfContact
Service address:	http://localhost:8080/firstwfs/services

Ok **Cancel**

Configure WMS: Add New Layer



WMS: Edit Layer

Layer properties

Name:

Title:

Abstract:

Metadata URL:

Example: <http://host/services?request=GetRecordById&service=CSW&version=2.0.0&elementsetname=full&id=someid>

Supported coordinate systems:

Selected

- DHDN / Gauss-Kruger zone 2
- ETRS89 / UTM zone 32N (EPSG:31466)
- WGS 84 (EPSG:4326)

Available

- DHDN / Gauss-Kruger zone 2
- DHDN / Gauss-Kruger zone 4
- Amersfoort / RD New (EPSG:29902)
- ETRS89 / UTM zone 33N (EPSG:31466)
- DHDN (EPSG:4314)
- NAD83 / UTM zone 12N (EPSG:31466)

Buttons: New CRS, <, >, Edit bbox, Remove

Minimal scale:

Maximal scale:

Data CRS:

Data source:

Style:

Buttons: Ok, Cancel

Edit layer tree

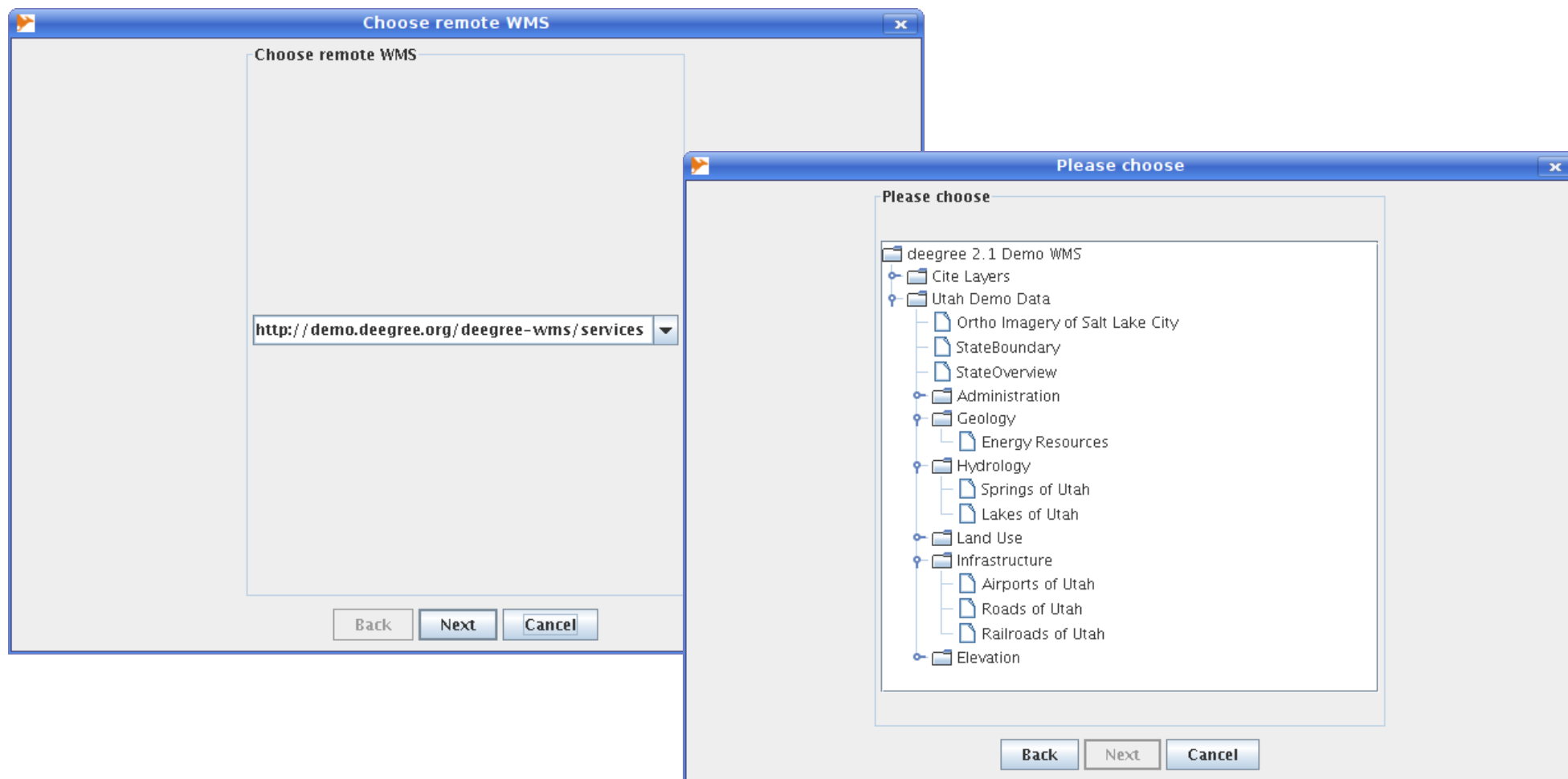
Edit layer tree

- deegree 2 WMS configuration template
 - vector
 - vg250_sta
 - wfs_vg250_sta
 - raster
 - z2_03_05

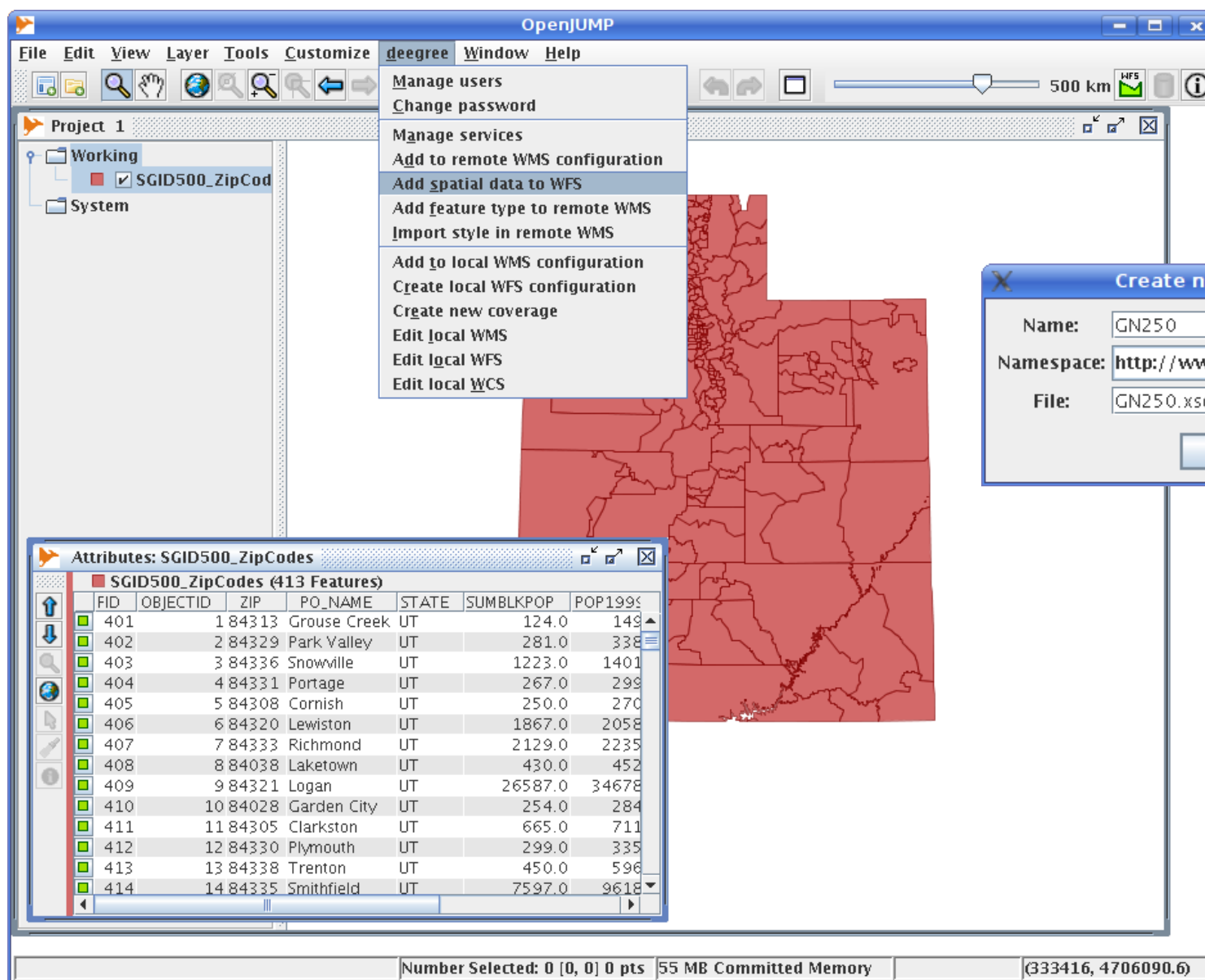
Buttons: New category, Add WCS layer, Add remote WMS layer, Edit, Remove, Calc bbox, Move up, Move down, Edit metadata

Buttons: Back, Finish, Cancel

WMS: Cascading Layers



Configure WFS: New Feature Type



WFS: Data Source for Feature Type

The image shows three overlapping dialog boxes from a GIS application, likely QGIS, used for configuring a WFS (Web Feature Service) data source.

- Select datasource:** This dialog is in the background. It has a title bar with a close button. The main area contains four radio buttons:
 - ☒ PostGIS database
 - ☐ Oracle Spatial database
 - ☐ Shape file
 - ☐ Custom databaseAt the bottom are three buttons: Back, Next, and Cancel.
- Database connection:** This dialog is in the middle. It has a title bar with a close button. It contains three text fields:
 - Server: gresql://hurricane
 - Username: deegree test
 - Password: *****At the bottom are two buttons: Ok and Cancel.
- Select shape file:** This dialog is in the foreground. It has a title bar with a close button. The main area contains:
 - A text field with the value: /home/deegree/data/vector/SGID024_StateBoundary.shp
 - A Browse... button to the right of the text field.
 - A label: Choose coordinate system:
 - A dropdown menu below the label.At the bottom are three buttons: Back, Next, and Cancel.

WFS: Attributes of Feature Type

The image shows two overlapping dialog boxes from a GIS application. The 'Edit schema' dialog is in the background, and the 'Summary' dialog is in the foreground.

Edit schema

Name	Type	Enabled?
fid	VARCHAR	<input checked="" type="checkbox"/>
objectid	INTEGER	<input checked="" type="checkbox"/>
name	VARCHAR	<input checked="" type="checkbox"/>
fips	INTEGER	<input checked="" type="checkbox"/>

☐ Delete
☐ Insert
☐ Update

Back Next Cancel

Summary

Summary

Remote configuration: firstwfs WFS
Changed feature type: {http://www.deegree.org/app}:GN250 GN250.xsd
Data source: From existing PostGIS table: counties
Attribute: fid,objectid,name,fips

Back Finish Cancel

Configure WCS: New Coverage

Edit parameters

Image directory:

☐ Descent recursively into directory

Coverage name:

Output directory:

Output format:

Data srs:

World file type:

Interpolation method:

Max. tile size:

Number of levels:

Bit depth:

Image quality:

☐ Create spatial index in database

Server:

Username:

Password:

Select how to proceed

Select how to proceed

- ☐ Start process on configuration server
- ☐ Start process on local computer and wait
- ☐ Start process on local computer in the background
- ☒ Show call of RasterTreeBuilder

Result: SDI Services

Planen und Bauen Planen en Bouwen

Home **Karte** Catalogue Hilfe

Willkommen **Mister Plannen**
Konto bearbeiten plannen
Abmelden

Koordinatensystem
ETRS89/UTM z. 32N

x: 298542, y: 5670125
x: y:

Viewergroße 1024x768

Messen von:
☒ Länge ☐ Fläche
Länge: m
Fläche: m²

Maßstab: 1: 25000
Maßstab wählen

Gemeinden

Schloss Elsum

- ☒ Plannen
 - ☒ Plangrenzen
 - ☒ DURPplannen punt
 - ☒ DURPplannen lijn
 - ☒ DURPplannen vlak
- ☒ Base vector
 - ☐ Wegen
 - ☐ Water
 - ☒ Provinciegrens
- ☒ Base raster
 - ☐ i NRW base maps
 - ☐ NRW Übersicht
 - ☐ NRW 500
 - ☐ TK 100
 - ☒ TK 50
 - ☐ TK 25
 - ☐ DTK 10 G
 - ☐ DGK 5
 - ☒ Orthophoto
 - ☐ Luchtfoto

Features & Plug-ins

- wizard-based user navigation
- SLD import and export
- data sources
 - ShapeFiles and CSV
 - MapInfo MIF/MID, including drawing rules
 - remote WMS layers
- WFS plug-in, deeJUMP plug-in, OWSConfig plug-in, Web Configuration Service (WCFGs)
- <https://wiki.deegree.org/deegreeWiki/ConfigTool>

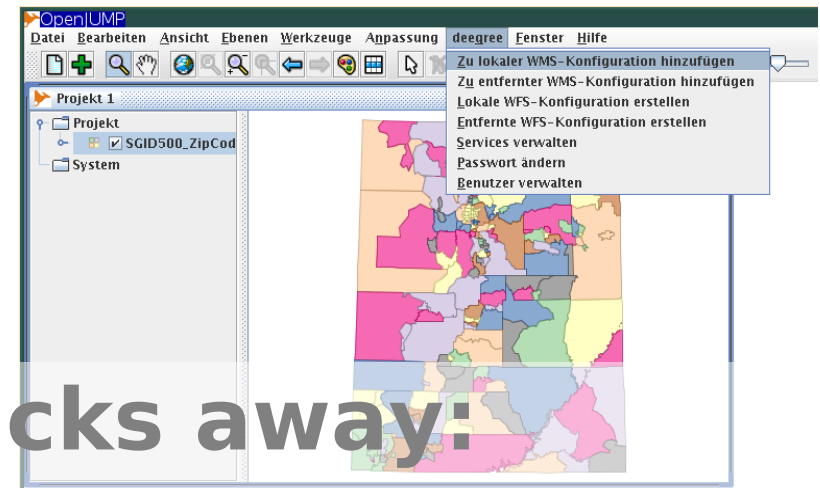
Acknowledgement

The configuration tool has been supported by projects carried out in collaboration with:

- Federal Ministry of the Interior, Germany
- Free and Hanseatic City of Hamburg, Germany
- City of Bonn, Germany
- City of Wuppertal, Germany
- X-Border-GDI (Provincie Limburg, Netherlands)

any questions?

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