



Mapbender 3 - where are we going?

Astrid Emde
FOSS4G Denver 2011

Astrid Emde

- Mabbender Developer Team since 2004
- PSC (Project Steering Committee)
- Work at WhereGroup, Bonn
- Project management and a bit of development
- Trainings for MapServer, PostgreSQL/PostGIS, Mapbender, GeoServer
- Work with the OSGeo stack for many years
- Active member in FOSSGIS e.V. and OSGeo

WhereGroup

- Major Mapbender sponsor
- Company in Bonn, Germany with 16 employees
- Service provider with experience in all fields of spatial data management with free software: WebGIS, SDI, database, relevant standards, trainings, conferences
- Open Source projects: Mapbender, PostNAS



WhereGroup

Mapbender – where are we going?

- The concept of Mapbender
- Evaluation for Mapbender3
- What we chose
- Demo
- Getting started

What does Mapbender do?

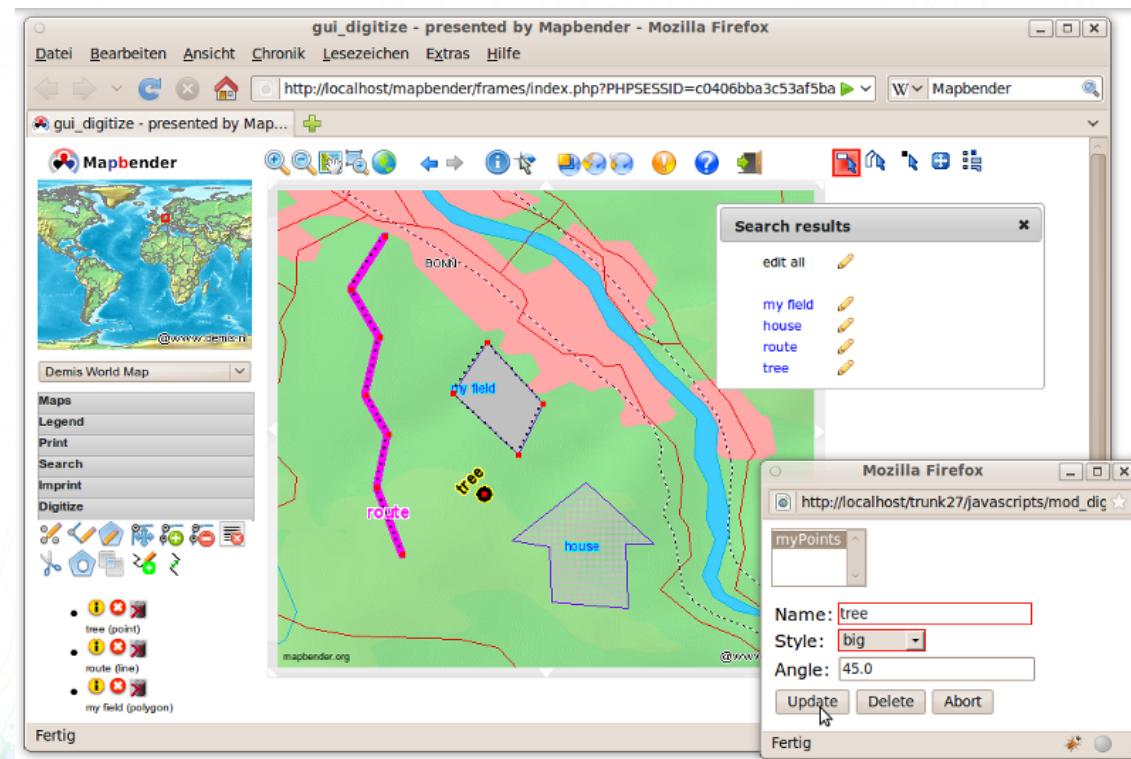
- Create **geospatial web applications** without writing a single line of code
- Create and maintain an **OWS repository** (focus on WMS, WFS)
- Distribute **configured services** among applications
- Grant **users and groups** access to applications and services
- → **These attributes make Mapbender special**

The Mapbender components

- Applications
- OGC Web Services
- Users and groups

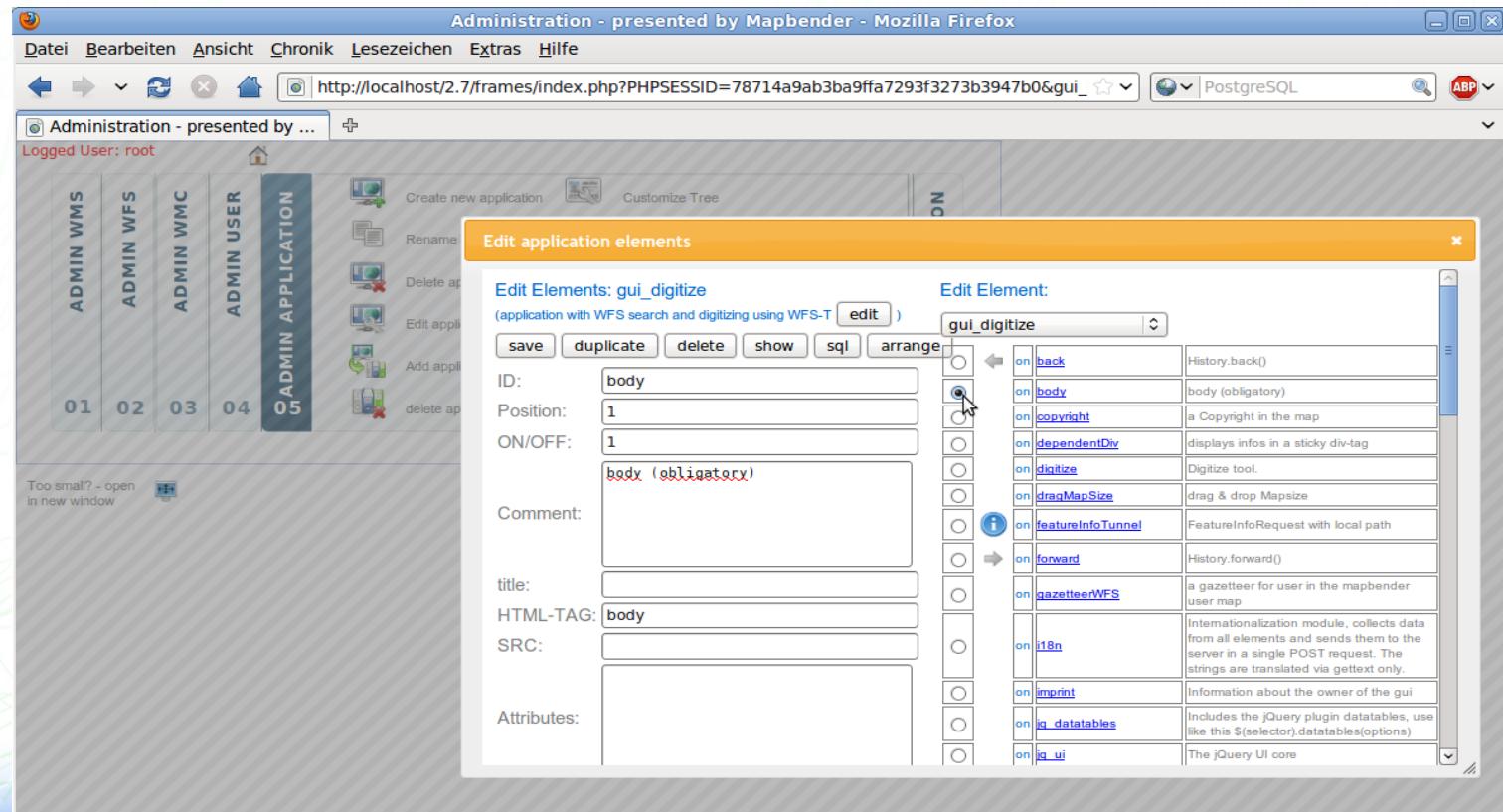
What does Mapbender do?

Typical Mapbender application (Mapbender 2.7.2):



What does Mapbender do?

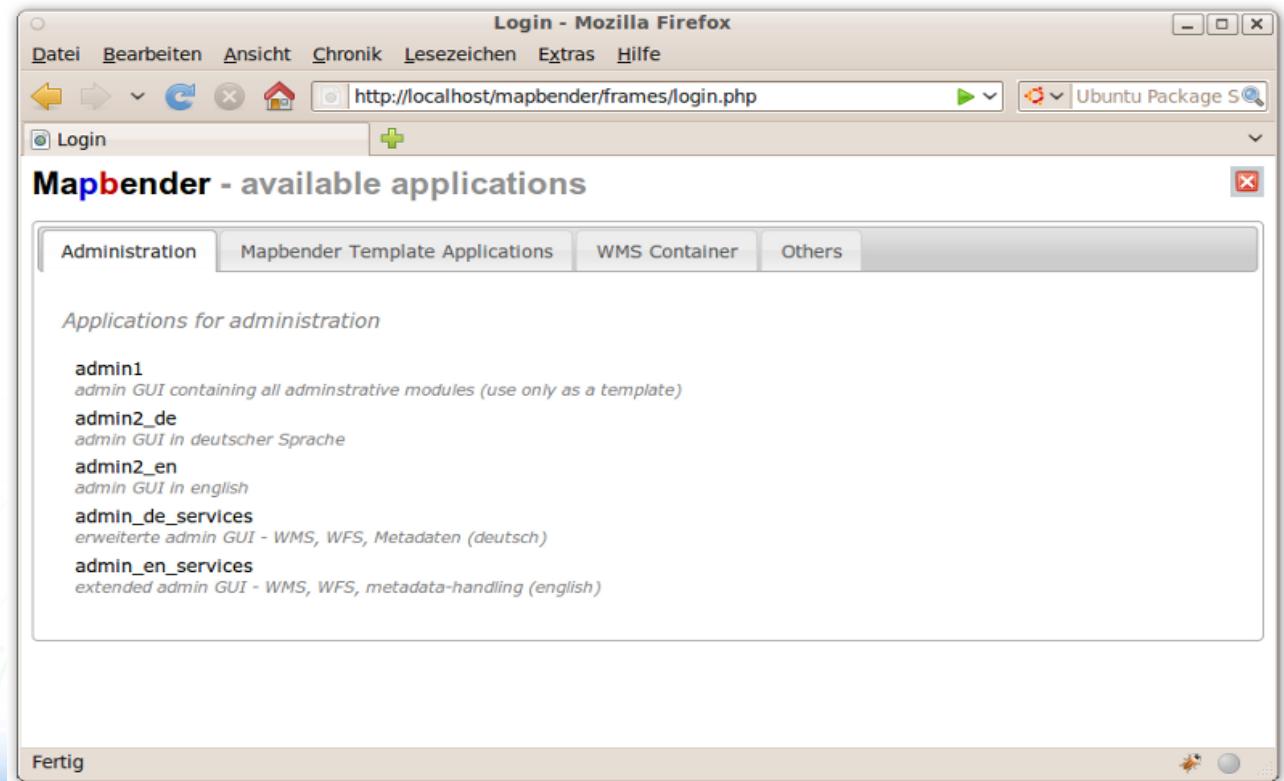
How is it created? By another Mapbender application!



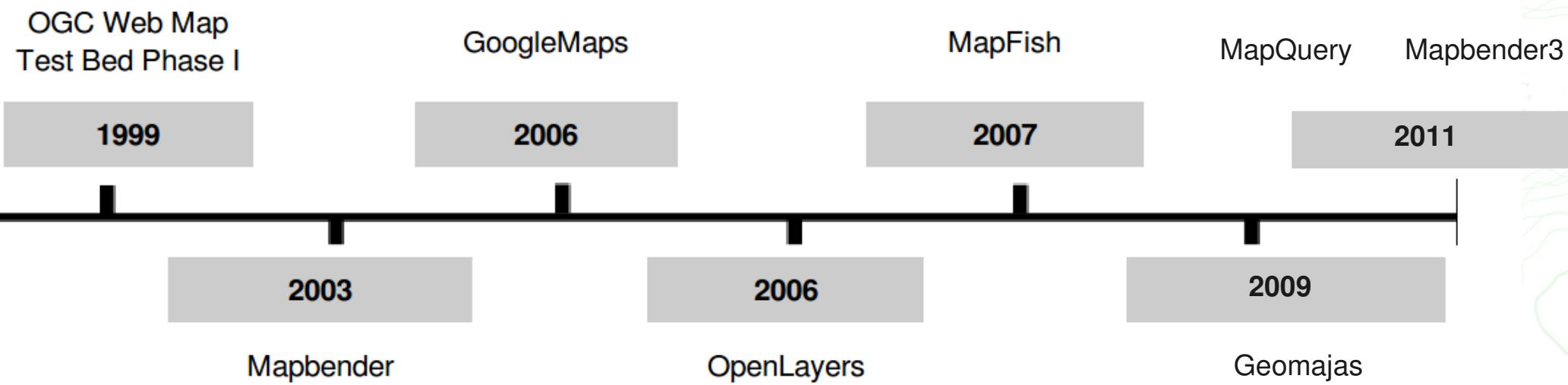
The screenshot shows a Mozilla Firefox browser window with the title "Administration - presented by Mapbender - Mozilla Firefox". The address bar shows the URL http://localhost/2.7/frames/index.php?PHPSESSID=78714a9ab3ba9ffa7293f3273b3947b0&gui_. The main content area displays a navigation menu on the left with items: ADMIN WMS (01), ADMIN WFS (02), ADMIN WMC (03), ADMIN USER (04), and ADMIN APPLICATION (05). A central panel shows a list of application elements. A modal dialog box titled "Edit application elements" is open, showing the configuration for "gui_digitize". The dialog includes fields for ID (body), Position (1), ON/OFF (1), Comment, title, HTML-TAG (body), SRC, and Attributes. To the right of the dialog is a list of available elements with their descriptions, such as "on_back", "on_body", "on_copyright", "on_dependentDiv", "on_digitize", etc.

What does Mapbender do?

The concept is easy: Mapbender is written in Mapbender!



A History of Web Mapping



from C.Baudson and A. Christl 2010, modified

Mapbender History

Mapbender History

- 1999: experimental Perl client for OGC WMT 1.0
- 2001: re-implementation in PHP, operational users
- 2003: Adoption of Open Source license and development
- 2006: OSGeo foundation project, Incubation passed.
- 2007: Introduced jQuery-library to Mapbender
- 2008: Modularization, first steps using OpenLayers
- 2010: Version 2.7 with new features
- **2011: Version 3.0 re-engineering**

Project Organisation

- Mapbender Project Page <http://www.mapbender.org>
- Mapbender3 <http://mapbender3.org>
- Mapbender3 on github <http://github.com/mapbender/>
- Trac <http://trac.osgeo.org/mapbender/report>
- SVN <https://svn.osgeo.org/mapbender/>
- Mailing lists / IRC
 - users@mapbender.osgeo.org
 - dev@mapbender.osgeo.org
 - <irc://irc.freenode.net#mapbender>

Mapbender3 Evaluation

Mapbender3 Evaluation

- No need to build everything ourselves
- Use existing software
- Use OpenLayers instead of reinventing the wheel
- Use a framework
 - serverside framework
 - clientside framework

Mapbender3 – what we chose

The Components



Mapbender3

Client **JavaScript**



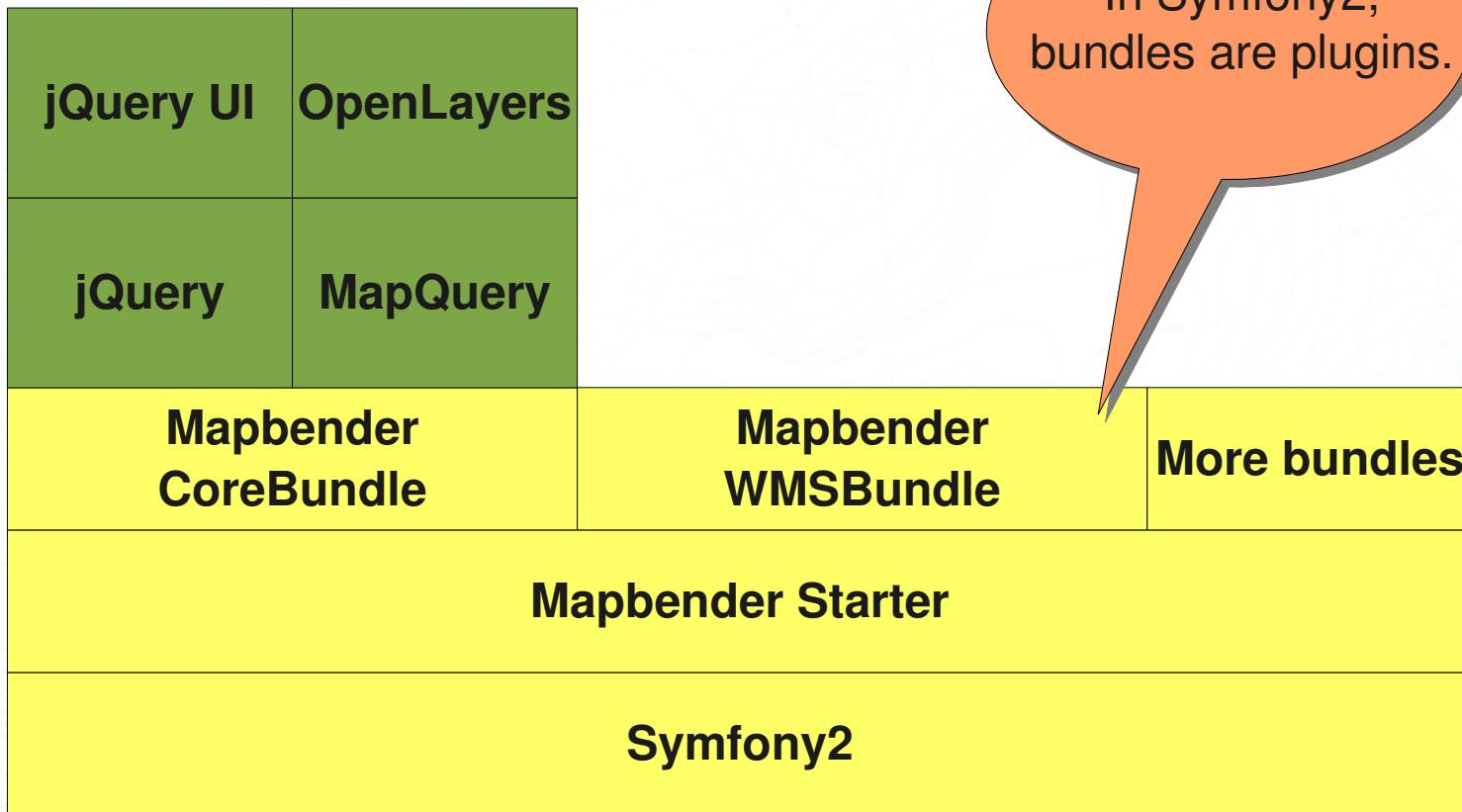
MapQuery

Server

PHP

 **Symfony**

The Components



Symfony2

- Successor of Symfony 1, full OO PHP framework
- Fresh from the press, released stable as of 07/28/2011
- Building blocks for all modern web application needs
 - Database abstraction
 - User authentication, authorization
 - Templating
 - I18n (Internationalization)
 - and much more!



MapQuery

- MapQuery Version 0.1 was released in 2011
- Implements a jQuery interface to OpenLayers
- provides a set of mapping related widgets
- We use MapQuery to interact with OpenLayers

MapQuery

Mapbender

- Collection of Symfony bundles
- CoreBundle (mandatory)
- Extension Bundles (optional)
 - WMSBundle
 - WMTSBundle
 - WMCBundle
 - More to come

Mapbender CoreBundle

- The base bundle for Mapbender
- Offers base classes for applications, elements, layers
- Provides jQuery, jQuery UI, OpenLayers and MapQuery for all other Mapbender bundles

Mapbender Starter

- A Symfony2 demo project which uses the Mapbender bundles to showcase a Mapbender3 application
- Contains demo applications with WMS, WMTS and authentication
- Can be used as a boiler template to start Mapbender3 projects

Requirements

- PHP 5.3.2 or newer - essential to run Symfony2
- PHP CLI for running command line operations for Symfony2 like database management
- Using Doctrine – Symfony's database abstraction layer (DBAL) – we aim to provide usability with more than just PostgreSQL

<https://github.com/mapbender/mapbender-starter/blob/master/README.rst>

Getting started

- Get the code (download package)

<http://mapbender3.org/Download>

- Try the demo

<http://mapbender3.org/index.php/Demo>

Installation

- Install with the bootstrap or step by step

- Installation with the bootstrap

```
curl https://raw.github.com/mapbender/mapbender-
starter/master/bin/bootstrap.sh -o - | sh
```

- Read more about the installation

<http://mapbender3.org/index.php/Handbook>

Step by Step Installation

```
git clone https://github.com/mapbender/mapbender-starter.git  
mapbender-starter  
  
cd mapbender-starter  
  
git submodule update --init --recursive  
  
cd application  
  
app/console doctrine:database:create  
  
app/console doctrine:schema:create  
  
app/console assets:install --symlink web
```

Mapbender3 – the Application

Start the Welcome Page

Screenshot of Mozilla Firefox displaying the Mapbender3 welcome page.

The browser window title is "Welcome - Mapbender3 - Mozilla Firefox".

The address bar shows the URL: <http://localhost/mapbender-starter/app.php>.

The page header includes a navigation menu with links: Datei, Bearbeiten, Ansicht, Chronik, Lesezeichen, Extras, Hilfe.

The main content area features a decorative graphic of three overlapping hearts (red, blue, and white) on a dark background.

The top navigation bar contains links: Apps, Services, Users, Handbook, Logout, and My Account.

A text box in the center states: "This is the overview page of Mapbender3. Below you find a list of applications you can access:"

Two application cards are visible:

- Mapbender User Demo Map**: Simple map showing WMS use.
- OSM Denver Map**: Simple map showing OSM with WMTS tiles.

The bottom left corner of the page says "Fertig" (Done).

Application with Authentication

Login - Mapbender3 - Mozilla Firefox

Datei Bearbeiten Ansicht Chronik Lesezeichen Extras Hilfe

http://localhost/mapbender-starter/app.php/user/login

PostgreSQL ABP

Login - Mapbender3



Fertig

Simple Application with WMS

Mapbender User Demo Map - Mapbender3 - Mozilla Firefox

Datei Bearbeiten Ansicht Chronik Lesezeichen Extras Hilfe

http://localhost/mapbender-starter/app.php/application/mapbender_user

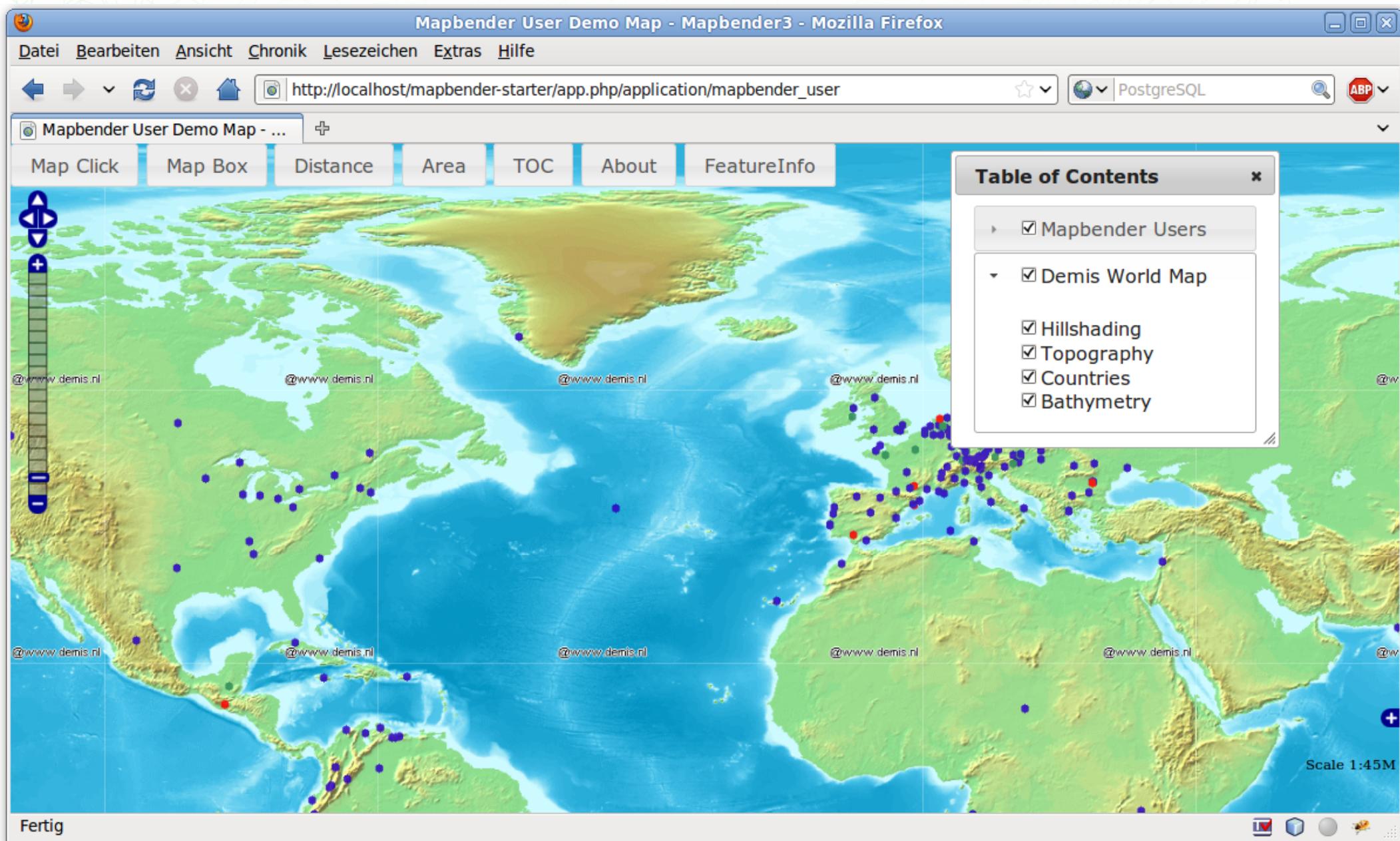
Mapbender User Demo Map - ... +

Map Click Map Box Distance Area TOC About FeatureInfo

Table of Contents

- Mapbender Users
- Demis World Map
 - Hillshading
 - Topography
 - Countries
 - Bathymetry

Fertig



Calculate Area

Mapbender User Demo Map - Mapbender3 - Mozilla Firefox

Datei Bearbeiten Ansicht Chronik Lesezeichen Extras Hilfe

http://localhost/mapbender-starter/app.php/application/mapbender_user

Map Click Map Box Distance Area TOC About FeatureInfo

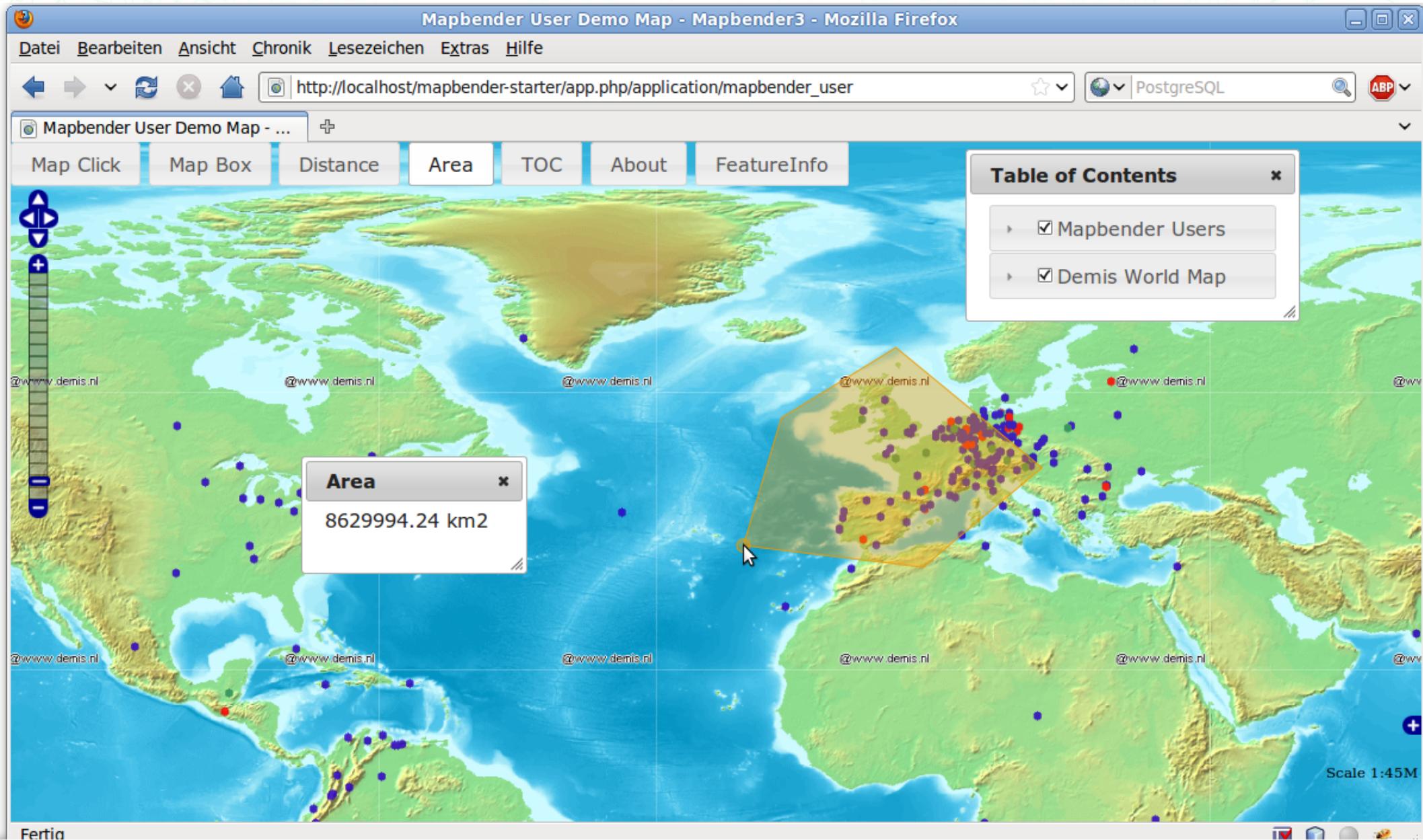
Mapbender User Demo Map - ... +

Table of Contents

- Mapbender Users
- Demis World Map

Area
8629994.24 km²

Scale 1:45M



This screenshot shows the Mapbender User Demo Map application running in Mozilla Firefox. The interface includes a top navigation bar with links for Datei, Bearbeiten, Ansicht, Chronik, Lesezeichen, Extras, and Hilfe. Below the navigation is a toolbar with icons for back, forward, search, and other functions. The main content area displays a world map with a 3D perspective projection. A yellow polygon highlights a specific region in Europe and North Africa. A tooltip window titled 'Area' shows the calculated value of 8629994.24 km². To the right, a 'Table of Contents' sidebar lists 'Mapbender Users' and 'Demis World Map' with checked checkboxes. A scale bar at the bottom right indicates a scale of 1:45M.

Measure

Mapbender User Demo Map - Mapbender3 - Mozilla Firefox

Datei Bearbeiten Ansicht Chronik Lesezeichen Extras Hilfe

http://localhost/mapbender-starter/app.php/application/mapbender_user

Mapbender User Demo Map - ... +

Map Click Map Box Distance Area TOC About FeatureInfo

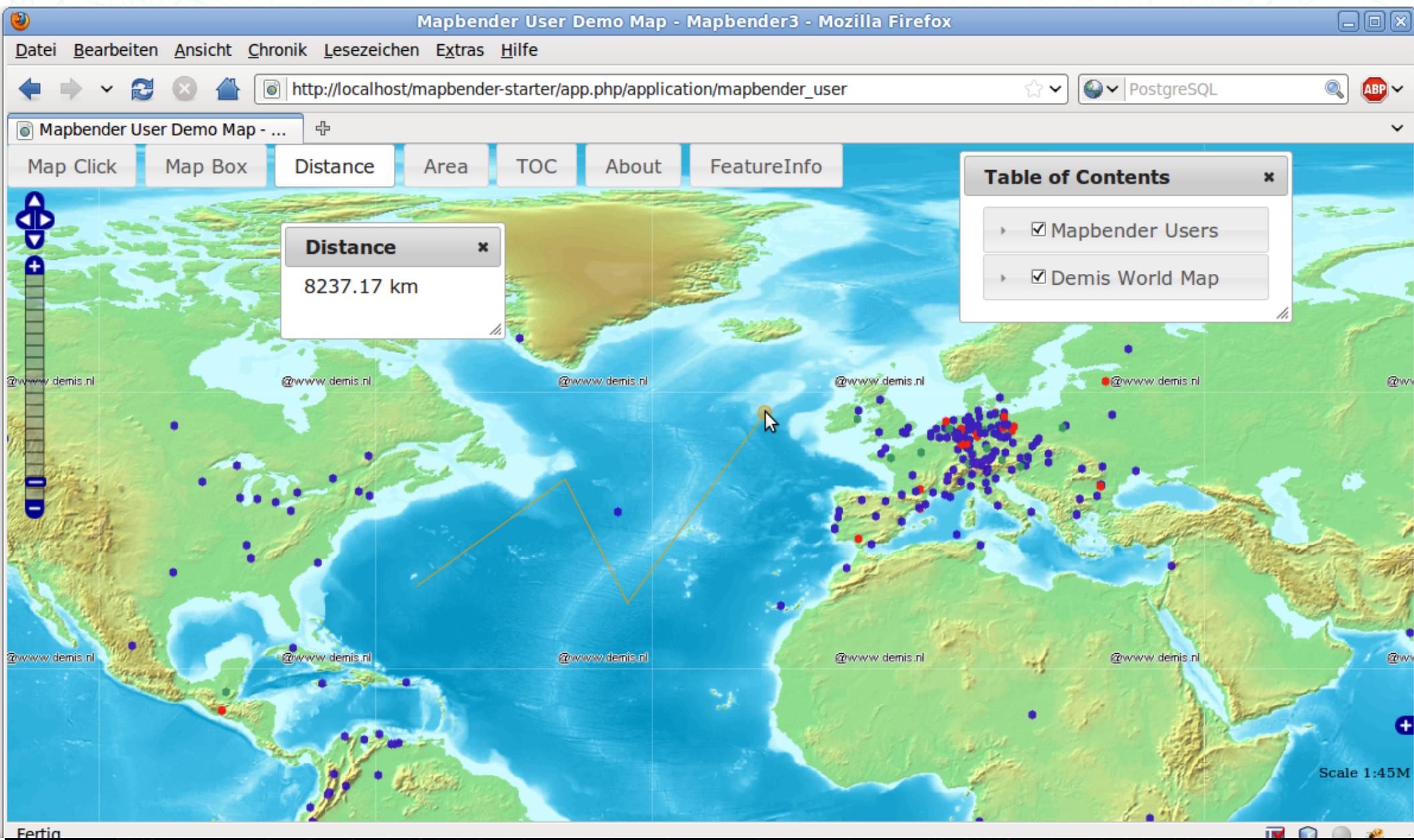
Table of Contents

- › Mapbender Users
- › Demis World Map

Distance
8237.17 km

Scale 1:45M

Fertig



The screenshot shows a world map with a 3D perspective projection. A yellow line connects two specific locations on the map, one in North America and one in Europe. A callout box labeled 'Distance' displays the value '8237.17 km'. The map features a grid of latitude and longitude lines. A vertical control bar on the left side includes zoom and orientation buttons. On the right, a 'Table of Contents' sidebar lists 'Mapbender Users' and 'Demis World Map' with checked checkboxes. The bottom right corner of the map area shows a scale bar labeled 'Scale 1:45M'. The overall interface is a web-based application with a Mozilla Firefox browser window title.

Get the Map-Box

Mapbender User Demo Map - Mapbender3 - Mozilla Firefox

Datei Bearbeiten Ansicht Chronik Lesezeichen Extras Hilfe

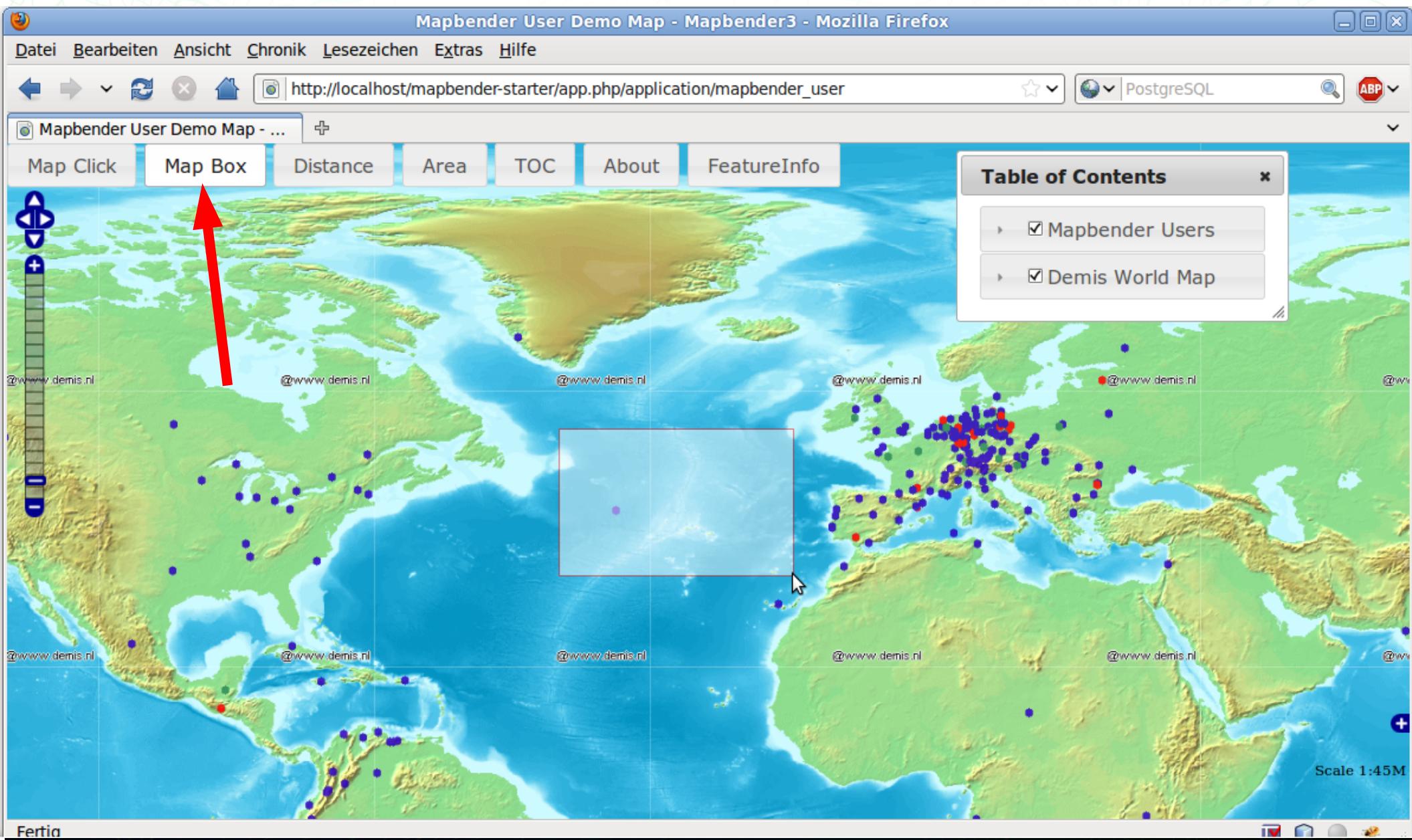
http://localhost/mapbender-starter/app.php/application/mapbender_user

Mapbender User Demo Map - ... +

Map Click Map Box Distance Area TOC About FeatureInfo

Table of Contents

- › Mapbender Users
- › Demis World Map



Fertig

Scale 1:45M

Handle the Map-Box Results

Mapbender User Demo Map - Mapbender3 - Mozilla Firefox

Datei Bearbeiten Ansicht Chronik Lesezeichen Extras Hilfe

http://localhost/mapbender-starter/app.php/application/mapbender_user

Mapbender User Demo Map - ... +

Map Click Map Box Distance Area TOC About FeatureInfo

Table of Contents

- > Mapbender Users
- > Demis World Map

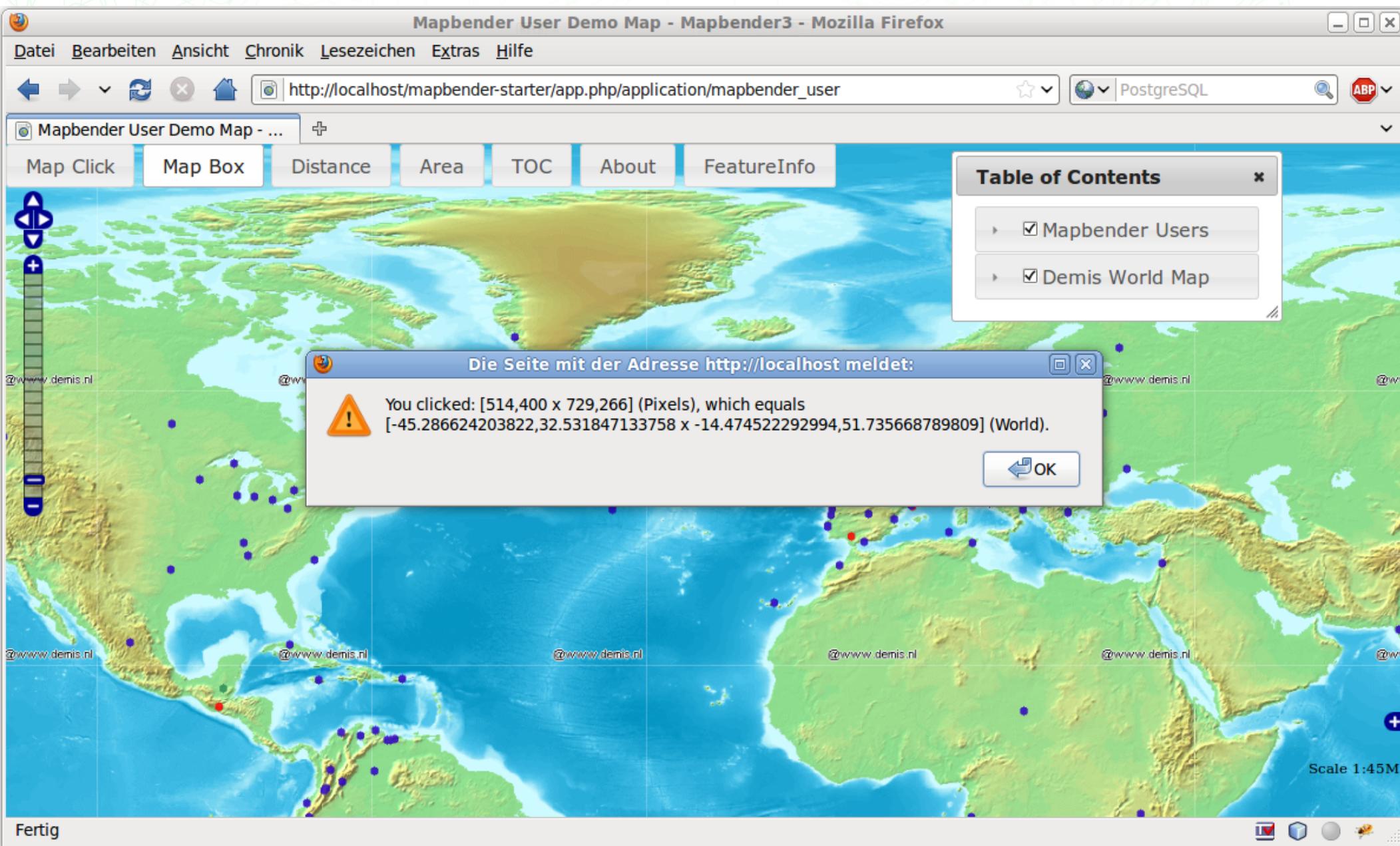
Die Seite mit der Adresse <http://localhost> meldet:

You clicked: [514,400 x 729,266] (Pixels), which equals [-45.286624203822,32.531847133758 x -14.47452229994,51.735668789809] (World).

OK

Fertig

Scale 1:45M



Service Repository

Welcome - Mapbender3 - Mozilla Firefox

Datei Bearbeiten Ansicht Chronik Lesezeichen Extras Hilfe

http://localhost/mapbender-starter/app.php

Welcome - Mapbender3

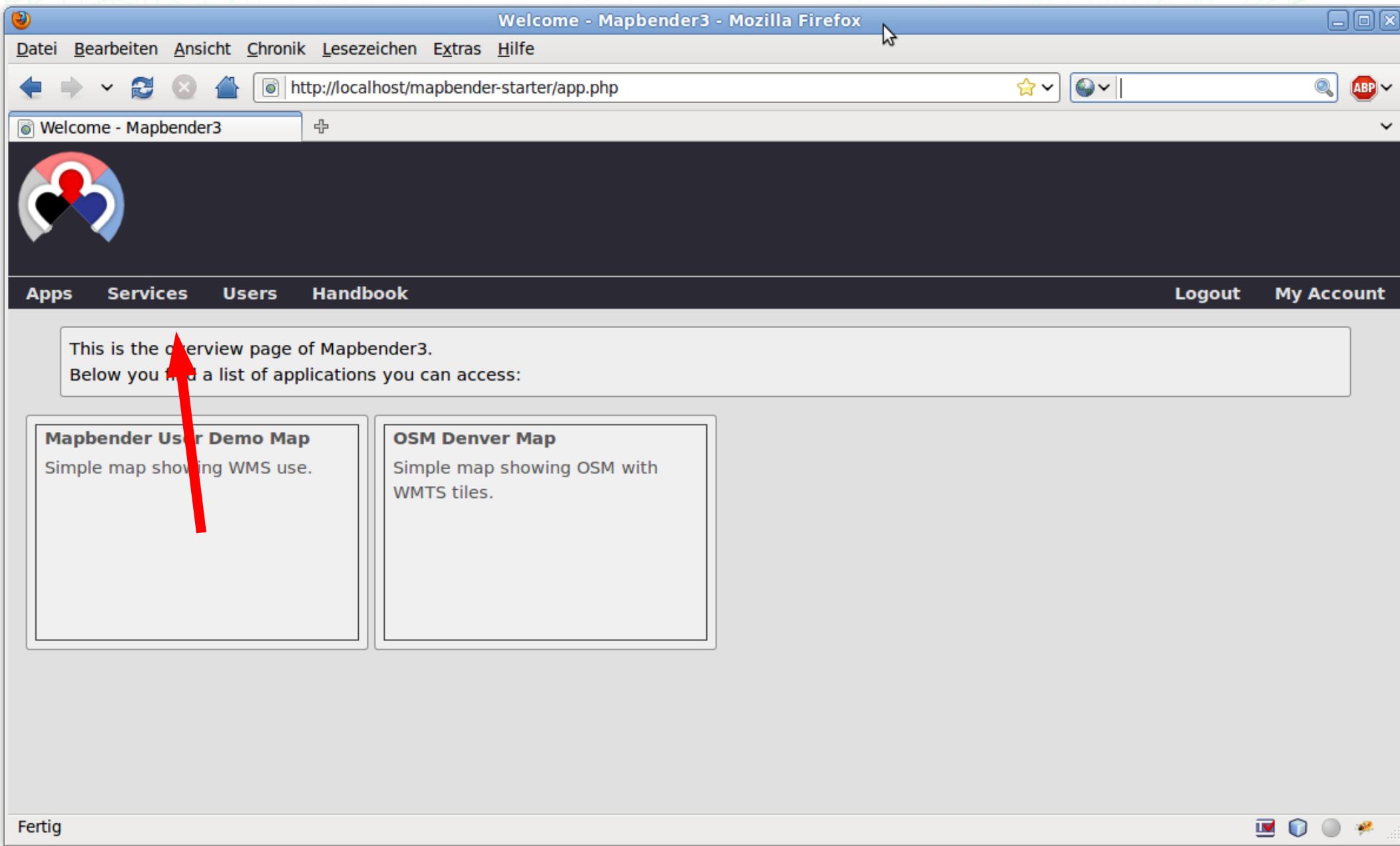
Logout My Account

This is the overview page of Mapbender3.
Below you find a list of applications you can access:

Mapbender User Demo Map
Simple map showing WMS use.

OSM Denver Map
Simple map showing OSM with WMTS tiles.

Fertig



Add a WMS to your Repository

Firefox - Add WMS - Mapbender3 - Mozilla Firefox

Datei Bearbeiten Ansicht Chronik Lesezeichen Extras Hilfe

http://localhost/mapbender-starter/app.php/wms/add

Laden... +

Apps Services Users Handbook Logout My Account

Capabilities-URL laden

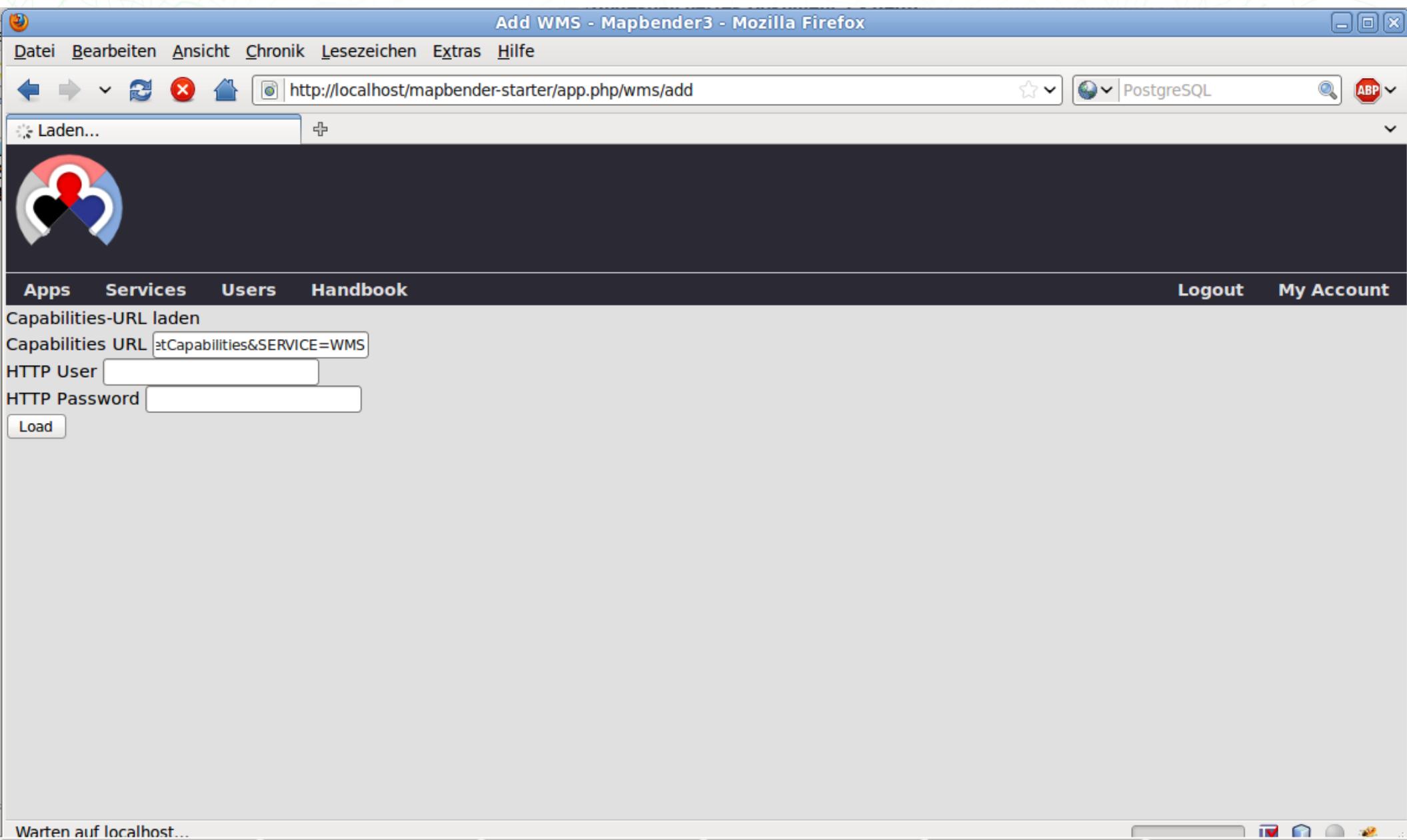
Capabilities URL

HTTP User

HTTP Password

Load

Warten auf localhost...



WMS Metadata and Layer Information

- Mapbender3 - Mozilla Firefox

Datei Bearbeiten Ansicht Chronik Lesezeichen Extras Hilfe

http://localhost/mapbender-starter/app.php/wms/preview PostgreSQL ABP

- Mapbender3 +

Mapbender3

Apps Services Users Handbook Logout My Account

'http://www2.demis.nl/wms/wms.asp?wms=WorldMap&VERSION=1.1.1&REQUEST=GetCapabilities&SERVICE=WMS'

Save

[Metadata](#)
[Contact](#)
[Service](#)
[Layer](#)
[Preview](#)

Metadata

Title World Map

Name OGC:WMS

Alias

Abstract None

OnlineResource [Open](#)

Fees none

Access constraints none

Contact

Person

Fertig

Mapbender3 – write your first demo

Generate an Element

- Generate an element using the generator
 - One-line generation of ready-to-use elements
 - Different types for different needs
 - We offer map-click and map-box

Generate your own element

```
app/console mapbender:generate:element  
--type=map-click 'Acme\\DemoBundle'  
MyElement src
```

Summary of actions

- Your element AcmeDemoBundle\Element\MyElement has been created.
- The following files have been created:
 - PHP class (src/Acme/DemoBundle/Element/MyElement.php)
 - jQuery widget (src/Acme/DemoBundle/Resources/public/mapbender.element.myelement.js)

Follow up actions

Read about adapting your bare-bone element at <http://mapbender.org/3/cookbook/element-from-skeleton>

Generate your own element

- Modify the functions and add your code
- Add the element to the `mapbender_demo.yml` to add it to the application

Getting Help from Symfony Profiler

Screenshot of Mozilla Firefox showing the Mapbender User Demo Map application. A red circle highlights the URL bar containing `http://localhost/mapbender-starter/app_dev.php/application/mapbender_user`. A red arrow points from this URL to a red box containing the text `/app_dev.php`. Another red arrow points from the bottom right corner of the map area to the bottom status bar, which displays the Symfony profiler interface.

The browser title is "Mapbender User Demo Map - Mapbender3 - Mozilla Firefox". The menu bar includes Datei, Bearbeiten, Ansicht, Chronik, Lesezeichen, Extras, and Hilfe. The toolbar includes back, forward, search, and PostgreSQL icons. The address bar shows the URL. The main content area displays a world map with numerous purple dots representing data points, and a "Table of Contents" sidebar with checkboxes for "Mapbender Users" and "Demis World Map". The bottom status bar shows PHP version (5.3.2), memory usage (246 ms, 8704 KB), user information, and the Symfony profiler interface with the path `sf 2.0.0 PHP 5.3.2-1ubuntu4.9|xdebug|accel app|dev|debug|4e721c007a66f ApplicationController::applicationAction|mapbender_application|200`.

Symfony Profiler

Profiler - Mozilla Firefox

Datei Bearbeiten Ansicht Chronik Lesezeichen Extras Hilfe

http://localhost/mapbender-starter/app_dev.php/_profiler/4e721b4d2afab?panel=config

PostgreSQL

Profiler Handbook - Mapbender3 README.rst at master fro... +

sf 2.0.0 PHP 5.3.2-1ubuntu4.9|xdebug|accel app|dev|debug|4e721b4d2afab ApplicationController::applicationAction|mapbender_application|200 728 ms 8704 KB user 0

Symfony profiler

http://localhost/mapbender-starter/app_dev.php/application/mapbender_user
by 127.0.0.1 at Thu, 15 Sep 2011 17:35:41 +0200

Project Configuration

Key	Value
Symfony version	2.0.0
Application name	app
Environment	dev
Debug	enabled

PHP configuration

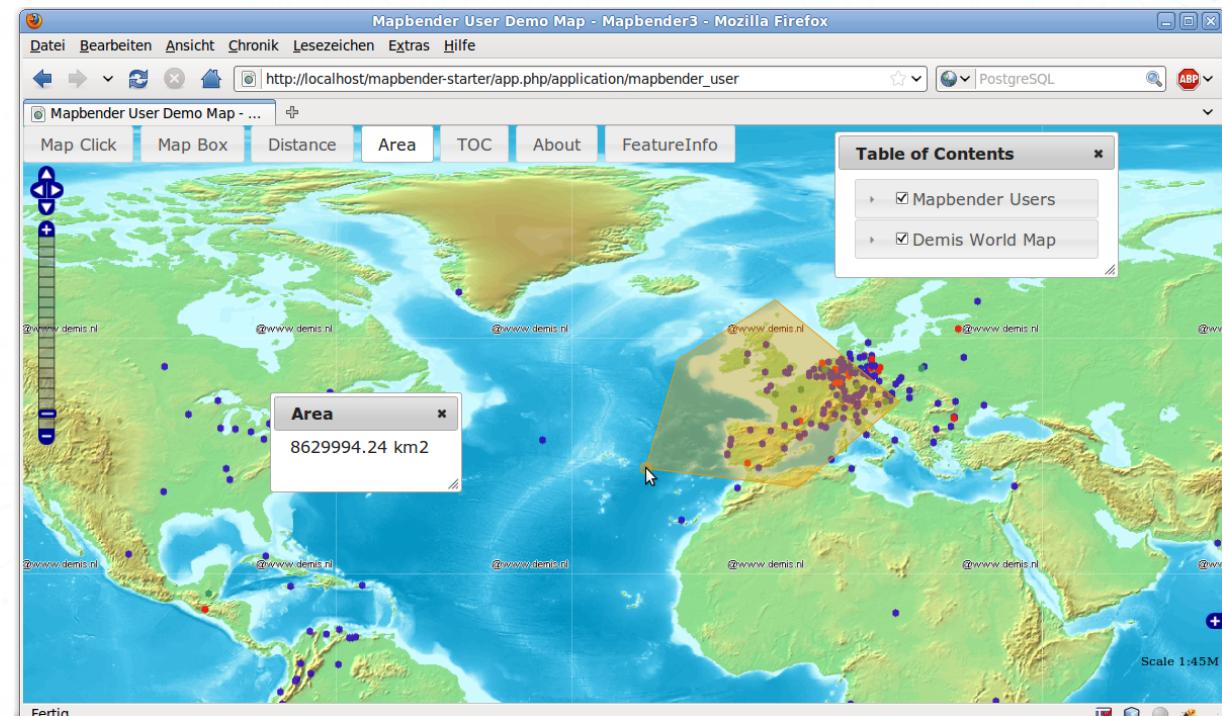
Fertig

Future Plans

- Combine the Service Repository and Application
- User and group management
- Storage of the user, service and application information in a database
- Provide flexible configuration through the client

Try Mapbender3 on your own

<http://mapbender3.org/Demo>



Thank you for your attention!

If you have any questions contact
Astrid Emde (astrid_emde@osgeo.org)

or write to

mapbender-users@list.osgeo.org

With friendly support by:



WhereGroup

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