



QGIS Web Client 2 Update



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Linux & Open Source Solutions



QGIS Web Client

- › WMS based WebGIS client for desktop and mobile devices
- › Optimized for QGIS specific WMS extensions





QGIS Server

- Publish QGIS Desktop projects as WMS, WFS and WCS
- Initiated 2006 at the Institute of Cartography, ETH Zurich
- Part of the QGIS codebase since 2010
- C++, FCGI application
- Backend for QGIS Web Client and QGIS Cloud



QGIS Server features

- **Easy configuration of projects in QGIS Desktop**
- **Symbology and labeling in sync with QGIS Desktop (same rendering engine)**
- **Provides additional configuration information (GetProjectSettings)**
- **PDF printing based on QGIS project**
- **Filter and Selection commands**
- **GetLegendGraphics extensions**



› Goals

- › Modern, responsive interface
- › Less complexity → Focus on usability
- › Modular code base
- › State-of-the art technology: ReactJS, OpenLayers 4





QWC2 architecture

- › **Map components**
 - › ReactJS + Redux
 - › OpenLayers 5
- › **Build tool chain: nodejs / yarn / webpack**
 - › QWC2 demo application
- › **QGIS Server**
- › **Optional: server side services for search, permalink, etc.**



OGIS Web Client 2





OGIS Web Client 2

The screenshot displays the OGIS Web Client 2 interface. At the top left, the logo for 'kanton glarus geodatenviewer' is visible. A search bar contains the text 'Adressen, Flurnamen, Grundstücke, Koordinaten...'. The main map area shows a topographic map with a 2 km scale bar. A smartphone and a tablet are overlaid on the map, showing the mobile versions of the interface. On the right side, a sidebar titled 'Karten & Werkzeuge' contains the following menu items:

- Kartenthema auswählen
- Kartenebenen zusammenstellen
- Karten-Link erstellen und teilen
- PDF-Karte oder Rasterbild drucken
- Kartenwerkzeuge
- Hilfe, Dokumentation, Impressum

Two callout boxes provide additional information:

- Werkzeuge**: Die einzelnen Werkzeuge werden wie bisher als frei schwebende Panels geöffnet oder nach unten aufgeklappt
- Hintergrundkarten**:
 - kein Hintergrund
 - Luftbild (Orthofoto)
 - farbige Karte
 - Graustufenkarte

At the bottom of the interface, the text '2 km' and 'Koordinaten [m]: 2713353 / 1210363' is displayed. The footer includes 'Geoportal Kanton GL' and 'Nutzungsbedingungen'.



- **Core functionality, implemented as plugins:**
 - Theme (project) browser
 - Layer tree
 - Feature info
 - Search with configurable providers
 - Measure tools
 - Basic sketching functionality
 - Permalink generation
 - PDF-Print
 - Screenshot / Raster export
- **Extensible!**



New features

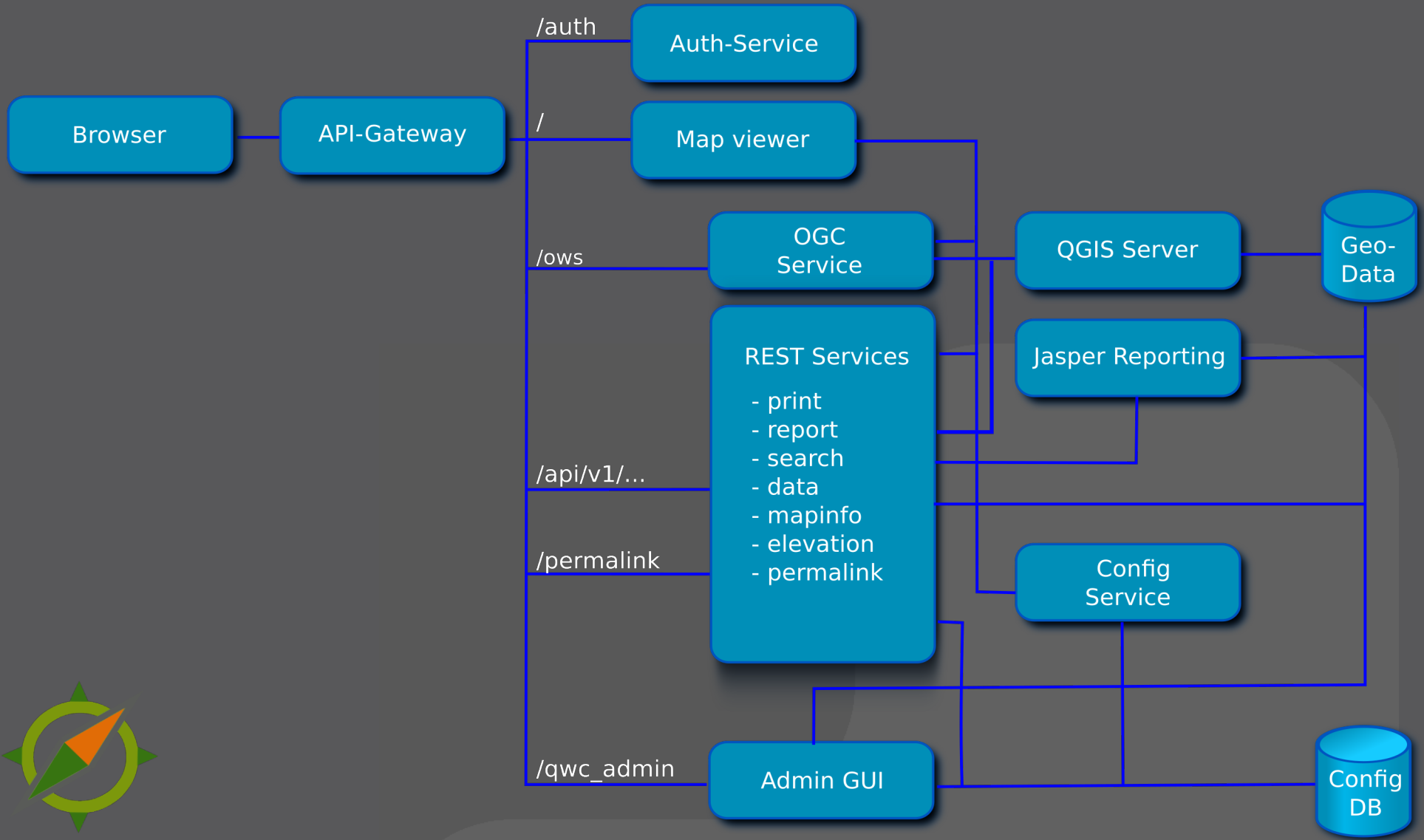
- › **New Digitizing tools**
- › **Layer reordering**
- › **User Login/Logout**
- › **Editing**
- › **WMS / WFS import**
- › **KML import**
- › **Height profiles**
- › **Map comparison**
- › **Translated into 7 languages**



Demo



Server architecture





- › **Optional backend for QWC2**
- › **Modular, Micro-service oriented**
- › **(Mostly) Python Flask web applications**
- › **Integrated API documentation (Swagger)**
- › **Deploy as docker containers or WSGI**



Maps and printing

- **QWC map viewer**
 - QWC2 viewer service with access control
- **QWC OGC service**
 - QGIS Server based WMS/WFS with access control
- **QWC Print service**
 - QGIS Server based PDF printing with access control



Additional services

- › **QWC Search Service**
 - › Search API for custom searches
- › **QWC Data Service**
 - › Access and edit spatial data
- › **QWC Mapinfo service**
 - › Layer independent info (right-click)
- › **Permalink service**
- › **Elevation service**



OWC Admin GUI

- › **Web GUI for Config DB**
- › **User and group management**
- › **Role based resource access permissions**
- › **Current resource types**
 - › Maps
 - › Layers
 - › Attributes



Authentication services

- › **Pluggable authentication services**
 - › Authentication services issue JWT tokens for privileged map and service access (Cookie or raw JWT token)
- › **QWC DB Auth**
 - › Authenticate with user database
- › **QWC LDAP Auth**
 - › Authenticate with LDAP/Active Directory
- › **more available (e.g. Kerberos, SAML)**



Internal services

- › **QWC Services Core**
 - › Shared modules for QWC services and documentation for setup
- › **QWC Config Service**
 - › Service permissions and user specific configuration
- › **QGIS Server**
- › **Jasper Reporting Service**
 - › Jasper Reports web service



› Source code and issue tracker

- › <https://github.com/qgis/qwc2-demo-app>
- › <https://github.com/qgis/qwc2>
- › <https://github.com/qwc-services/qwc-services-core>
- › <https://github.com/qwc-services/qwc-docker>

› Examples:

- › <https://map.geo.gl.ch>
- › <https://qgiscloud.com>



Project partners

➤ Initial sponsors

- City of Uster (Switzerland)
- Canton Glarus (Switzerland)
- City of Wolfsburg (Germany)
- City of Kristianstad (Sweden)

➤ Contracted Companies

- Sourcepole (Switzerland)
- Invit (Sweden)



Thank you!



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