Authentication and authorization management to OGC services with GeoShield: introducing Web Feature Service protection

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Content

- Quick intro
- Security issues with OGC standards
- Security with GeoShield
- Technologies and design
- Web administration interface
- WFS security
- Demo
- Next improvements
- Q&A
QUICK INTRO
Fields of activities
[intro]

Land Planning
Hydrology
Geology
Geomatics

Hydrogeology
OGC implementations
[intro]
Data Security

[intro]

Institute of earth science

Public data

Sensible data
Security issues with OGC standards
Which security implementations to use?
[security issues with OGC standards]
Security with GeoShield
Security with GeoShield

- Users
- Web
- Applications
- WMS
- SOS
- WFS
- WPS

http basic authentication
https
Technologies and design
Technologies
[technologies and design]

Server side

- **Java Servlet:**
  - Handling HTTP request and response

- **GeoTools 2.6.5:**
  - Conversion of CQL to OGC:FILTER
  - filters aggregation
  - filters evaluation
  - Encoding/decoding OGC request /response

- **JPA(with EclipseLink 2.0.0):**
  - Data manipulation

- **PostgreSQL 8.4 database**
  - User and group permission store
Desktop Style (Sencha Extjs)
- Users and groups definition
- Services initialization
- Features definition (Layers)
- Filters definition
Intercepting filter pattern:

**Modularity**
- Easy to add new OGC security implementations

**HTTP redirection**
- login pages

**Pre-processing and post-processing**
- Active modification of user request and services responses
Web administration interface
Web administration interface
WFS security
The new WFS module

[WFS security]

**Working components**

- WFS version: 1.1.0
- WFS BASIC profile:
  - GetCapabilities
  - DescribeFeatureType
  - GetFeature
- OutPutFormat: GML

**Developing**

- WFS version: 1.0.0
- WFS Transactional profile
- OutPutFormat: shapefiles, JSON
How it works

[WFS security]

1. Parsing response
2. Adapt response according to user filter
How it works

[WFS security]

1. Parsing response
2. Adapt response according to user filter
Demostration
Next improvements

Extending security to:
- Sensor Observation Service
- Web Processing Service
- Web Application

Updating the web administration interface, integrating Opelayers for CQL filters definition.
GeoShield advantages

- Single login for multiple services
- Centralized authentication management system
- CQL filters to control the access to single layers for WMS and WFS
- OGC standard compliant (manage standard requests)
- Simple set-up and easy user permission management
Any question?

Istituto Scienze della Terra
Divisione Geomatica

Official site
Code page
Discussion group

http://www.ist.supsi.ch
http://istgeo.ist.supsi.ch
http://sites.google.com/site/geoshieldproject/
http://code.google.com/p/geoshield
http://groups.google.com/group/geoshield-project

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Official release

http://sites.google.com/site/geoshieldproject/license
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