PUQMAPAS

A community geospatial mapping platform

ID 2b2244 's project report

As result of report number ID 2b2244 with the title "Servidor de Datos Geográficos para Magallania" born a project "PUQMAPAS" with the objective to fullfill all the statements of the report above mentioned.

Main objectives:

- Community space for share and retrieval relevant geo information.
- To bring the geospatial information close to the objective population.
- A space for learning geomatic techniques either to students or professionals.
- Map and geohistories repository.
- Show the use of free and open software as a powerful tool in complex tasks.

PUQMAPAS are a geospatial server and portal, that can be reached at **https://puqmapas.ddns.net/** address.

Opening screen for PUQMAPAS platform

Platform Architecture. Summary.

Implemented on Geonode version 4.0.3, Docker version 24.0.5 and Docker Compose version 2.20.2. Hosted and configured on an instance of Google Cloud Engine (GCE), a dedicated virtual private server (VPS) in the cloud, with operating system Ubuntu Server 22.04 Jammy, 16 GB of RAM and Intel Broadwell CPU, with an outbound network bandwidth of 8Gbps.

Technically the platform consists of the following fundamental modules:
- **Django**: Programming and development environment (Python)
- **Geoserver**: Map server.
- **PostgreSQL - PostGIS**: Geospatial Database System.
- **ElasticSearch**: Relational search module on the platform.
- **Jenkins**: Module integration server.
- **LetsEncrypt**: Encrypted communications module and SSL certificates (https)
- **Nginx**: Web server and reverse proxy (replacing Apache)
- **MapStore**: Visualizer and map client.

Thanks to European Space Agency for your sponsoring with this project, without your help there is no possible to realize such task. We expects that this aid can be maintained a little more until reaching a mature fase of our project.

Sinceresly thanks.

Punta Arenas, Chile, 30/09/2023.