5g. Use of gitHub for GSICS developments

Jin Woo

KMA

CMA, CNES, EUMETSAT, ISRO, IMD, JMA, KMA, NASA, NIST, NOAA, ROSHYDROMET, USGS, WMO
Contents

- Operational Policy of GDWG GitHub
- Status of GitHub Activities
- Plotting tool Project
- KMA’s GitLab for contributing plotting tool
Operational Policy of GitHub
[Decisions made at 2017 GDWG meeting]

■ Goals
  ▷ Configuration management(codes, tools), issue tracking(GDWG action)

■ Who
  ▷ User(All developers(#) or Agency representatives in GDWG group)
  ▷ Administrator ⇒ KMA

■ What
  ▷ Operational code, s/w, tools, action items, etc.
  ▷ Copyright ?

■ Activation plan
  ▷ Collaboration project ⇒ Plotting tool
Operational Policy of GitHub

[Decisions made at 2017 GDWG meeting]
Status of GitHub Activities

[History]

■ Group account registration in GitHub [April 27, 2017]
  ▷ https://github.com/GDWG-GSICS

■ Registration request to GDWG members [May 4, 2017]

■ Naming convention for account [May 30, 2017]
  ▷ Account name : "${personal name}-${Agency's name}“ (e.g. JWOO-KMA)
  ▷ Profile name : "${Agency's name}-GDWG" (e.g. KMA-GDWG)

■ Registration Plotting tool Project [June 8, 2017]
  ▷ By EUMETSAT(Pablo Benedicto)
Status of GitHub Activities

[Members]
Plotting Tool Project

[Repository]
GSICS Plotting Tool

[Readme]

GSICS Plotting Tool

A web application that allows visualising the GSICS products stored in any GSICS server.

Getting Started

Try it out [here](https://github.com/GDWG-GSICS/Plotting_tool) and check the user guide if you need help using the tool.

In a Nutshell

The GSICS Plotting Tool is a GWT web application which navigates the different THREDDS GSICS catalogs and provides interactive time-series plots of the calibration products.

It makes use of the open-source JavaScript charting library [dygraphs](https://github.com/d3/d3-dygraphs).

Features

- Shows error bands around data series
- Interactive pan and zoom
- Displays values on mouseover
- Allows changing the time range being shown
- Adjustable scene brightness temperature and bias range
- Toggle plots visibility
- Export plots as PNG or as embeddable URLs
- Save plots (user registration required)
- Download netCDF datasets being plotted

How to Install
Plotting Tool Project
[Try it out]
Plotting Tool Project
[User Guide]
Plotting Tool Project

[Readme]

How to Install

In order to host this web application, the server shall meet the following software requirements:

- Tomcat 7 or 8 installed.
- Java 7 or 8 installed.
- Open HTTP outbound port (80), in order to access external HTTP GSICS servers.
- MySQL database v5.0 or above setup as stated by SQL queries below (required for save plots feature).

create database gsics_plotter_db;
grant SELECT, DROP, INDEX, INSERT, UPDATE, DELETE, CREATE, DROP on gsics_plotter_db.* to 'plotter'@'localhost' ident=GSICS_PLOTTER_ID;

use gsics_plotter_db;
drop table if exists plot_configuration;
drop table if exists user;

cREATE TABLE plot_configuration (
    plot_configuration_id bigint not null auto_increment,
    channel char(1),
    date varchar(20),
    mode varchar(1),
    new source(10) not null,
    net source varchar(10),
    set point source(10),
    scope to double precision,
    server varchar(10),
    source varchar(10),
    type varchar(10),
    version varchar(10),
    user source(10),
    id int not null,
    primary key (plot_configuration_id)
);

cREATE TABLE user (
    user_id bigint not null auto_increment,
    new source(10) not null,
    password varchar(10) not null,
    primary key (user_id)
);

ALTER TABLE plot_configuration
    ADD column id INT NOT NULL AUTO_INCREMENT PRIMARY KEY;
    ADD CONSTRAINT plot_configuration_id
    REFERENCES user (user_id);

After building the project, plotter.war will be created in the project root folder. In order to deploy it copy the plotter.war file into the webapps directory in your server's tomcat installation.

How to Contribute

Read the contributing guidelines.
Plotting Tool Project

[Contributing Guideline1]

GSICS Plotting Tool

A web application that allows visualising the GSICS products stored in any GSICS server.

Introduction

This repository follows a centralised version control workflow. That is, each user contributing to the project clones the central remote repository to its local machine, performs the changes in its local working directory (performing local commits when needed), and finally pushes the commits back to the central remote repository (origin).

For this approach, all the users contributing to the central remote repository are added as collaborators with the same access rights as each other.

How to Contribute

1. Make sure git is installed in your computer.
Plotting Tool Project

[Contributing Guideline2]

1. Make sure git is installed in your computer.
2. Clone this repository to your local one:

```bash
git clone https://github.com/GDWG-GSICS/Plotting_tool.git
```

3. Perform your changes, committing to your local repository after each change:
   i. Add file for next commit (stage).
   ```
   git add path/to/file.ext
   ```
   ii. Remove file from next commit (unstage).
   ```
   git reset path/to/file.ext
   ```
   iii. Remove file and add removal to next commit (remove and stage removal).
   ```
   git rm path/to/file.ext
   ```
   iv. Check what is going to be included on next commit.
   ```
   git status
   git diff --staged
   ```
   v. Check specific changes on a file.
   ```
   git diff path/to/file.ext
   ```
   vi. Revert changes.
   ```
   git reset path/to/file.ext # If file has been already staged
   git checkout -- path/to/file.ext
   ```
   vii. Commit all staged changes.
   ```
   git commit -m "<Commit comment>"
   ```
4. Build the project with ant
Plotting Tool Project

[Contributing Guideline3]

4. Build the project with ant.

```bash
ant build
```

5. If build has been successful, test the application by deploying the resulting `plotter.war` into your tomcat server.

6. If test is successful, you can push your changes to the central remote repository:
   i. Check changes which are going to be pushed, and any possible conflicts with other contributors’ changes.
      ```bash
      git fetch origin
      git diff origin/master
      ```
   ii. Solve the conflicts if any and commit modified files.
   iii. If there were other contributors’ changes fetched, rebuild the project and retest (steps 4 and 5).
   iv. Push your changes to the central remote repository.
      ```bash
      git pull origin master
      git push
      ```

How to Undo a contribution

In order to undo a specific commit already pushed to the central remote repository, follow these steps:

1. Get the commit id by running `git log`.
2. Revert the specific commit.

   ```bash
   git revert <commit_id>
   git commit --amend
   git push
   ```

This is the recommended way to revert commits as the history is not changed and reverts are added to it.
Plotting Tool Project

[Statistics of Activity]
Plotting Tool Project

[Statistics of Activity]

Contributions to master, excluding merge commits

PabloBenedicto-EUMETSAT #1
15 commits 1,077 ++ 956 --
Plotting Tool Project

[Statistics of Activity]
Plotting Tool Project

[Statistics of Activity]
KMA’s GitLab for contributing plotting tool

- Only for intranet user (security policy)
KMA’s GitLab for contributing plotting tool
KMA’s GitLab for contributing plotting tool
KMA’s GitLab for contributing plotting tool
KMA’s GitLab for contributing plotting tool

- GSICS project registration in GitLab [November 7, 2017]

- Building Development Environment [~ing]
  - Checking environments
  - Open plotting tool web and Notice to internal user (2018)

- Improvement Plotting Tool in KMA’s internal development Environment
  - Make user requirement
  - Modify plotting tool
## KMA’s GSICS Actions

<table>
<thead>
<tr>
<th>Action Ref</th>
<th>Description</th>
<th>State</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.GDWG.2017.5a.7</td>
<td>KMA to review NOAA website contents and update website reviewing slides</td>
<td>Closed</td>
<td>5b</td>
</tr>
<tr>
<td>A.GDWG.2017.5i.1</td>
<td>KMA to set up a GitHub project for GDWG activities and document how this is done such that another GPRC can take over the administration of the GitHub project.</td>
<td>Open</td>
<td>5h</td>
</tr>
</tbody>
</table>
End of Presentation: Thank you for your attention

WMO GSICS Portal
http://gsics.wmo.int

GSICS Coordination Centre -
http://www.star.nesdis.noaa.gov/smcd/GCC/index.php

GSICS Product Catalog -
http://www.star.nesdis.noaa.gov/smcd/GCC/ProductCatalog.php

EUMETSAT’s Data and Management Server
http://gsics.eumetsat.int