Online DIVAnd

Recent progress & hurdles
A work by

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Charles Troupin (data interpolation and visualisation) and
the VRE team
1. How do we perform data interpolation?
<table>
<thead>
<tr>
<th>URL of the observatory to force</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of the variable</td>
</tr>
<tr>
<td>Bounding box (east, south, w, degrees)</td>
</tr>
<tr>
<td>Comma separated list of depth levels (meters)</td>
</tr>
<tr>
<td>Correlation length in zonal and meridional direction (meters)</td>
</tr>
<tr>
<td>Error variance of observation (relative to the error variance of the background field)</td>
</tr>
<tr>
<td>Resolution in zonal and meridional direction (in degrees)</td>
</tr>
<tr>
<td>Start and end year</td>
</tr>
<tr>
<td>Month of every season</td>
</tr>
<tr>
<td>URL of the bathymetry file</td>
</tr>
</tbody>
</table>

**Metadata**

Run DIVAnD

Download results
Deployment in the VRE

- **Jupyter-hub** to manage multiple users
- **Docker** container for the deployment
- Management/orchestration using **Kubernetes**
DIVAnd REST API

docker pull abarth/divand_rest

docker run --detach --name=divand_rest_container -it -p 8002:8002 abarth/divand_rest

http://localhost:8002/ in the web browser
2. VRE developments
Liège VRE code sprint (February 4-6, 2019)
We are we heading?

Concentrate Mikael's time on the integration of the jupyter-notebook interface for multiple-user
Current status of the component?

- DIVAnd running in isolation
- DIVAnd Jupyter-hub container
- DIVAnd API and file selector
- DIVAnd integration with other VRE components: 20%
  (difficult to estimate)
Open issues

1- Passing user-credentials (B2DROP username, password, WebDAV URL) to the container
2- Single-sign-on approach to access the individual services (now hard-coded)
3- B2DROP handling ~20 users downloading/uploading a file?
   "B2DROP is not for development and testing"
4- Implementing the WebDAV put and get requests in the container
5- Updating the file selector for the GUI interface of DIVAnd
6- Testing that the VRE dashboard can start containers
Open issues: how to tackle?

WebDAV put and get requests
→ Alex

File selector for the GUI interface of DIVAnd
→ in collaboration with Sebastian

Others: dependent on EUDAT for the integration
DIVAnd API and file selector

WebDAV File Selector

Private workspace

- webdav/
  - New text file.txt
  - WOD-Salinity.nc
  - WOD-Salinity-2.nc
  - WOD-Salinity.nc
  - WOD-Salinity2-remote.nc
  - WOD-Salinity2.nc
  - directory/
  - ostia_ice_grid.nc
  - test-data
  - test-data2
  - test-data3
  - test-data4
  - wordle2.png

Selected

WOD-Salinity.nc

Continue
Configure WebDAV environment variables

```bash
ENV["WEBDAV_USERNAME"] = "app-username"
ENV["WEBDAV_PASSWORD"] = "app-password"
ENV["WEBDAV_URL"] = "https://b2drop.eudat.eu/remote.php/webdav"
```

Download the file to the selected folder

```bash
get("Adriatic/AdriaticSea_SDC.txt", "Adriatic/AdriaticSea_SDC.txt")
```

WEBDAV_USERNAME
WEBDAV_PASSWORD
WEBDAV_URL should be set by kubernetes (not by the user)
Demo

https://diva.seadatacloud.ml/1234/tree
Thanks for your attention