AMSTer : SAR & InSAR Automated Mass processing Software for Multidimensional Time series

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Course content

❑ **Introduction and discovery of the web page**

❑ Hardware / Software requirement

❑ Github content + User Manual

❑ HTML Folder + parameters file

❑ Create New target

Purpose to create Web Page:

- Display the main products produced by AMSTer on a friendly interface (amplitude images, speed deformations maps, time series…).

- Interface is easy to access, and all desired products are quickly checked scrolling down.

- Automatic update when new datas are available on Storage Server.

- Tools to manually create products requested by web user such as:

  → New time series creation

  → Calculate Interferograms

  → Speed deformation between 2 dates

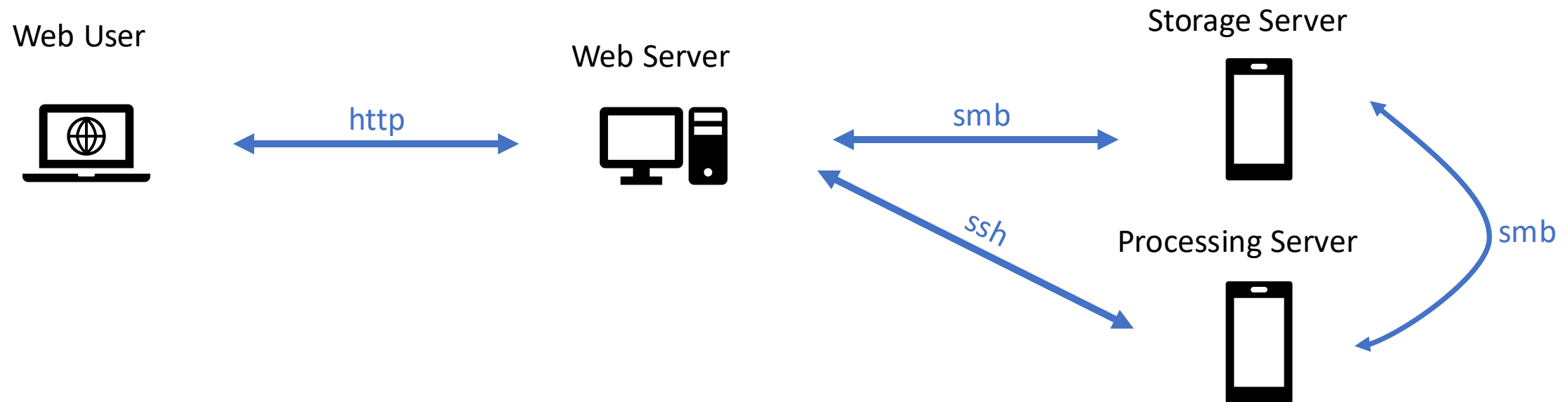 → Amplitudes – Coherence RGB images combination

Let's have a look :

https://terra4@ecgs.lu

Course content
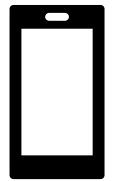
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Automatic process to update web page

Web User

Web Server

Storage Server

http

smb

ssh

Processing Server

smb

!!! Skills required: Bash, python, PHP, javascript, html, web server configuration

SOFTWARE/SCRIPTS REQUIREMENTS

Web User	Web Server	Processing Server	Storage Server

Web browser	Server Web (apache2, …)
	Domain name (external access)
	mysql-server
	GDAL + python link
	Fiji (ImageJ)
	Mutt configured (send email)
	SSH key copy to Processing server
	terra4-InSarWeb-script.git
		PlotTS.sh
		PlotTS_all_comp.sh
			SAR_MASSPROCESS folder
			    amplitude images
			    interferogram
			
			MSBAS folder
			    speed deformation images
			    Time series

Course content
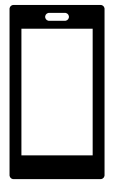
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User Manual

- Generalities
- Script execution
- Main Process explanation
- Scripts (Main Process)
- Tools
- Set Up Web Server
- Create new region
- Troubleshooting
- Side procedure

- Introduction
- Web server organisation
- Update process
- HTML folder organisation

- Main and secondary scripts

- General explanation of main process

User Manual

- Generalities
- Script execution
- Main Process explanation
- **Scripts (Main Process)**
- **Tools**
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- Side procedure

- Each scripts of main process explained in details.

- Each scripts used in different Tools explained in details.

(Dependencies – Arguments – Action)

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- Full installation from scratch
- (http server, mysql, gdal, fiji, msmtp)
- Complete Sudoers file
- Setup environment variable
- Copy SSH key to process server
- Install GDAL

- Clone repository

User Manual

- Generalities
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- **Create new region**
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- Side procedure

- Create "target" directory
- Complete parameters file
- run Initiate_Webpages.sh
- Create satview.tiff + terrain.tiff
- run Main.sh

AMSTer Toolbox web page

User Manual

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- Create new region
- **Troubleshooting**
- **Side procedure**

- Log files
  - Crontab_log
  - Image/Logfile
  - Each tools

- Satview.tiff and terrain.tiff
  - QGIS

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HTML folder

- Bootstrap
- css
- Documents
- Includes   Libraries (php and javascript) , html stuff, common picture…
- js
- Logo
- src

- php_common
- Phplogin   PHP scripts that will be hard linked in your target folder

- defo_*target*   Folder specific to one region (manually created)

- *.php, *.html, *.txt*   Mandatory to display web page + parameters_empty.txt

HTML folder

- **Defo_*target***

  - *Documents* ⟩ Copy documents from html folder + add satview.tiff + terrain.tiff

  - ***Parameters.txt*** ⟩ Files to fill manually

  - *DB_Interfero*
  - *Delta_Map*
  - *RGB_Map*   ⟩ Files related to interactive tools
  - *TS_Custom*
  - *Images*
    - *Amp_Coh_Defo*
    - *GD_Linear_Rate* ⟩ Folders specific to one region
    - *Time_Series*
    - *Logfile.txt*

Parameters.txt

- **Unique** *configuration file for all scripts (bash, python, php)*

- *Syntax in parameters.txt:*
  - *192.168.1.10   # COMPUTE_SERVER_IP (Ip Address COMPUTE_SERVER)*

- *Syntax in Scripts:*
  - *COMPUTE_SERVER_IP = GetParam(COMPUTE_SERVER_IP)*

- !!! Read carefully comments in bracket to avoid making mistakes !!!

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Create new target

- Set up Web Server (including cloning repository)
- Create defo_*region folder* in your html folder
- Copy "parameters.txt" in your new folder and fill it
- Run ***Initiate_webpages.sh*** with "parameters.txt" as argument
- Rename "*files*_common.php" to "*files*.php".
- Create satview.tiff + terrain.tiff and copy them in Documents folder of your target folder. (Side procedure)
- Run ***Main.sh*** with "parameters.txt" as argument