



# Summer School in InSAR, time series processing and deformation modelling



## MasTer Toolbox web page

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# MasTer Toolbox web page



## Course content

- ☐ Introduction and discovery of the web page
- ☐ Hardware / Software requirement
- ☐ Github content + User Manual
- ☐ HTML Folder + parameters file
- ☐ Create New target



# MasTer Toolbox web page



## Purpose to create Web Page:

- Display the main products produced by MasTer 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



# MasTer Toolbox web page



**Let's have a look :**

<https://terra4@ecgs.lu>



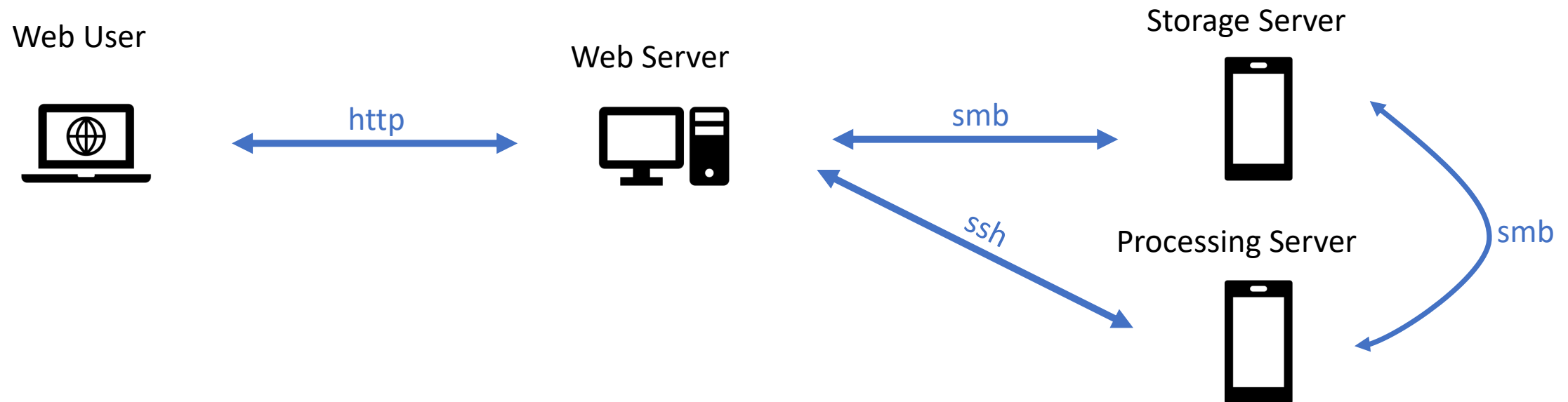
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## Automatic process to update web page



!!! 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



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# MasTer Toolbox web page

## 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



# MasTer Toolbox web page



## User Manual

- Generalities
- Script execution
- Main Process explanation
- **Scripts (Main Process)**
- **Tools**
- Set Up Web Server
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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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## User Manual

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- **Set Up Web Server**
- Create new region
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- Side procedure

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



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## User Manual

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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



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## User Manual

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- Log files
  - Crontab\_log
  - Image/Logfile
  - Each tools
- Satview.tiff and terrain.tiff
  - QGIS



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## HTML folder

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

# MasTer Toolbox web page

## 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*
  - *TS\_Custom* } Files related to interactive tools
- *Images*
  - *Amp\_Coh\_Defo*
  - *GD\_Linear\_Rate*
  - *Time\_Series*
  - *Logfile.txt* } Folders specific to one region





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## 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