



# Cloud Computing Platform JupyterLab Hands-on

**IR0000032 – ITINERIS, Italian Integrated Environmental Research Infrastructures System**  
(D.D. n. 130/2022 - CUP B53C22002150006) Funded by EU - Next Generation EU PNRR-  
Mission 4 “Education and Research” - Component 2: “From research to business” - Investment  
3.1: “Fund for the realisation of an integrated system of research and innovation infrastructures”



## Hands-on Schedule

 We are going to learn how to:

- execute a method in the Cloud Computing Platform
- share a method of the Cloud Computing Platform
- usage of the JupyterLab service in the VRE
- Difference between dataspace and workspace using JupyterLab in the VRE



# CCP – Method execution

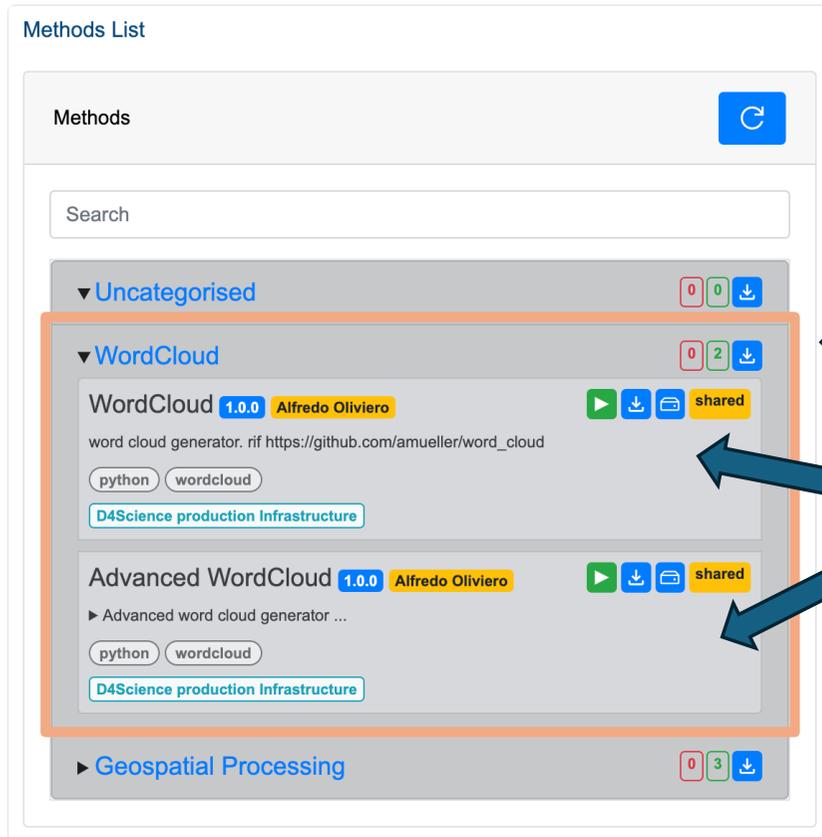


🌐 Learn how to execute a method in the Cloud Computing Platform

The screenshot shows the ITINERIS Training Platform interface. The top navigation bar is green and contains the following items: ITINERIS\_Training-Platform, Administration, Analytics Engine, JupyterLab, Catalogue, and Members. A blue arrow points to the 'Analytics Engine' dropdown menu. Below the navigation bar, there is a section for 'Analytics Engine (CCP)' with a subtitle 'Run your Methods/Algorithms on the Cloud' and a link 'Learn more'. A green box highlights the 'Cloud Computing Platform (CCP) Method/Algorithm Importer' area, which contains the text 'Drop a method here to request an execution!'. Below this, there is a 'Methods List' section with a search bar and a table of methods. The table has three rows: 'Uncategorised' with 0 red and 0 green icons and a download icon; 'WordCloud' with 0 red and 2 green icons and a download icon; and 'Geospatial Processing' with 0 red and 3 green icons and a download icon.

Methods	Red	Green	Download
▼ Uncategorised	0	0	📄
▶ WordCloud	0	2	📄
▶ Geospatial Processing	0	3	📄

# CCP– Method Execution



Methods List

Methods ↻

Search

▼ **Uncategorised** 0 0 ↓

▼ **WordCloud** 0 2 ↓

**WordCloud** 1.0.0 **Alfredo Oliviero** ▶ ↓ 📄 shared

word cloud generator. rif [https://github.com/amueller/word\\_cloud](https://github.com/amueller/word_cloud)

python wordcloud

D4Science production Infrastructure

**Advanced WordCloud** 1.0.0 **Alfredo Oliviero** ▶ ↓ 📄 shared

▶ Advanced word cloud generator ...

python wordcloud

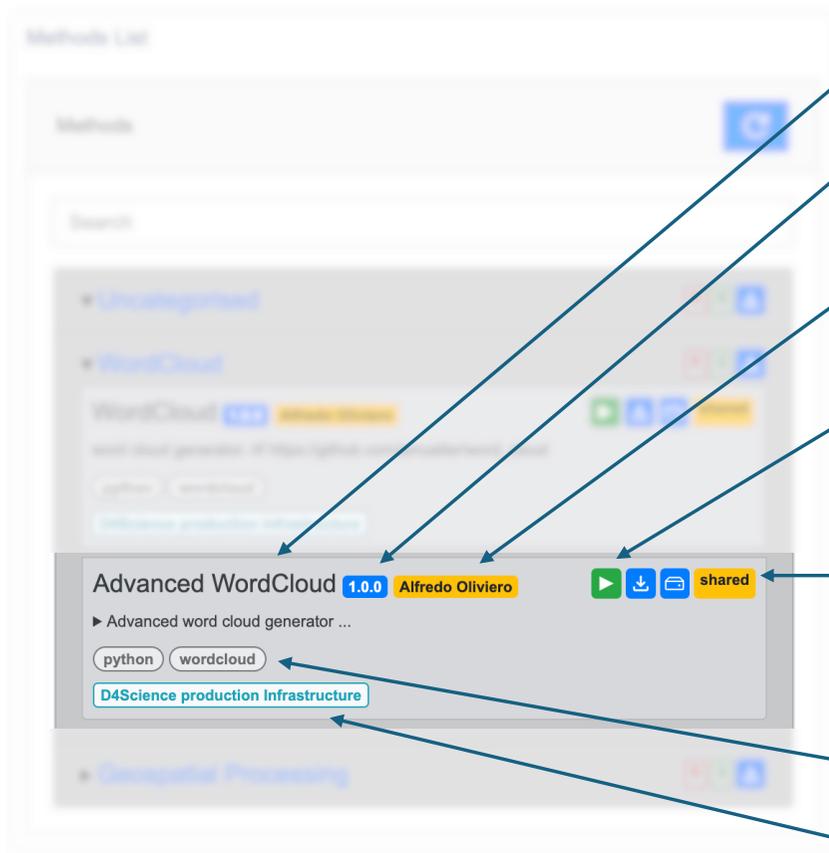
D4Science production Infrastructure

▶ **Geospatial Processing** 0 3 ↓

← Methods Category

← Methods

# CCP– Method Execution



Name of the method

Versioning

Author

Execute the method

Share the method with VRE's users

Tags

Target Infrastructure

# CCP– Method Execution

The screenshot displays the ITINERIS Training Platform interface. At the top, there is a navigation bar with the following items: ITINERIS\_Training-Platform, Administration, Analytics Engine (highlighted in orange), JupyterLab, Catalogue, and Members. Below the navigation bar, the page is divided into two main sections. The left section, titled 'Analytics Engine (CCP)', contains a 'Methods List' with a search bar and a list of methods. The 'WordCloud' category is expanded, showing 'WordCloud 1.0.0' and 'Advanced WordCloud 1.0.0'. The right section, titled 'Method execution form', shows the configuration for 'Advanced WordCloud'. It includes a 'Runtime' field set to 'python:3.9.19', a 'Workspace' dropdown menu showing 'ITINERIS\_Training-Platform', and a 'height' field set to '825'. A modal window titled 'Access your workspace' is open, showing a list of workspace items: 'Workspace' and 'ITINERIS\_Training-Platform'. A blue arrow points from the 'Runtime' field to the text 'Docker image type', and another blue arrow points from the 'Workspace' dropdown to the text 'Direct connection with the workspace!'. A bracket on the right side of the 'Workspace' dropdown and the 'height' field is labeled 'Inputs'.



Docker image type

Direct connection with the workspace!

Inputs

# CCP– Method Execution

**Options**

- Automatically archive whole execution provenance
- Automatically archive uncompressed outputs only
- Do not archive anything automatically

**Outputs**

- Standard output
- Standard error

**Execute**

Generate code for  
Python 3

[Direct link](#)

Manage the output of the execution

Custom code generation

- Python 3
- R
- Jupyter Python3
- Julia 1.9.0
- Bash (curl)
- Bash (wget)
- Galaxy CCP request (preview)
- Galaxy tool (preview)

Execute the method

Possibility to share the method configuration!

# CCP– Method Execution

### Options

Select what you like to archive automatically when the execution is completed.

Automatically archive whole execution provenance

### Outputs

Standard output  Standard error

Execute

Generate code for Python 3

[Direct link](#)

Execution Status

Managing the execution

Live Console

### Executions Monitor

Execution Monitor

Search

Live executions Archived executions

#### Advanced WordCloud

0 1 0 0

test\_wordcount (1.0.0) running

Accepted 10/12/2024 @ 15:17:11.

Last update 10/12/2024 @ 15:17:57: Deploying and executing on 'D4Science production Infrastructure'.

D4Science production Infrastructure python:3.9.19

```
Ensuring absence of tmp folder ... ok
Create tmp folder ... ok
Create env ... ok
Create compose file ... ok
Create entrypoint ... ok. Initialization completed. Starting deployment...
Ensuring absence of stack ... ok
Ensuring absence of tmp folder ... ok
Create tmp folder ... ok
Create env ... ok
Create compose file ... ok
Create entrypoint ... ok. Initialization completed. Starting deployment...
Stack deployment ... ok. Waiting for termination...
```

Generate code for Python 3

[Direct link](#)

Request Support

# CCP– Method Execution



Execution success

Share the entire execution

Output of the execution

Stored in the workspace also!

The Executions Monitor interface displays a search bar and tabs for 'Live executions' and 'Archived executions'. A specific execution for 'Advanced WordCloud' is highlighted, showing a 'test\_wordcount (1.0.0) successful' status. It includes a 'Re-submit' button and a 'Direct link' button. The execution was accepted on 10/12/2024 at 15:17:11 and last updated at 15:21:28. The output is noted as 'Fetching results: Uploaded output'.

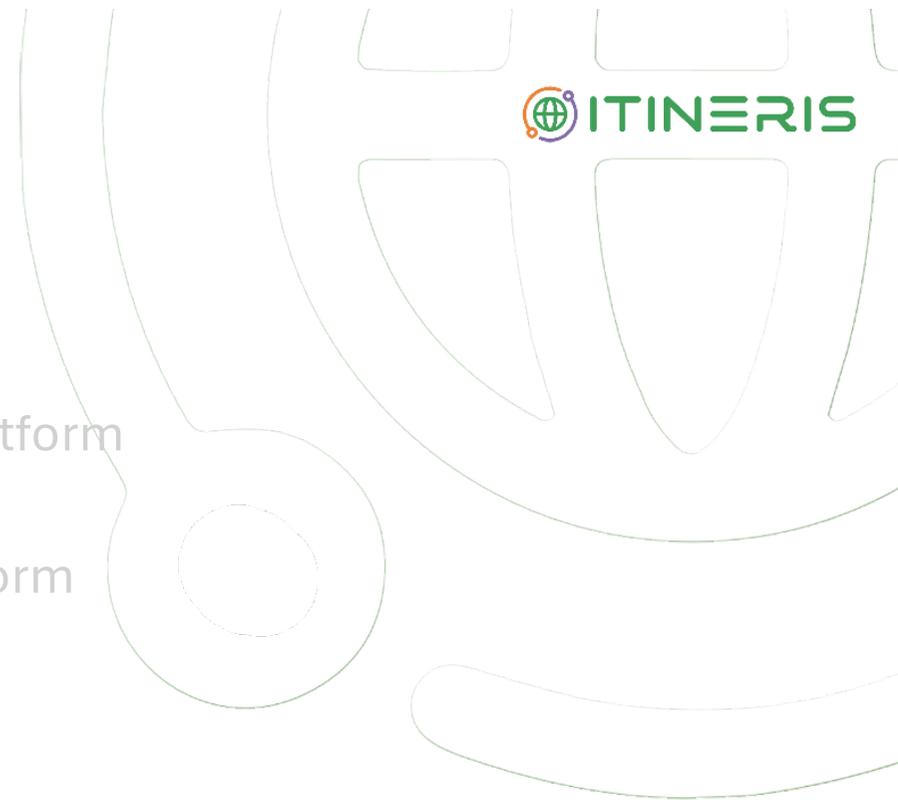
The workspace file explorer shows a tree view with folders: 'VRE Folders', 'bc2026\_wb3', 'CCP', 'executions', 'Advanced\_WordCloud\_v\_1.0.0', and 'SimpleImageClassifier\_v\_1.0.1\_2024-06-10T...'. Below the tree is a toolbar with icons for 'New Folder', 'Upload', 'Download', 'Refresh', 'Delete', 'Rename', 'Move', 'Preview', 'Open', 'Get Shareable Link', 'Upload Archive', and 'Permissions'. A table lists the files and folders:

Name	Owner	Type
metadata	Marco Procaccini	Folder
auth	Marco Procaccini	Folder
outputs	Marco Procaccini	Folder

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# THANKS!

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