



EBRAINS Collaboratory

Brief introduction and demo

Simulate with EBRAINS

7-10 November 2022, online

Paul Chaney and Marc Morgan



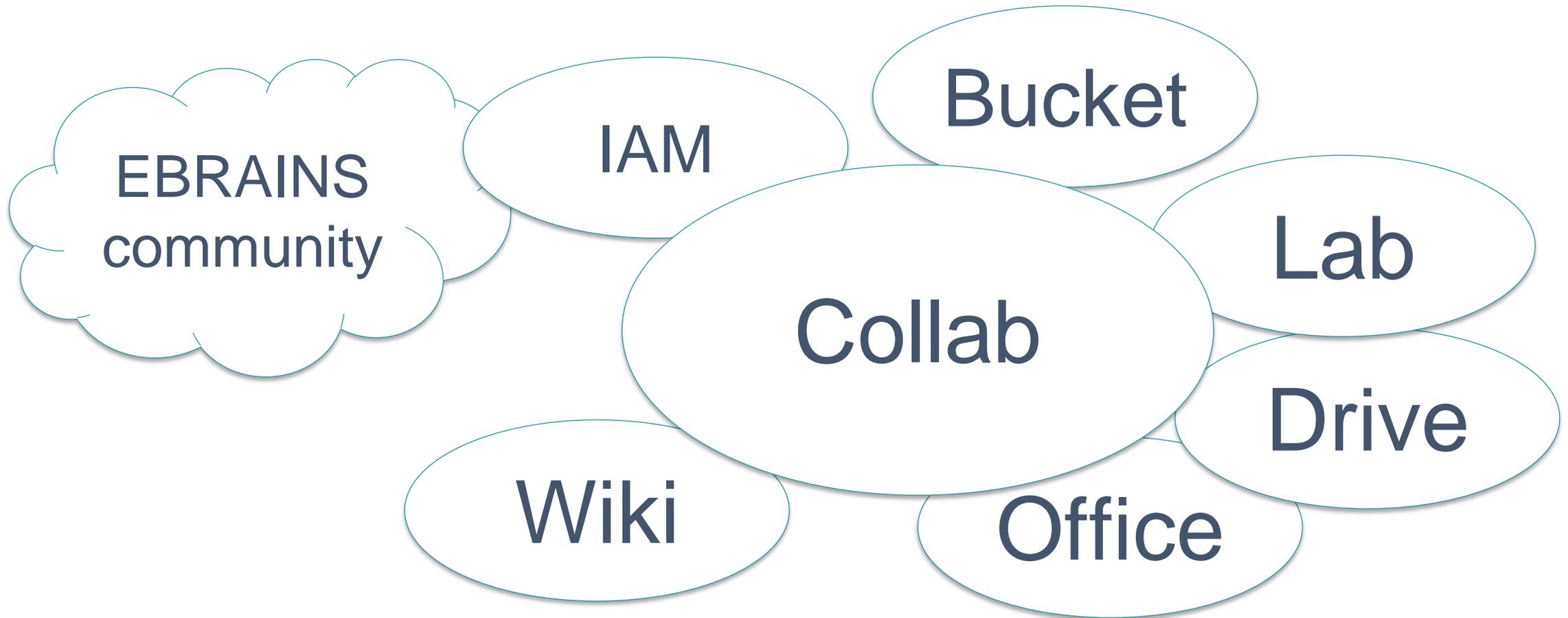
Co-funded by
the European Union

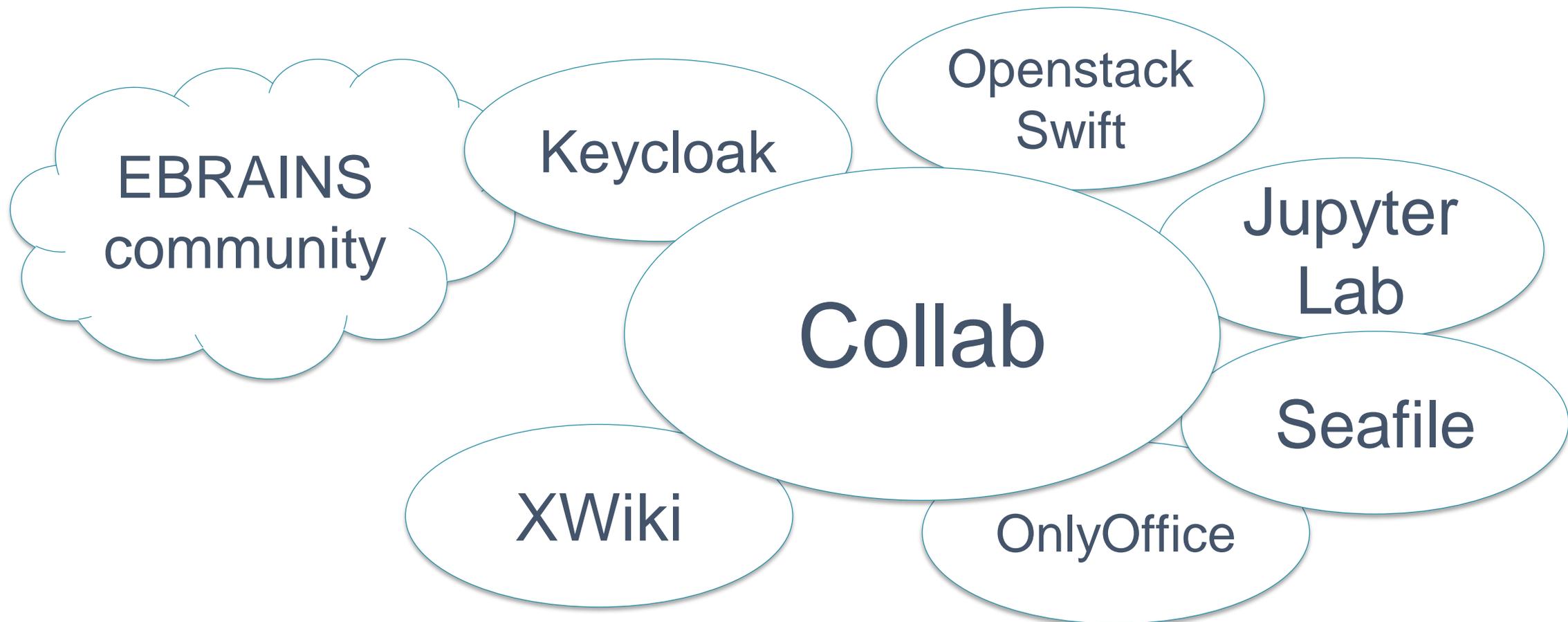


The Collaboratory is made up of...

- IAM: authentication & authorization
- Wiki: collaborative edition of web pages
- Drive: file storage
- Bucket: object storage for large files
- Office: collaborative edition of Office documents
- Lab: interactive programming

Collaboratory and “collab” workspaces





- Allows you to create collabs, a central repository of information that provides easy integration to all other Collaboratory services
 - Allows either public or private collabs
- Create wiki pages, an easy and convenient way to publish content to the web
 - Highly customizable, from simple text pages to highly interactive pages incorporating various 'macros'
 - Embed videos or even other web pages/applications into your wiki
 - Track all changes made to a wiki page throughout its life, as well as who made those changes
- Easily provide access to various people/groups using the "teams" functionality
- Search all public public collabs and private collabs you have access to, easily.
 - Also use a convenient "favourite" feature that allows you to keep track of important collabs

- IAM = Identity and Access Management
- Central user authentication and authorization service for EBRAINS
- Example client apps:
 - Inside Collaboratory: Wiki, Drive, Bucket, Lab
 - Other EBRAINS services: Knowledge Graph, Nuerorobotics
- We use the 3rd party software Keycloak by RedHat
- Users can manage collab permissions via Teams
 - Users have viewer, editor or admin permissions in a collab
 - Same permissions apply to the whole collab
 - Easily add or remove permissions to single users or Groups/Units
- EBRAINS service developers can create and manage [OIDC clients](#)

- Reachable from your user profile icon in the Wiki
- Search EBRAINS users
 - <https://wiki.ebrains.eu/bin/view/Identity/#!/users>
- Browse Units (see button in your user profile)
 - <https://wiki.ebrains.eu/bin/view/Identity/#!/units/all>
- Search for Groups(see button in your user profile)
 - <https://wiki.ebrains.eu/bin/view/Identity/#!/groups>

- Upload files to a collab's “Drive” storage
 - Perfect for files and documents that need to be worked on collaboratively
 - Uses the collab's permissions to manage access
 - Maximum limit of 1 GB per file (For now)
- All files are version controlled
 - Track all changes made to a file and who made those changes
 - Possibility of reverting to an older version of a file by an editor of the collab
- Ensure only the appropriate people can see a file with “Smart link (Internal link)” or make it available to the public with “Share links”
- Possibility of creating a public upload link
 - good way of collecting information from users with and without an EBRAINS account

- Easily edit collaborative files together

- Tightly coupled with the Drive, files on the Drive can access Office directly
- Supports Word, PowerPoint and Excel formats.
- All files are version controlled
- Track all changes made to a file and who made those changes (Although if groups are editing at the same time, only 1 name will show up on the track list)

■ Upload large files to a collabs “Bucket” storage

- Perfect for large files such as datasets or videos
- Uses the collabs permissions to manage access

EBRAINS Collaboratory

Collabs Documentation Support Forum Q 🔔 👤 ↗ Log-out

Public Member

Collabs / Demo collab / Bucket

Open in Bucket

Data Proxy

Copy data from an existing collab Select...

Upload folder Upload files

demo-collab

Search 2 items (1 selected) Actions Options

data1.csv xiao.csv

Delete files
Download files
Select all files
Manage public links

Browser menu: Alt + Right Click

Upload configuration

Overwrite: only if local file is more recent
 only if local file is a different size

Your upload summary

You are about to upload 2 files (202 KB)

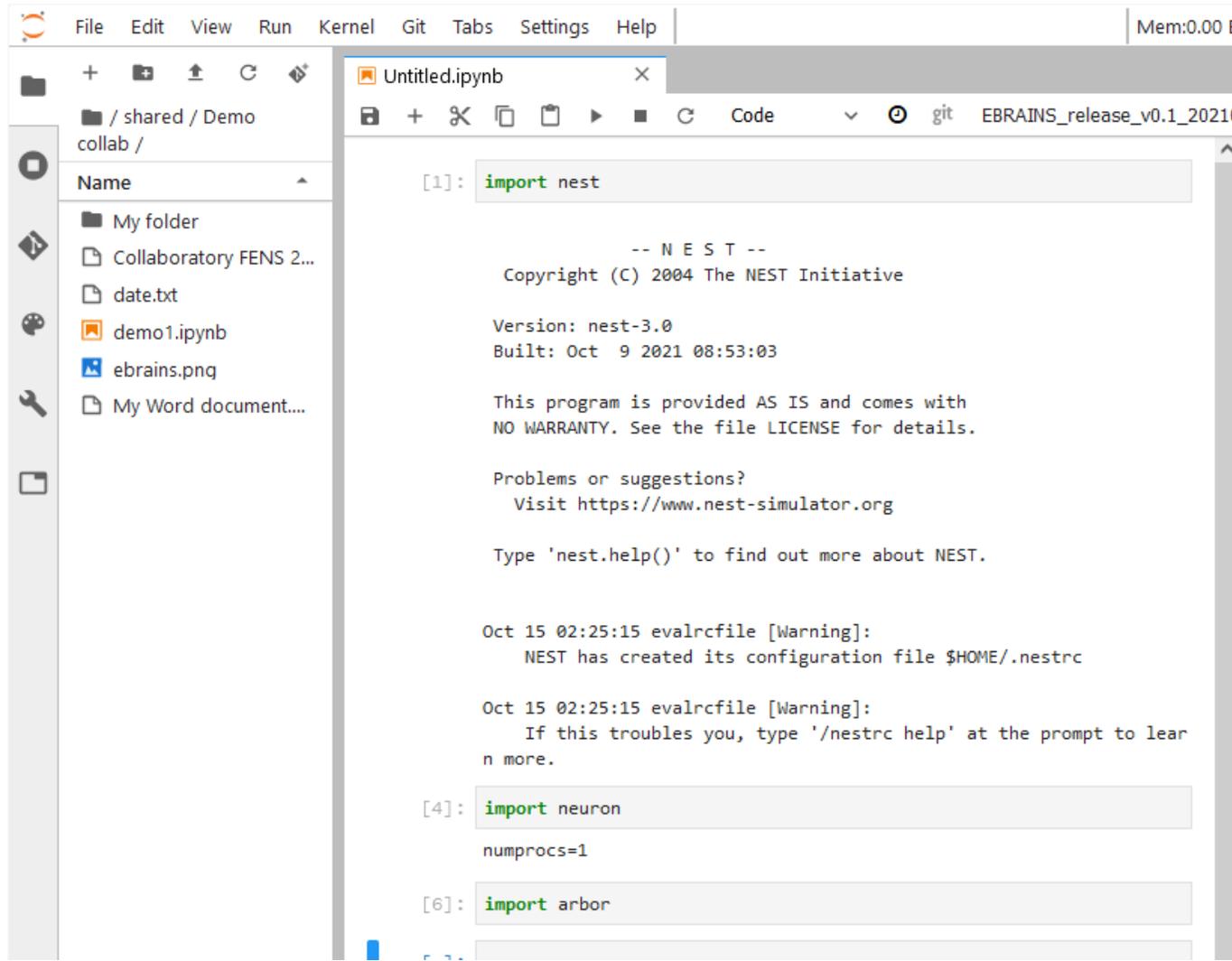
The following files will be uploaded:

- worldmap_users.png
- worldmap_insts.png

Close Start upload

- A place to run Jupyter Notebooks
 - EBRAINS official kernel contains many EBRAINS and EBRAINS integrated tools by default
 - Jupyter Notebooks mainly run on Python although we have an R kernel also
 - Runs on multiple FENIX sites
- Can be useful for many different functions, such as processing large Excel files from the Drive or many other processes.
 - Support can always help with this

Collaboratory Lab – Tools available



The screenshot shows a JupyterLab interface with a file browser on the left and a code editor on the right. The code editor displays the output of a Jupyter cell where the NEST package was installed. The output includes the NEST logo, version information (nest-3.0), and a warning message about the configuration file.

```
[1]: import nest

-- N E S T --
Copyright (C) 2004 The NEST Initiative

Version: nest-3.0
Built: Oct  9 2021 08:53:03

This program is provided AS IS and comes with
NO WARRANTY. See the file LICENSE for details.

Problems or suggestions?
Visit https://www.nest-simulator.org

Type 'nest.help()' to find out more about NEST.

Oct 15 02:25:15 evalrcfile [Warning]:
  NEST has created its configuration file $HOME/.nestrc

Oct 15 02:25:15 evalrcfile [Warning]:
  If this troubles you, type '/nestrc help' at the prompt to learn more.

[4]: import neuron
numprocs=1

[6]: import arbor
```

> 300 packages built

NEST
Neuron
Arbor
TVB
BrainScaleS

Try the Collaboratory today

- Visit the [demo collab](#)
- Read our [documentation](#)
- Create your own collab and experiment with the tools available

Thank you

Simulate with EBRAINS



7-10 November 2022, online

www.humanbrainproject.eu

www.ebrains.eu



Co-funded by
the European Union