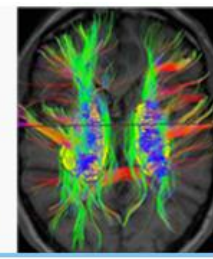


# Workshop

scientifique thématique

Centre de Recherche en Neurosciences de Lyon



**“Publishing differently:  
new ways to evaluate and disseminate the scientific knowledge in the digital area”**

## **XNAT platform: a raw data database for the CRNL**

Gaëlle Leroux, PhD

Service commun ‘Soutien méthodologique aux projets d’imagerie’

February 20<sup>th</sup>, 2020

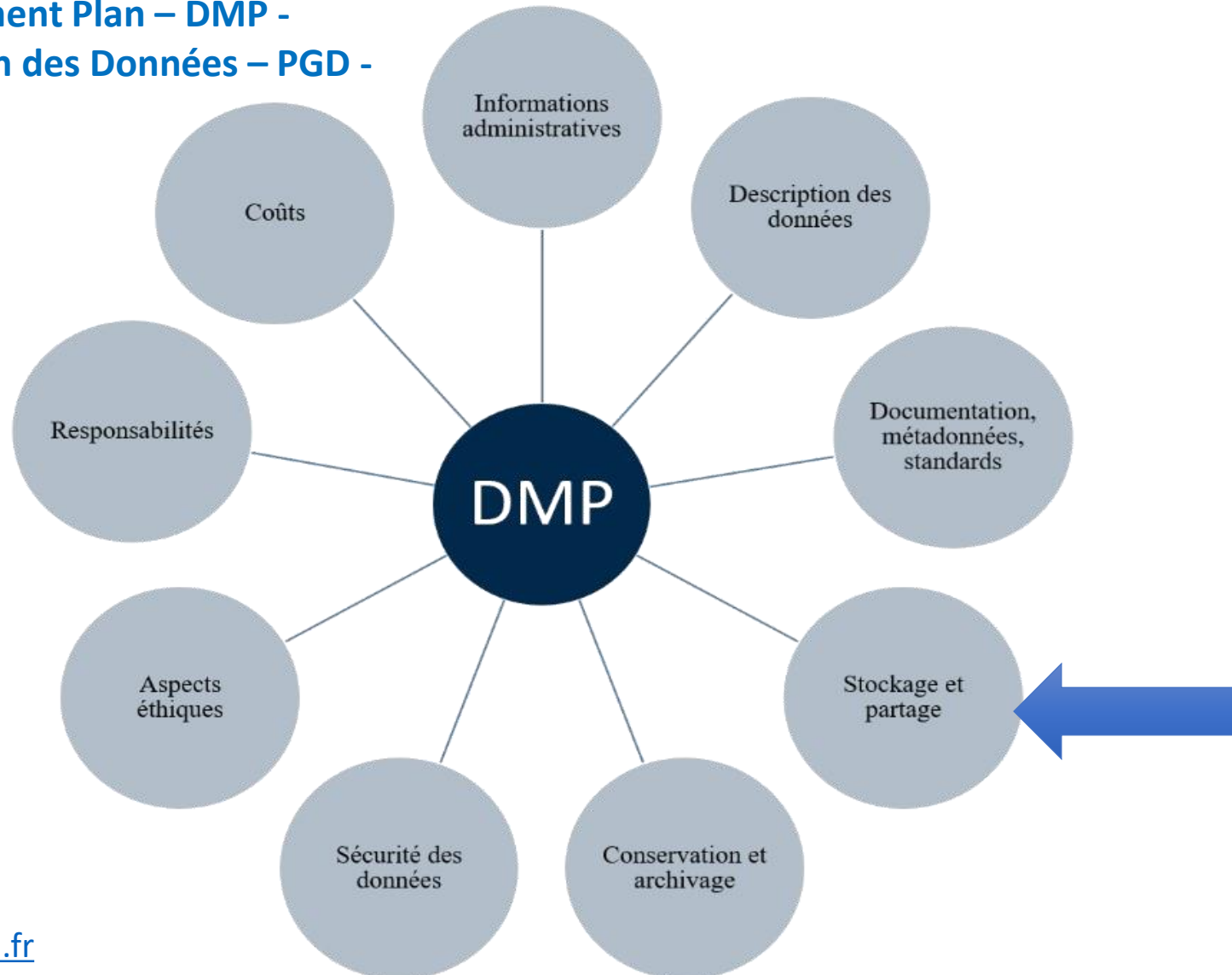


Lyon Neuroscience  
Research Center

INSERM UMRS 1028 –  
CNRS UMR 5292



## Data Management Plan – DMP - Plan de Gestion des Données – PGD -



<https://doranum.fr>

# Context in Europe, incl. France


## Data Management Plan (DMP) template for ANR investigators

1. Data description and collection or re-use of existing data
2. Documentation and data quality
3. Storage and backup during the research process
4. Legal and ethical requirements, code of conduct
5. Data sharing and long-term preservation
6. Data management responsibilities and resources

[https://dmp.opidor.fr/public\\_templates](https://dmp.opidor.fr/public_templates)

# Context in Europe, incl. France

## Data Management Plan (DMP) template for ANR investigators

1. Data description and collection or re-use of existing data
2. Documentation and data quality
- 3. Storage and backup during the research process** 
4. Legal and ethical requirements, code of conduct
5. Data sharing and long-term preservation
6. Data management responsibilities and resources

[https://dmp.opidor.fr/public\\_templates](https://dmp.opidor.fr/public_templates)

# Data management tools for storage

<https://project.inria.fr/shanoir/>  
<https://www.frontiersin.org/articles/10.3389/fict.2016.00031/full>  
<https://cati-neuroimaging.com/>  
<http://www.fealinx.com/biomist-un-systeme-de-gestion-de-cycle-de-vie-adapte-a-la-neuro-imagerie/2007> : <https://www.xnat.org/>  
<https://www.datalad.org/>  
<http://loris.ca/>  
<https://sourceforge.net/projects/nidb/>  
<https://projectredcap.org/>  
 [...]



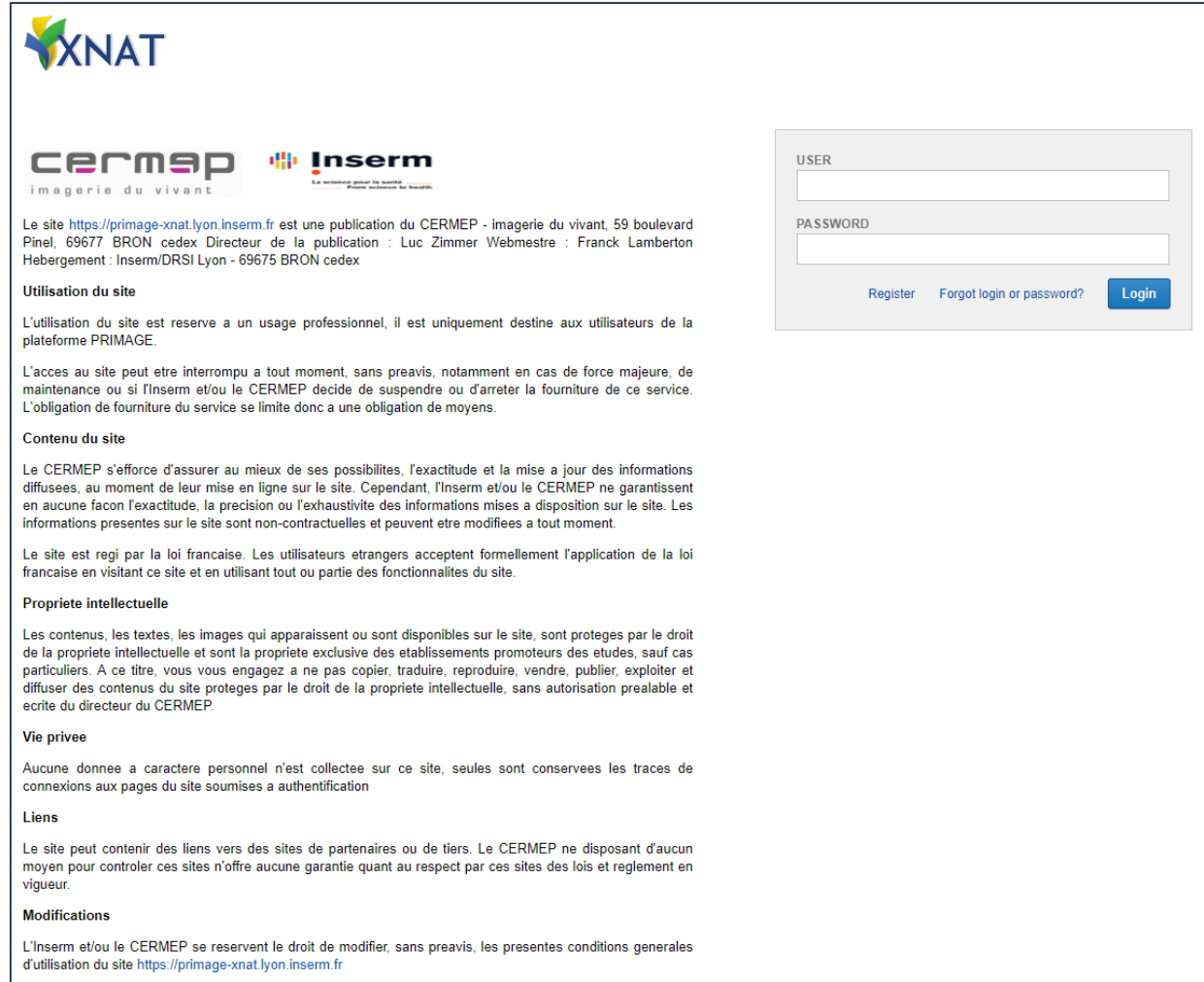


A comparison of some of them:

<https://books.google.fr/books?id=H9UzDwAAQBAJ&pg=PA62&lpg=PA62&dq=archimed+mri&source=bl&ots=mdrAJDZFqP&sig=ACfU3U2JqDRZ0BJSiDc4bF-0cvzKjamOBA&hl=fr&sa=X&ved=2ahUKewjinf6djKXjAhVQPBoKHT1UBpIQ6AEwBnoECAgQAQ#v=onepage&q=archimed%20mri&f=false>

Primage MRI data  
CTF MEG data  
More to come!

## XNAT de PRIMAGE (indépendant du XNAT du CRNL)



The screenshot shows the XNAT website interface. At the top left is the XNAT logo. Below it are the logos for CERMEP (imagerie du vivant) and Inserm (Le service pour le monde - Plus avancé en santé). The main content area contains the following text:

Le site <https://primage-xnat.lyon.inserm.fr> est une publication du CERMEP - imagerie du vivant, 59 boulevard Pinel, 69677 BRON cedex Directeur de la publication : Luc Zimmer Webmestre : Franck Lamberton Hébergement : Inserm/DRSI Lyon - 69675 BRON cedex

**Utilisation du site**

L'utilisation du site est réservée à un usage professionnel, il est uniquement destiné aux utilisateurs de la plateforme PRIMAGE.

L'accès au site peut être interrompu à tout moment, sans préavis, notamment en cas de force majeure, de maintenance ou si l'Inserm et/ou le CERMEP décide de suspendre ou d'arrêter la fourniture de ce service. L'obligation de fourniture du service se limite donc à une obligation de moyens.

**Contenu du site**

Le CERMEP s'efforce d'assurer au mieux de ses possibilités, l'exactitude et la mise à jour des informations diffusées, au moment de leur mise en ligne sur le site. Cependant, l'Inserm et/ou le CERMEP ne garantissent en aucune façon l'exactitude, la précision ou l'exhaustivité des informations mises à disposition sur le site. Les informations présentes sur le site sont non-contractuelles et peuvent être modifiées à tout moment.

Le site est régi par la loi française. Les utilisateurs étrangers acceptent formellement l'application de la loi française en visitant ce site et en utilisant tout ou partie des fonctionnalités du site.

**Propriété intellectuelle**

Les contenus, les textes, les images qui apparaissent ou sont disponibles sur le site, sont protégés par le droit de la propriété intellectuelle et sont la propriété exclusive des établissements promoteurs des études, sauf cas particuliers. À ce titre, vous vous engagez à ne pas copier, traduire, reproduire, vendre, publier, exploiter et diffuser des contenus du site protégés par le droit de la propriété intellectuelle, sans autorisation préalable et écrite du directeur du CERMEP.

**Vie privée**

Aucune donnée à caractère personnel n'est collectée sur ce site, seules sont conservées les traces de connexions aux pages du site soumises à authentification.

**Liens**

Le site peut contenir des liens vers des sites de partenaires ou de tiers. Le CERMEP ne disposant d'aucun moyen pour contrôler ces sites n'offre aucune garantie quant au respect par ces sites des lois et règlements en vigueur.

**Modifications**

L'Inserm et/ou le CERMEP se réservent le droit de modifier, sans préavis, les présentes conditions générales d'utilisation du site <https://primage-xnat.lyon.inserm.fr>

On the right side of the screenshot, there is a login form with the following fields and buttons:

- USER:
- PASSWORD:
- Buttons: Register, Forgot login or password?, Login

# What does XNAT provide?

<https://wiki.xnat.org/>



**Full DICOM Integration and Anonymization:**  
Get image data in, and keep PHI out.



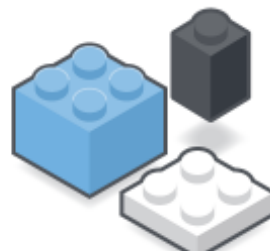
**Secure Access & Permission Control:**  
You decide who does what with your data.



**Integrated Search & Reporting:** Report on your image and clinical data together.



**Pipeline Processing:**  
Use the power of high-performance computing on your data.



**Modular Extensibility:**  
Expand the capabilities of your XNAT to meet your needs.



**Developer Community:**  
Benefit from an active and engaged set of XNAT power users.

Marcus et al. *Neuroinformatics* 2007

<https://www.xnat.org/about/xnat-publications.php>

# XNAT: user roles and permissions

## *The "CRUD" model of permissions*

Role/Activity	Project A Owners	Project A Members	Project A Collaborators
Create Data in Project A	<b>C</b>	<b>C</b>	
Read/Download Data from Project A	<b>R</b>	<b>R</b>	<b>R</b>
Share Data (for example, into "Project B")	<b>S</b>	<b>S</b>	<b>S</b>

- **Project Owners:** If you define additional project owners, they will have all of the permissions on your project that you do. They can read, insert, modify, and delete anything (and everything) associated with your project. They can also add additional users to your project and modify the data types associated with your project.
- **Project Members:** Members have the ability to manage the data in your project. They can read, insert, and modify subjects and experiments in your project. They cannot modify the project users and data types.
- **Project Collaborators:** Collaborators have read-only access on all of the data in your project. They cannot insert or modify data owned by your project. They can download your data and use it within their projects.

<https://wiki.xnat.org/docs16/2-user-documentation/core-activities/user-roles-and-permissions>





XNAT currently contains 8 projects, 15 subjects, and 1 imaging sessions.

[Projects](#) | [Subjects](#) | [MR](#) | [PET](#) | [CT](#)

ID:  Name:  Description:   
 Keywords:  Investigator:

Projects
<p><a href="#">Club_NeuroImageurs_Tests</a>                      Project ID: Club_NeuroImg                      Bac à sable pour les neuroimageurs du CRNL                      You are an <b>owner</b> for this project.</p>
<p><a href="#">EM_StoryLine</a>                      Project ID: EM_StoryLine PI: Emiliano Macaluso                      You are an <b>owner</b> for this project.</p>
<p><a href="#">EM_BREAL_CL_beh</a>                      Project ID: EM_BREAL_CL_be PI: Emiliano Macaluso                      You are an <b>owner</b> for this project.</p>
<p><a href="#">EM_BREAL_VR_beh2</a>                      Project ID: EM_BREAL_VR_be PI: Emiliano Macaluso                      You are an <b>owner</b> for this project.</p>
<p><a href="#">EM_BREAL_RW_beh</a>                      Project ID: EM_BREAL_RW_be PI: Emiliano Macaluso                      You are an <b>owner</b> for this project.</p>
<p><a href="#">EM_BREAL_VR_mri</a>                      Project ID: EM_BREAL_VR_mr PI: Emiliano Macaluso                      You are an <b>owner</b> for this project.</p>
<p><a href="#">EM_MACBRAIN_Exp1</a>                      Project ID: EM_MACBRAIN_Ex PI: Emiliano Macaluso                      You are an <b>owner</b> for this project.</p>
<p><a href="#">EM_veMT_mri</a>                      Project ID: EM_veMT_mri PI: Emiliano Macaluso                      You are an <b>owner</b> for this project.</p>

Recent Data Activity			
<table border="1"> <tr> <td>Club_Neur...</td> <td>MR</td> <td>test_001_MR_1</td> </tr> </table>	Club_Neur...	MR	test_001_MR_1
Club_Neur...	MR	test_001_MR_1	

## For each project:

### - **Raw data collected**

- ANY TYPE: neuroimaging, behavioural, physiological, videos, ...
- ANY FORMAT: DICOM, zip folder

### - **Descriptions of the protocol**

- Examples: stimuli, timing desc., LabVIEW/Matlab/E-Prime/... scripts, meeting reports, ...
- ANY FORMAT: pdf, word, excel, ...

### - **Official documents**

- Examples: ethics, funding, tracking sheets,
- ANY FORMAT

## For each project:

- **Secure storage of raw data**
- **Clean database managed for you**
- **Restricted access**
- **Traceability**
- **Release of part of the storage space on the UNIX team disks**
- **Most of the answers needed for the DMP document about data storage**
- **Inexpensive**
- **On site assistance :-)**

# Acknowledgements

## CRNL

Pierre-Emmanuel Aguera (Service info)

Thibaut Woog (Service info)

Hervé Hugueney (Service info)

Arnaud Fournel (NeuroPop)

Isabelle Faillenot (NeuroPain)

## CERMEP

Franck Lamberton

Denis Schwartz

Sébastien Daligault



<https://wiki.crnl.fr>

- Ad | Administratif
- Di | Direction: information & documents
- Eq | Equipes
- In | Informatique

## Se | Services et Groupes transversaux

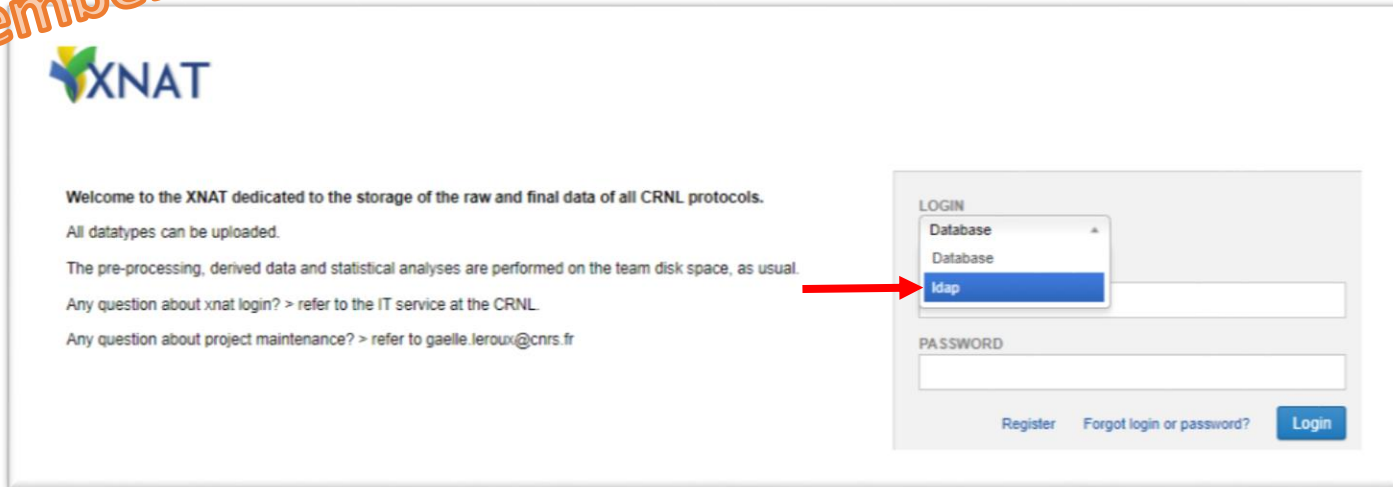
- ▶ animalerie\_neurocampus
- ▶ **assistants\_de\_prevention**
- ▶ club\_methodo
- ▶ club\_neuro\_imageurs
- ▶ egalite
- ▶ gt\_experimentation\_humaine
- ▶ infos\_neurocampus
- ▶ neurocampus\_ex\_vivo
- ▶ psi2

Image from <https://fault2sha.net/2018/04/16/hands-on-session-at-esc-2018/>

# XNAT @ CRNL: how to login?

Restricted access to  
CRNL members only

When outside the inserm network:  
open navigator from the CRNL server



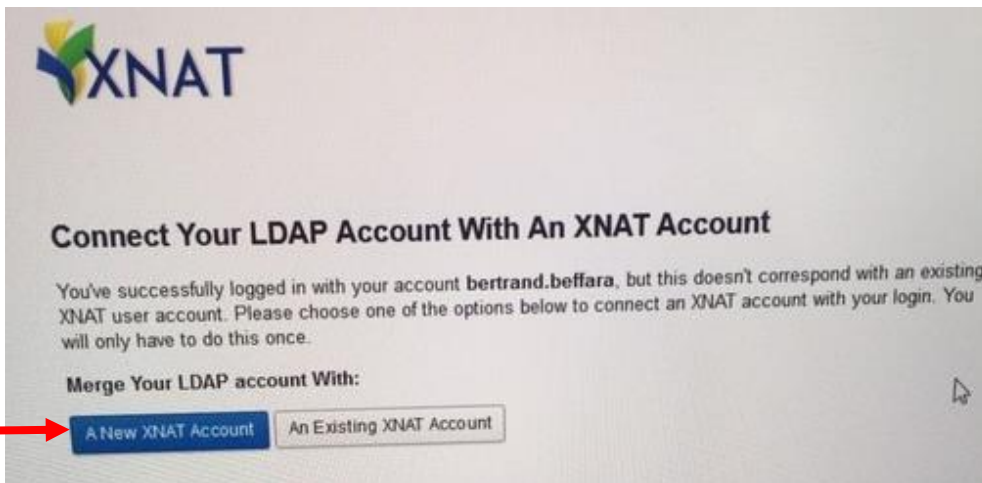
Welcome to the XNAT dedicated to the storage of the raw and final data of all CRNL protocols.  
All datatypes can be uploaded.  
The pre-processing, derived data and statistical analyses are performed on the team disk space, as usual.  
Any question about xnat login? > refer to the IT service at the CRNL.  
Any question about project maintenance? > refer to gaelle.leroux@cns.fr

LOGIN

Database  
Database  
ldap

PASSWORD

Register Forgot login or password? Login



Connect Your LDAP Account With An XNAT Account

You've successfully logged in with your account **bertrand.beffara**, but this doesn't correspond with an existing XNAT user account. Please choose one of the options below to connect an XNAT account with your login. You will only have to do this once.

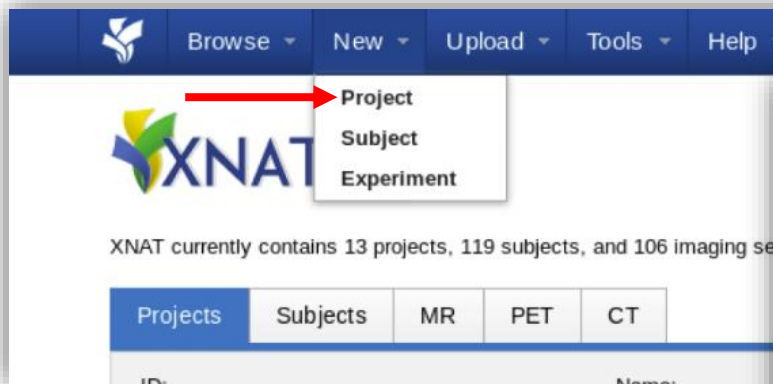
Merge Your LDAP account With:

A New XNAT Account An Existing XNAT Account

LOGIN = ldap  
USER = prenom.nom  
PASSWORD = the\_usual\_one\_at\_CRNL

Then:  
"register" + refresh the webpage

# XNAT @ CRNL: how to create projects?



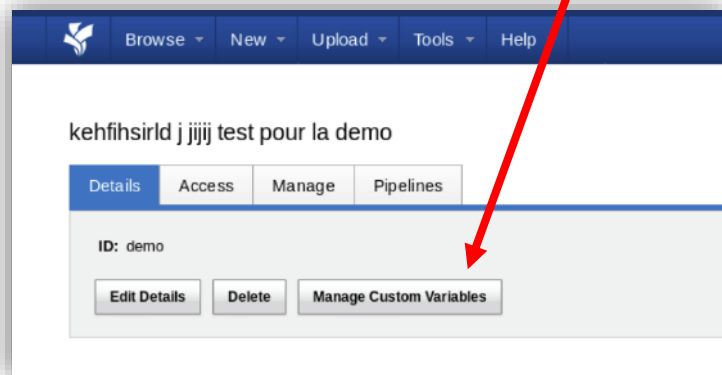
Navigation menu: Browse, New, Upload, Tools, Help

New dropdown menu: Project, Subject, Experiment

XNAT currently contains 13 projects, 119 subjects, and 106 imaging sessions

Filter tabs: Projects, Subjects, MR, PET, CT

Optional: customize your project adding variable to subjects or sessions



Project Name: kehfihsird j jijij test pour la demo

Navigation: Details, Access, Manage, Pipelines

ID: demo

Buttons: Edit Details, Delete, Manage Custom Variables

## New Project

### Step 1: Enter project details

Project Title

**REQUIRED:** Enter the full name of your project here. This will show up on project listings.

Running Title

**REQUIRED:** Create a simple abbreviation of your project name, using 24 characters or less. Spaces are allowed. This will be commonly used in menus and UI elements.

Project ID

**REQUIRED:** Create a one word project identifier. This is used in the database and cannot be changed.

Project Description

**Optional:** Provide a description of your project. This is for reference only and is not searchable.

Keywords

**Optional:** Enter searchable keywords. Each word, separated by a space, can be used independently as a search string.

Alias(es)

**Optional:** Enter alternate aliases (for example: charge codes) that this project can be identified by.

Investigator(s) Primary Investigator:  [Edit Selected](#)

Other Investigators:

[Create Investigator](#)

**Optional:** List investigators associated with this project. This is for reference only and does not provide access to this project for the listed investigators.

### Step 2: Define Project Accessibility

Select the accessibility of your project.

- Private Only you and study members will be able to access study data.
- Protected
- Public

# XNAT @ CRNL: how to populate projects?

## Case 1: raw MRI data in DICOM format

3 options using GUI:

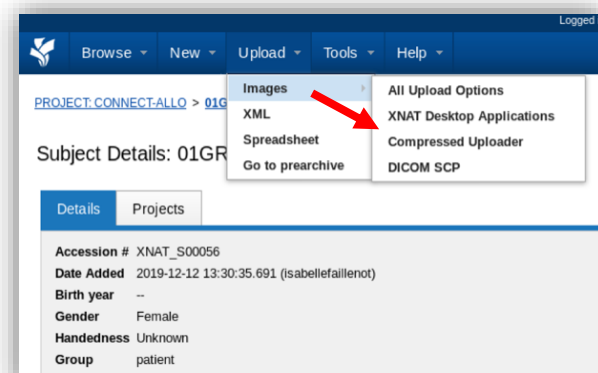
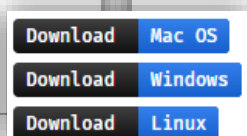
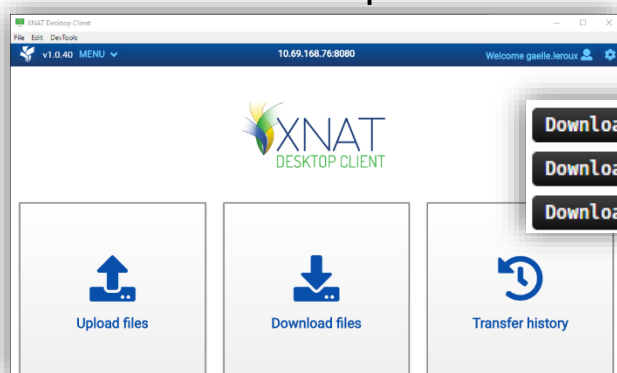
OR

OR

### XNAT desktop client

### XNAT upload assistant

### XNAT web interface



<https://download.xnat.org/desktop-client/>

<https://download.xnat.org/upload-assistant/>

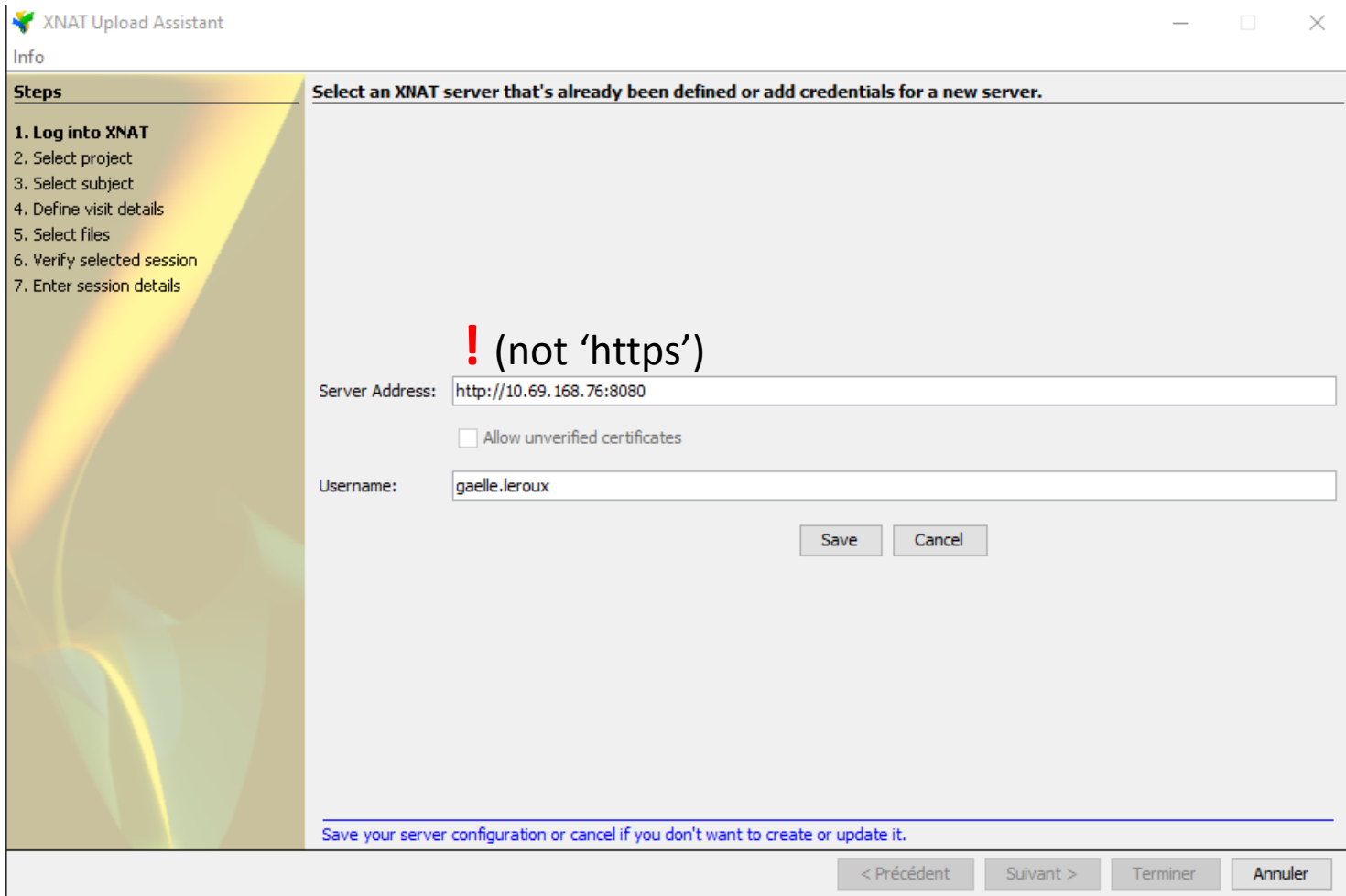
For uncompressed DICOM images/folders.

For uncompressed DICOM  
+  
.zip or .tar.gz compressed  
folders.



## Case 1: raw MRI data in DICOM format

Option: XNAT upload assistant (uncompressed DICOM images)



XNAT Upload Assistant

Info

**Steps**

1. Log into XNAT
2. Select project
3. Select subject
4. Define visit details
5. Select files
6. Verify selected session
7. Enter session details

Select an XNAT server that's already been defined or add credentials for a new server.

**!** (not 'https')

Server Address:

Allow unverified certificates

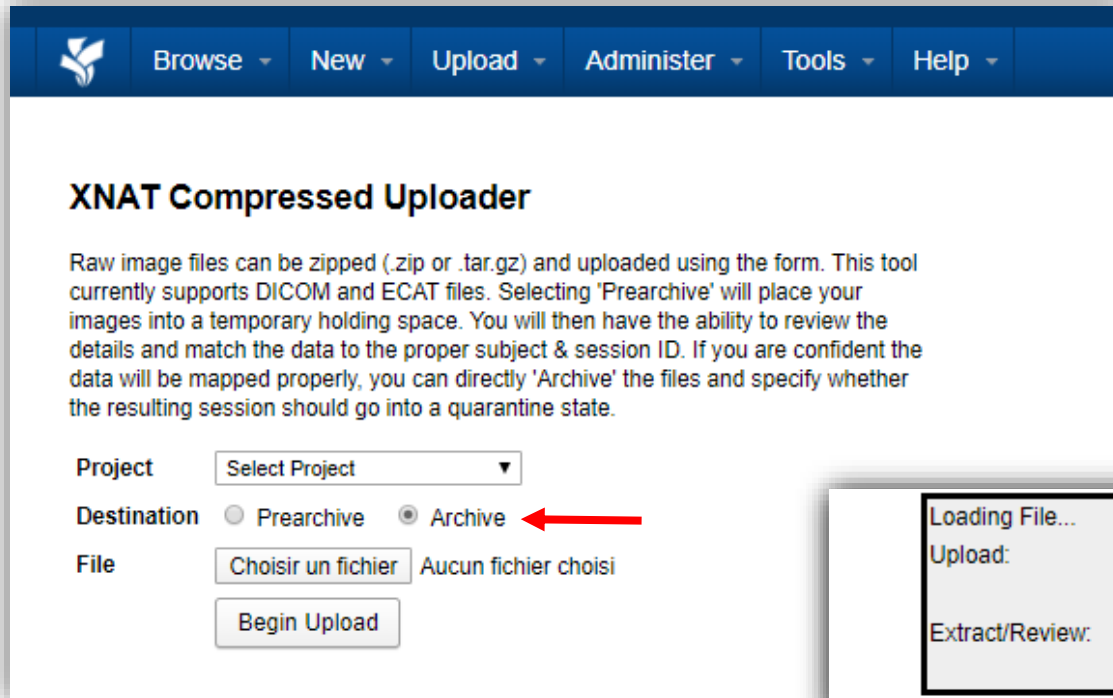
Username:

[Save your server configuration or cancel if you don't want to create or update it.](#)

< Précédent   Suivant >   Terminer   Annuler

## Case 1: raw MRI data in DICOM format


Option: XNAT web interface



**XNAT Compressed Uploader**

Raw image files can be zipped (.zip or .tar.gz) and uploaded using the form. This tool currently supports DICOM and ECAT files. Selecting 'Prearchive' will place your images into a temporary holding space. You will then have the ability to review the details and match the data to the proper subject & session ID. If you are confident the data will be mapped properly, you can directly 'Archive' the files and specify whether the resulting session should go into a quarantine state.

Project:

Destination:  Prearchive  Archive 

File:  Aucun fichier choisi



Loading File...  
Upload:  100%

Extract/Review:  100%

archiving operation complete...

The following sessions have been uploaded:

[IRM\\_MULTISENS\\_P01\\_CNJ\\_20191219\\_1700](#) has been archived for project Club\_NeuroImg

# XNAT @ CRNL: how to populate projects?

## Case 1: raw MRI data in DICOM format

Option: XNAT web interface

XNAT @ CERMEP

XNAT @ CRNL

MR Session: IRM\_MULTISENS\_P01\_CNU\_20191219\_1700

Scan	Type	Series Desc	Usability	File	Note
1	AUTODILIGN	AUTODILIGN	usable	29.3 MB in 128 files	
2	AUTODILIGN MP R sag	AUTODILIGN MP R sag	usable	1009.5 KB in 5 files	
3	AUTODILIGN MP R cut	AUTODILIGN MP R cut	usable	512.6 KB in 3 files	
4	AUTODILIGN MP R iso	AUTODILIGN MP R iso	usable	512.6 KB in 3 files	
5	LOGC 11 FL2D SAG	LOGC 11 FL2D SAG	usable	7.1 MB in 29 files	
6	HUN_MSD_2.3w p AP OC Sgrta	HUN_MSD_2.3w p AP OC Sgrta	usable	1.3 MB in 1 file	
7	HUN_MSD_2.3w o AP OC	HUN_MSD_2.3w o AP OC	usable	10.8 MB in 15 files	
8	HUN_MSD_2.3w o AP OC Physic sLog	HUN_MSD_2.3w o AP OC Physic sLog	usable	224.5 KB in 1 file	
9	HUN_MSD_2.3w o PA OC Physic sLog	HUN_MSD_2.3w o PA OC Physic sLog	usable	192.8 KB in 1 file	
10	HUN_MSD_2.3w p PA OC Sgrta	HUN_MSD_2.3w p PA OC Sgrta	usable	1.3 MB in 1 file	
11	HUN_MSD_2.3w o PA OC	HUN_MSD_2.3w o PA OC	usable	1.3 MB in 1 file	
12	grv_bnd_mappin g	grv_bnd_mappin g	usable	18.8 MB in 104 files	
13	grv_bnd_mappin g	grv_bnd_mappin g	usable	9.4 MB in 52 files	
14	SIN_BOLD task A S Sgrta	SIN_BOLD task A S Sgrta	usable	1.3 MB in 1 file	
15	SIN_BOLD task A	SIN_BOLD task A	usable	438.0 MB in 334 files	
16	SIN_BOLD task A P PhysicLog	SIN_BOLD task A P PhysicLog	usable	2.3 MB in 1 file	
17	SIN_BOLD localiser O Sgrta	SIN_BOLD localiser O Sgrta	usable	1.3 MB in 1 file	
18	SIN_BOLD localiser O	SIN_BOLD localiser O	usable	287.9 MB in 220 files	
19	SIN_BOLD localiser O PhysicLog	SIN_BOLD localiser O PhysicLog	usable	887.1 KB in 1 file	
20	SIN_BOLD task B S Sgrta	SIN_BOLD task B S Sgrta	usable	1.3 MB in 1 file	
21	SIN_BOLD task B	SIN_BOLD task B	usable	444.0 MB in 340 files	
22	SIN_BOLD task B P PhysicLog	SIN_BOLD task B P PhysicLog	usable	3.4 MB in 1 file	
23	SIN_BOLD localiser M Sgrta	SIN_BOLD localiser M Sgrta	usable	1.3 MB in 1 file	
24	SIN_BOLD localiser M	SIN_BOLD localiser M	usable	287.9 MB in 205 files	
25	SIN_BOLD localiser M PhysicLog	SIN_BOLD localiser M PhysicLog	usable	841.1 KB in 1 file	
26	SIN_BOLD task C S Sgrta	SIN_BOLD task C S Sgrta	usable	1.3 MB in 1 file	
27	SIN_BOLD task C	SIN_BOLD task C	usable	437.0 MB in 334 files	
28	SIN_BOLD task C P PhysicLog	SIN_BOLD task C P PhysicLog	usable	1.2 MB in 1 file	
29	B0M_structurale T1	B0M_structurale T1	usable	88.5 MB in 224 files	
30	B0M_structurale T1	B0M_structurale T1	usable	88.5 MB in 224 files	
30	Phosma237Hepo A	Phosma237Hepo A	usable	2.1 MB in 9 files	

Total: 2.1 GB in 2244 files

MR Session: IRM\_MULTISENS\_P01\_CNU\_20191219\_1700

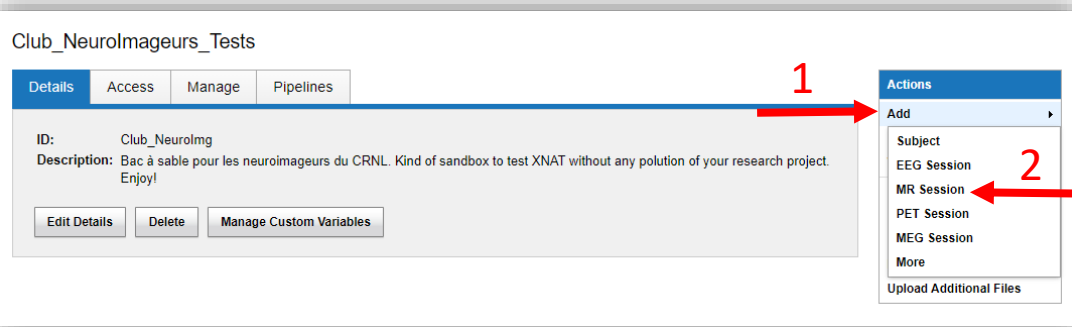
Scan	Type	Series Desc	Usability	File	Note
1	AUTODILIGN	AUTODILIGN	usable	29.3 MB in 128 files	
2	AUTODILIGN MP R sag	AUTODILIGN MP R sag	usable	1009.5 KB in 5 files	
3	AUTODILIGN MP R cut	AUTODILIGN MP R cut	usable	512.6 KB in 3 files	
4	AUTODILIGN MP R iso	AUTODILIGN MP R iso	usable	512.6 KB in 3 files	
5	LOGC 11 FL2D SAG	LOGC 11 FL2D SAG	usable	7.1 MB in 29 files	
6	HUN_MSD_2.3w p AP OC Sgrta	HUN_MSD_2.3w p AP OC Sgrta	usable	1.3 MB in 1 file	
7	HUN_MSD_2.3w o AP OC	HUN_MSD_2.3w o AP OC	usable	10.8 MB in 15 files	
8	HUN_MSD_2.3w o AP OC Physic sLog	HUN_MSD_2.3w o AP OC Physic sLog	usable	224.5 KB in 1 file	
9	HUN_MSD_2.3w o PA OC Physic sLog	HUN_MSD_2.3w o PA OC Physic sLog	usable	192.8 KB in 1 file	
10	HUN_MSD_2.3w p PA OC Sgrta	HUN_MSD_2.3w p PA OC Sgrta	usable	1.3 MB in 1 file	
11	HUN_MSD_2.3w o PA OC	HUN_MSD_2.3w o PA OC	usable	1.3 MB in 1 file	
12	grv_bnd_mappin g	grv_bnd_mappin g	usable	18.8 MB in 104 files	
13	grv_bnd_mappin g	grv_bnd_mappin g	usable	9.4 MB in 52 files	
14	SIN_BOLD task A S Sgrta	SIN_BOLD task A S Sgrta	usable	1.3 MB in 1 file	
15	SIN_BOLD task A	SIN_BOLD task A	usable	438.0 MB in 334 files	
16	SIN_BOLD task A P PhysicLog	SIN_BOLD task A P PhysicLog	usable	2.3 MB in 1 file	
17	SIN_BOLD localiser O Sgrta	SIN_BOLD localiser O Sgrta	usable	1.3 MB in 1 file	
18	SIN_BOLD localiser O	SIN_BOLD localiser O	usable	287.9 MB in 220 files	
19	SIN_BOLD localiser O PhysicLog	SIN_BOLD localiser O PhysicLog	usable	887.1 KB in 1 file	
20	SIN_BOLD task B S Sgrta	SIN_BOLD task B S Sgrta	usable	1.3 MB in 1 file	
21	SIN_BOLD task B	SIN_BOLD task B	usable	444.0 MB in 340 files	
22	SIN_BOLD task B P PhysicLog	SIN_BOLD task B P PhysicLog	usable	3.4 MB in 1 file	
23	SIN_BOLD localiser M Sgrta	SIN_BOLD localiser M Sgrta	usable	1.3 MB in 1 file	
24	SIN_BOLD localiser M	SIN_BOLD localiser M	usable	287.9 MB in 205 files	
25	SIN_BOLD localiser M PhysicLog	SIN_BOLD localiser M PhysicLog	usable	841.2 KB in 1 file	
26	SIN_BOLD task C S Sgrta	SIN_BOLD task C S Sgrta	usable	1.3 MB in 1 file	
27	SIN_BOLD task C	SIN_BOLD task C	usable	437.0 MB in 334 files	
28	SIN_BOLD task C P PhysicLog	SIN_BOLD task C P PhysicLog	usable	1.2 MB in 1 file	
29	B0M_structurale T1	B0M_structurale T1	usable	88.5 MB in 224 files	
30	B0M_structurale T1	B0M_structurale T1	usable	88.5 MB in 224 files	
30	Phosma237Hepo A	Phosma237Hepo A	usable	2.1 MB in 9 files	

Total: 2.1 GB in 2244 files

# XNAT @ CRNL: how to create projects?

## Case 1: raw MRI data in DICOM format

Option: XNAT web interface



Club\_NeuroImageurs\_Tests

Details Access Manage Pipelines

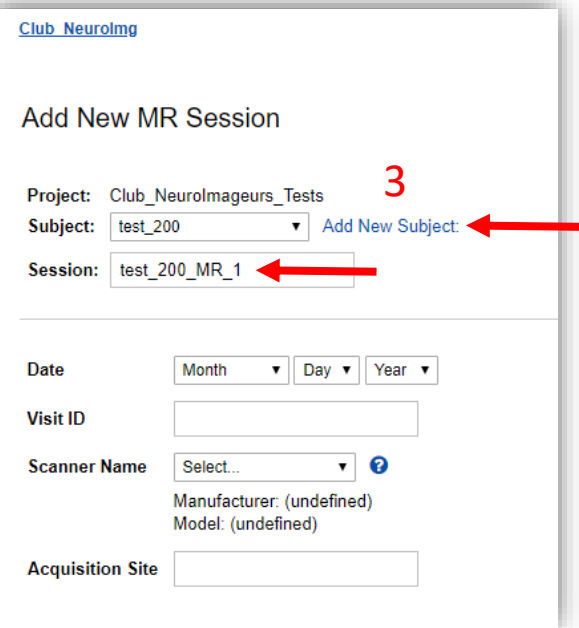
ID: Club\_NeuroImg  
Description: Bac à sable pour les neuroimageurs du CRNL. Kind of sandbox to test XNAT without any pollution of your research project. Enjoy!

Edit Details Delete Manage Custom Variables

Actions

- Add
  - Subject
  - EEG Session
  - MR Session
  - PET Session
  - MEG Session
  - More
- Upload Additional Files

Choose a project, a subject, add experiment,  
MR session...  
submit  
Add session to a subject



Club\_NeuroImg

### Add New MR Session

Project: Club\_NeuroImageurs\_Tests

Subject: test\_200 [Add New Subject](#)

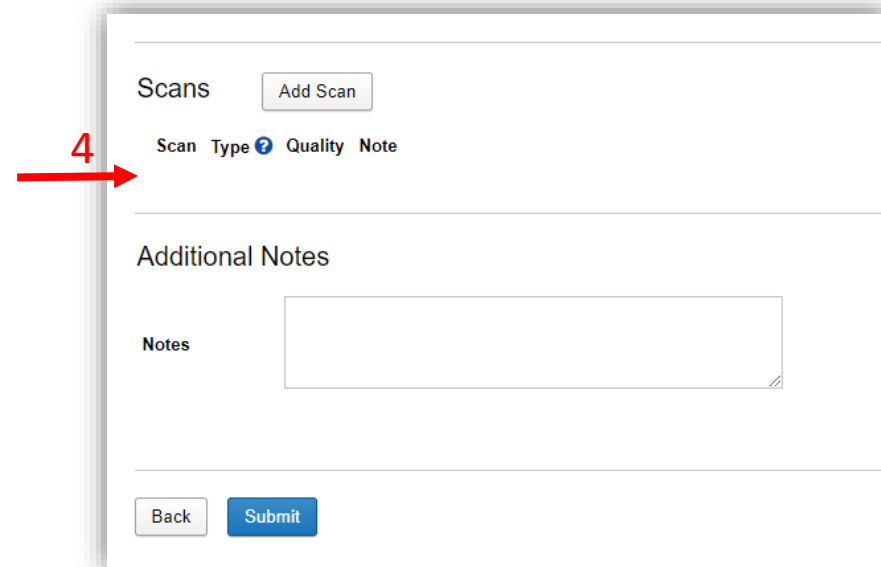
Session: test\_200\_MR\_1

Date: Month Day Year

Visit ID:

Scanner Name: Select...  
Manufacturer: (undefined)  
Model: (undefined)

Acquisition Site:



Scans

Scan	Type	Quality	Note
Additional Notes			
Notes <input type="text"/>			

# XNAT @ CRNL: how to create projects?

## Case 1: raw MRI data in DICOM format

### Option: XNAT web interface

PROJECT: Club\_Neuroimg > SUBJECT: test\_100 > test\_100\_MR\_12

MR Session: test\_100\_MR\_12

Details Projects

Accession #: XNAT\_E00136 Subject: test\_100  
Date Added: 01/21/2020 08:20:43 (gaelleleroux) Gender: --  
Handedness: --  
Age: --

1

Actions

- Edit
- View
- Upload
- Download
- Email
- Manage Files
- View Images
- Delete
- Upload Additional Files

2

Upload Scans  
Tagged Upload

Custom Variable Sets

default Fields  
Control/patient Fields

Scans

Bulk Actions: Download

Scan	Type	Series Desc	Usability	Files	Note
No scans found in this session.					

History

POWERED BY XNAT  
version 1.7.5.6 build: 1651

XNAT - Google Chrome

Non sécurisé | 10.69.168.76:8080/app/action/XDATAActionRouter/xdaction/XDATScreen\_upload\_scans\_xnat\_image

### Compressed upload

Raw image files can be zipped (.zip or .tar.gz) and uploaded using the form. This tool currently supports DICOM and ECAT files. Selecting 'Prearchive' will place your images into a temporary holding space. You will then have the ability to review the details and match the data to the proper subject & session ID. If you are confident the data will be mapped properly, you can directly 'Archive' the files and specify whether the resulting session should go into a quarantine state.

Project Club\_Neuroimg  
Session test\_100\_MR\_7

Destination  Prearchive  Archive in quarantine  Archive no quarantine

File  IRM\_MULT...light.zip

3

Upload

Loading File...  
Upload: 100%  
Extract/Review: 100%

Successfully uploaded 1 sessions to the prearchive....

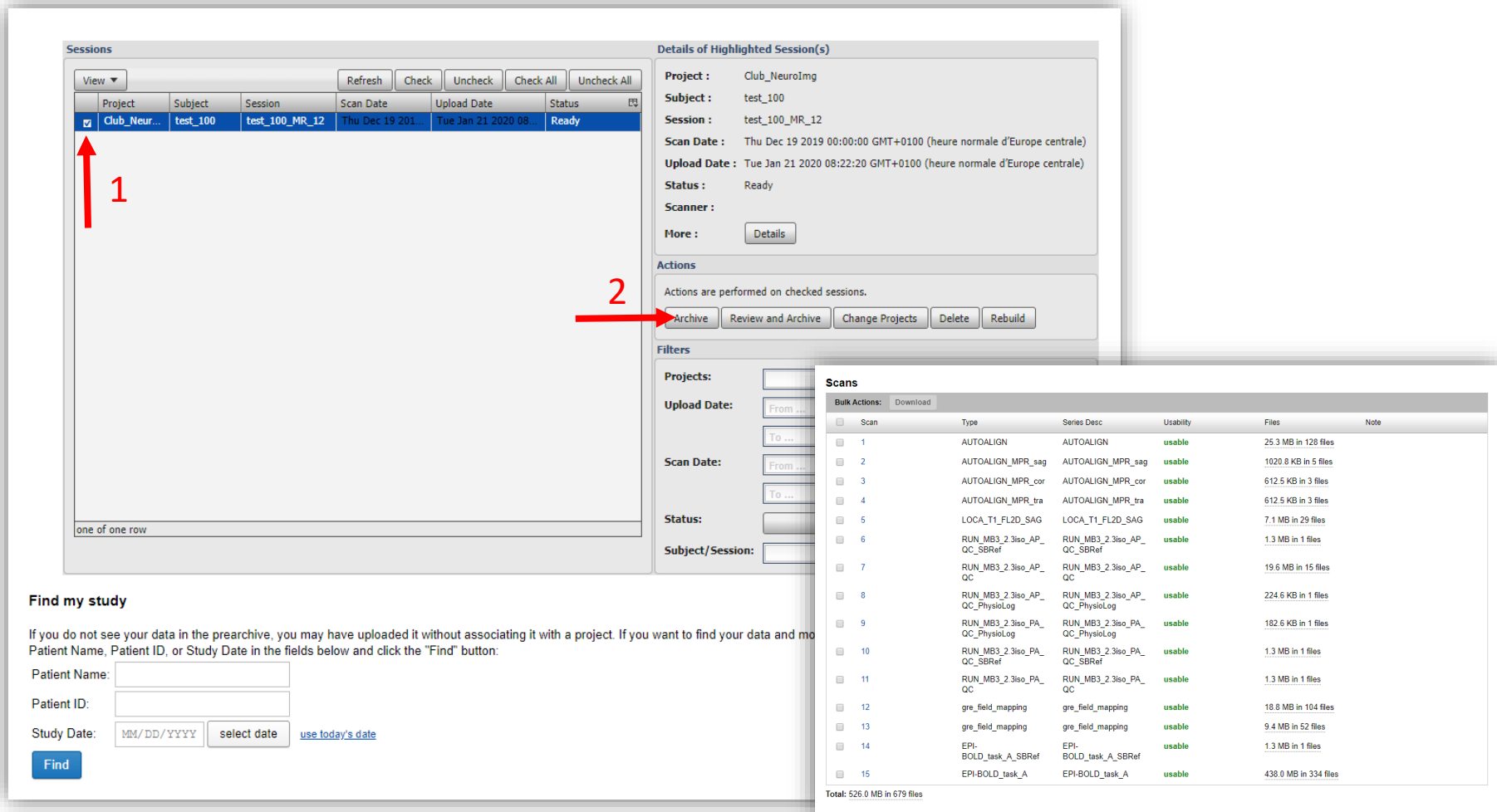
The following sessions have been uploaded:  
4

[1 sessions\(s\)](#) has been moved to the pre-archive

# XNAT @ CRNL: how to create projects?

## Case 1: raw MRI data in DICOM format

Option: XNAT web interface



The screenshot displays the XNAT web interface. On the left, the 'Sessions' table shows a list of sessions. A red arrow labeled '1' points to the first row, which is selected. On the right, the 'Details of Highlighted Session(s)' panel shows the details for the selected session. A red arrow labeled '2' points to the 'Actions' section, which includes buttons for 'Archive', 'Review and Archive', 'Change Projects', 'Delete', and 'Rebuild'. Below the 'Sessions' table, there is a 'Find my study' section with input fields for Patient Name, Patient ID, and Study Date, and a 'Find' button. On the right side, there is a 'Scans' table showing a list of scans with columns for Scan ID, Type, Series Desc, Usability, Files, and Note.

Project	Subject	Session	Scan Date	Upload Date	Status	
<input checked="" type="checkbox"/>	Club_Neur...	test_100	test_100_MR_12	Thu Dec 19 201...	Tue Jan 21 2020 08...	Ready

Details of Highlighted Session(s)

Project : Club\_NeuroImg  
 Subject : test\_100  
 Session : test\_100\_MR\_12  
 Scan Date : Thu Dec 19 2019 00:00:00 GMT+0100 (heure normale d'Europe centrale)  
 Upload Date : Tue Jan 21 2020 08:22:20 GMT+0100 (heure normale d'Europe centrale)  
 Status : Ready  
 Scanner :

Actions

Actions are performed on checked sessions.

Archive Review and Archive Change Projects Delete Rebuild

Filters

Projects:   
 Upload Date: From  To   
 Scan Date: From  To   
 Status:   
 Subject/Session:

Find my study

If you do not see your data in the prearchive, you may have uploaded it without associating it with a project. If you want to find your data and more information, you can search for your data using the Patient Name, Patient ID, or Study Date in the fields below and click the "Find" button:

Patient Name:   
 Patient ID:   
 Study Date: MM/DD/YYYY  [use today's date](#)

Scans

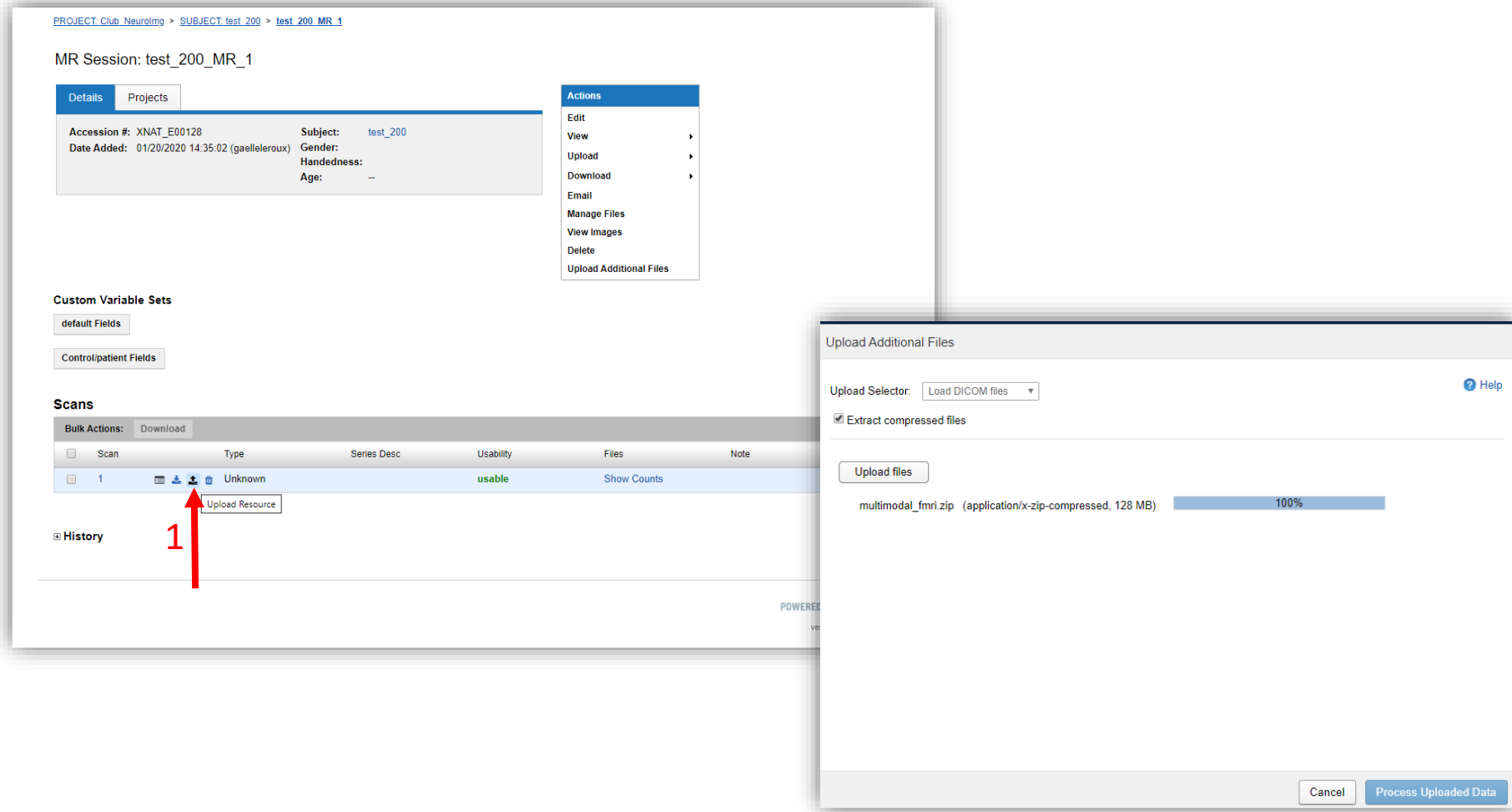
Scan	Type	Series Desc	Usability	Files	Note
1	AUTOALIGN	AUTOALIGN	usable	25.3 MB in 128 files	
2	AUTOALIGN_MPR_sag	AUTOALIGN_MPR_sag	usable	1020.8 KB in 5 files	
3	AUTOALIGN_MPR_cor	AUTOALIGN_MPR_cor	usable	612.5 KB in 3 files	
4	AUTOALIGN_MPR_tra	AUTOALIGN_MPR_tra	usable	612.5 KB in 3 files	
5	LOCA_T1_FL2D_SAG	LOCA_T1_FL2D_SAG	usable	7.1 MB in 29 files	
6	RUN_MB3_2.3iso_AP_QC_SBRef	RUN_MB3_2.3iso_AP_QC_SBRef	usable	1.3 MB in 1 files	
7	RUN_MB3_2.3iso_AP_QC	RUN_MB3_2.3iso_AP_QC	usable	19.6 MB in 15 files	
8	RUN_MB3_2.3iso_AP_QC_PhysioLog	RUN_MB3_2.3iso_AP_QC_PhysioLog	usable	224.6 KB in 1 files	
9	RUN_MB3_2.3iso_PA_QC_PhysioLog	RUN_MB3_2.3iso_PA_QC_PhysioLog	usable	182.6 KB in 1 files	
10	RUN_MB3_2.3iso_PA_QC_SBRef	RUN_MB3_2.3iso_PA_QC_SBRef	usable	1.3 MB in 1 files	
11	RUN_MB3_2.3iso_PA_QC	RUN_MB3_2.3iso_PA_QC	usable	1.3 MB in 1 files	
12	gre_field_mapping	gre_field_mapping	usable	18.8 MB in 104 files	
13	gre_field_mapping	gre_field_mapping	usable	9.4 MB in 52 files	
14	EPI-BOLD_task_A_SBRef	EPI-BOLD_task_A_SBRef	usable	1.3 MB in 1 files	
15	EPI-BOLD_task_A	EPI-BOLD_task_A	usable	438.0 MB in 334 files	

Total: 526.0 MB in 679 files

# XNAT @ CRNL: how to populate projects?

## Case 2: raw MRI data (not DICOM: from 7T scanner @ CERMEP or ANALYZE format or...)

Option: XNAT web interface



The screenshot displays the XNAT web interface for a specific MR session. The main panel shows session details for 'test\_200\_MR\_1' with fields for Accession #, Date Added, Subject, Gender, Handedness, and Age. An 'Actions' menu is visible on the right. Below the details are sections for 'Custom Variable Sets' and 'Scans'. A table under 'Scans' has a red arrow pointing to the 'Upload Resource' icon in the first row. An 'Upload Additional Files' dialog box is overlaid on the right, showing an 'Upload Selector' set to 'Load DICOM files', a checked 'Extract compressed files' option, and a progress bar for 'multimodal\_fmri.zip' at 100% completion. The dialog includes 'Upload files', 'Cancel', and 'Process Uploaded Data' buttons.

PROJECT: Club\_Neuroimg > SUBJECT: test\_200 > test\_200\_MR\_1

MR Session: test\_200\_MR\_1

Details Projects

Accession #: XNAT\_E00128 Subject: test\_200  
Date Added: 01/20/2020 14:35:02 (gaelleleroux) Gender: --  
Handedness: --  
Age: --

Actions

- Edit
- View
- Upload
- Download
- Email
- Manage Files
- View Images
- Delete
- Upload Additional Files

Custom Variable Sets

default Fields

Control/patient Fields

Scans

Bulk Actions: Download

Scan	Type	Series Desc	Usability	Files	Note
1	Unknown		usable	Show Counts	

History

1

Upload Resource

Upload Additional Files

Upload Selector: Load DICOM files

Extract compressed files

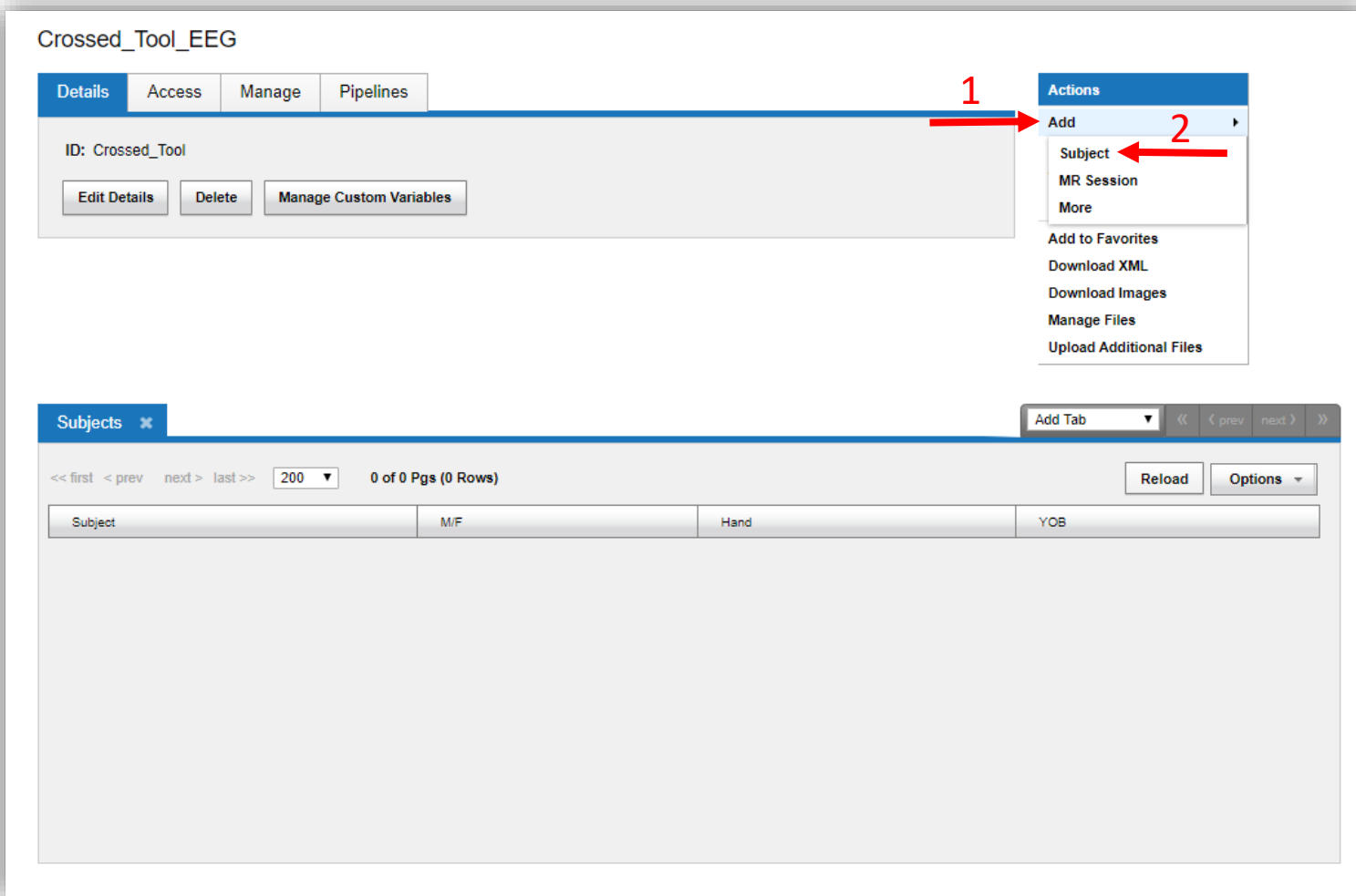
Upload files

multimodal\_fmri.zip (application/x-zip-compressed, 128 MB) 100%

Cancel Process Uploaded Data

## Case 3: raw MEG or EEG data

\*.zip/participant



The screenshot shows the XNAT interface for a project named 'Crossed\_Tool\_EEG'. The 'Details' tab is active, showing the project ID and buttons for 'Edit Details', 'Delete', and 'Manage Custom Variables'. The 'Actions' menu is open, with the 'Add' option selected. A red arrow labeled '1' points to the 'Add' button, and another red arrow labeled '2' points to the 'Subject' option in the dropdown menu. Below the details, the 'Subjects' table is visible, showing columns for 'Subject', 'M/F', 'Hand', and 'YOB'. The table is currently empty, and the pagination shows '0 of 0 Pgs (0 Rows)'. There are also 'Reload' and 'Options' buttons next to the table.



## Case 3: raw MEG or EEG data

**Enter a new subject**

Primary Project:

Subject's ID within this project: **1** →

Subject's research group within this project:

---

**Demographics**

Please Select One

Date Of Birth

Year Of Birth

Age

YOB/DOB/Age

Gender

Handedness

Education

Race

Ethnicity

Height (inches)

Weight (lbs)

Recruitment Source

**3** ←

Optional

## Case 3: raw MEG or EEG data

PROJECT: Club NeuroImg > test\_100

Subject Details: test\_100

Details	Projects	Actions
Accession # XNAT_S00136 Date Added 2020-01-17 13:05:04.804 (gaelleleroux) Birth year -- Gender -- Handedness --		Edit View XML <b>Add Experiment</b> Download XML Email Manage Files Delete

1 →

Custom Variable Sets

default Fields

Experiments

Date	Experiment	Project	Label
No data to show			

Club NeuroImg

Project: Club\_NeuroImg  
Subject: test\_100

What type of experiment are you entering?  
(clicking anywhere in the experiment row will immediately create a new experiment)

Filter:  type here to filter the list below (press 'esc' to clear)

[CR Session](#)  
Computed Radiography Session

[CT Session](#)  
An event in which CT scans are obtained on a subject

[ECG Session](#)  
Electrocardiography Session

[EEG Session](#)  
Electroencephalography Session

[MEG Session](#)  
Magnetoencephalography Session

[MR Session](#)  
An event in which MR scans are obtained on a subject

[Other Session](#)  
X-Ray 3D Angiography Session

[PET MR Session](#)  
An event in which scans are obtained by a device capable of both PET and MR acquisitions

[PET Session](#)  
An event in which PET scans are obtained on a subject

2 →

## Case 3: raw MEG or EEG data

Add New EEG Session

Project: Club\_Neurolmageurs\_Tests  
 Subject: test\_100 [Add New Subject](#)  
 Session: 1 **1**

Date: Month Day Year  
 Visit ID:   
 Scanner Name: Select... [?](#)  
 Manufacturer: (undefined)  
 Model: (undefined)  
 Acquisition Site:

Scans

Scan	Type <a href="#">?</a>	Quality	Note
1 <b>2</b>	Unknown	usable	
<b>3</b>	* Unknown	usable	
	* Unknown	usable	
	* Unknown	usable	
	* Unknown	usable	

Additional Notes

Notes:

Add New EEG Session

Project: Club\_Neurolmageurs\_Tests  
 Subject: test\_100 [Add New Subject](#)  
 Session: 1

Date: Month Day Year  
 Visit ID:   
 Scanner Name: Select... [?](#)  
 Manufacturer: (undefined)  
 Model: (undefined)  
 Acquisition Site:

Scans

Scan	Type <a href="#">?</a>	Quality	Note
1	Unknown	usable	

Additional Notes

Notes:

**4**

# XNAT @ CRNL: how to populate projects?

## Case 3: raw MEG or EEG data

Session: 1

Details Projects

Accession #: XNAT\_E00123      Subject: test\_100  
Date Added: 01/17/2020 13:37:47 (gaelleleroux)      Gender:  
Handedness:  
Age: --

Actions  
Edit  
View  
Download XML  
Email  
Manage Files  
View Images  
Delete  
Upload Additional Files

Scans

Bulk Actions: Download

Scan	Type	Series Desc	Usability	Files
1	Unknown		usable	Show Counts

Upload Resource

1

Upload Additional Files

Upload Selector: Load EEG ZIP folder 2

Extract compressed files

Upload files 3

1D.zip (application/x-zip-compressed, 120 MB) Upload complete

4

OK

# XNAT @ CRNL: how to populate projects?

## Case 4: other imaging data

### Example with PET-CT scans on rats

#### Add New PET MR Session

Project: Club\_NeuroImageurs\_Tests  
 Subject: test\_005 [Add New Subject](#)  
 Session: test\_005\_PET\_CT

Date: October 9, 2013 \*\*\*  
 Visit ID:   
 Scanner Name:   
 Acquisition Site:

Tracer: Select...  
 Transmissions:   
 Time of Injection: HH:MM:SS  
 Tracer Dosage:  (SELECT) Other  
 Specific Activity:   
 Total mass:  (SELECT) Other  
 Emission Scan Start-time: HH:MM:SS

Scans:   
 Scan Type Quality Note

Additional Notes  
 Notes:

#### Compressed upload

Raw image files can be zipped (.zip or .tar.gz) and uploaded using the form. This tool currently supports DICOM and ECAT files. Selecting 'Prearchive' will place your images into a temporary holding space. You will then have the ability to review the details and match the data to the proper subject & session ID. If you are confident the data will be mapped properly, you can directly 'Archive' the files and specify whether the resulting session should go into a quarantine state.

Project: Club\_Neuroimg  
 Session: test\_005\_PET\_CT  
 Destination:  Sessions  
 File:

Loading File...  
 Upload:  
 Extract/Review:  
 Success

The following sessions(s) were created:

[1 sessions\(s\)](#)

Project	Subject	Session	Scan Date	Upload Date	Status
Club_Neur...	test_005	test_005_PET_CT	Fri Oct 04 2013	Tue Jan 21 2020 08	Ready

PROJECT: Club\_Neuroimg > SUBJECT: test\_004 > test\_004\_PET\_1

#### PET Session: test\_004\_PET\_1

Accession #: XNAT_E00010	Subject: test_004
Date Added: 10/22/2019 13:18:37 (gaelleleroux)	Gender:
Date: 10/03/2013	Handedness:
Time: 14:54:39	Age: --
Tracer: FDG	
Start Time: 2013-10-03 13:55:00.0	
Dosage: 1.8670052E7 Bq	

- Edit
- View
- Upload
- Download
- Email
- Manage Files
- View Images
- Delete
- Upload Additional Files

#### Scans

Bulk Actions: Download

Scan	Type	Series Desc	Usability	Files
1	131003_R0577A-D-Odeur_FDG_3DRP_Z2.pet	131003_R0577A-D-Odeur_FDG_3DRP_Z2.pet	usable	21.3 MB in 636 files
2	131003_R0577A-D-Odeur_FDG_3DRP_Z2.pet		usable	Show Counts

Total: 21.3 MB in 636 files

## How to define “resources” (i.e. not imaging data):

2

Club\_NeurolImageurs\_Tests

Details Access **Manage** Pipelines

**Define Quarantine Settings**

YES All new experiments (and modified experiments) are placed into a quarantine folder.

NO New and modified experiments will not be placed in Quarantine.

Save

Define Prearchive Settings

Anonymization Script

Series Import Filters

Event Handlers

**Project Resource Settings** ← 1

Notifications Configuration

Define Scan Type Mapping Settings

PET Tracers

DICOM Configuration

**Project Resource Settings**

With this interface, you can define resources that will be expected to be uploaded to a specified location in your project. Users can be prompted to upload specific files on a given page, rather than rely on the 'Manage Files' interface.

Define Resource for:

Project Subject Subject Assessor Image Sessions Scan Image Assessor

**Defined Resource Configurations**

Type	Name	Label	Sub-directory	Overwrite? Options
<input type="button" value="Remove"/>	xnat:imageScanData	Load DICOM files	DICOM	false
<input type="button" value="Remove"/>	xnat:imageScanData	Load NIFTI files	NIFTI	false
<input type="button" value="Remove"/>	xnat:imageScanData	Load ANALYZE files	ANALYZE	false
Description: hdr and img				
<input type="button" value="Remove"/>	xnat:imageSessionData	BehaviouralData	BehaviouralData	false
Description: Behavioural Data collecting while scanning				
<input type="button" value="Remove"/>	xnat:imageSessionData	EyeTrackerData	EyeTrackerData	true
Description: Eye tracker data of the participant collected during the session.				
<input type="button" value="Remove"/>	xnat:projectData	EthicsApproval	EthicsApproval	false
Description: All documents related to ethics committee agreement.				
<input type="button" value="Remove"/>	xnat:projectData	FundingApproval	FundingApproval	false
Description: All documents related to the funding agency.				
<input type="button" value="Remove"/>	xnat:projectData	ProtocolDescription	ProtocolDescription	false
Description: All files describing the protocol parameters.				
<input type="button" value="Remove"/>	xnat:imageScanData	Load MEG zip folder	MEG	true

# XNAT @ CRNL: how to populate projects?

## Case 5: complementary raw data collected during the neuroimaging session

Session: 1

Details Projects

Accession #: XNAT\_E00123      Subject: test\_100  
Date Added: 01/17/2020 13:37:47 (gaelleleroux)      Gender:      Handedness:      Age: --

Actions

- Edit
- View
- Download XML
- Email
- Manage Files
- View Images
- Delete
- Upload Additional Files

Scans

Bulk Actions: Download

Scan	Type	Series Desc	Usability	Files	Note
1	Unknown		usable	141.1 MB in 11 files	

Total: 141.1 MB in 11 files

History

Note: This page is auto-generated and only the default data for this modality is shown. Please contact your site administrator or the XNAT team if you would like see more

\*.zip/participant

Upload Additional Files

Upload Selector: BehaviouralData

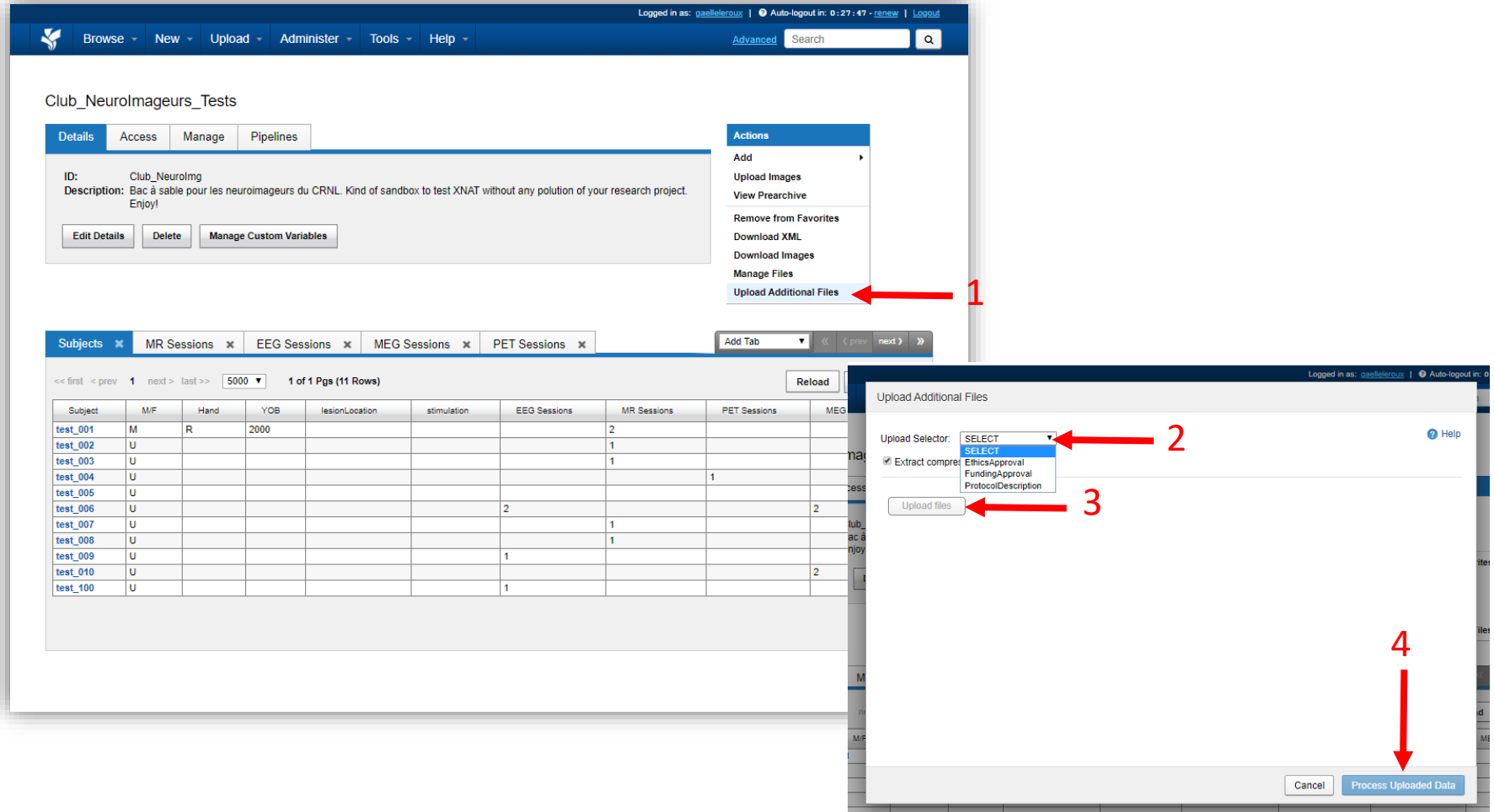
Extract compressed files

Upload files

Cancel Process Uploaded Data

## Case 6: documents related to the project

Any type (pdf, docx, png, ...)



The screenshot shows the XNAT web interface. The top navigation bar includes 'Browse', 'New', 'Upload', 'Administer', 'Tools', and 'Help'. The main content area displays project details for 'Club\_Neurolmageurs\_Tests', including an ID and description. Below this is a table of subjects with columns for Subject, M/F, Hand, YOB, lesionLocation, stimulation, EEG Sessions, MR Sessions, PET Sessions, and MEG. A table with 11 rows of test data is visible.

An 'Upload Additional Files' dialog box is overlaid on the right side of the screen. It contains the following elements:

- Upload Selector:** A dropdown menu with 'SELECT' selected. A red arrow labeled '2' points to this dropdown.
- Extract compress:** A checked checkbox with a dropdown menu showing options: 'EthicsApproval', 'FundingApproval', and 'ProtocolDescription'. A red arrow labeled '3' points to this dropdown.
- Upload files:** A button with a red arrow labeled '3' pointing to it.
- Process Uploaded Data:** A button at the bottom right of the dialog, with a red arrow labeled '4' pointing to it.

A red arrow labeled '1' points to the 'Upload Additional Files' option in the 'Actions' menu on the main page.

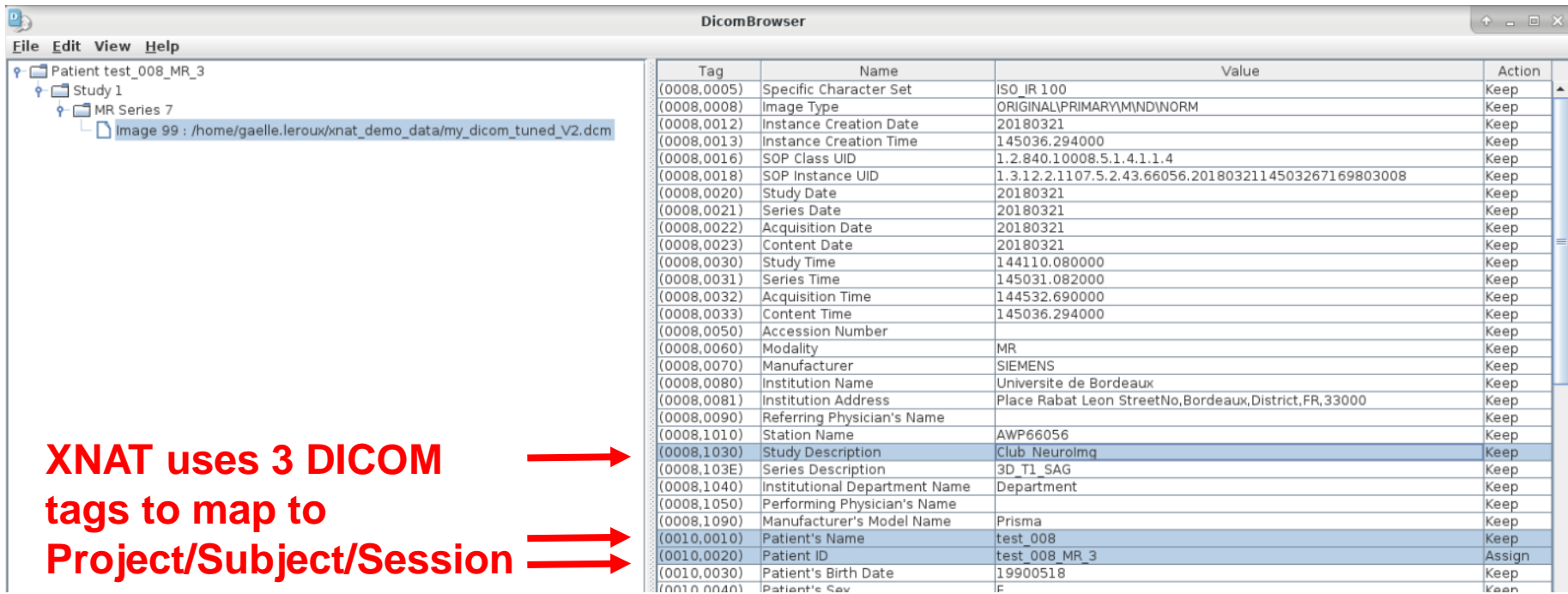


# XNAT @ CRNL: how to populate projects?

## Using command lines

PUT data from CRNL server → will create an additional session if the subject exists in the project.

```
/home/gaelle.leroux/bin/dcm4che-5.19.0/bin/storescu -c XNAT@..... my_dicom_tuned.dcm
```



Tag	Name	Value	Action
(0008,0005)	Specific Character Set	ISO_IR 100	Keep
(0008,0008)	Image Type	ORIGINALPRIMARYMND\NORM	Keep
(0008,0012)	Instance Creation Date	20180321	Keep
(0008,0013)	Instance Creation Time	145036.294000	Keep
(0008,0016)	SOP Class UID	1.2.840.10008.5.1.4.1.1.4	Keep
(0008,0018)	SOP Instance UID	1.3.12.2.1107.5.2.43.66056.2018032114503267169803008	Keep
(0008,0020)	Study Date	20180321	Keep
(0008,0021)	Series Date	20180321	Keep
(0008,0022)	Acquisition Date	20180321	Keep
(0008,0023)	Content Date	20180321	Keep
(0008,0030)	Study Time	144110.080000	Keep
(0008,0031)	Series Time	145031.082000	Keep
(0008,0032)	Acquisition Time	144532.690000	Keep
(0008,0033)	Content Time	145036.294000	Keep
(0008,0050)	Accession Number		Keep
(0008,0060)	Modality	MR	Keep
(0008,0070)	Manufacturer	SIEMENS	Keep
(0008,0080)	Institution Name	Universite de Bordeaux	Keep
(0008,0081)	Institution Address	Place Rabat Leon StreetNo,Bordeaux,District,FR,33000	Keep
(0008,0090)	Referring Physician's Name		Keep
(0008,1010)	Station Name	AWP66056	Keep
(0008,1030)	Study Description	Club NeuroImg	Keep
(0008,103E)	Series Description	3D_T1_SAG	Keep
(0008,1040)	Institutional Department Name	Department	Keep
(0008,1050)	Performing Physician's Name		Keep
(0008,1090)	Manufacturer's Model Name	Prisma	Keep
(0010,0010)	Patient's Name	test_008	Keep
(0010,0020)	Patient ID	test_008_MR_3	Assign
(0010,0030)	Patient's Birth Date	19900518	Keep
(0010,0040)	Patient's Sex	F	Keep

**XNAT uses 3 DICOM tags to map to Project/Subject/Session**

→ (0008,1030) Study Description  
→ (0010,0020) Patient ID  
→ (0010,0030) Patient's Birth Date

<https://wiki.xnat.org/documentation/how-to-use-xnat/image-session-upload-methods-in-xnat/how-xnat-scans-dicom-to-map-to-project-subject-session>

# How to download data?


EM\_MACBRAIN\_Exp1

Details Access Manage Pipelines

ID: EM\_MACBRAIN\_Ex  
PI: Macaluso, Emiliano

Edit Details Delete Manage Custom Variables

Actions

- Add
- Upload Images
- View Prearchive
- Scan Type Cleanup
- Add to Favorites
- Download XML
- Download Images 
- Manage Files
- Upload Additional Files

MR Sessions Subjects

Add Tab << < prev next >>

<< first < prev 1 next > last >> 200 1 of 1 Pgs (24 Rows)

Reload Options

Subject	M/F	Hand	YOB	MR Sessions
S005	F	R		1
S006	F	R		1
S007	F	R		1
S008	F	R		1
S009	M	R		1
S010	F	R		1
S011	M	R		1
S012	F	R		1
S013	M	R		1
S014	F	R		1
S015	M	R		1
S016	F	R		1
S017	F	R		1
S018	M	R		1
S019	F	R		1
S020	F	R		1
S021	F	R		1
S022	F	R		1
S023	F	R		1
S024	M	R		1
S025	M	R		1
S026	F	R		1
S027	M	R		1

# How to download data?

EM\_MACBRAIN\_Ex

## Imaging Data Download

### 1: Select Sessions

#### Sessions

All

- IRM\_MACBRAIN\_S005\_20...
- IRM\_MACBRAIN\_S006\_20...
- IRM\_MACBRAIN\_S007\_20...
- IRM\_MACBRAIN\_S008\_20...
- IRM\_MACBRAIN\_S009\_20...
- IRM\_MACBRAIN\_S010\_20...
- IRM\_MACBRAIN\_S011\_20...
- IRM\_MACBRAIN\_S012\_20...
- IRM\_MACBRAIN\_S013\_20...
- IRM\_MACBRAIN\_S014\_20...
- IRM\_MACBRAIN\_S015\_20...
- IRM\_MACBRAIN\_S016\_20...
- IRM\_MACBRAIN\_S017\_20...
- IRM\_MACBRAIN\_S018\_20...
- IRM\_MACBRAIN\_S019\_20...
- IRM\_MACBRAIN\_S020\_20...
- IRM\_MACBRAIN\_S021\_20...
- IRM\_MACBRAIN\_S022\_20...
- IRM\_MACBRAIN\_S023\_20...
- IRM\_MACBRAIN\_S024\_20...
- IRM\_MACBRAIN\_S025\_20...
- IRM\_MACBRAIN\_S026\_20...
- IRM\_MACBRAIN\_S027\_20...

### 2: Select Image Data

#### Scan Formats

All

- SNAPSHOTS
- DICOM

#### Scan Types

All

- 3D\_t1w\_MPRAGE\_1iso (23)
- AUTOALIGN (27)
- AUTOALIGN\_MPR\_cor (27)
- AUTOALIGN\_MPR\_sag (27)
- AUTOALIGN\_MPR\_tra (27)
- gre\_field\_mapping (56)
- LOCA\_T1\_FL2D\_SAG (28)
- MB\_exp1\_1 (24)
- MB\_exp1\_1\_SBRef (23)
- MB\_exp1\_2 (24)
- MB\_exp1\_2\_SBRef (22)
- MB\_exp1\_3 (23)
- MB\_exp1\_3\_SBRef (22)
- MB\_exp1\_4 (23)
- MB\_exp1\_4\_SBRef (22)
- MB\_exp1\_5 (23)
- MB\_exp1\_5\_SBRef (22)
- MB\_exp1\_6 (23)

### 3: Download Data

#### Options

- Option 1: Download via Desktop Client**  
An XML download manifest will be sent to the XNAT Desktop Client, which works behind the scenes to download your files.  
[Download the XNAT Desktop Client here: download.xnat.org](https://download.xnat.org)
- Option 2: ZIP download**  
Your selected session data will be downloaded as a single compressed zip file.
- Option 3: Catalog XML**  
Download an xml representation of the files. This xml can then be used by specific applications to download the data at the user's command.
- Include project in file paths
- Include subject in file paths
- Simplify downloaded archive structure

#### Submit Data Request

Upon page submission, the pertinent files will be reviewed and organized for download. Depending on the number of files, this may take several minutes to process.

Submit

# How to download data?

## Using command lines

```
> cd ~
> mkdir tmp
> /home/gaelle.leroux/bin/xget -host 'http://.....' -u 'prenom.nom' -p 'your_password' -proj Club_NeuroImg -s XNAT_E00136 -acq 9,10 -o ./tmp -z
```

PROJECT: Club\_NeuroImg > SUBJECT: test\_100 > test\_100\_MR\_12

MR Session: test\_100\_MR\_12

Details	Projects	Actions
Accession #: <b>XNAT_E00136</b> Date Added: 07/27/2019 08:20:43 (gaelleleroux) Date: 12/19/2019 Time: 17:47:09 Scanner Name: AWP66012 Scanner Type: SIEMENS Prisma Acquisition Site: Cermep	Subject: test_100 Gender: Handedness: Age: --	Edit View Upload Download Email Manage Files View Images Delete Upload Additional Files

### Custom Variable Sets

default Fields

Control/patient Fields

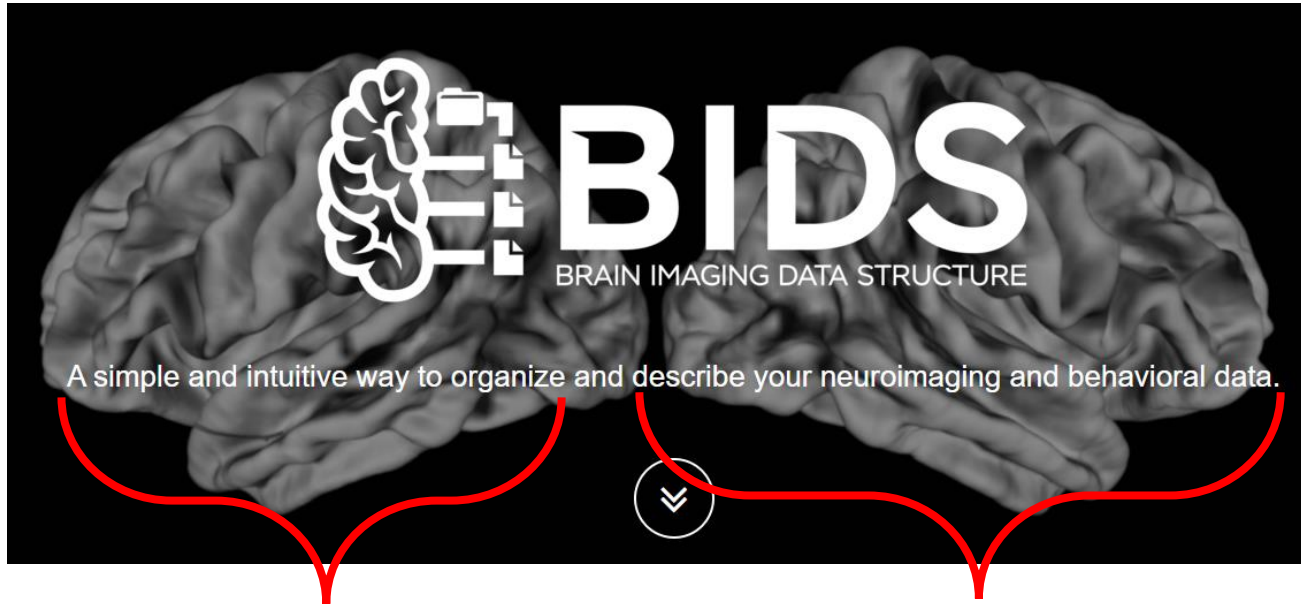
### Scans

Bulk Actions:	Download				
<input type="checkbox"/>	Scan	Type	Series Desc	Usability	Files
<input type="checkbox"/>	1	AUTOALIGN	AUTOALIGN	usable	25.3 MB in 128 files
<input type="checkbox"/>	2	AUTOALIGN_MPR_sag	AUTOALIGN_MPR_sag	usable	1020.8 KB in 5 files
<input type="checkbox"/>	3	AUTOALIGN_MPR_cor	AUTOALIGN_MPR_cor	usable	612.5 KB in 3 files
<input type="checkbox"/>	4	AUTOALIGN_MPR_tra	AUTOALIGN_MPR_tra	usable	612.5 KB in 3 files
<input type="checkbox"/>	5	LOCA_T1_FL2D_SAG	LOCA_T1_FL2D_SAG	usable	7.1 MB in 29 files
<input type="checkbox"/>	6	RUN_MB3_2.3iso_AP_QC_SBRRef	RUN_MB3_2.3iso_AP_QC_SBRRef	usable	1.3 MB in 1 files
<input type="checkbox"/>	7	RUN_MB3_2.3iso_AP_QC	RUN_MB3_2.3iso_AP_QC	usable	19.6 MB in 15 files
<input type="checkbox"/>	8	RUN_MB3_2.3iso_AP_QC_PhysiolLog	RUN_MB3_2.3iso_AP_QC_PhysiolLog	usable	224.6 KB in 1 files
<input type="checkbox"/>	9	RUN_MB3_2.3iso_PA_QC_PhysiolLog	RUN_MB3_2.3iso_PA_QC_PhysiolLog	usable	182.6 KB in 1 files
<input type="checkbox"/>	10	RUN_MB3_2.3iso_PA_QC_SBRRef	RUN_MB3_2.3iso_PA_QC_SBRRef	usable	1.3 MB in 1 files

<https://wiki.xnat.org/xnat-tools/xget-manual#XGetManual-XGetManual-104Project>

# BIDS standard

<https://bids.neuroimaging.io/>



A file organisation standard



A metadata standard

MRI-BIDS: Gorgolewski et al. *Sci Data* 2016

MEG-BIDS: Niso et al. *Sci Data* 2018

EEG-BIDS: Pernet et al. *Sci Data* 2019

iEEG-BIDS: Holdgraf et al. *Sci Data* 2019

[to be continued!]

# From file formats to data standards

- NIfTI was a major advance for the field
  - Common target for software developers
- But:
  - Image metadata are insufficient compared to DICOM
  - No standard mechanism for storing higher level metadata
    - Task details
    - Phenotypic information
  - Does not specify relations between files, data types, etc.
    - Which files go with which subject?
    - Is this file a T1-weighted or T2-weighted image?

Slide from Poldrack, INCF 2018