OXI Desktop uploader instructions:

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# Expected workflow:

This instruction set will go over how to prepare you data for upload along with the tools you need to install to get started. The expected workflow is that you have recorded your data and have it organized in some fashion by subject. Before running the uploader, you must install: 1) VS Code 2) Python and 3) must have an OXI account that is verified and enabled. The OXI Desktop upload Jupyter notebook expects a BIDS structure for your folders, and you must organize this before you begin the upload. Once you have the necessary prerequisites installed as well as have organized your data into BIDS structure, you can begin the upload with the Jupyter notebook. Please know that the upload speed is solely dependent on your internet speed, but steps have been taken to maximize upload efficiency. Additionally, detail outputs will be provided during the upload phase to ensure users know the status of the upload and where to begin again in the case internet cuts out during the upload phase. It is also recommended to use a small sample size of subjects the first time to ensure everything is working properly before doing large batches.

# Prerequisites

## Installing VS Code

Go here and click on your os (windows/mac/linux) to install: <https://code.visualstudio.com/download>

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## Installing Python

Go here and click on your os (windows/mac/linux) to install: <https://www.python.org/downloads/>

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## Having an OXI/DEMO account

Use the following steps to register for an account with XNAT

1. Register for an XNAT account on [https://demo.xnat.org/app/template/Register.vm#](https://demo.xnat.org/app/template/Register.vm)

Graphical user interface, application

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1. Graphical user interface, text, application

   Description automatically generatedCheck your e-mail account that you registered for the account with for a verification e-mail. Click the link to verify your email address.

Note: You will receive a verification e-mail. Check your Spam folder if it is not in your inbox. **Only register once.**

Text

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1. Log in to your account on demo.xnat.org

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# 

# BIDS Data structure Layout

## Bids Data structure layout

The main folder you have is called your data folder, it contains folders including subjects as well as folders that will be uploaded at the project level. Any Folder that is not subjects will be considered project level data.

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The breakdown of the subjects folder is as follows:

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* The “subjects” folder contains multiple subjects each of which can have multiple sessions and each session can have multiple scans.
* Each Scan has one mandatory folder called “nirs” which contains scan data which stores, snirf, lumo, ndot type files.
  + NOTE FOR SAM: Your data will have to be converted to MAT using snirf2ndot from the matlab function that we provided to you BEFORE You upload (no other file type other than .mat can be processed at this time.

## Required Data

For uploading data to OXI you must use the folder structure convention above:

1. there must be a main folder such as data that contains subfolders of the files you want to upload.
2. Subjects folder **MUST EXIST and be named “subjects”**
3. Folders such as A\_matrices, Cortical\_Meshes, E\_matrices, MNI\_files, etc. are optional and **will only be uploaded at the project level and must be named using the same names to ensure container pipelines can run correctly**
4. Each subject folder must follow the naming convention of **sub-{####}** the numbers must be unique however the amount of numbers is up to you.
5. Each session folder must follow the naming convention of **ses-{####}** the numbers must be unique however the amount of numbers is up to you.
6. Each scan folder must follow the naming convention of **scan-{####}** the numbers must be unique however the amount of numbers is up to you.
   1. For each scan the **NIRS folder is mandatory and all scan data must be housed in that folder** e.g. nirs/snirf,fnirs/ndot files must be in this folder
      1. Any type of data not in .mat format must be converted to .mat using the local version of snirf to ndot.
   2. For each scan you must include a params.txt file of the format:

**NOTE: If any folders exist with the same name as a subject/session/scan or if project level folders exist the data will be merged! And in the case file names are the same the file on OXI/DEMO WILL BE REPLACED. Be careful to ensure unique names for folders and files if you want data to remain separate and not to be merged or replaced.**

# NOTE FOR SAM: feel free to ignore below for now, all you will need is vs code to view the downloaded notebook, you will not need to run any of this to view your results.

# Running Jupyter Notebook

## Running Jupyter Notebook

The Jupyter notebook is set up so you can edit a few lines and hit run, however there is some initial set up that will be required to upload your data.

* 1. First download the notebook from: URLHERE
  2. Then open the notebook, if this your first time using Jupyter and vs code it should prompt you to install some extensions for Jupyter as well as python go ahead and click run, these are the extensions you should have.

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* 1. Then run the first cell by hitting shift+enter or clicking on the play button next to the cell you only need to do this the first time you run this or if you are on a new computer to download the necessary libraries in python.

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* 1. Once you have installed the libraries you need to edit some parameters in the next cell:

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* Username: your OXI username
* Pass: your OXI password
* Xnat\_url: the url of the XNAT instance you want to upload the data to, in this case it will be URLHERE
* Pathtoyourdata: the full path to where your main data folder
* Project\_name: the project you want to upload your data to, if the project with the exact same name does not exist, a new project will be created for you, if it does exist data will be merged.

Once you have edited these parameters run the cell with shift+enter or hit the play button and the data will begin uploading.

**NOTE: Data uploading speed is completely depended on your internet connection strength and speed. If your file sizes are large and your internet is slow upload may take a few hours or longer. E.g. uploading 3-4 gigabytes of data at a 10 mbps speed may take upwards of 30 min or longer.**

To account for potential internet connection breakdown or disconnection, the particular file and folder being uploaded will be output under the cell:

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In the case there is an error or upload stops, note the last file that was uploaded and delete all folders before it and restart upload following the same instructions above. E.g., if after 5 subjects if there is an error, delete subjects 1-4’s folders and begin uploading at subject 5.

## Viewing Results on XNAT

Once uploading is done you should see a message all the way at the bottom of the notebook that says “Upload complete, disconnecting” after that you can head to XNAT log in and view your new project. Now you can sign into OXI to view your project!

1. List of projects once you sign in click on your project to navigate to it

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1. Subjects will be there as well as their files:

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1. Project Level files will be under the “manage files” tab

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1. Subject Data will be under the manage files tab under subjects:

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