
xnat_downloader Documentation

Release 0.2.0

James Kent

Jun 18, 2019

Contents

| | | |
|----------|--|-----------|
| 1 | Installation | 3 |
| 1.1 | local install | 3 |
| 1.2 | docker install | 3 |
| 2 | Usage | 5 |
| 2.1 | json format | 5 |
| 3 | FAQ | 9 |
| 3.1 | What's the server address to the University of Iowa's XNAT installation? | 9 |
| 3.2 | How should I specify paths in my json file? | 9 |
| 4 | Changes | 11 |
| 5 | TODOs | 13 |
| 6 | Indices and tables | 15 |

xnat_downloader takes dicoms from an xnat server and saves them in [BIDS](#) format

1.1 local install

1. clone the [repository](#) from github

```
git clone https://github.com/HBClab/xnat_downloader
```

- 2) within the terminal, cd into the place where you downloaded the repository. If you see a setup.py, in the directory (use `ls`), then you are in the right place.

```
cd /path/to/repository/xnat_downloader
```

- 3) Install the repository using python.

```
python setup.py install
```

1.2 docker install

```
docker pull jdkent/xnat_downloader
```



```
usage: xnat_downloader [-h] [-c CONFIG] [-i INPUT_JSON]

xnat_downloader downloads xnat dicoms and saves them in BIDs compatible
directory format

optional arguments:
-h, --help  show this help message and exit
-c CONFIG, --config CONFIG  login file (contains user/pass info)

Required arguments:
-i INPUT_JSON, --input_json INPUT_JSON  json file defining inputs for this script.
```

2.1 json format

The json file has multiple fields specifying where and how the data are downloaded from xnat.

- **destination: string** (required) The absolute path to the output base directory of the BIDS dataset
- **project: string** (required) The name of the project on xnat
- **server: string** (required) The base URL to the xnat server (e.g. “<https://central.xnat.org>”)
- **subjects: list** (optional) The subjects you wish to download from xnat. Use the subject names as they are seen on xnat.
- **sub_dict: dictionary** (optional) (non-BIDS) If you want to change the subject label that is not represented in the xnat subject name
- **session_labels: list** (optional) (non-BIDS) If you want to replace the names of the sessions on xnat with your own list of scans.

Warning: this will not behave as expected if the subject on xnat has a missing “middle” session or an extra session.

- **scan_labels:** list (optional) a list of the scans you want to download (if you don’t want to download all the scans).
- **num_digits:** int (optional) an integer indicating how many digits the subject number should have. For example if the subject number on xnat is 10, then setting *num_digits* to 2 will not change the subject 10, but if *num_digits* was set to 3 then subject 10 will be written as 010.
- **scan_dict:** dictionary (conditionally required) (non-BIDS) required if your dicoms are not stored in a BIDS format on xnat. The keys to the dictionary are scan names as they are seen on xnat (e.g. “SAG FSPGR BRAVO”), and the values are the associated reproin (BIDS-ish) name for the scan (e.g. “anat-T1w”).

2.1.1 example json

```
{
  "destination": "/out",
  "project": "xnatDownload",
  "server": "https://central.xnat.org",
  "subjects": ["21"],
  "sub_dict": {"21": "021"},
  "sub_label_prefix": "SEH",
  "session_labels": ["pre", "post", "checkup"],
  "scan_dict": {
    "SAG FSPGR BRAVO": "anat-T1w",
    "Field Map": "fmap",
    "T1rho - SL50": "anat-T1rho_acq-SL50",
    "T1rho - SL10 (NO AUTO PRESCAN)": "anat-T1rho_acq-SL10",
    "fMRI Resting State": "func-bold_task-rest",
    "fMRI SIMON": "func-bold_task-simon",
    "DTI": "dwi",
    "3D ASL": "func-asl",
    "PROBE-SV 35": "mrs-fid",
    "PROBE-SV/35": "mrs-fid",
    "PU:SAG FSPGR BRAVO": "anat-T1w_rec-pu",
    "PU:fMRI Resting State": "func-bold_task-rest_rec-pu",
    "PU:fMRI SIMON": "func-bold_task-simon_rec-pu",
    "Cerebral Blood Flow": "func-asl_rec-cbf",
    "NOT DIAGNOSTIC: PFile-PROBE-SV 35": "mrs-fid_rec-pfile"
  }
}
```

Once installed and the json file is configured, the final step is to call the command.

locally installed: (python2 only)

```
xnat_downloader -i /path/to/json/file.json
```

via docker:

```
docker run \
-v /path/to/out:/out \
-v /path/to/json:/json \
jdkent:xnat_downloader \
-i /json/file.json
```

Note: when calling via docker, the destination location should be specified relative to where the path is in the docker container, not on your machine.

3.1 What's the server address to the University of Iowa's XNAT installation?

<https://rpacs.iibi.uiowa.edu/xnat>

3.2 How should I specify paths in my json file?

Always use absolute paths and do not use ~ to specify your home directory.

CHAPTER 4

Changes

CHAPTER 5

TODOs

CHAPTER 6

Indices and tables

- `genindex`
- `modindex`
- `search`