



# What's new in the XNAT Ecosystem?

1.8+ and Beyond



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- CTO at Radiologics, Inc (2011-2021)
- SVP of Engineering, Flywheel (2021+)
- Still coding on XNAT :)
- Resides in Peoria IL, USA
- Father of 6 (18-3)
- Geeks out about: Star Trek, home improvement projects, smart devices, marriage & family enrichment



# What's New in the ecosystem?

## Overview:

- Walk through the most recent releases
- Favorite Plugins & Tools
- Merged Teams / Processes

# Last Major Release: 1.8

Introduced:

- Event Service
- XNAT ML Support (CLARA 3)
- Enhanced DICOM Routing
- Pipeline engine deprecation
- Scan Searching
- DicomEdit Improvements (Pixel masking, Date shifting)

# 1.8: Event Service

- Added Event Triggers and Subscriptions to facilitate user customizable workflows
- Available Triggers:

Image Assessor -- Created  
Image Assessor -- Updated  
Project Asset -- Created  
Project -- Created  
Project -- Deleted  
Subject -- Created  
Subject -- Deleted

Subject Assessor -- Created  
Subject Assessor -- Deleted  
Session -- Created  
Session -- Deleted  
Scan -- Created  
Resource -- Created  
Resource -- Updated

# 1.8: Event Service

- Subscriptions can log messages, launch containers

Create Event Subscription

Event Subscription Label

Select Event Scan - Created

Select Project soft-tissue-sarcoma  
STUDY\_053019  
T102019  
T102419

Apply to All Projects

Select Action

Available actions are dependent on your project and xsiType selections

Attributes

Set Attributes

Event Payload Filter

Optional. Enter filter in JSON path notation without enclosing brackets, e.g. (@.xsiType == "xnat:mrScanData")

Perform Action As:  Action is performed as you (the subscription owner)

Status:  Disabled

Cancel OK

History Entry status		
status	timestamp	message
EVENT_TRIGGERED	2021-03-02 20:18:33 UTC	Event triggered.
EVENT_DETECTED	2021-03-02 20:18:33 UTC	Event detected.
SUBSCRIPTION_TRIGGERED	2021-03-02 20:18:33 UTC	Subscription Service process started.
OBJECT_SERIALIZED	2021-03-02 20:18:33 UTC	Payload Object Serialized.
OBJECT_FILTERED	2021-03-02 20:18:33 UTC	Event objected passed filter test.
RESOLVING_ATTRIBUTES	2021-03-02 20:18:33 UTC	Resolving subscription event/action attributes.
ACTION_CALLED	2021-03-02 20:18:33 UTC	Event passed to Action Provider: Container Service
ACTION_STEP	2021-03-02 20:18:34 UTC	Container queued.

# 1.8: XNAT ML Support

1. Configure a dataset
2. Install a new model
3. Launch Training

The screenshot shows the XNAT web interface for the 'AbdomenCT-AbSegCT' project. The 'Machine Learning' tab is active, displaying a summary of machine learning capabilities and a list of installed models and training runs.

**AbdomenCT-AbSegCT**

Details | Access | Manage | Pipelines | **Machine Learning**

**Manage Machine Learning Capabilities in this Project**

Setting up your project for Machine Learning requires multiple steps. This panel provides a simple summary of the status of your project's readiness. There are dashboard pages for managing specific components of data curation and model training. [Need Help?](#)

Datasets		Models and Training	
Dataset Definitions	3	Models Installed	8
Saved Datasets	4	Configs Installed	2
<a href="#">Manage Datasets</a>		Training Runs	11
		<a href="#">Open Machine Learning Dashboard</a>	

**Actions**

- Add
- Import From PACS
- Add to Favorites
- Download XML
- Download Images
- Datasets
- Training Dashboard
- Processing Dashboard
- Project Settings
- View Prearchive
- Upload Images
- Manage Files
- Scan Type Cleanup
- Run Containers

The screenshot shows the XNAT Training Dashboard for the 'AbdomenCT-RSNA2019' project. It displays a list of installed models and their training runs.

**Training Dashboard for AbdomenCT-RSNA2019**

Models and Training | **Installed Models**

Training Configs

**SMM\_Model**

View Model	Export Model	Delete Model				Launch Training
Training Run	Parameters	Launch Date	Status	Actions		
training_1591204381294	epochs: 300 learning_rate: 0.001	2020-06-03 17:13:01	queued			
training_1589147520914	epochs: 10 learning_rate: 0.001	2020-05-10 21:52:01	queued			

**My\_Model**

View Model	Export Model	Delete Model				Launch Training
Training Run	Parameters	Launch Date	Status	Actions		
No training runs have been launched on this model.						



# 1.8: Enhanced DICOM Routing

- Administrators can modify DICOM Routing using runtime rule definitions (Project, Subject, Sessions)

### Project Routing (Site Wide)

**i** Each of the Custom DICOM Routing panels allow you to set a custom routing scheme for determining Project, Subject, or Session Label from the DICOM fields in incoming data as it is being handled by the session importer. See [Custom DICOM Routing Documentation](#) for guidance formatting these fields. Note that each of these settings will take precedence over the default XNAT routing rules.

**Enable Custom Site-Wide Project Routing**  Enabled

**Edit Project Routing Rules** `(0010,0020):HOST-40022.* t:HOST-40022 r:ROUTE-HOST-40022`

[Reference: Custom DICOM Routing Formatting Guide.](#)



# 1.8: Pipeline Engine Deprecation

- Replaced by Container Service
- Image snapshots generated on demand
  - No longer need AutoRun pipeline

# 1.8: Scan-level Searching

- Scan-level data types can now be registered to allow scan level searching

MR Scans

<< first < prev 5 6 7 8 9 next > last >> 200 7 of 12 Pgs (2248 Rows) Reload Options

project	Label	ID	note	quality	condition	series_description	bodyPartExamined	requestedProcedureDescription	protocolName	documentation	scanner	manufacturer	model	modality	frames
NMorphCH	Anonymous	15		usable								SIEMENS	TrioTim	MR	176
NMorphCH	090324_CH8357	1		usable		localizer					MRC35013	SIEMENS	TrioTim	MR	3
NMorphCH	090324_CH8357	2		usable		t1_mpr_1mm_p2_pos50					MRC35013	SIEMENS	TrioTim	MR	176
NMorphCH	090324_CH8357	3		usable		t1_mpr_1mm_p2_pos50					MRC35013	SIEMENS	TrioTim	MR	176
NMorphCH	090324_CH8357	4		usable		t2_spc_1mm_p2					MRC35013	SIEMENS	TrioTim	MR	176
NMorphCH	090324_CH8357	5		usable		ep2d_diff_b800_35dir_2mm					MRC35013	SIEMENS	TrioTim	MR	35
NMorphCH	090324_CH8357	6		usable		ep2d_diff_b800_35dir_2mm					MRC35013	SIEMENS	TrioTim	MR	35
NMorphCH	090324_CH8357	7		usable		tse_p3_64sl					MRC35013	SIEMENS	TrioTim	MR	64
NMorphCH	090324_CH8357	8		usable		ep2d_bold_test					MRC35013	SIEMENS	TrioTim	MR	5
NMorphCH	090324_CH8357	9		usable		ep2d_bold_connect					MRC35013	SIEMENS	TrioTim	MR	164
NMorphCH	090324_CH8357	10		usable		ep2d_bold_connect					MRC35013	SIEMENS	TrioTim	MR	164
NMorphCH	090324_CH8357	11		usable		ep2d_bold_nback					MRC35013	SIEMENS	TrioTim	MR	137

# 1.8: DICOM Edit Improvements

- Pixel Editing

```
alterPixels["rectangle", "l=100, t=100, r=200, b=200", "solid", "v=100"]
```

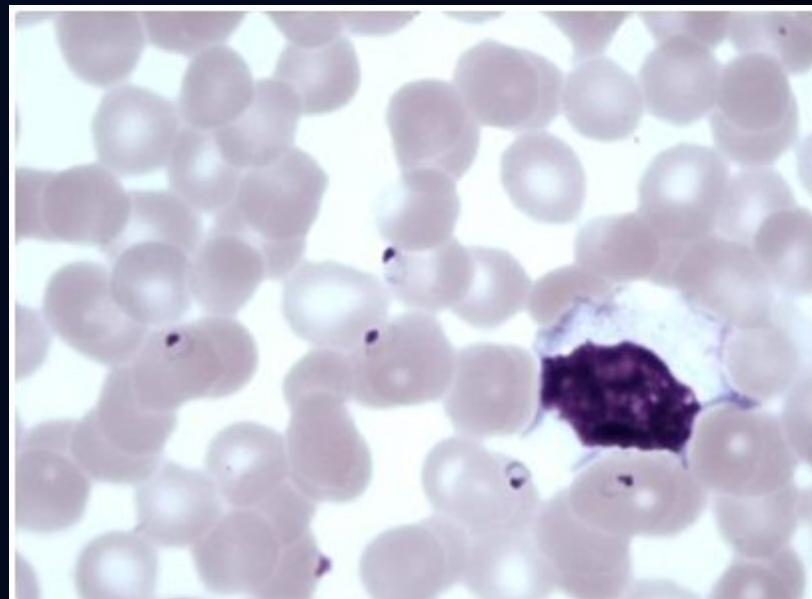
- Date shifting

```
(0008,0020) := shiftDateByIncrement[ (0008,0020), "14"]
```



# 1.8.1: Microscopy Support

- Basic data type support added



# 1.8.2 Tomcat 9 Support

- Modifications to support Tomcat 9 configuration options
  - Due to end of life of Tomcat 7 support

## 1.8.3 Direct To Archive

- More performant method for archiving data
- Skips Prearchive
- Writes directly to archive space
- For well-defined datasets
- Caveats
  - Accessible via REST and DICOM PUSH
  - Corner cases fall back to prearchive

## 1.8.4 Access Restrictions

- Admins can limit access to download and sharing of data
- Doesn't limit backend access to the functionality (i.e. REST api)
- But, does limit easy access via the browser, which is desirable for some groups.



# 1.8.5 Scheduled Events

- Schedule events for notifications and container execution
- Sys-admin only

Create Event Subscription

Event Subscription Label:

Select Event: ✓

Select Project: Image Assessor -- Created  
Image Assessor -- Updated

Select Action: Project -- Created  
Project -- Deleted  
Project Asset -- Created

Attributes:

Event Payload Filter:

Perform Action As: Scheduled Event -- Cron

Status:  Disabled

Cancel OK

Edit Event Subscription

Event Subscription Label: My Scheduled Event

Select Event: Scheduled Event -- Cron

Cron Trigger: 0 50 12 \* \* \*

Cron Description: 12:50pm every day

Select Project: MY\_PROJECT

Apply to All Projects

Select Action: debug-session

Attributes:

Event Payload Filter:

Cancel OK

# 1.8.5 Receiver specific routing

- Allows having distinct receiver's for specific projects
- Send data to a specific AE Title / Port combination and it will route directly to the project

New DICOM SCP Receiver

AE Title   
Can be up to 16 characters long. Backslashes and control characters are not allowed.

Port

Custom Processing  Custom Processing Disabled  
Enable or Disable Custom Processing for DICOM Receiver

Direct Archive  Direct to archive: Disabled (use prearchive)  
Enable or Disable Direct Archive for DICOM Receiver (if disabled, data comes through the prearchive)

Identifier   
Select the DICOM object identifier to associate with this AE. If none is selected, the default identifier is applied.

Anonymization  Anonymization: Enabled  
Enable or disable all site-wide and project-level anonymization for this DICOM Receiver.

Enable Whitelist  Whitelist: Disabled  
Enable or disable the whitelist for this DICOM Receiver.

Enable Routing Expressions  Routing Expressions: Enabled  
Enable or disable custom routing expressions for this DICOM Receiver.

Project Routing Expression   
Routing expression to extract Project label. Reference: Custom DICOM Routing Formatting Guide.

Subject Routing Expression   
Routing expression to extract Subject label. Reference: Custom DICOM Routing Formatting Guide.

# 1.8.6 Front page tab customization

Admins can now configure the search options on their index page

### Quick Search Datatype Options

Projects Subjects **CR** PET CT MR

**Search by Criteria**

Subject:  ID:

Date:  -  Age:

Project:  Inserted:

Creator:

# Container Service

- 3.2.0
  - Kubernetes Support
- 3.3.0
  - Command Secrets



```
$ minikube start --mount --mount-string /opt/data:/opt/data
🐼 minikube v1.25.2 on Amazon 2
🌟 Automatically selected the docker driver. Other choices: none, ssh
👍 Starting control plane node minikube in cluster minikube
🚚 Pulling base image ...
📄 Downloading Kubernetes v1.23.3 preload ...
> preloaded-images-k8s-v17-v1...: 505.68 MiB / 505.68 MiB 100.00% 242.29 M
> gcr.io/k8s-minikube/kicbase: 379.06 MiB / 379.06 MiB 100.00% 85.29 MiB p
🔥 Creating docker container (CPUs=2, Memory=7900MB) ...
🌐 Preparing Kubernetes v1.23.3 on Docker 20.10.12 ...
  ▪ kubelet.housekeeping-interval=5m
  ▪ Generating certificates and keys ...
  ▪ Booting up control plane ...
  ▪ Configuring RBAC rules ...
🔍 Verifying Kubernetes components...
  ▪ Using image gcr.io/k8s-minikube/storage-provisioner:v5
🌟 Enabled addons: storage-provisioner, default-storageclass
🏠 Done! kubectl is now configured to use "minikube" cluster and "default" namespace by default
```

# Batch Launch Plugin

- Supports bulk execution of containers
- Runnable on Subjects, Sessions, or Scans

Launch processes | All processing history

Select elements to launch processing

Select job | Launch job | Terminate job | Reload | Download csv | Columns

<input type="checkbox"/>	Project	Subject	Experiment	dcm2jpg-demo	dcm2bids-session-v2	multi_visit_scan_checker	dcm2jpg-ses
<input type="checkbox"/>	Cetuximab-Demo	0522c0001	12-07-1999-NeckHeadNeckPETCT-94515	Complete	Ready	Complete	Comple
<input type="checkbox"/>	Cetuximab-Demo	0522c0017	04-19-2000-PETCTHEADNECKCA-74166	Complete	Ready	Complete	Comple
<input type="checkbox"/>	Cetuximab-Demo	0522c0009	02-20-2000-AbdomenAbdomenPETCT-55306	Complete	Ready	Complete	Comple
<input type="checkbox"/>	Cetuximab-Demo	0522c0015	12-29-1999-PETCTHEADNECKCAIN-06111	Complete	Ready	Complete	Comple
<input type="checkbox"/>	Cetuximab-Demo	0522c0009	11-14-1999-522-26558	Complete	Complete	Complete	Ready
<input type="checkbox"/>	Cetuximab-Demo	0522c0027	02-20-2000-522-26564	Complete	Ready	Ready	Ready
<input type="checkbox"/>	Cetuximab-Demo	0522c0003	08-31-1999-NeckHeadNeckPETCT-84836	Complete	Complete	Ready	Ready
<input type="checkbox"/>	Cetuximab-Demo	0522c0015	04-24-2000-PETCTHEADNECKCA-89925	Complete	Ready	Complete	Ready
<input type="checkbox"/>	Cetuximab-Demo	0522c0027	01-19-2000-HEADNECKIMRT-50644	Complete	Complete	Ready	Ready
<input type="checkbox"/>	Cetuximab-Demo	0522c0001	08-23-1999-NeckHeadNeckPETCT-03251	Complete	Ready	Complete	Ready
<input type="checkbox"/>	Cetuximab-Demo	0522c0014	12-13-1999-PETHEADNECKWB-40630	Complete	Ready	Ready	Ready
<input type="checkbox"/>	Cetuximab-Demo	0522c0017	12-22-1999-PETCTHEADNECKCAIN-06021	Complete	Ready	Ready	Ready

Select from registered containers

# Batch Launch Plugin

Select from registered containers

Select job Launch job Terminate job Reload Download csv Columns

Project	Subject	Experiment	dcm2jpg-demo	dcm2bids-session-v2	multi_visit_scan_checker	dcm2jpg-ses
<input type="checkbox"/>	<input type="text" value="Filter..."/>	<input type="text" value="Filter..."/>	<input type="text" value="Filter..."/>	<input type="text" value="Filter..."/>	<input type="text" value="Filter..."/>	<input type="text" value="Filter..."/>
<input type="checkbox"/>	Cetuximab-Demo	0522c0001	12-07-1999-NeckHeadNeckPETCT-94515	Complete	Ready	Complete
<input type="checkbox"/>	Cetuximab-Demo	0522c0017	04-19-2000-PETCTHEADNECKCA-74166	Complete	Ready	Complete
<input type="checkbox"/>	Cetuximab-Demo	0522c0009	02-20-2000-AbdomenAbdomenPETCT-	Complete	Ready	Complete
<input type="checkbox"/>	Cetuximab-Demo	0522c0015	12-29-1999-PETCTHEADNECKCAIN-0	Complete	Ready	Complete
<input type="checkbox"/>	Cetuximab-Demo	0522c0009	11-14-1999-522-26558	Complete	Ready	Ready
<input type="checkbox"/>	Cetuximab-Demo	0522c0027	02-20-2000-522-26564	Complete	Ready	Ready
<input type="checkbox"/>	Cetuximab-Demo	0522c0003	08-31-1999-NeckHeadNeckPETCT-84836	Complete	Complete	Ready
<input type="checkbox"/>	Cetuximab-Demo	0522c0015	04-24-2000-PETCTHEADNECKCA-89925	Complete	Ready	Complete
<input type="checkbox"/>	Cetuximab-Demo	0522c0027	01-19-2000-HEADNECKIMRT-50644	Complete	Complete	Ready
<input type="checkbox"/>	Cetuximab-Demo	0522c0001	08-23-1999-NeckHeadNeckPETCT-03251	Complete	Ready	Complete
<input type="checkbox"/>	Cetuximab-Demo	0522c0014	12-13-1999-PETHEADNECKWB-40630	Complete	Ready	Ready
<input type="checkbox"/>	Cetuximab-Demo	0522c0017	12-22-1999-PETCTHEADNECKCAIN-06021	Complete	Ready	Ready

See statuses of all containers across your dataset



# Batch Launch Plugin

Advanced view per container gives runtime info and number of files output

Launch processes | All processing history

Select elements to launch processing

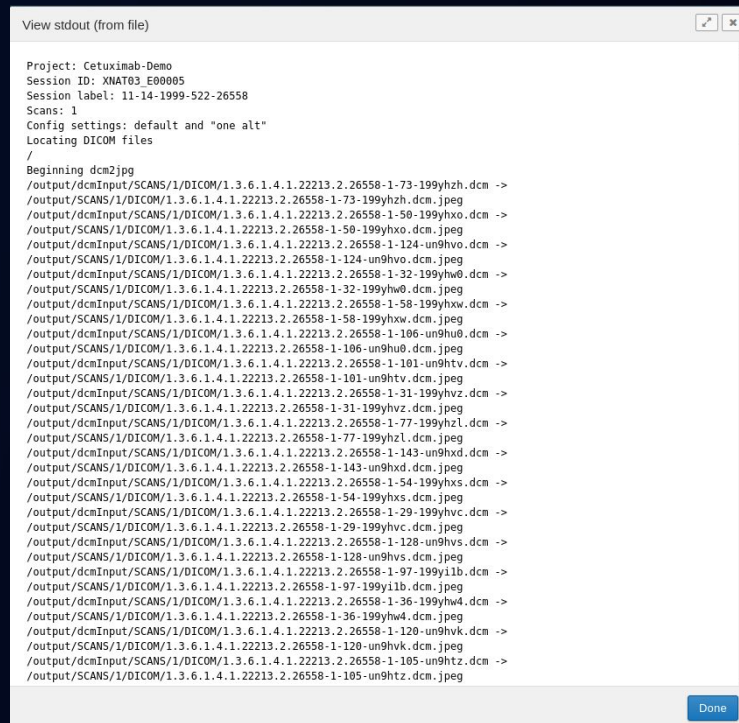
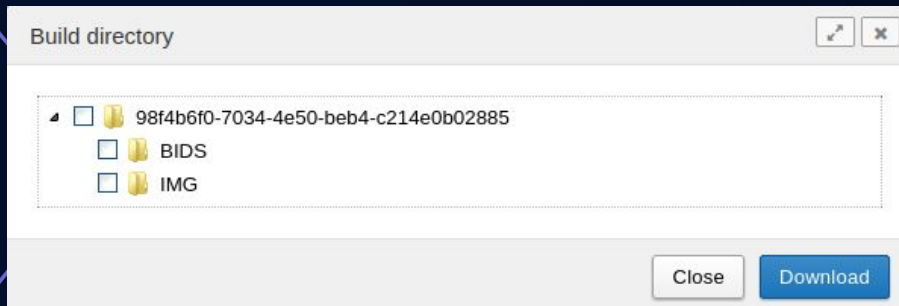
dcm2jpg-session | Launch Job | Terminate Job | Reload | Download csv | Show all jobs | Columns

<input type="checkbox"/>	Project	Subject	Experiment	dcm2jpg-session	Launched	Last Mod	JPG
<input type="checkbox"/>	Filter...	Filter...	Filter...	Filter...	All	All	Filter...
<input type="checkbox"/>	Cetuximab-Demo	0522c0001	12-07-1999-NeckHeadNeckPETCT-94515	✔ Complete	2019-05-30 13:55:02	2019-05-30 13:55:29	113
<input type="checkbox"/>	Cetuximab-Demo	0522c0017	04-19-2000-PETCTHEADNECKCA-74166	✔ Complete	2019-05-30 13:55:02	2019-05-30 13:56:12	316
<input type="checkbox"/>	Cetuximab-Demo	0522c0009	02-20-2000-AbdomenAbdomenPETCT-55306	✔ Complete	2019-05-30 13:55:02	2019-05-30 13:56:25	404
<input type="checkbox"/>	Cetuximab-Demo	0522c0015	12-29-1999-PETCTHEADNECKCAIN-06111	✔ Complete	2019-05-30 13:55:02	2019-05-30 13:55:28	92
<input type="checkbox"/>	Cetuximab-Demo	0522c0009	11-14-1999-522-26558	Ready			144
<input type="checkbox"/>	Cetuximab-Demo	0522c0027	02-20-2000-522-26564	Ready			175
<input type="checkbox"/>	Cetuximab-Demo	0522c0003	08-31-1999-NeckHeadNeckPETCT-84836	Ready			113
<input type="checkbox"/>	Cetuximab-Demo	0522c0015	04-24-2000-PETCTHEADNECKCA-89925	Ready			316
<input type="checkbox"/>	Cetuximab-Demo	0522c0027	01-19-2000-HEADNECKIMRT-50644	Ready			175
<input type="checkbox"/>	Cetuximab-Demo	0522c0001	08-23-1999-NeckHeadNeckPETCT-03251	Ready			113



# Batch Launch Plugin

View build directory contents:



View logs and errors live:

# DQR Plugin - DICOM Query Retrieve

`ssh://git@bitbucket.org/xnatdev/dicom-query-retrieve`

- Uses C-FIND, C-MOVE
- Queries a PACS, identifies a dataset and facilitates a data push (C-STORE)
- Configurable pulls to 'make nice' with your PACS administrator

The screenshot shows a dialog box titled "Add New DICOM AE Connection". It contains the following fields and options:

- AE Title: ORTHANC
- Host: 10.1.10.1
- Label: ORTHANC
- Port: 4242
- Queryable:  Yes
- Default Q/R AE:  Yes
- Storable:  Yes
- Default Storage AE:  Yes

Buttons: Cancel, Save

The screenshot shows a search interface titled "Enter Search Criteria". It includes a "Search Via CSV" button in the top right. Below the title are several input fields:

- Accession Number: All
- Patient Name: MOORE\*CHARLIE
- Patient ID: All
- Date Range: yyyy-mm-dd - yyyy-mm-dd

A "Search PACS" button is located to the right of the date range field. Below these fields is a checkbox labeled "PACS Name Format?" which is checked.

Below the search fields is a table with the following columns: Accession Number, Patient Name, Study Description, Study Date, Modality, Subject, and Session. The table contains one row of data:

	Accession Number	Patient Name	Study Description	Study Date	Modality	Subject	Session
<input type="checkbox"/>	25175352	MOORE, CHARLIE	BJC_Pat_Res	2006-12-14	MR		

Buttons: Clear Search, Begin Import

# XSYNC Plugin - Data Copying

- Sync data across XNAT's or to the same server
- Apply anon before push
- Works best against the same XNAT version

Date	Status	Subjects	Subject Assessments	Derived Assessments	Project Resources	Total
<a href="#">27/10/2022 09:23:52</a>	Fail	104	103	0	1859	26.07 GB
<a href="#">26/10/2022 08:10:20</a>	Fail	86	88	0	2166	17.54 GB
<a href="#">24/10/2022 08:30:50</a>	Complete [Verified]	84	66	0	1352	12.49 GB
<a href="#">21/10/2022 16:36:37</a>	Complete [Verified]	32	31	0	506	6.91 GB
<a href="#">21/10/2022 08:46:26</a>	Complete	237	241	0	2348	31.8 GB

### XSync Configuration

**NOTICE:** Aspera transfers are now supported, if your destination site supports them. Please see project settings, in the actions menu, to configure Aspera settings.

**Enabled**

**New Data Only**

**Destination XNAT**

**Destination Project**

**Sync Frequency**

**Identifiers**   
Use the source XNAT's labels for subject and session (Local) or perform remapping (Custom)

**Anonymize Images**

**Number Of Days For Retry**   
By default, Xsync would not re-sync once session/subject is skipped due to filters. If you want to retry skipped sessions for x number of days, kindly select appropriate value. 0 = no retry.

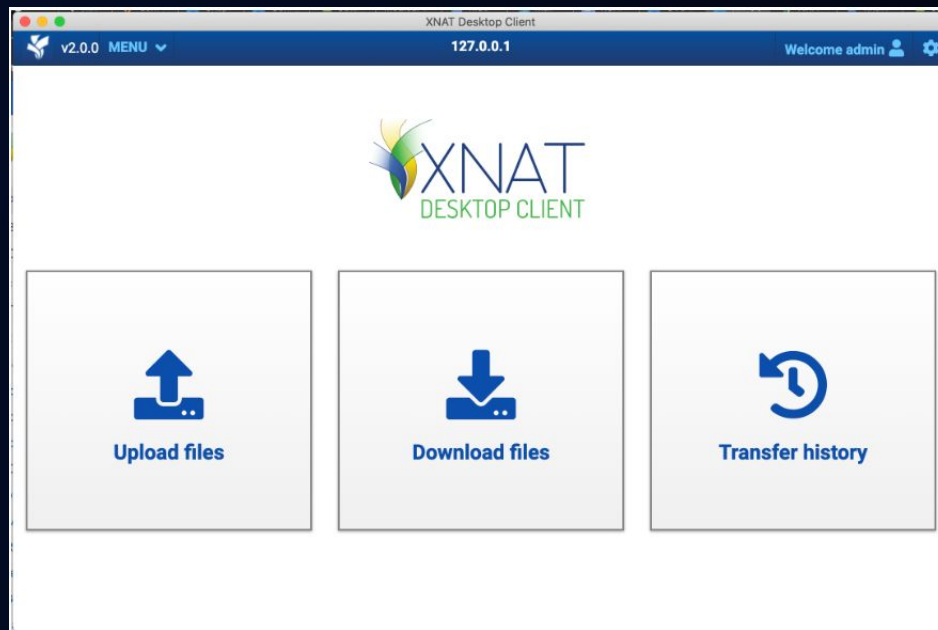
**Notification Emails**

By default, Xsync sends emails to Site Admin and Xsync user. If you want to notify more people, kindly provide comma separated email addresses.

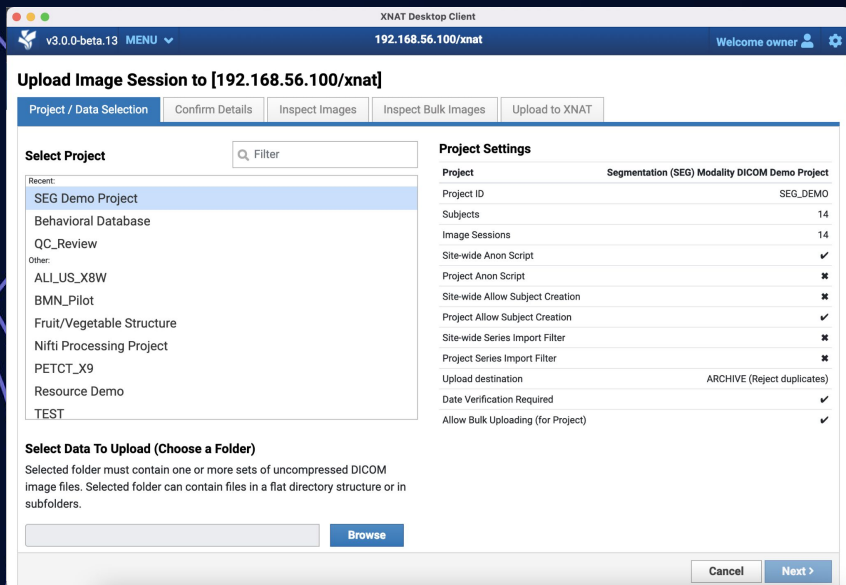
[Hide Advanced Settings](#)

# XNAT Desktop Client

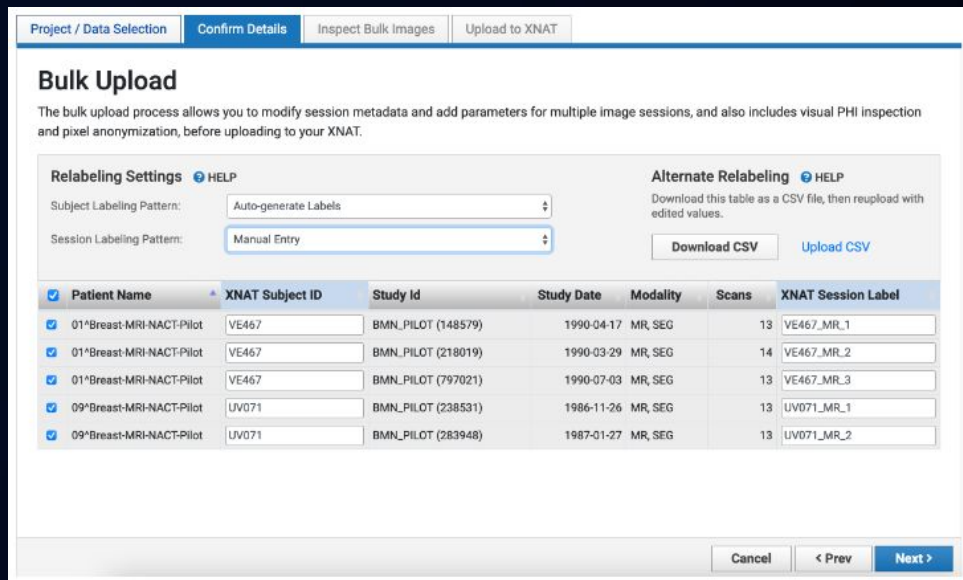
- The latest and greatest of XNAT's upload tools
- Works with XNAT 1.7.5+
- v3.1.0 released Sept 1 2022
- Pixel editing
- Bulk uploads/downloads
- Auditing history



# XNAT Desktop Client: Bulk Uploads



The screenshot shows the 'XNAT Desktop Client' window with the title 'Upload Image Session to [192.168.56.100/xnat]'. The interface includes a top navigation bar with tabs: 'Project / Data Selection', 'Confirm Details', 'Inspect Images', 'Inspect Bulk Images', and 'Upload to XNAT'. The main area is divided into two panels. The left panel, 'Select Project', has a search filter and lists projects under 'Recent' (SEG Demo Project, Behavioral Database, QC\_Review) and 'Other' (ALL\_US\_X8W, BMN\_Pilot, Fruit/Vegetable Structure, Nifti Processing Project, PETCT\_X9, Resource Demo, TEST). The right panel, 'Project Settings', shows details for 'Segmentation (SEG) Modality DICOM Demo Project', including Project ID (SEG\_DEMO), Subjects (14), Image Sessions (14), and various checkboxes for site-wide and project-level settings. At the bottom, there is a 'Select Data To Upload' section with a 'Browse' button and 'Cancel'/'Next >' buttons.

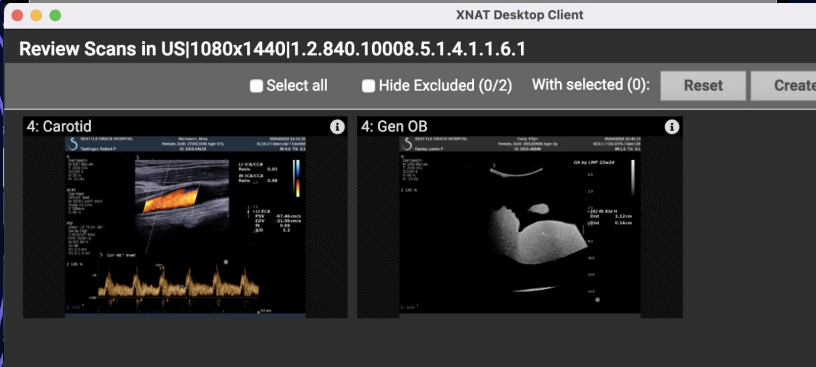
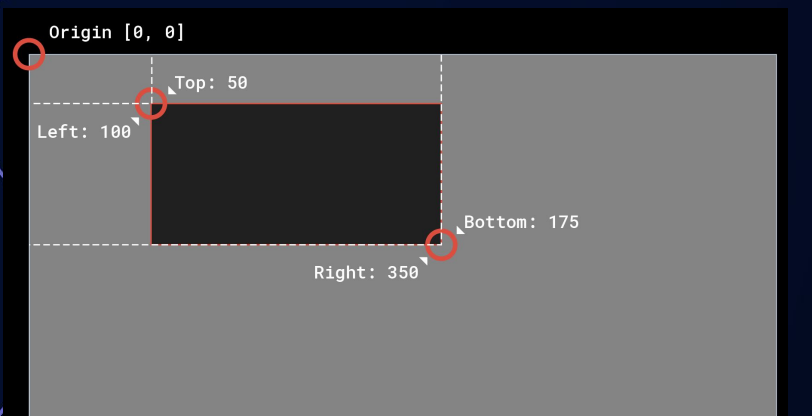


The screenshot shows the 'Bulk Upload' window with the title 'Bulk Upload'. It features a top navigation bar with tabs: 'Project / Data Selection', 'Confirm Details', 'Inspect Bulk Images', and 'Upload to XNAT'. The main content area includes a description: 'The bulk upload process allows you to modify session metadata and add parameters for multiple image sessions, and also includes visual PHI inspection and pixel anonymization, before uploading to your XNAT.' Below this are 'Relabeling Settings' and 'Alternate Relabeling' sections. The 'Relabeling Settings' section has dropdowns for 'Subject Labeling Pattern' (Auto-generate Labels) and 'Session Labeling Pattern' (Manual Entry). The 'Alternate Relabeling' section has a 'Download this table as a CSV file, then reupload with edited values.' instruction and 'Download CSV' and 'Upload CSV' buttons. A table displays the upload data:

<input checked="" type="checkbox"/>	Patient Name	XNAT Subject ID	Study Id	Study Date	Modality	Scans	XNAT Session Label
<input checked="" type="checkbox"/>	01*Breast-MRI-NACT-Pilot	VE467	BMN_PILOT (148579)	1990-04-17	MR, SEG	13	VE467_MR_1
<input checked="" type="checkbox"/>	01*Breast-MRI-NACT-Pilot	VE467	BMN_PILOT (218019)	1990-03-29	MR, SEG	14	VE467_MR_2
<input checked="" type="checkbox"/>	01*Breast-MRI-NACT-Pilot	VE467	BMN_PILOT (797021)	1990-07-03	MR, SEG	13	VE467_MR_3
<input checked="" type="checkbox"/>	09*Breast-MRI-NACT-Pilot	UV071	BMN_PILOT (238531)	1986-11-26	MR, SEG	13	UV071_MR_1
<input checked="" type="checkbox"/>	09*Breast-MRI-NACT-Pilot	UV071	BMN_PILOT (283948)	1987-01-27	MR, SEG	13	UV071_MR_2

At the bottom, there are 'Cancel', '< Prev', and 'Next >' buttons.


# XNAT Desktop Client: Pixel Anon



Project / Data Selection | Confirm Details | **Inspect Bulk Images** | Upload to XNAT

### Grouped Scans for Visual PHI Removal. ? Help

Valid Scans (85) | Unsupported Scans (1)







N/A

#### Group 1 (1 scan)

- Modality: CT
- SOP Class: CT Image Storage
- Resolution: 819 x 512
- Color: MONOCHROME2
- Templates: 0

Scans Need Review

[Review](#)



N/A

#### Group 2 (63 scans)

- Modality: CT
- SOP Class: CT Image Storage
- Resolution: 512 x 512
- Color: MONOCHROME2
- Templates: 1

Scans Need Review

[Review](#)

# Experience on the team

- @ Flywheel
  - Dan Marcus (2002)
  - Tim Olsen (2003)
  - Mohana Ramaratnam (2003)
  - Kevin Archie (2007) - Back this week!!!
  - Kate Alpert (2008)
  - Angela Farrar (2008)
  - Will Horton (2010)
  - Rick Herrick (2011)
  - James Dickson (2010)
  - James Ransford (2011)
  - Michael Hileman (2012)
  - Charlie Moore (2013)
  - John Flavin (2013)
- @ WUSTL
  - Dan Marcus (2002)
  - Jenny Gurney (2008)
  - Mike Hodge (2010)
  - Matt Kelsey (2015)
  - Steve Moore (2016)
  - Andy Lassiter (2020)



# Merged Teams (WASHU, Radiologics, Flywheel)

- New developers, operations staff, etc
- Product-driven development
  - User Stories
  - User Requirements
- Enhanced QA
  - Every change has a ticket
  - Every ticket gets QA'd
  - Automated (run nightly on dozens of plugin configurations)
    - REST test suite (490 tests)
    - Jmeter Performance Tests
    - 2 separate selenium test suites
  - BURP Security Scan (OWASP) - Every release

# Merged Teams (WASHU, Radiologics, Flywheel)

- Direct connection with dozens of XNAT sites (clients)
- Business relationships with prominent Cancer Research Institutes and Academic Medical Centers
- Large pool of developers and support staff to draw from
- Close collaboration with external contributors (ICR/NCITA, AIS, etc)
- Cloud infrastructure to support a robust and reliable hosting/development environment



# XNAT WORKSHOP LONDON 2022



ICR The Institute of  
Cancer Research



Health•Bioscience  
IDEAS

