

GRP7 Uploading Additional Data To XNAT

PURPOSE OF THE POLICY

To outline the standardised procedure for importing additional imaging scan data (e.g. DICOM RTDose and RTStruct files) into XNAT projects supported by the Imaging Database Service, ensuring consistency, traceability, and data integrity.

POLICY STATEMENT

This procedure ensures that additional imaging data uploaded into XNAT is handled in a controlled and standardised manner, maintaining compliance with research governance and data management requirements.

APPLICABILITY

This policy applies to trial technicians, project members, and project owners who are uploading or managing data into an XNAT project supported by the Australian Centre for Quantitative Imaging/Australian Imaging Service (ACQI).

DEFINITIONS

Terms	Definitions
Project Member	A user with permissions to upload or manage imaging data within a project.
Project Owner	A user with administrative privileges who can configure project settings.
RTDose / RTStruct	DICOM radiotherapy dose and structure set files used in radiotherapy research.
XNAT	Extensible Neuroimaging Archive Toolkit, a platform used for managing, sharing, and analysing imaging and related clinical research data.

RELATED POLICIES

Policy Number	Scope
GRP1	Gaining access to XNAT
GRP2	Managing a project
GRP3 (4?)	Preparing Data For Upload
GRP5	Performing Data Review
GRP6	Analysing project data

PROCEDURE

UPLOADING ADDITIONAL DATA (RADIOTHERAPY DATA; RTDOSE, RTSTRUCT SCAN FILES)

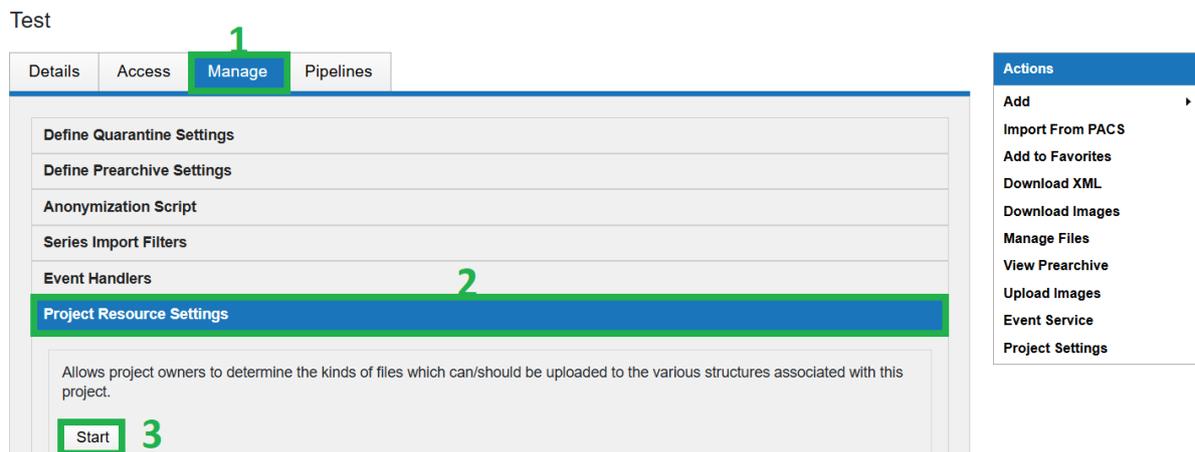
The following instructions use the example of uploading DICOM RTDose and RTStruct files to be added to a subject's data. These files should be available as individual, unzipped DICOM files that have had the same deidentification applied as per image data.

Configuring Project Resource Settings

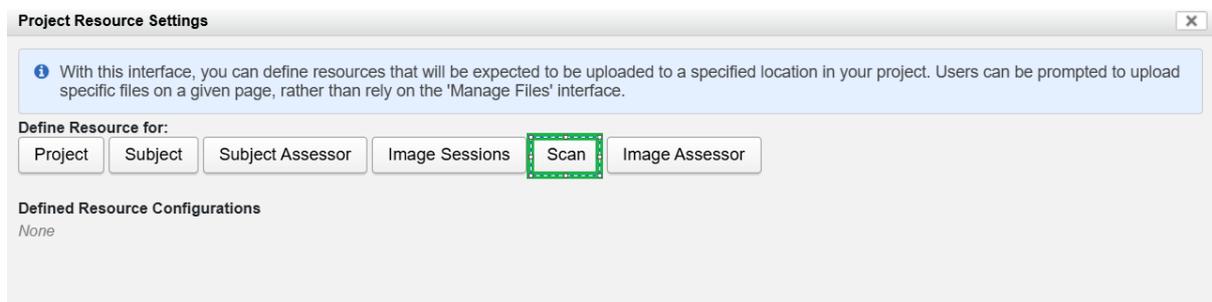
Setting up the Project to expect the additional files (needs to be done once by Project Owner).

XNAT projects can be configured to expect specific additional files to be manually uploaded. This should be done to make the process of subsequent upload as smooth as possible. This can only be done by a Project Owner.

When in the Project screen, click on the Project's "Manage" Tab (1), then "Project Resource Settings" (2) and then "Start" (3) as shown in image below.



Let's say project owner wants to add the additional data (RTDose, RTStruct) as regular scan files, so select on "Scan" as shown below.



Complete the form as follows:

- Tick Show Format & Content
- Tick Extract compressed files by default
- Enter relevant Scan Type Name (e.g., RTStruct, RTDose)

- Click Add

Repeat the process for each additional data type required.

Example to add RTStruct information below.

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

What resource are you requiring?

Title: RT Struct Files

Description (optional):

Script to run: NONE

Where will it be stored?

Types (optional): RTStruct

Resource Folder: RTStruct

Sub-folder (optional): (optional) ex. data/sub/dir

Allow overwrite

Force Quarantine

Show Format & Content

Extract compressed files by default

Cancel **Add**

Similarly, add RTDose information as shown below.

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

What resource are you requiring?

Title: RT Dose Files

Description (optional):

Script to run: NONE

Where will it be stored?

Types (optional): RTDose

Resource Folder: RTDose

Sub-folder (optional): (optional) ex. data/sub/dir

Allow overwrite

Force Quarantine

Show Format & Content

Extract compressed files by default

Cancel **Add**

Defined Resource Configurations

Type	Name	Label	Sub-dir	Overwrite?	Quarantine	Format/Content	Extract?	Options
Remove	xnat.imageScanData	RT Struct Files	RTStruct	false	false	true	true	RTStruct

Note that when all scan types are appropriately set up, Project Resource Settings will show as below. The Project Owner can safely close this dialog and proceed further.

Project Resource Settings x

i 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:

Defined Resource Configurations

	Type	Name	Label	Sub-dir	Overwrite?	Quarantine	Format/Content	Extract?	Options
<input type="button" value="Remove"/>	xnat:imageScanData	RT Struct Files	RTStruct		false	false	true	true	RTStruct
<input type="button" value="Remove"/>	xnat:imageScanData	RT Dose Files	RTDose		false	false	true	true	RTDose

Uploading the Additional Files to a Project

Note: Only Project Owners or Members can upload data.

1. Navigate to the Project and select the relevant Subject. Click on “Add Experiment” (see below).

[PROJECT_P11](#) > [TROG_Dummy](#)

Subject Details: TROG_Dummy

Details	Projects	Actions
<p>Accession # ACQI_XNAT_S00924</p> <p>Date Added 2025-06-06 16:32:02 (martin)</p> <p>Birth year --</p> <p>Gender</p> <p>Handedness</p>		<p>Edit</p> <p>View XML</p> <p>Add Experiment</p> <p>Download XML</p> <p>Email</p> <p>Manage Files</p> <p>View Images</p> <p>Delete</p> <p>Download Images</p> <p>Upload Images</p>

2. Scroll to the bottom of the page where you see RT Session Data.

CR Session

Computed Radiography Session

CT Session

An event in which CT scans are obtained on a subject

MR Session

An event in which MR scans are obtained on a subject

NM Session

Nuclear Medicine Image 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

RT Session

Radiotherapy Session

3. As below, ensure the appropriate Subject is selected. Then:
 - a. As shown in *Configuring Project Resource Settings* , label the new Session with an appropriate label (e.g. “RT_Session” or “RT_Data”). Please refer to **Step 1**, in the image below. Additional information (Date, Visit ID, Scanner Name, Acquisition Site) can be completed as per study requirements, or left blank.
 - b. Under “Scans”, number the additional files and add their expected datatypes (**which must match the type labels configured above**) as in **Steps 2 and 3**. Delete all other fields which are not required using the red trash icon on the left (**Step 4**).
4. When complete, press the “Submit” button.

[PROJECT: P11](#) > [TROG Dummy](#)

Add New RT Session

Project: Test

Subject: [Add New Subject](#)

Session:

1

Date:

Visit ID:

Scanner Name:

Acquisition Site:

Scans

Scan	Type ?	Quality	Note
<input type="button" value="1"/>	RTStruct	usable	<input type="text"/>
<input type="button" value="2"/>	RTDose	usable	<input type="text"/>

Keep required, Delete Other scans by pressing red delete button on left side

2
3
4

Uploading Individual Files

Once the session is created, the individual files can now be uploaded.

1. As shown below, hover the cursor over either listed scan and click on the following encircled red button to open dialog. The example here is for a relevant RTDose Scan File.

Accession #: ACQI_XNAT_E01817 Date Added: 2025-06-27 17:16:21 (admin)	Subject: TROG_Dummy Gender: Handedness: Age: --	<ul style="list-style-type: none">EditViewDownload XMLEmailManage FilesView ImagesDeleteSend to PACSRun Containers
--	--	--

Scans

Bulk Actions:		Download					
<input type="checkbox"/>	Scan	Type	Series Class	Series Desc	Usability	Files	Note
<input type="checkbox"/>	1	RTStruct			usable	Show Counts	
<input type="checkbox"/>	2	RTDose			usable	Show Counts	

Upload Resource

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 to see more.

2. Proceed to upload the RT Dose File.

Upload Selector: RT Dose Files Help

Extract compressed files

Content:

Format:

3. Select the relevant File and Open as shown below;

t_struct_upload_test > 0000 > scans > 1-unknown > resources > DICOM > files

Search files

der

Name	Status	Date modified	Type	Size
 RD.1.2.246.352.71.7.2515.129232	✓	8/06/2025 8:13 PM	MicroDicom DICOM ...	1,283 KB
<input checked="" type="checkbox"/>  RD.1.2.246.352.71.7.2515.129375	✓	8/06/2025 8:13 PM	MicroDicom DICOM ...	1,383 KB

Name: RD.1.2.246.352.71.7.2515.129375

All Files

Open Cancel

4. Once the upload is complete, press OK.

Upload Additional Files

Upload Selector: RT Dose Files [Help](#)

Extract compressed files

Content:

Format:

Upload files

RD.1.2.246.352.71.7.2515.129375.dcm (1 MB) Upload complete

OK

Congratulations. You have successfully uploaded Additional Data in Scan Format within the Radiotherapy session of your subject. The file size shows the size in MB and how many files have been uploaded as shown below.

5. Verify that:

- a. The file name and size are displayed correctly.
- b. The number of uploaded files is correct.

Accession #: ACQI_XNAT_E01817 Date Added: 2025-06-27 17:16:21 (admin)	Subject: TROG_Dummy Gender: Handedness: Age: --	Edit View Download XML Email Manage Files View Images Delete Send to PACS Run Containers
--	--	--

Scans

Bulk Actions: Download							
<input type="checkbox"/>	Scan	Type	Series Class	Series Desc	Usability	Files	Note
<input type="checkbox"/>	1	RTStruct			usable	Show Counts	
<input type="checkbox"/>	2	RTDose			usable	1.4 MB in 1 files	

Total: 1.4 MB in 1 files

RTDose: 1.4 MB in 1 files

PROCEDURE TESTS

Test description	Test completed	Pass/Fail	Comments
Check If Additional Data Type Exists			
Confirm ability to define Resource Settings at Scan level			
Verify ability to add new RT_Session type for a subject			
Confirm completion of required fields in RT_Session dialog			
Check if you can successfully upload additional data at Scan Level			

DOCUMENT HISTORY

Author	Version	Effective Date	Changes
Malik Ghafoor	1.0	27/06/2025	Initial release
Martin Ebert	2.0	30/10/2025	Reformatted

Grainne Cahill	2.1	24/02/2026	Reformatted
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