Radiam

Radiam - Helping Researchers Keep Track of Data

UNIVERSITY OF SASKATCHEWAN

SFU SIMON FRASER UNIVERSITY
ENGAGING THE WORLD

compute canada | calcul canada

canarie

Alex Garnett, Research Data Management & Systems Librarian, SFU

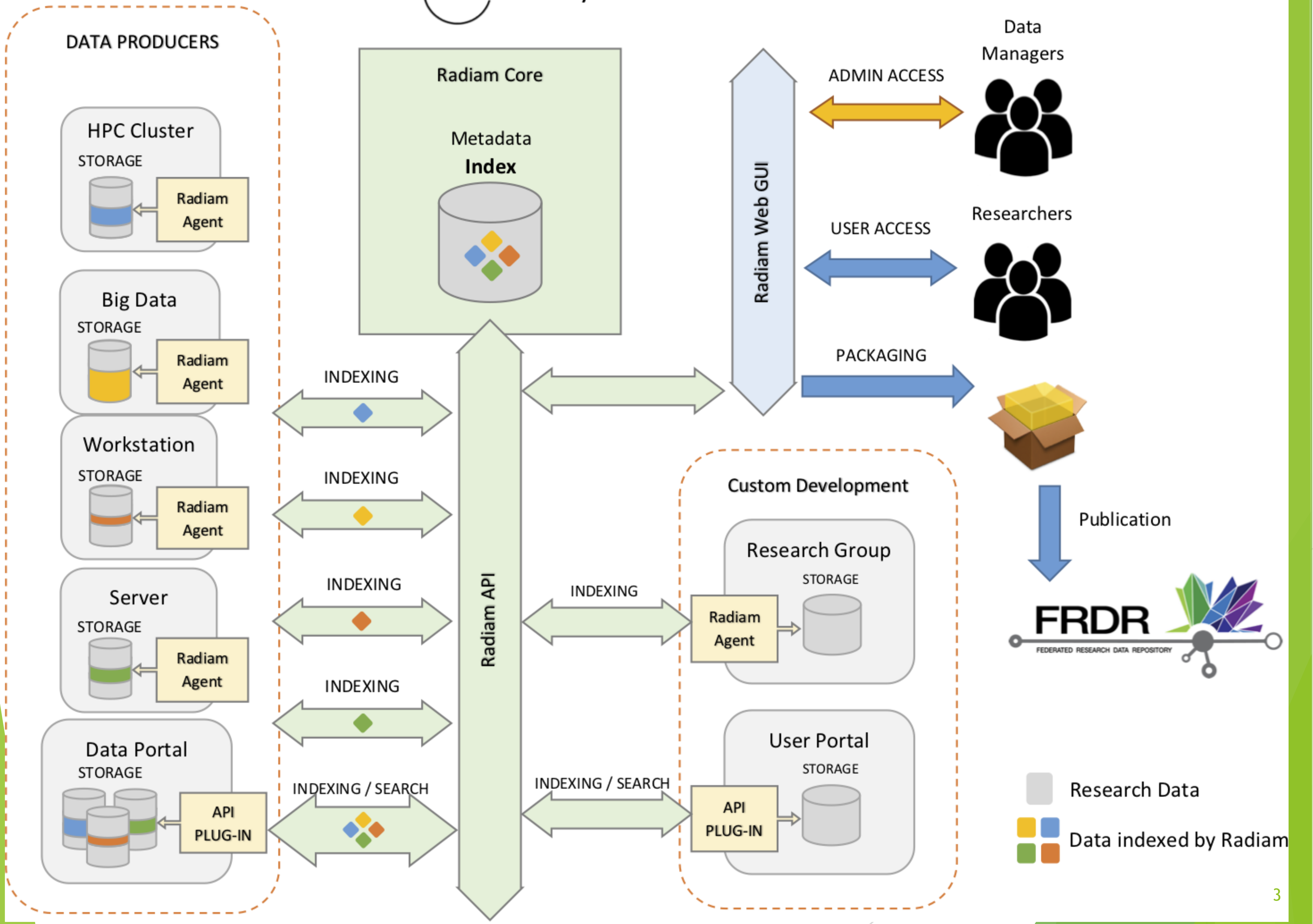
Portage Tech Tools Showcase, 6/16/20

What Is Radiam

A **platform** and a **suite of applications** that work together to catalog research data, allowing rich metadata entry and logical grouping of data, and then exporting of metadata in preparation for publishing

Public web site: https://www.radiam.ca

Radiam System Architecture



DATA PRODUCERS

HPC Cluster
STORAGE
Radiam Agent

Big Data
STORAGE
Radiam Agent

Workstation
STORAGE
Radiam Agent

Server
STORAGE
Radiam Agent

Data Portal
STORAGE
API PLUG-IN

INDEXING

INDEXING

INDEXING

INDEXING

INDEXING / SEARCH

Radiam Core

Metadata
Index

Radiam API

Radiam Web GUI

ADMIN ACCESS

Data Managers

USER ACCESS

Researchers

PACKAGING

Publication

FRDR
FEDERATED RESEARCH DATA REPOSITORY

Custom Development

INDEXING

Research Group
STORAGE
Radiam Agent

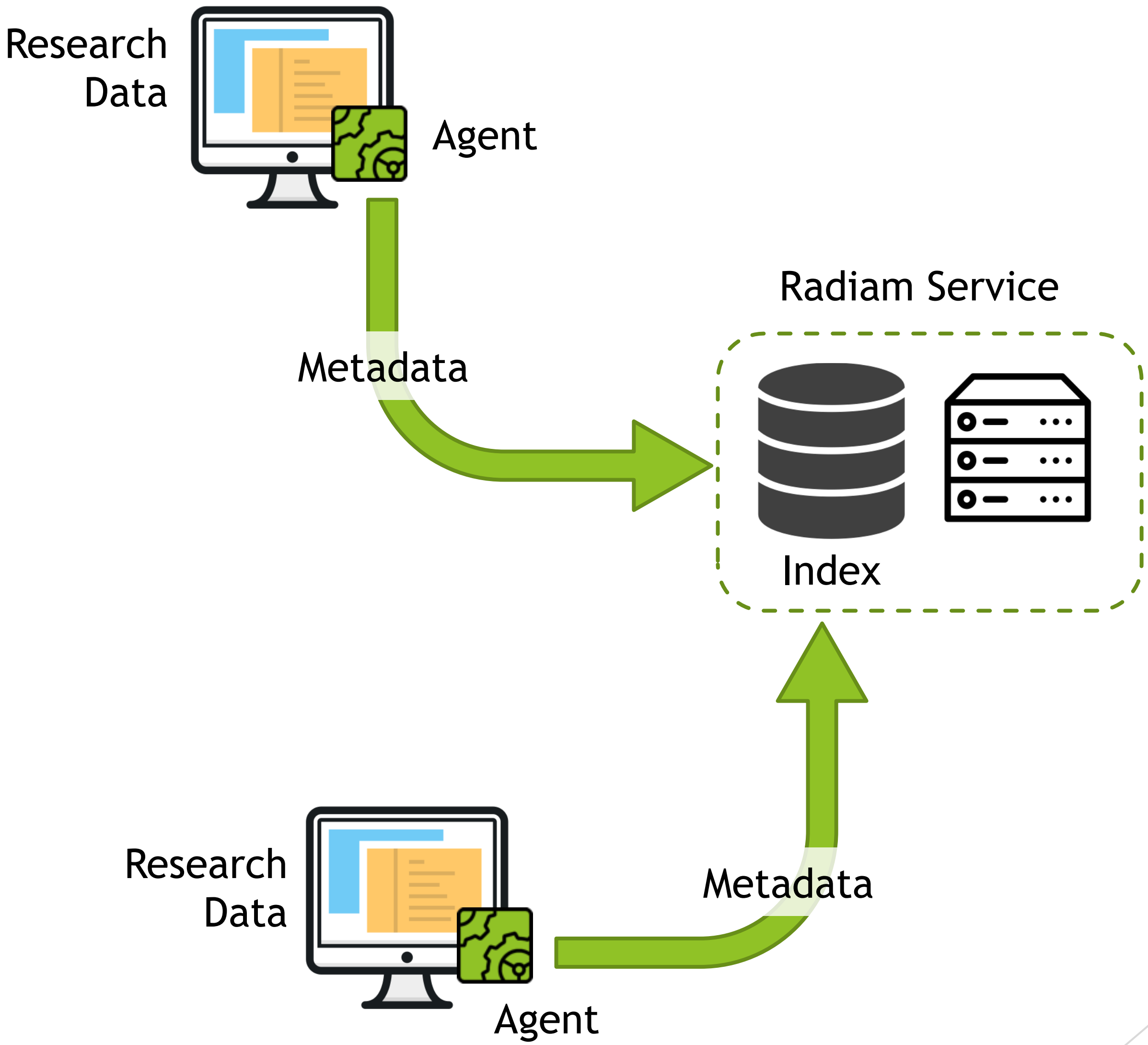
INDEXING / SEARCH

User Portal
STORAGE
API PLUG-IN

▢ Research Data

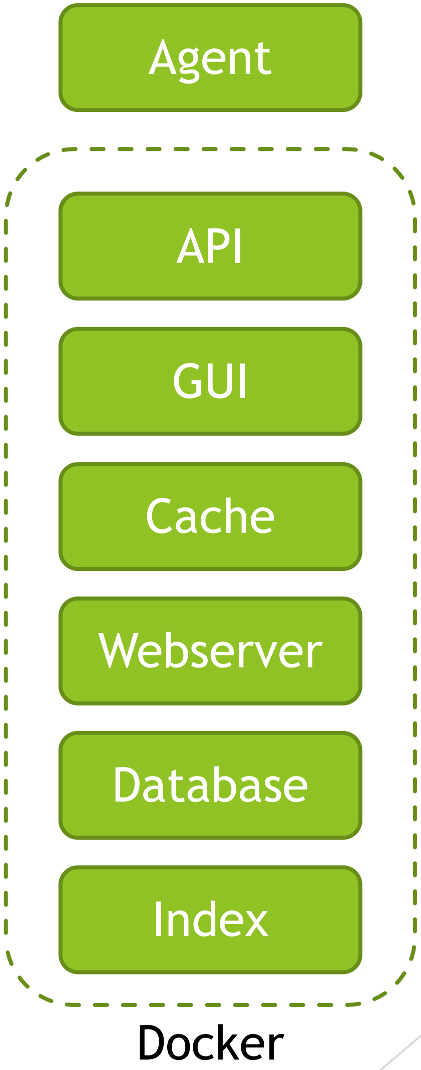
🟨🟦🟩🟧 Data indexed by Radiam

Radiam In Operation


Research
Data
Agent
Radiam Service
Metadata
Index
Research
Data
Metadata
Agent

Technology

- Django REST
- React
- Postgres
- Elasticsearch
- Memcached
- Nginx
- Electron
- Docker Swarm
- Docker Registry
- Ansible



Agent

API

GUI

Cache

Webserver

Database

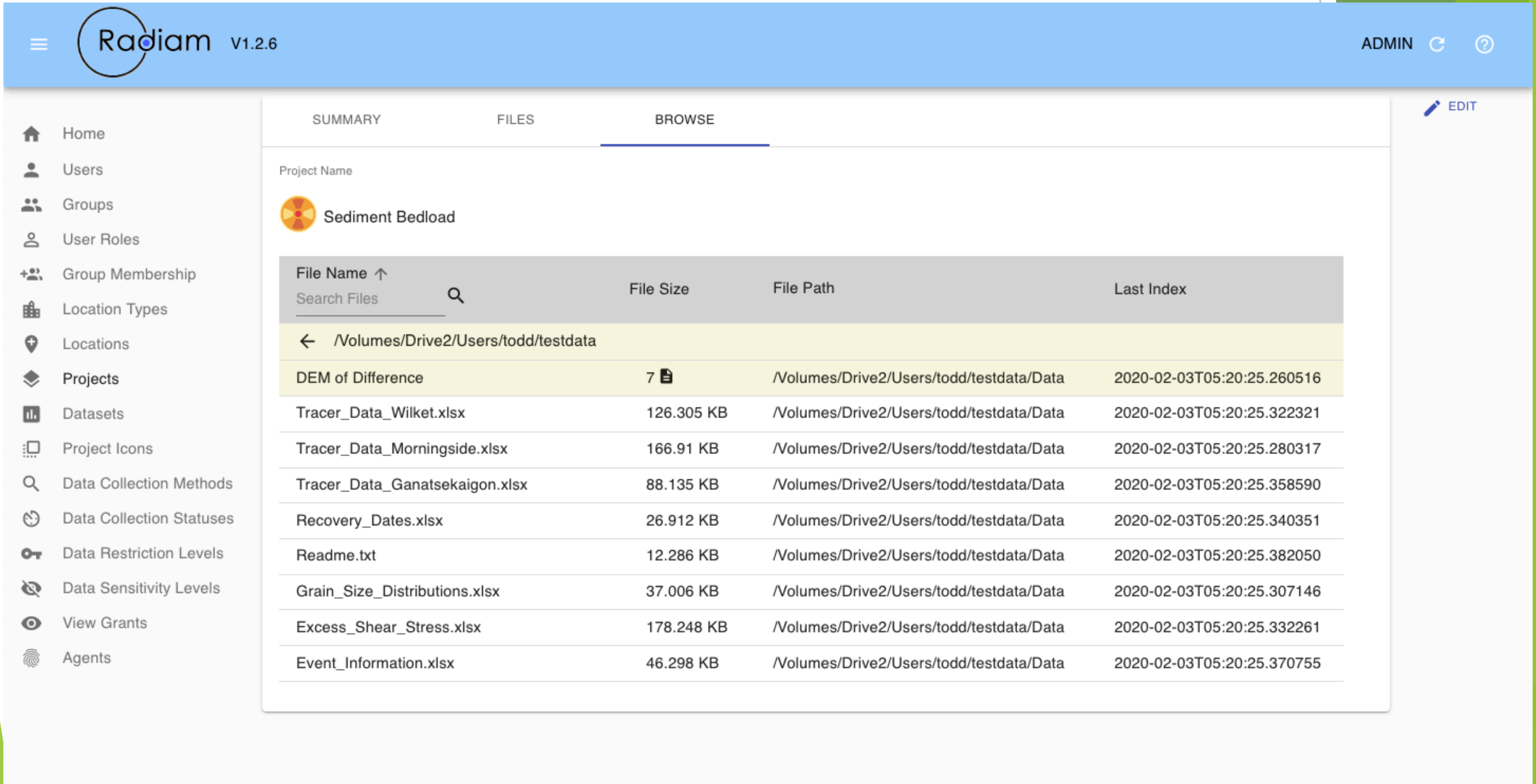
Index

Docker

Progress Update

- **API**
  - All REST endpoints working
  - OpenAPI specification and documentation
- **Web Interface**
  - Create account, log in, reset password
  - Mange users, groups, projects and datasets
  - View and search indexed metadata
- **Agent**
  - Built and running on Windows, Mac, Linux
  - Index data for multiple projects with one agent
  - Metadata extraction for some file types
- **Portal Integrations**
  - OSF: auth, indexing
  - HubZero: auth, indexing

Web Interface


Radiam
V1.2.6
ADMIN
SUMMARY
FILES
BROWSE
EDIT
Home
Users
Groups
User Roles
Group Membership
Location Types
Locations
Projects
Datasets
Project Icons
Data Collection Methods
Data Collection Statuses
Data Restriction Levels
Data Sensitivity Levels
View Grants
Agents
Search Files

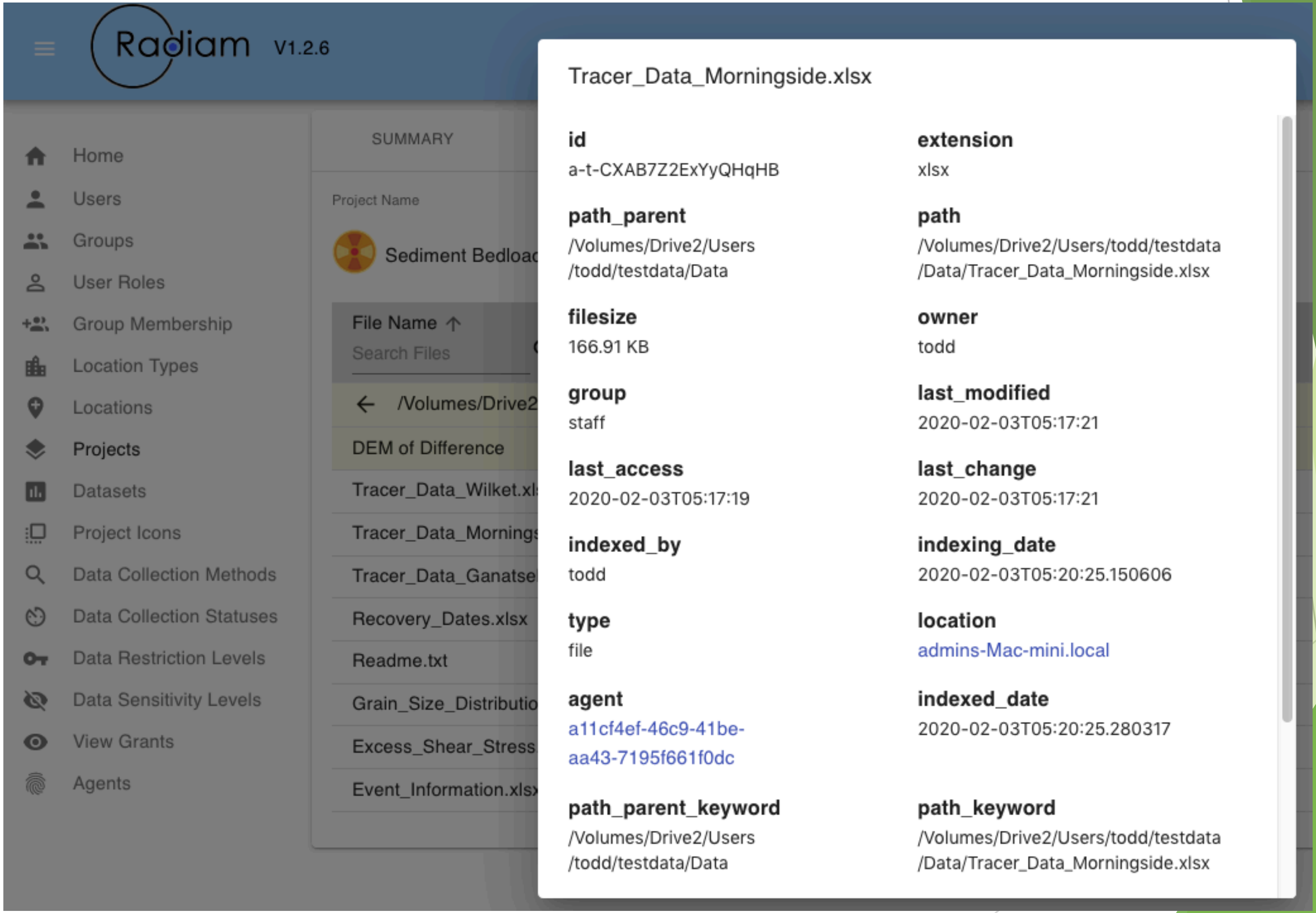
Project Name

Sediment Bedload

/Volumes/Drive2/Users/todd/testdata

File Name ↑	File Size	File Path	Last Index
DEM of Difference	7	/Volumes/Drive2/Users/todd/testdata/Data	2020-02-03T05:20:25.260516
Tracer_Data_Wilket.xlsx	126.305 KB	/Volumes/Drive2/Users/todd/testdata/Data	2020-02-03T05:20:25.322321
Tracer_Data_Morningside.xlsx	166.91 KB	/Volumes/Drive2/Users/todd/testdata/Data	2020-02-03T05:20:25.280317
Tracer_Data_Ganatsekaigon.xlsx	88.135 KB	/Volumes/Drive2/Users/todd/testdata/Data	2020-02-03T05:20:25.358590
Recovery_Dates.xlsx	26.912 KB	/Volumes/Drive2/Users/todd/testdata/Data	2020-02-03T05:20:25.340351
Readme.txt	12.286 KB	/Volumes/Drive2/Users/todd/testdata/Data	2020-02-03T05:20:25.382050
Grain_Size_Distributions.xlsx	37.006 KB	/Volumes/Drive2/Users/todd/testdata/Data	2020-02-03T05:20:25.307146
Excess_Shear_Stress.xlsx	178.248 KB	/Volumes/Drive2/Users/todd/testdata/Data	2020-02-03T05:20:25.332261
Event_Information.xlsx	46.298 KB	/Volumes/Drive2/Users/todd/testdata/Data	2020-02-03T05:20:25.370755

Web Interface


Radiam
V1.2.6
Home
Users
Groups
User Roles
Group Membership
Location Types
Locations
Projects
Datasets
Project Icons
Data Collection Methods
Data Collection Statuses
Data Restriction Levels
Data Sensitivity Levels
View Grants
Agents
SUMMARY
Project Name
Sediment Bedloa
File Name
Search Files
/Volumes/Drive2
DEM of Difference
Tracer_Data_Wilket.xl
Tracer_Data_Morning
Tracer_Data_Ganatse
Recovery_Dates.xlsx
Readme.txt
Grain_Size_Distributio
Excess_Shear_Stress
Event_Information.xls

Tracer_Data_Morningside.xlsx

id
a-t-CXAB7Z2ExYyQHqHB

extension
xlsx

path_parent
/Volumes/Drive2/Users/todd/testdata/Data

path
/Volumes/Drive2/Users/todd/testdata/Data/Tracer_Data_Morningside.xlsx

filesize
166.91 KB

owner
todd

group
staff

last_modified
2020-02-03T05:17:21

last_access
2020-02-03T05:17:19

last_change
2020-02-03T05:17:21

indexed_by
todd

indexing_date
2020-02-03T05:20:25.150606

type
file

location
admins-Mac-mini.local

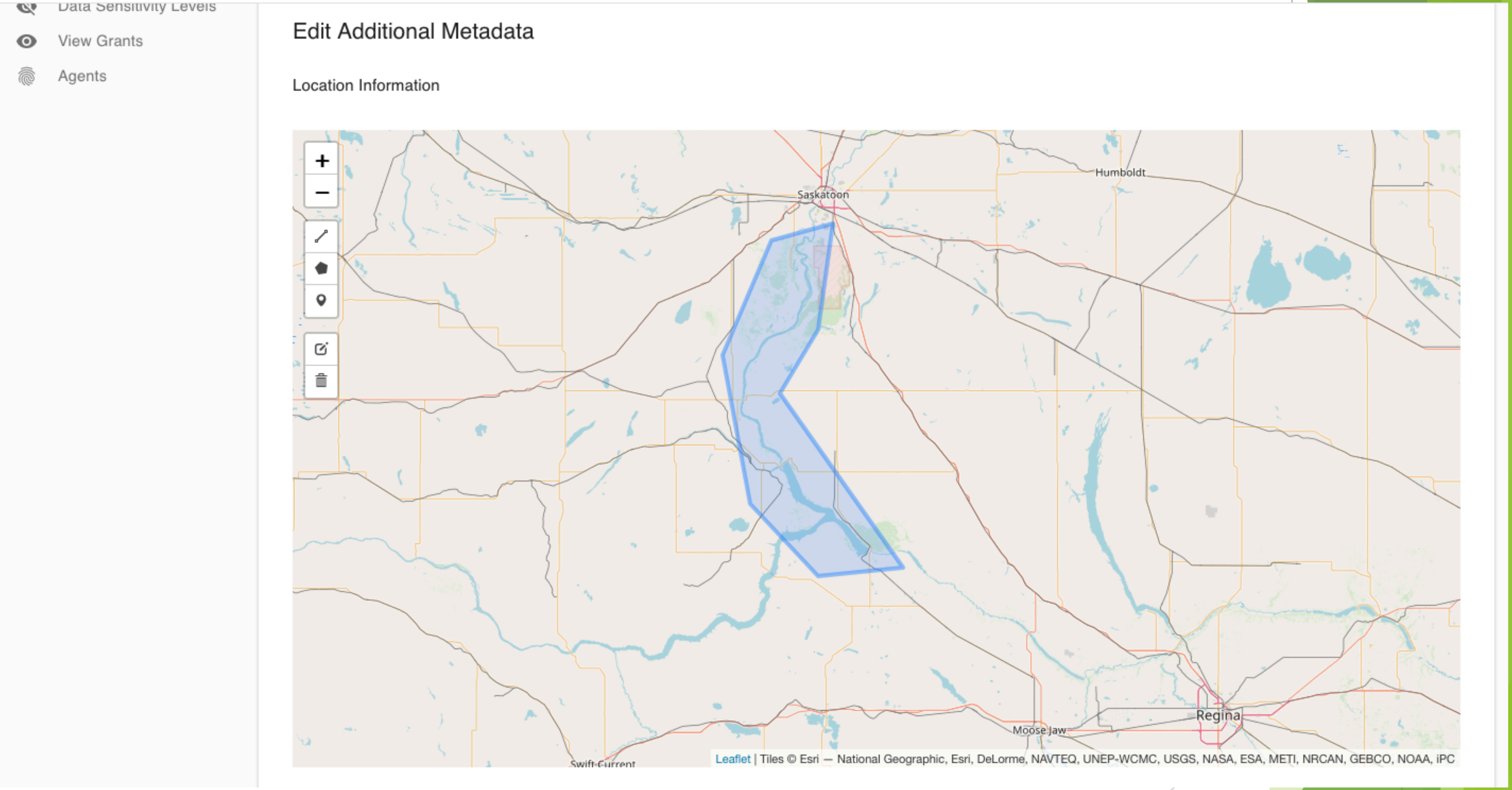
agent
a11cf4ef-46c9-41be-aa43-7195f661f0dc

indexed_date
2020-02-03T05:20:25.280317

path_parent_keyword
/Volumes/Drive2/Users/todd/testdata/Data

path_keyword
/Volumes/Drive2/Users/todd/testdata/Data/Tracer_Data_Morningside.xlsx

Web Interface



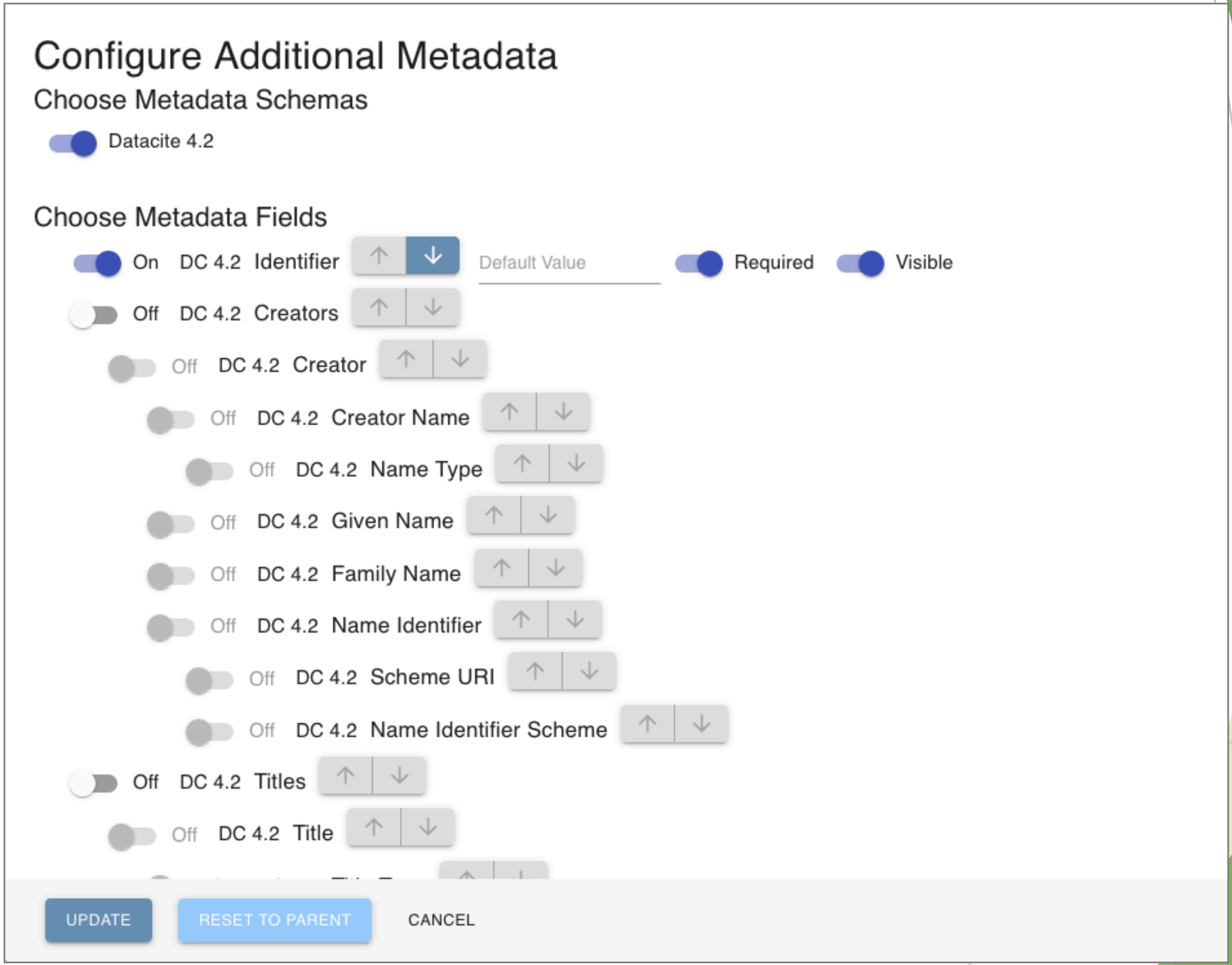
Data Sensitivity Levels
View Grants
Agents

Edit Additional Metadata

Location Information

Humboldt
Saskatoon
Regina
Moose Jaw
Swift Current
Leaflet | Tiles © Esri — National Geographic, Esri, DeLorme, NAVTEQ, UNEP-WCMC, USGS, NASA, ESA, METI, NRCAN, GEBCO, NOAA, iPC

Web Interface



Configure Additional Metadata

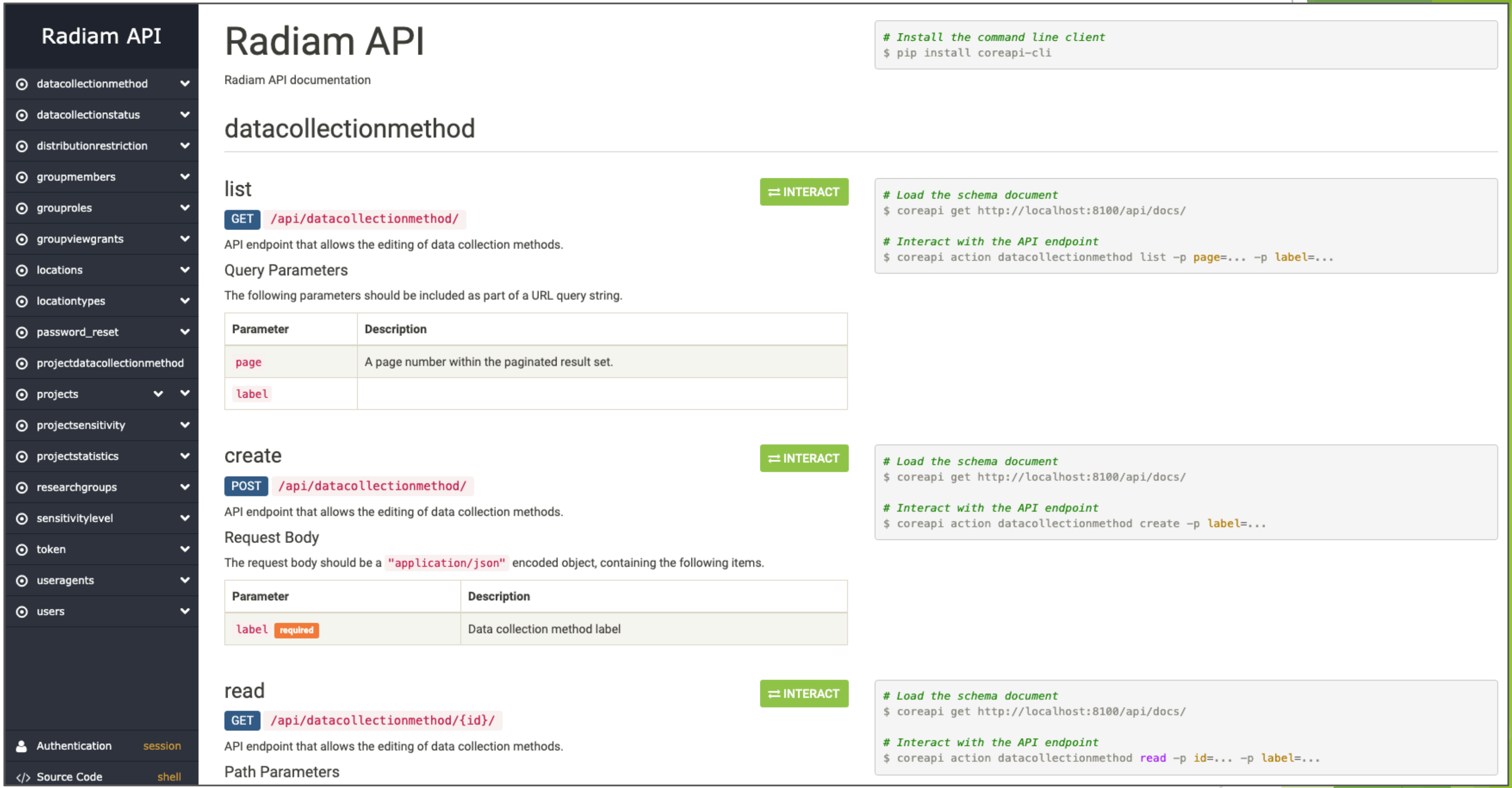
Choose Metadata Schemas

● Datacite 4.2

Choose Metadata Fields

- On DC 4.2 Identifier ↑ ↓ Default Value ● Required ● Visible
- Off DC 4.2 Creators ↑ ↓
  - Off DC 4.2 Creator ↑ ↓
    - Off DC 4.2 Creator Name ↑ ↓
      - Off DC 4.2 Name Type ↑ ↓
    - Off DC 4.2 Given Name ↑ ↓
    - Off DC 4.2 Family Name ↑ ↓
    - Off DC 4.2 Name Identifier ↑ ↓
      - Off DC 4.2 Scheme URI ↑ ↓
      - Off DC 4.2 Name Identifier Scheme ↑ ↓
- Off DC 4.2 Titles ↑ ↓
  - Off DC 4.2 Title ↑ ↓

API


Radiam API
datacollectionmethod
datacollectionstatus
distributionrestriction
groupmembers
grouproles
groupviewgrants
locations
locationtypes
password_reset
projectdatacollectionmethod
projects
projectsensitivity
projectstatistics
researchgroups
sensitivitylevel
token
useragents
users
Authentication session
Source Code shell
INTERACT

Radiam API

Radiam API documentation

```
# Install the command line client
$ pip install coreapi-cli
```

datacollectionmethod

list

GET `/api/datacollectionmethod/`

API endpoint that allows the editing of data collection methods.

Query Parameters

The following parameters should be included as part of a URL query string.

Parameter	Description
`page`	A page number within the paginated result set.
`label`	

```
# Load the schema document
$ coreapi get http://localhost:8100/api/docs/

# Interact with the API endpoint
$ coreapi action datacollectionmethod list -p page=... -p label=...
```

create

POST `/api/datacollectionmethod/`

API endpoint that allows the editing of data collection methods.

Request Body

The request body should be a `"application/json"` encoded object, containing the following items.

Parameter	Description
`label` required	Data collection method label

```
# Load the schema document
$ coreapi get http://localhost:8100/api/docs/

# Interact with the API endpoint
$ coreapi action datacollectionmethod create -p label=...
```

read

GET `/api/datacollectionmethod/{id}/`

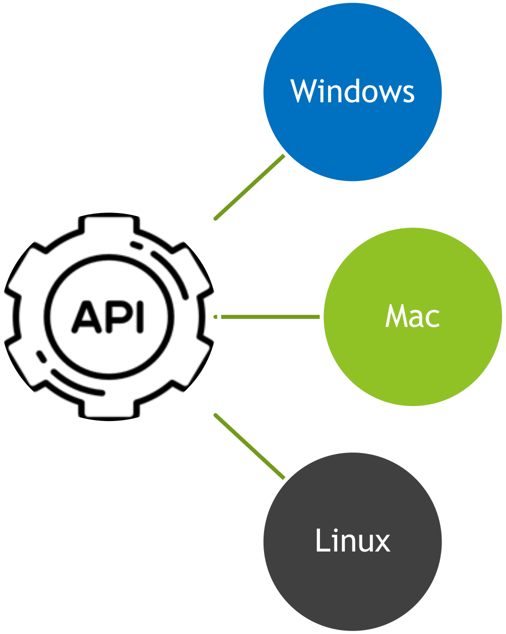
API endpoint that allows the editing of data collection methods.

Path Parameters

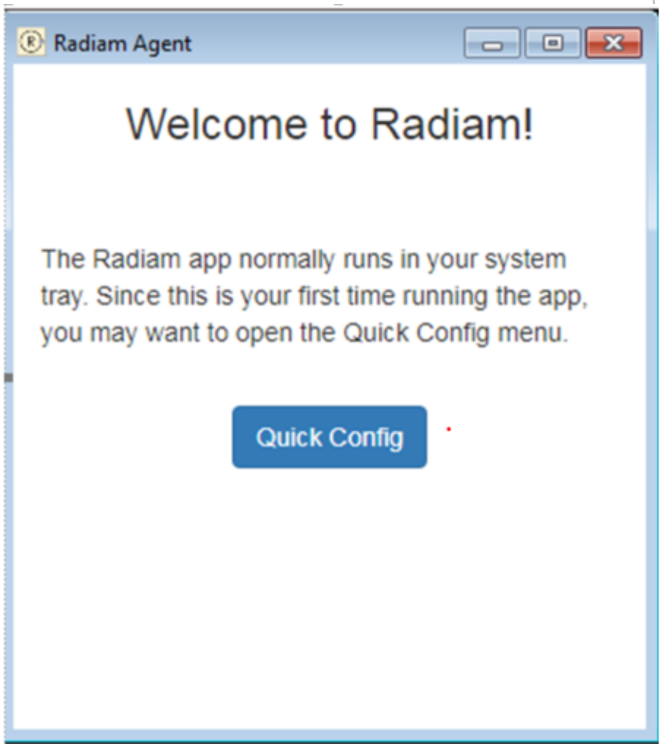
```
# Load the schema document
$ coreapi get http://localhost:8100/api/docs/

# Interact with the API endpoint
$ coreapi action datacollectionmethod read -p id=... -p label=...
```

Agent


API
Windows
Mac
Linux

Built and running on 3 platforms


Radiam Agent

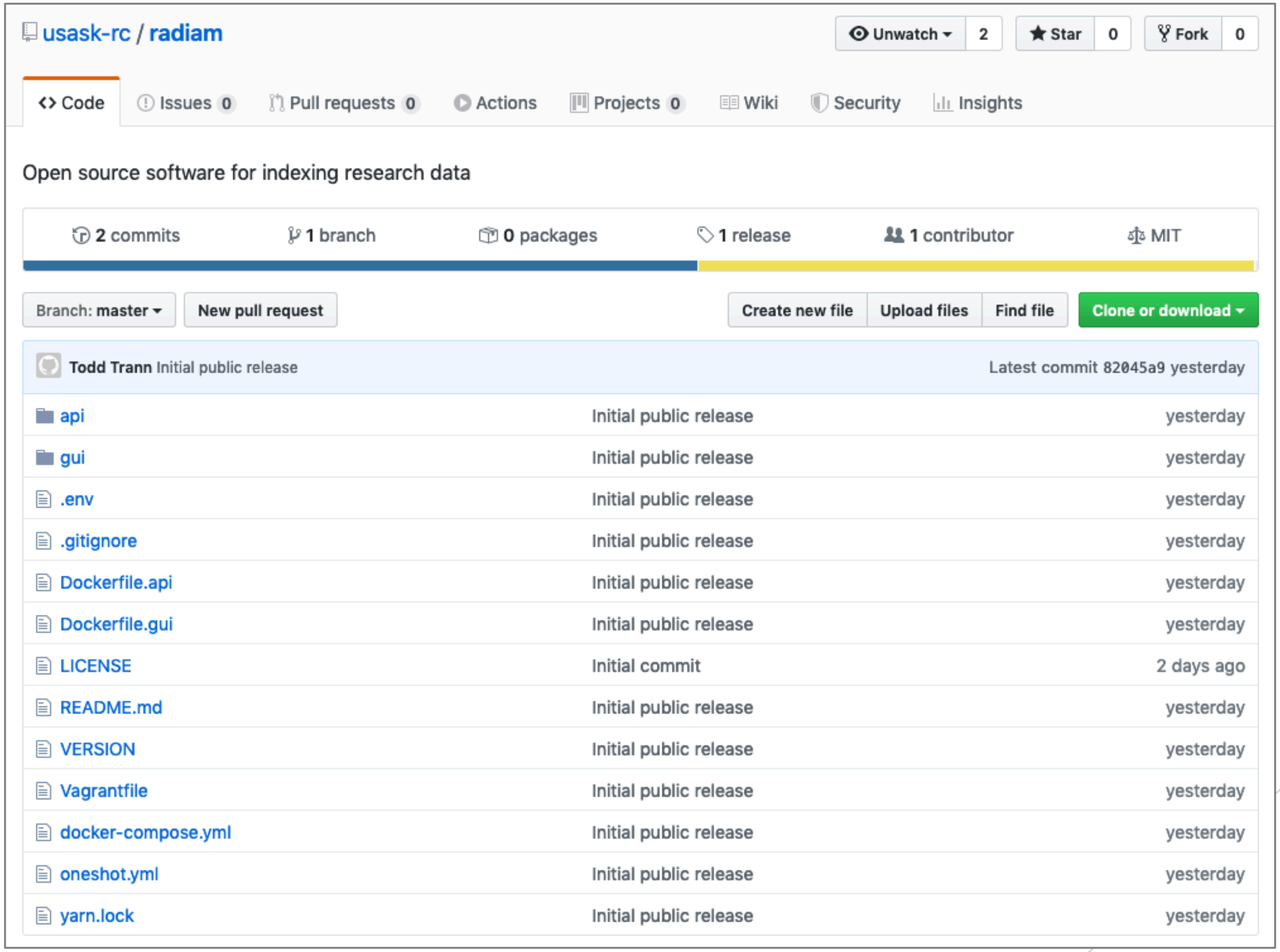
Welcome to Radiam!

The Radiam app normally runs in your system tray. Since this is your first time running the app, you may want to open the Quick Config menu.

Quick Config

Open Source

https://github.com/usask-rc/radiam


usask-rc / radiam
Unwatch 2
Star 0
Fork 0
Code
Issues 0
Pull requests 0
Actions
Projects 0
Wiki
Security
Insights

Open source software for indexing research data

2 commits
1 branch
0 packages
1 release
1 contributor
MIT
Branch: master
New pull request
Create new file
Upload files
Find file
Clone or download

Todd Trann Initial public release — Latest commit 82045a9 yesterday

api	Initial public release	yesterday
gui	Initial public release	yesterday
.env	Initial public release	yesterday
.gitignore	Initial public release	yesterday
Dockerfile.api	Initial public release	yesterday
Dockerfile.gui	Initial public release	yesterday
LICENSE	Initial commit	2 days ago
README.md	Initial public release	yesterday
VERSION	Initial public release	yesterday
Vagrantfile	Initial public release	yesterday
docker-compose.yml	Initial public release	yesterday
oneshot.yml	Initial public release	yesterday
yarn.lock	Initial public release	yesterday

Future

- Source code to all components of Radiam are published under the MIT open source license
- The open architecture of Radiam allows its components to be upgraded or rewritten to keep up with integration points
- API specification and developer documentation together allows research groups to write custom applications that work with Radiam
- Published on CANARIE Research Software Portal: https://science.canarie.ca/

Project Members

- **PI**: Kevin Schneider, University of Saskatchewan
- **Co-PI**: Dugan O’Neil, Simon Fraser University
- **Project Lead:** Jason Hlady, University of Saskatchewan
- **Project Team:**
  - CARL/Portage: Lee Wilson
  - SFU: Alex Garnett, Jonathan Loewen, Jin Zhang, Yang Zhou
  - USask: Adam McKenzie, Joel Farthing, Justin Pointer, Mike Winter, Rama Periasamy, Sergiy Stepanenko, Todd Trann

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