CatRIS Catalogue API Guide

V3.00

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Definitions

CatRIS Portal: A Portal providing information (organised in a Catalogue) about Research Infrastructure Services in Europe focusing on Physical Research Infrastructures (RIs), Core Facilities (CFs) and Shared Scientific Resources (SSRs) (*all hereinafter referred to as RIs*) .

Catalogue: The customer-facing list of all live Services that can be requested by End-Users along with relevant information about these Services.

Onboarding Process: The process that a Service Provider must follow to register itself and its services in the CatRIS Portal.

Service Provider: An organisation, a part of an organisation or a federation that manages and delivers Services to End-Users. They can be: Research Infrastructures, Distributed Research Infrastructures, Resource Aggregators, Thematic Clouds, Regional Clouds, etc.

Service: The means or a process that organisations use to deliver results that Users/Customers value and wish to achieve. These results are usually intangible although they may also include tangible elements. Services require instantiation by a Service Provider.

RI Service: Services provided by Research Infrastructures. They include among others access to and use of facilities and instruments, users support and training and other activities and resources that the RIs deliver to Users/Customers.

Physical RI Service: RI Services that rely on the access to or use of a physical facility or instrument.

Abbreviations

Abbreviation	Meaning
API	Application Programming Interface
ARP	Authorized Representative of the Provider
CatRIS	Catalogue of Research Infrastructure Services
CF	Core Facility
COT	CatRIS Onboarding Team
EC	European Commission
EOSC	European Open Science Cloud
ESFRI	European Strategic Framework for Research Infrastructure
IT	Information Technology
RI	Research Infrastructure
RoP	Rules of Participation
SLA	Service Level Agreement
SP	Service Provider
SSR	Shared Scientific Resources

Catalogue of Research Infrastructure Services – www.catris.eu

CatRIS

Catalogue of Research Infrastructure Services

Overview of the CatRIS Catalogue API

Introduction to the CatRIS API

✓ An API (Application Programming Interface) is a protocol intended to be used as an interface by software components to communicate with each other. The CatRIS API is a lightweight web service with a REST interface, which provides easy access to the CatRIS Service Catalogue.

✓ The complete CatRIS API documentation is a living document, generated using frameworks compliant with OpenAPI Specification 2.0, available in https://www.portal.catris.eu/openapi

➢ In case you encounter difficulties using the CatRIS API, please get in touch with us in tech-support@catris.eu.

CatRIS API Overview

The CatRIS API usage comprises three distinct steps, summarized below:

➢ 1. Registration of the Service Provider and a first Service, and subsequent approval/activation of the Service Provider by the CatRIS Onboarding Team (**COT**).

  ➢ The Authorized Representative of the Provider (**ARP**) needs to first perform the above process, as detailed in the document "Provider and Service Onboarding Guide" so that the Service Provider is registered in the CatRIS Portal and their profile is validated by the COT.

➢ 2. Obtaining an API token to be used for Authorization

➢ 3. Deploying the supported API methods to create, update or retrieve content from the CatRIS Catalogue

  ➢ API methods are documented in https://www.portal.catris.eu/openapi

  ➢ The CatRIS model is documented in https://github.com/eInfraCentral/docs/tree/master/API%20v3.00

1. Registering the Service Provider

1. Registration of Service Provider

➢ To be able to use the CatRIS API the Service Provider needs to first Onboard in the Catalogue and be approved by the CatRIS Onboarding Team.

➢ To this end, an Authorised Representative of the Provider (ARP) needs to follow the Onboarding process detailed in the document "***Provider and Service Onboarding Guide***"

➢ In short, the steps to be followed are

- ✓ Register in the CatRIS Portal via the EOSC Authentication and Authorization Infrastructure (AAI)

- ✓ Complete and submit the Service Provider description

- ✓ Receive approval of the submitted Service Provider description by the COT

- ✓ Complete and submit the description of a first Service for the Service Provider

- ✓ Receive approval of the submitted Service description by the COT

➢ After the last step, the registration/onboarding of the Service Provider is complete and the ARP is able to proceed to the next steps of the CatRIS API usage

1. Registration of Service Provider

> ➢ This first step is a prerequisite for the CatRIS API usage, since it accommodates the quality assured population of the CatRIS Catalogue via its API:

> > ✓ The Service Provider description and the first Service description are validated by the COT

> > ✓ If issues are identified, the COT contacts the ARP, so that these are rectified

> > ✓ Via this process, the ARP gets familiarized with the CatRIS model and will be able to properly use the CatRIS API methods for inserting and updating content

> ➢ This first step is only required to be performed once; upon it is performed, then the Service Provider is registered in the CatRIS Portal and the ARP can seamlessly use the CatRIS API as described in the next steps.

2. Obtaining an API token to be used for Authorization

2. Obtaining an API token

➢ As a next step, the ARP needs to obtain a token by signing in to the AAI service of the EOSC Portal in the following address https://aaieosc-portal.eu/eic-api/token.php

  ✓ This token is not persistent and it will be valid for 8 hours

  ✓ After its expiration the ARP will have to obtain a new one

➢ The token can then be used in the Authorization header when making requests to resources (e.g. Service Provider, Service) of the CatRIS Portal.

  ✓ The token is not required when you retrieve information using the GET methods.

  ✓ To use the token directly in the API page, the ARP needs to click 'Authorize' and fill in the 'api_key' field with the token they obtained

3. Using the methods of the CatRIS API

3. Usage of CatRIS API

> Having obtained the API token, the ARP is able to use the CatRIS API methods:

- ✓ GET methods to retrieve information about Service Providers and Services of the Catalogue

- ✓ POST methods to create and validate a new Service

- ✓ PUT methods to update Service Providers and Services

> The available methods are documented in https://www.portal.catris.eu/openapi

- ✓ Organized in resource-specific controllers

- ✓ E.g. *provider-controller, service-controller*

3. Usage of CatRIS API

➢ In order to insert or update resources in the CatRIS Catalogue, these resources need to be represented in JSON format, adhering to the CatRIS model

    ✓ The CatRIS model is documented in
https://github.com/eInfraCentral/docs/tree/master/API%20v3.00

    ✓ Examples of resources represented in JSON format and adhering to the CatRIS model are provided in https://www.portal.catris.eu/openapi by expanding each API method

    ✓ Example API calls for several CatRIS API methods are provided next

3. Usage of CatRIS API – GET Examples

➤ **Get Provider**

    ➤ Returns the Provider with the given Provider id

GET /api/provider/{providerId}

➤ **Get Service**

    ➤ Returns the most current version of a specific Service, providing the Service id

GET /api/service/{serviceId}

➤ **Get Service**

    ➤ Returns a list of all Services in the Catalogue

GET /api/service/all

3. Usage of CatRIS API – POST Examples

➢ Add Service

> ➢ Creates a new Service in the Catalogue

```
POST /api/service
{
 "name": "Example Service",
 "resourceOrganisation": "example",
 "resourceProviders": [null],
 "webpage": "https://example.com",
 "description": "Example Service Description",
 "tagline": "Example",
 "logo": "https://example.com/logos/example2.png",
 "multimedia": ["https://example.com/multimedia"],
 "useCases": ["https://example.com/use_case"],
 "scientificSubdomains": ["scientific_subdomain-other-
other"],
```

➢ Add Service (continued)

```
"subcategories": ["subcategory-other-other-other"],
"targetUsers": ["target_user-other" ],
"accessTypes": ["access_type-other" ],
"accessModes": ["access_mode-other" ],
"tags": ["Example Tag" ],
"geographicalAvailabilities": ["EL"],
"languageAvailabilities": ["en" ],
"resourceGeographicLocations": ["EL" ],
"mainContact": {"firstName": "string",
                "lastName": "string",
                "email": "string",
                "phone": "string",
                "position": "string",
                "organisation": "example"},
```

➤ Add Service (continued)

```
"publicContacts": [

        {"firstName": "string",

        "lastName": "string",

        "email": "string",

        "phone": "string",

        "position": "string",

        "organisation": "example"}
],
"helpdeskEmail": "string",
"securityContactEmail": "string",
"trl": "trl-1",
"lifeCycleStatus": "life_cycle_status-other",
"certifications": ["string"],
```

➤ Add Service (continued)

```
"standards": ["string"],
"openSourceTechnologies": ["string"],
"version": "string",
"lastUpdate": "2020-01-01",
"changeLog": ["string"],
"requiredResources": [ null ],
"relatedResources": [ null ],
"relatedPlatforms": [ null ],
"fundingBody": ["funding_body-other" ],
"fundingPrograms": ["funding_program-other" ],
"grantProjectNames": ["string" ],
"helpdeskPage": "https://example.com",
"userManual": "https://example.com",
```

➤ Add Service (continued)

```
 "termsOfUse": "https://example.com",

 "privacyPolicy": "https://example.com",

 "accessPolicy": "https://example.com",

 "serviceLevel": "https://example.com",

 "trainingInformation": "https://example.com",

 "statusMonitoring": "https://example.com",

 "maintenance": "https://example.com",

 "orderType": "order_type-other",

 "order": "https://example.com",

 "paymentModel": "https://example.com",

 "pricing": "https://example.com"
}
```

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➤ Update provider

- ➤ Updates the Provider assigned the given id with the given Provider, keeping a version of revisions POST /api/service

PUT /api/provider

```
{ "id": "provider_id",
 "name": "Example Provider",
 "abbreviation": "example",
 "website": "https://example.com",
 "legalEntity": true,
 "legalStatus": "provider_legal_status-other",
 "description": "Example Description",
 "logo": "https://example.com/logos/logo.png",
 "multimedia": ["https://example.com/multimedia" ],
```

➤ Update provider (continued)

```
 "scientificSubdomains": ["scientific_subdomain-other-other"],
 "tags": ["Example Tag"],
 "location": {"streetNameAndNumber": "Street, 0",
          "postalCode": "0",
          "city": "City",
          "region": "Region",
          "country": "EL"},
 "mainContact": {"firstName": "Name",
          "lastName": "Surname",
          "email": "ex@example.com",
          "phone": "00000000000000",
          "position": "Example Position"},
```

➢ **Update provider (continued)**

```
"publicContacts": [

        {"firstName": "Another Name",

        "lastName": "Another Surname",

        "email": "ex2@example.com",

        "phone": "100000000000001",

        "position": "Example Position 2"}
],
"lifeCycleStatus": "provider_life_cycle_status-other",
"certifications": ["Example Certification" ],
"hostingLegalEntity": "Example",
"participatingCountries": ["EL" ],
"affiliations": ["string"],
"networks": ["provider_network-other" ],
```

➢ **Update provider (continued)**

```
"structureTypes": ["provider_structure_type-other" ],
"esfriDomains": ["provider_esfri_domain-other" ],
"esfriType": "provider_esfri_type-other",
"merilScientificSubdomains": [
        "provider_meril_scientific_subdomain-
information_science_and_technology-
software_service_facilities" ],
"areasOfActivity": ["provider_area_of_activity-other"],
"societalGrandChallenges": [
        "provider_societal_grand_challenge-other"],
"nationalRoadmaps": ["string" ]
}
```
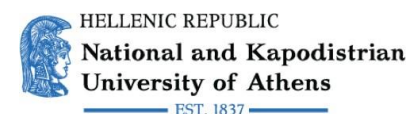
Thank you for your attention!

Q&A

Partnership

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- European Future Innovation System Centre

- JNP Strategy and Management Consulting

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- National Hellenic Research Foundation –
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- EurOcean Foundation

- Core Technologies for Life Science Association

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