



RUCIO
Rucio WebUI

The RUCIO logo consists of a stylized rabbit head profile inside a square frame, followed by the word "RUCIO" in a large, bold, sans-serif font. Below it, "Rucio WebUI" is written in a slightly smaller, bold, sans-serif font.

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Rucio WebUI – Early Adopters



ATLAS

ESCAPE

You?

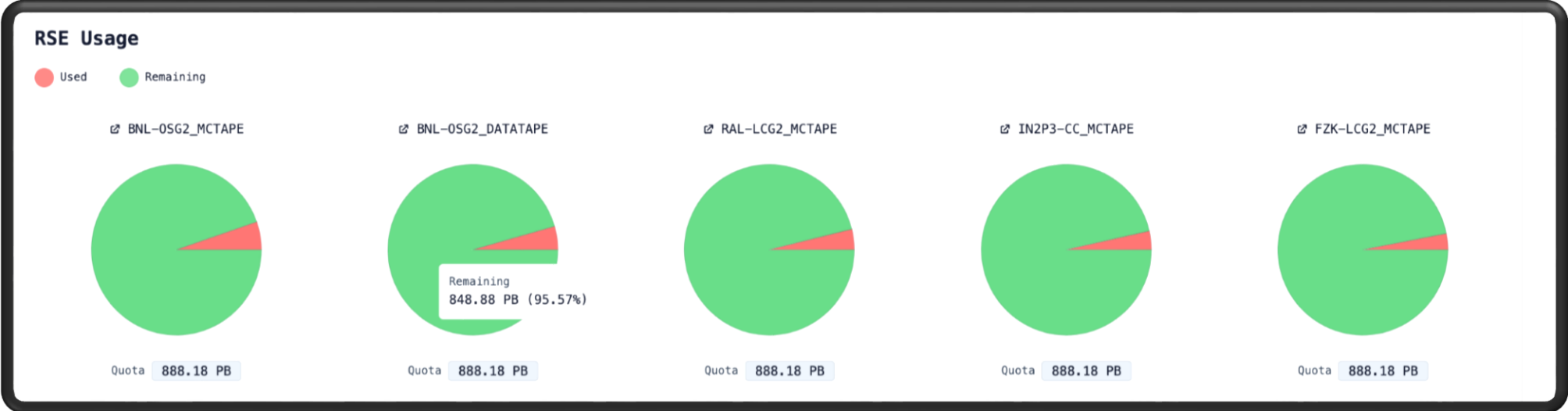
What will we cover?



Rucio WebUI - Dashboard



Rucio WebUI - Dashboard



Rucio WebUI – List Rules

Rules

Scope

* Search

ID	DID	RSE	Created At	Remaining	State	OK	Replicating	Stuck
No data yet								

Rucio WebUI (Tables)

RSEs
Expression ?

* Search

Name	Type	Volatile	Deterministic	Staging
CSCS-LCG2_DATADISK	DISK	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
UKI-SCOTGRID-GLASGOW-CEPH_LOCALGROUPDISK	DISK	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
INFN-COSENZA_LOCALGROUPDISK	DISK	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
INFN-MILANO_LOCALGROUPDISK	DISK	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
CERN-PROD_TZDISK	DISK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
UKI-NORTHGRID-MAN-HEP-CEPH_SCRATCHDISK	DISK	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
IN2P3-CC_LOCALGROUPDISK-MW	DISK	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
CERN-PROD_PHYS-HI	DISK	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MPPMU_CALIBDISK	DISK	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
NDGF-T1_PHYS-SUSY	DISK	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
UKI-SCOTGRID-GLASGOW-CEPH_DATADISK	DISK	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
NDGF-T1_DATADISK	DISK	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
CERN-PROD_DET-INDET	DISK	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
CERN-PROD_PROJ-EVIND	DISK	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
UKI-NORTHGRID-LANCS-HEP-CEPH_DATADISK	DISK	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
WUPPERTALPROD_DATADISK	DISK	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
NET2_DATADISK	DISK	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PRAGUELCG2_LOCALGROUPTAPE	TAPE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Pagination

Filtering

Sorting

Data Streaming (tested for over 1 million records)

Rucio WebUI – Create Rule

New Rule

1 DIDs 2 RSEs 3 Options 4 Summary 5 Results

Search

Dataset : *

Stop

Identifier	Size
+ mc15_14TeV:mc15_14TeV.507175.MGPy8EG_TT_bffN_400_320_MadSpin_m100.evgen.log.e8352_tid26097112_00	0 Bytes
✓ mc15_14TeV:mc15_14TeV.800811.Py8EG_A14NNPDF23L0_jetjet_JZ4WithSW_EFTracking.merge.HITS.e8338_s3642_s3643_tid25375554_00	49.87 GB
+ mc15_14TeV:mc15_14TeV.301399.PowhegPythia8EvtGen_CT10_AZNLOCTEQ6L1_VBFH125_ZZnu.merge.HITS.e4956_s3388_s3389_tid16478549_00	162.85 GB
✓ mc15_14TeV:mc15_14TeV.504642.MGPy8EG_A14NNPDF23L0_GG_qqn1_1600_50_rpvLF_p1ns.merge.HITS.e8258_s3595_s3600_tid23593141_00	49.74 GB
+ mc15_14TeV:mc15_14TeV.900470.PG_singmuInvPtFlat5_etaFlat1214_phiFlat0305d0300.merge.HITS.e8312_s3595_s3600_tid28755774_00	226.96 MB
+ mc15_14TeV:mc15_14TeV.410114.MadGraphPythia8EvtGen_A14NNPDF23L0_ttmumu_Np1.evgen.EVNT.e5022_tid08251712_00	3.08 GB
+ mc15_14TeV:mc15_14TeV.440103.PowhegV2_HHNL0FTcHHHp01d0.evgen.TXT.e0000_i11	95.75 MB
+ mc15_14TeV:mc15_14TeV.505488.MC_yyfusion_SlepSlep_direct_100p0_90p0.merge.HITS.e8279_s3595_s3600_tid24133740_00	367.89 MB

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Identifier	Type	Size
- mc15_14TeV:mc15_14TeV.800811.Py8EG_A14NNPDF23L0_jetjet_JZ4WithSW_EFTracking.merge.HITS.e8338_s3642_s3643_tid25375554_00	Dataset	49.87 GB
- mc15_14TeV:mc15_14TeV.504642.MGPy8EG_A14NNPDF23L0_GG_qqn1_1600_50_rpvLF_p1ns.merge.HITS.e8258_s3595_s3600_tid23593141_00	Dataset	49.74 GB

Rucio WebUI – Create Rule

New Rule

1 DIDs 2 RSEs 3 Options 4 Summary 5 Results

Expression ?

*

Search

Name	Quota	Total usage	Remaining ↓
IFIC-LCG2_SCRATCHDISK	45.47 TB	99.61 GB	45.38 TB
MWT2_UC_SCRATCHDISK	45.47 TB	99.61 GB	45.38 TB
GRIF_SCRATCHDISK	45.47 TB	99.61 GB	45.38 TB
NDGF-T1_SCRATCHDISK	45.47 TB	99.61 GB	45.38 TB
AGLT2_SCRATCHDISK	45.47 TB	99.61 GB	45.38 TB
INFN-T1_SCRATCHDISK	45.47 TB	99.61 GB	45.38 TB
PIC_SCRATCHDISK	45.47 TB	99.61 GB	45.38 TB
TRIUMF-LCG2_SCRATCHDISK	45.47 TB	99.61 GB	45.38 TB

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1 chosen

Ask for approval

← Previous Next →

Rucio WebUI – Create Rule

NEW RULE

1 DIDs 2 RSEs 3 Options 4 Summary 5 Results

Copies *
1

Lifetime

Comments
Rule for WebUI demo

Receive notifications

Advanced

Grouping
Undefined

Asynchronous
 Create a sample

Number of files
5

← Previous Next →

Rucio WebUI – Create Rule

DIDs

i This request will create a rule for **samples** of the following DIDs.

Identifier	Type	Copies	Files	Size	Requested Size	Is Open
mc15_14TeV:mc15_14TeV.800811.Py8EG_A14NNPDF23L0_jetjet_JZ4WithSW_EFTracking.merge.HITS.e8338_s3642...	Dataset	1	10	49.87 GB	49.87 GB	<input type="checkbox"/>
mc15_14TeV:mc15_14TeV.504642.MGPy8EG_A14NNPDF23L0_GG_qqn1_1600_50_rpvLF_p1ns.merge.HITS.e8258_s359...	Dataset	1	10	49.74 GB	49.74 GB	<input type="checkbox"/>

« < Page 1 of 1 > »

Total files **20**

Total size **99.61 GB**

RSEs

i The rules will replicate to one of the following RSE.

Name	Quota	Remaining
------	-------	-----------

Rucio WebUI – Create Rule

New Rule

1 DIDs 2 RSEs 3 Options 4 Summary 5 Results

Successfully requested the rule(s) with IDs:
4fd299fceb247fcb6b01fddd738f420
a0a5332353554e26a29e34822ca6855d
Proceed to the **rules list** to view it.

Rucio WebUI – Create Rule

Rules

Scope

*

Search

ID	DID	RSE	Created At	Remaining	State	OK	Replicating	Stuck
4a656038b277433823a6a3b4bb3ec6	user.mayank:user.mayank.mc15_14T...	RAL-LCG2-ECHO_SCRATCHDISK	29/09/2024	12 days	OK	2	0	0
a0a5332353554e26a29e34822ca6855d	user.mayank:user.mayank.mc15_14T...	AGLT2_SCRATCHDISK	30/09/2024	13 days	Replicating	0	5	0
4fd299fceb247fcb6b01fddd738f420	user.mayank:user.mayank.mc15_14T...	AGLT2_SCRATCHDISK	30/09/2024	13 days	Replicating	0	5	0
905522b04ac54472bdfb37553f0c3d8f	user.mayank:user.mayank.mc15_14T...	RAL-LCG2-ECHO_SCRATCHDISK	29/09/2024	12 days	OK	2	0	0

Rucio WebUI – Rule Page

This page is currently using mock data for demonstration purposes. We are actively working on implementing real data soon!

View Rule

For rule `user.MitchelRoob:cupiditate.inventore.dolores`

Metadata Locks

Scope	user.MitchelRoob
Name	cupiditate.inventore.dolores
Created At	2024-04-16
Updated At	2024-09-29
Expires At	2025-01-21
Locks OK	9
Locks Replicating	3
Locks Stuck	9
Purge Replicas	True
Split Container	True
Ignore Account Limit	False
Ignore Availability	True
Locked	False
Copies	3
ID	a0a5332353554e26a29e34822ca6855d
DID Type	Container
Grouping	Container
Priority	3
RSE Expression	RSE-MAURITIUS-12
Notification	Close
Account	Allan.Jenkins13
Activity	matrix efficient supply-chains
State	Replicating

Rucio WebUI – Rule Page

This page is currently using mock data for demonstration purposes. We are actively working on implementing real data soon!

View Rule

For rule `user.MitchelRoob:cupiditate.inventore.dolores`

Metadata		Locks	
DID	RSE	Lock	... Links
Filter DID	Filter RSE		
user.LennaHuel:0sq0IZIXw1	RSE-CROATIA-4	Stuck	@DDM @FTS
user.GerardSchiller:NkhU9mwf68	RSE-BELGIUM-64	Replicating	@DDM @FTS
user.KaliRyan:qfeTInAJfG	RSE-ZAMBIA-71	OK	@DDM @FTS
user.JaquelinCormier:7V5cvqkvyq	RSE-BONAIRESINTEUSTATIUSANDSABA-20	Stuck	@DDM @FTS
user.OlaRoob:Y7VADQDwAj	RSE-ANGUILLA-77	Stuck	@DDM @FTS
user.VickyKoss:bjNQ8USZj	RSE-TONGA-3		@DDM @FTS
user.AnastacioHansen:NwZ1Y1Wnkb	RSE-POLAND-82	OK	@DDM @FTS
user.SandyTerry:T389gF6s7J	RSE-CURACAO-16	Stuck	@DDM @FTS
user.DorrisRatke:P6JT59wLKi	RSE-ELSALVADOR-82	Stuck	@DDM @FTS
user.OrloProsacco:XTQ5ABWxkn	RSE-BRUNEIDARUSSALAM-18	OK	@DDM @FTS
No Errors ✓			Idle

Rucio WebUI – List DIDs

The screenshot displays the 'DIDs' (Data Identifiers) page in the Rucio WebUI. At the top, there is a search bar with the text 'mc15_14TeV' and a search button. Below the search bar, a list of DIDs is shown, with one entry highlighted in purple: 'mc15_14TeV:mc15_14TeV.800811.Py8EG_A14NNPDF23L0_jetjet_JZ4WithSW_EFTracking.merge.HITS.e8338...'. To the right of the list, a metadata panel for the selected DID is visible, showing details such as Type (Dataset), Account (panda), Is Open (checkbox), Monotonic (checkbox), Created At (30/04/2021), Updated At (13/05/2021), Obsolete (checkbox), Hidden (checkbox), Suppressed (checkbox), Purge Replicas (checked), and Availability (Available). At the bottom of the list, there is a pagination control showing 'Page 1 of 164'.

Rucio WebUI – Page DID [File]

View DID
For DID `mc15_14TeV:HITS.31328584._000768.pool.root.1` File

Scope	mc15_14TeV	Size	2.7 MB
Name	HITS.31328584._000768.pool.root.1	GUID	b7360dc51affc744b35ee56f9ebb7529
Created At	2022-11-21	Adler32	d9110f73
Updated At	2022-11-21	MD5	
Obsolete	False	DID Type	File
Hidden	False	Account	panda
Suppressed	False	Monotonic	False
Purge Replicas	True		
Availability	Available		

File Replica States Parent DIDs Metadata

RSE
Filter RSE
UAM-LCG2_DATADISK
No Errors ✓

1 of 1

File Replica State ...
Available
Fetching ⏸

Rucio WebUI – Page DID [Dataset]

View DID
For DID
mc15_14TeV:mc15_14TeV.800811.Py8EG_A14NNPDF23LO_jetjet_JZ4withSW_EFTracking.merge.HITS.e8338_s3642_s3643_tid25375554_00 Dataset

Scope	mc15_14TeV	Created At	2021-04-30
Name	mc15_14TeV.800811.Py8EG_A14NNPDF23LO_jetjet_JZ4withSW_EFTracking.merge.HITS.e8338_s3642_s3643_tid25375554_00	Updated At	2021-05-13
DID Type	Dataset	Obsolete	False
Account	panda	Hidden	False
Is Open	False	Suppressed	False
Monotonic	False	Purge Replicas	True
		Availability	Available

[Rules](#) Dataset Replicas File Replica States Metadata

Rule	Rule State	Account	Subscription	Last Modified
Filter Rule		Filter Account		

Rucio WebUI – Page DID [Container]

ⓘ This page is currently in development and has not been optimized yet. We are working on improvements, so stay tuned!

View DID

For DID `mc15_14TeV:mc15_14TeV.119996.Pythia8_A2MSTW2008L0_minbias_inelastic_high.simul.log.e1133_s2630` Container

Scope	mc15_14TeV	Created At	2015-06-01
Name	mc15_14TeV.119996.Pythia8_A2MSTW2008L0_minbias_inelastic_high.simul.log.e1133_s2630	Updated At	2015-06-01
DID Type	Container	Obsolete	False
Account	prodsys	Hidden	False
Is Open	True	Suppressed	False
Monotonic	False	Purge Replicas	False
		Availability	Available

[Contents](#) [Rules](#) [Metadata](#)

DID

Filter DID

No Errors ✓

« < 1 of 0 > »

DID Type ...

Idle ↻

Rucio WebUI – RSEs

The screenshot shows the Rucio WebUI interface for managing Remote Storage Elements (RSEs). The page title is "RSEs" and there is a search bar at the top right. Below the search bar is a table with columns: Name, Type, Volatile, Deterministic, and Staging. A dropdown menu is open over the "Type" column, showing options: "Choose one", "DISK", "TAPE", and "UNKNOWN". The table lists various RSEs, including JINR-LCG2_SCRATCHDISK, SARA-MATRIX_SCRATCHDISK, NET2_LOCALGROUPDISK, UKI-NORTHGRID-LIV-HEP_LOCALGROUPDISK, GOGRID_DET-INDET, CERN-PROD_PHYS-EXOTICS, SIGNET_LOCALGROUPDISK, NCG-INGRID-PT_LOCALGROUPDISK, SLACXRD_LOCALGROUPDISK, FMPHI-UNIBA_SCRATCHDISK, CERN-PROD_PROJ-EVIND, RAL-LCG2_MCTAPE, GOGRID_TESTDATADISK, NET2_SCRATCHDISK, INFN-NAPOLI-ATLAS_SCRATCHDISK, CYFRONET-LCG2-E05_DATADISK, CA-WATERLOO-T2_DATADISK, and CERN-PROD_PERF-TAU. The "Type" column shows "DISK" for most entries and "TAPE" for RAL-LCG2_MCTAPE. The "Deterministic" column has green checkmarks for most entries. The "Staging" column has checkboxes.

Name	Type	Volatile	Deterministic	Staging
JINR-LCG2_SCRATCHDISK	DISK		✓	<input type="checkbox"/>
SARA-MATRIX_SCRATCHDISK	DISK		✓	<input type="checkbox"/>
NET2_LOCALGROUPDISK	DISK		✓	<input type="checkbox"/>
UKI-NORTHGRID-LIV-HEP_LOCALGROUPDISK	DISK	<input type="checkbox"/>	✓	<input type="checkbox"/>
GOGRID_DET-INDET	DISK	<input type="checkbox"/>	✓	<input type="checkbox"/>
CERN-PROD_PHYS-EXOTICS	DISK	<input type="checkbox"/>	✓	<input type="checkbox"/>
SIGNET_LOCALGROUPDISK	DISK	<input type="checkbox"/>	✓	<input type="checkbox"/>
NCG-INGRID-PT_LOCALGROUPDISK	DISK	<input type="checkbox"/>	✓	<input type="checkbox"/>
SLACXRD_LOCALGROUPDISK	DISK	<input type="checkbox"/>	✓	<input type="checkbox"/>
FMPHI-UNIBA_SCRATCHDISK	DISK	<input type="checkbox"/>	✓	<input type="checkbox"/>
CERN-PROD_PROJ-EVIND	DISK	<input type="checkbox"/>	✓	<input type="checkbox"/>
RAL-LCG2_MCTAPE	TAPE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GOGRID_TESTDATADISK	DISK	<input type="checkbox"/>	✓	<input type="checkbox"/>
NET2_SCRATCHDISK	DISK	<input type="checkbox"/>	✓	<input type="checkbox"/>
INFN-NAPOLI-ATLAS_SCRATCHDISK	DISK	<input type="checkbox"/>	✓	<input type="checkbox"/>
CYFRONET-LCG2-E05_DATADISK	DISK	<input type="checkbox"/>	✓	<input type="checkbox"/>
CA-WATERLOO-T2_DATADISK	DISK	<input type="checkbox"/>	✓	<input type="checkbox"/>
CERN-PROD_PERF-TAU	DISK	<input type="checkbox"/>	✓	<input type="checkbox"/>

Rucio WebUI – RSEs

View RSE
For RSE CERN-PROD_DAQ

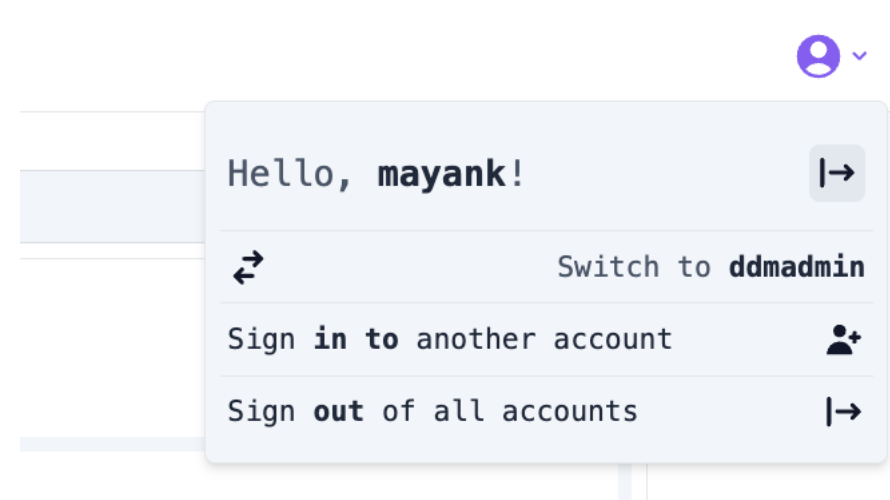
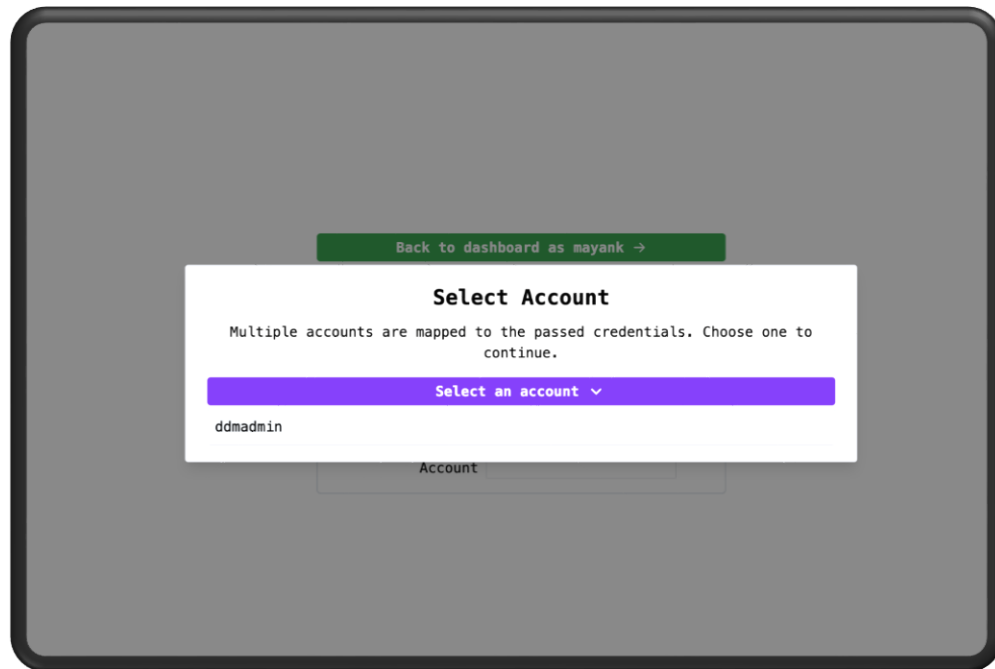
Name CERN-PROD_DAQ **Volatile** False
RSE Type Tape **Deterministic** False
Availability **Staging Area** False

RSE Protocols

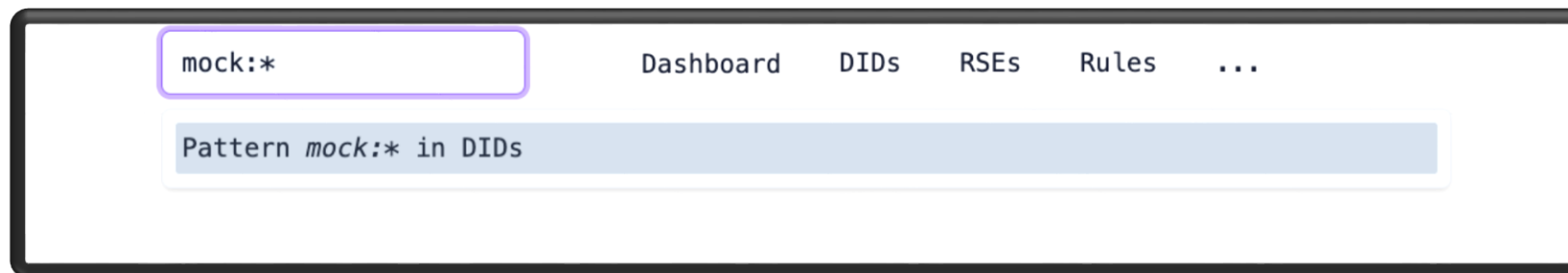
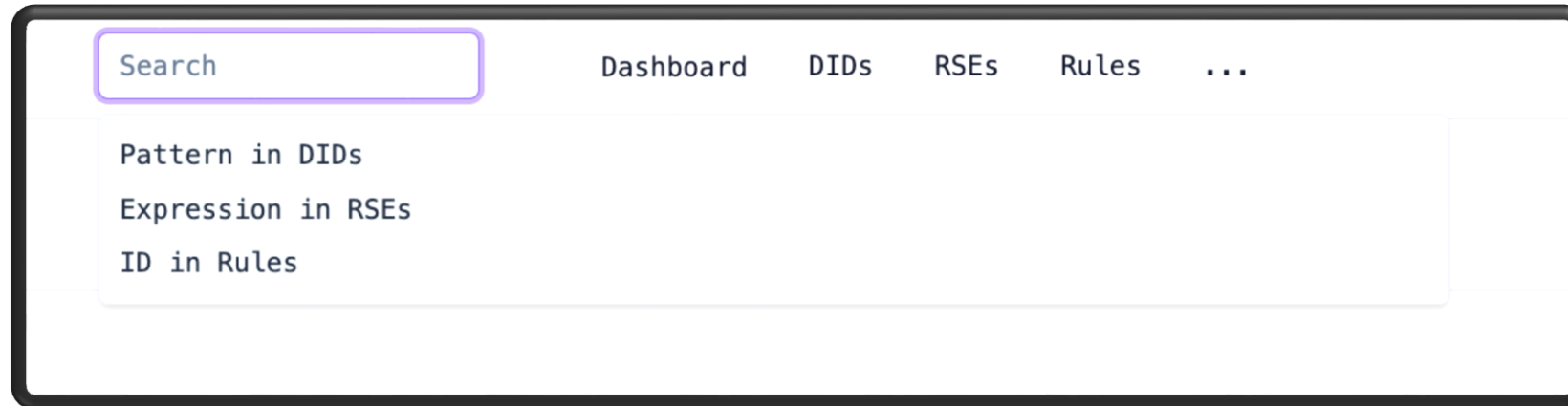
Scheme	Hostname	Port	Prefix	LAN/R	LAN/W	LAN/D	WAN/R	WAN/W	WAN/D	TPC/W	TPC/R
davs	eosctaatas.cern.ch	8444	/eos/ctaatas/archive/grid/atlas/DAQ/	1	1	0	1	1	0	1	1
root	eosctaatas.cern.ch	1094	//eos/ctaatas/archive/grid/atlas/DAQ/	2	2	0	2	2	0	2	2

RSE Attributes
RSE Attribute
 Filter RSE Attribute

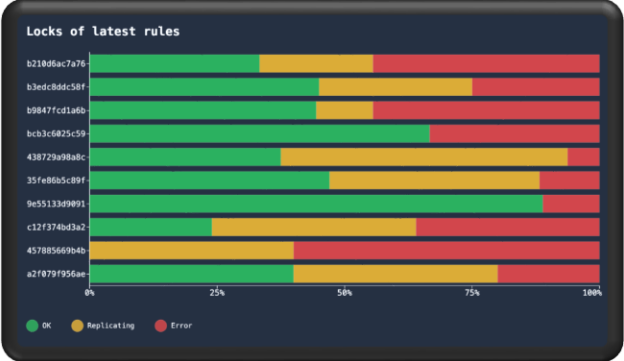
Rucio WebUI - Multiple Account Handling



Rucio WebUI - Search Bar



Rucio WebUI



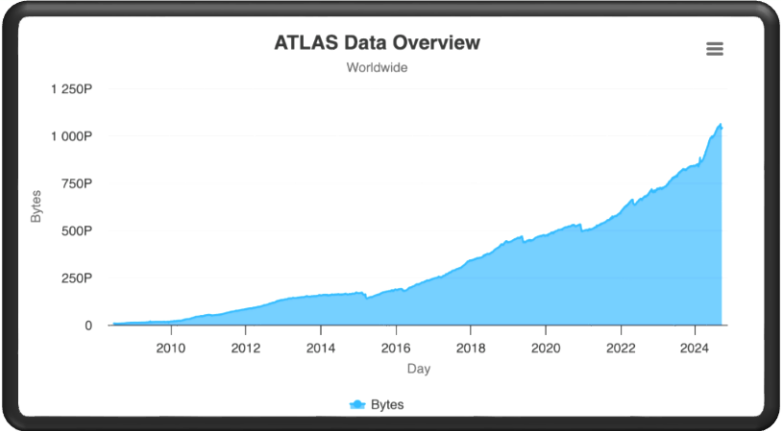
Light and Dark Mode

Responsive Design

Accessibility



Rucio WebUI vs Rucio UI

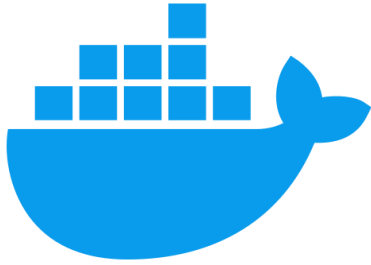


NOT a replacement of the old UI

Focus on end users over site admins, operators.

Views like “List Bad Replicas”, “Suspicious File Replicas” are not present.

Rucio WebUI Deployment



<https://hub.docker.com/r/rucio/rucio-webui>



<https://github.com/rucio/helm-charts/tree/master/charts/rucio-webui>

Rucio Server Configuration (CORS)

```
[policy]
package = ATLASRucioPolicy
permission = atlas
schema = atlas
lfn2pfn_algorithm_default = hash
support = hn-atlas-dist-analysis-help@cern.ch
support_rucio = https://github.com/rucio/rucio/issues/

[webui]
usercert = /opt/rucio/etc/usercert_with_key.pem
urls = "https://my-webui.domain"
```

- **webui**

- **auth_issuer:** *(Optional)* Mandatory if `auth_type = oidc`. No default.
- **auth_type:** *(Optional)* Preferred server side config for webui authentication. Values: `{oidc, None}`. Default: `None`.
- **usercert**
- **urls:** A CSV specifying urls of Rucio WebUI 2.0 clients. Required for correctly handling pre-flight CORS requests.

- Add a **[webui]** section in your server and auth-server “rucio.cfg”
- Set the **url** parameter to the url of the webui host

WebUI Helm Chart Configuration (Service)

```
service:
  type: LoadBalancer
  port: 443
  targetPort: 443
  protocol: TCP
  name: https
  allocateLoadBalancerNodePorts: true
  externalTrafficPolicy: Cluster
  annotations:
    service.beta.kubernetes.io/openstack-internal-load-balancer: "true"
    loadbalancer.openstack.org/cascade-delete: "false"
```

- **Configure the k8s service resource**
- **Supports Loadbalancer, NodePort and ClusterIP**
- **You can also use an ingress instead**

Rucio Helm Chart Configuration (NextJS)

```
webui:
  rucio_host: "https://rucio-lb-prod.cern.ch"
  rucio_auth_host: "https://rucio-auth-prod.cern.ch"
  hostname: "atlas-rucio-webui-int.cern.ch"
  project_url: "https://rucio.cern.ch"
  multivo_enabled: "False"
  # A csv string of vos containing their short names. For example
  vo_list: "def"
  vo_default: "def"
  oidc_enabled: "False"
  # A csv string of names of supported oidc providers that will
  oidc_providers: ""
```

- **Configures the environment variables for the NextJS application**
- **See Documentation: [charts/rucio-webui](#)**

Rucio WebUI Configuration (Certificates)

```
additionalEnvs:
  - name: RUCIO_CA_PATH
    value: "/etc/grid-security/certificates"
  - name: RUCIO_WEBUI_SERVER_CA_BUNDLE
    value: "/etc/grid-security/ca.pem"
  - name: RUCIO_SSL_PROTOCOL
    value: "-SSLv3 -TLSv1 -TLSv1.1 +TLSv1.2"

secretMounts:
  - secretFullName: webuiint-hostcert
    mountPath: /etc/grid-security/hostcert.pem
    subPath: hostcert.pem
  - secretFullName: webuiint-hostkey
    mountPath: /etc/grid-security/hostkey.pem
    subPath: hostkey.pem
  - secretFullName: cern-ca-bundle
    mountPath: /etc/grid-security/ca.pem
    subPath: CERN-bundle.pem

hostPathMounts:
  - hostPath: /etc/grid-security/certificates/
    mountPath: /etc/grid-security/certificates/
    readOnly: true
    type: DirectoryOrCreate
```

- Mount hostcerts & CA Bundle
- Set ``RUCIO_WEBUI_SERVER_CA_BUNDLE``
- Mount CA Certificates for x509 client certificates
- Set the ``RUCIO_CA_PATH`` to point to mounted certificates for x509

Releases

Follows Rucio's semantic versioning

33.x.y Rucio Release is compatible with **33.x.z** Rucio WebUI release

Releases are made on Github (not npm)

Follows Rucio Release process: Containers, Helm Charts are released alongside Rucio containers and Helm Charts

Roadmap

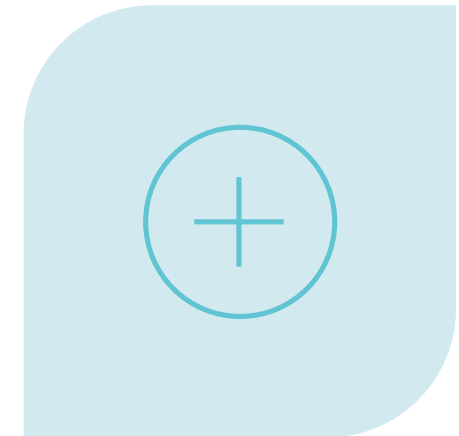
Release 36.0 : Project



**X509 AUTH ON
FIREFOX**

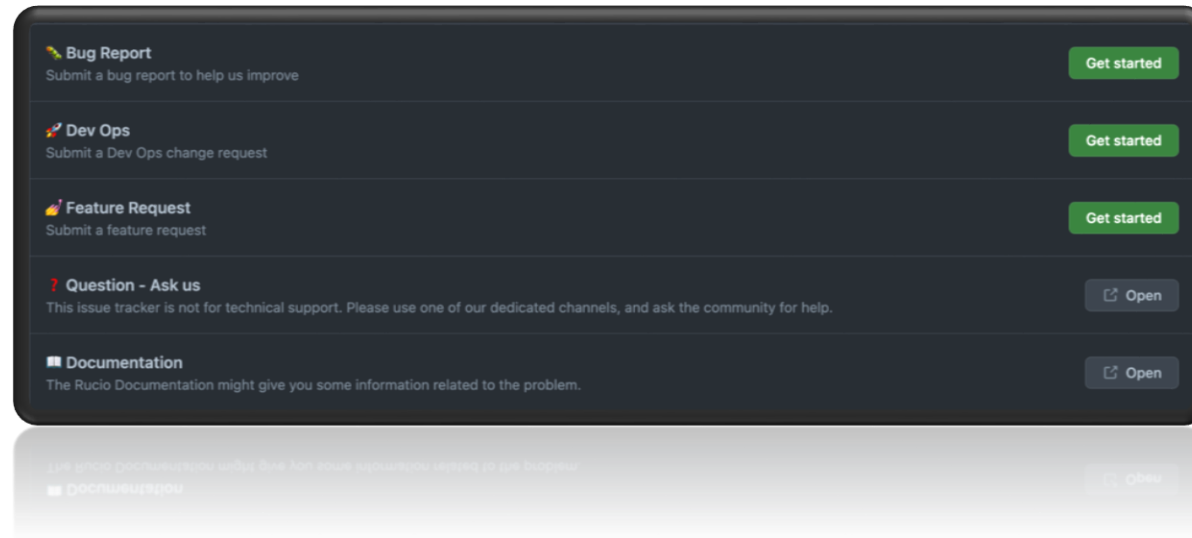


**MIGRATE TO NEW
STREAMING PIPELINE**

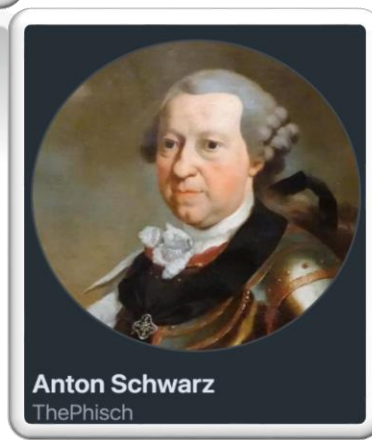


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What will still be Left?



Contributors



Questions?

