

# Koatl generated OSLC APIs

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Juan Quintanar, OSLC Consultant at Koneksys  
[juan.quintanar@koneksys.com](mailto:juan.quintanar@koneksys.com)

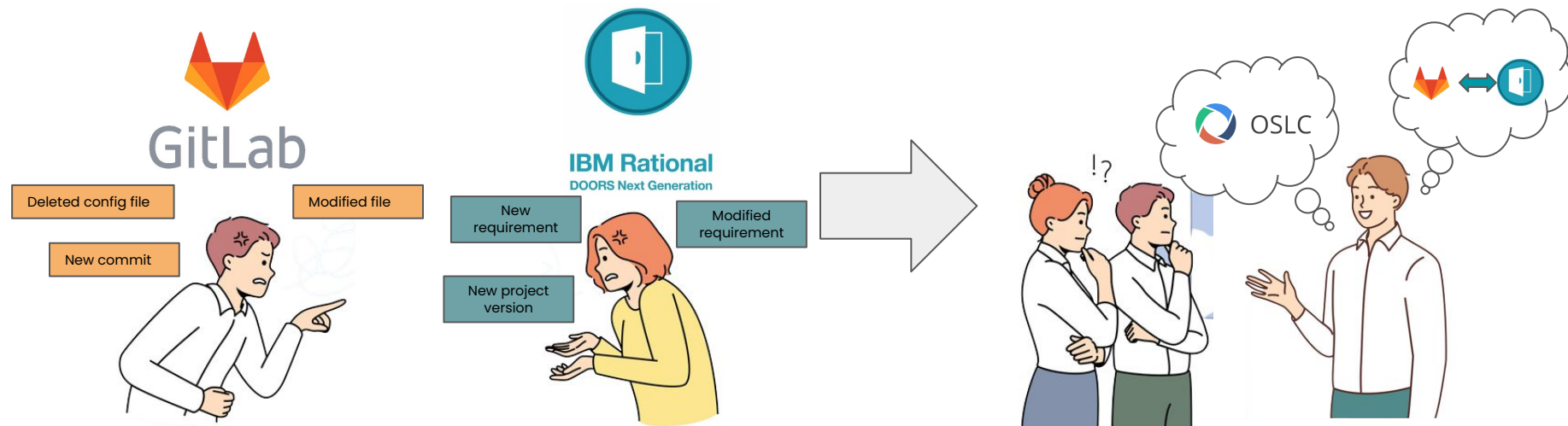
November 2022

# Introduction

In Lifecycle Management organizations use different applications.

Good data interoperability  $\longleftrightarrow$  good communication between development teams

OSLC provides standards to share resources from different 3rd party applications.

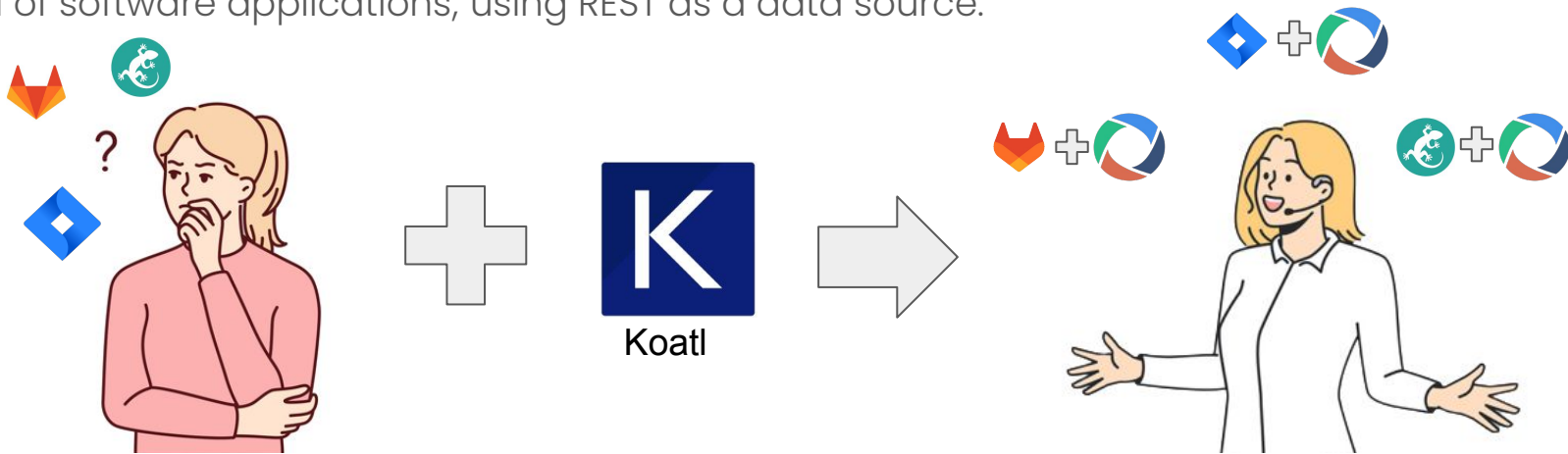


# Connect applications via OSLC

There are different ways to exploit 3rd party application resources as data sources.

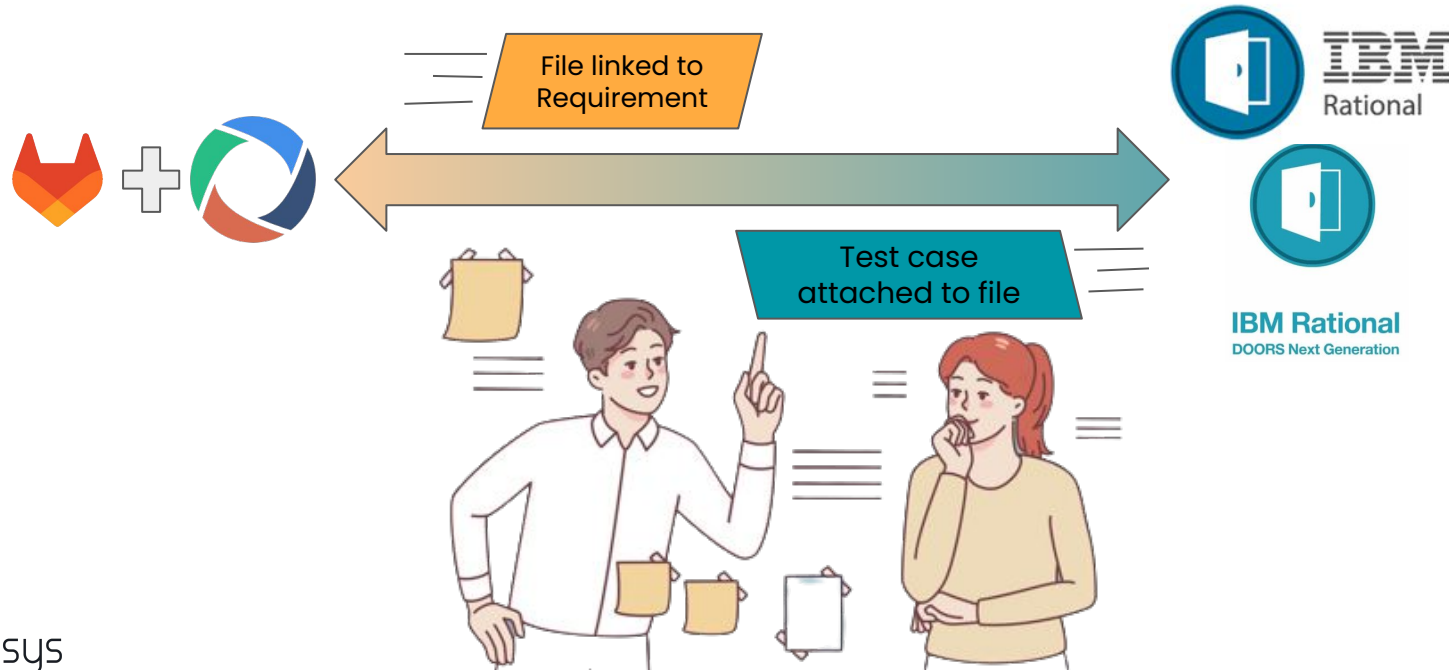
Koatl; a python based framework, is a fast-and-ready approach to enable OSLC integration.

Koatl is a software factory developed by Koneksys that can generate an OSLC layer on top of REST API of software applications; using REST as a data source.




# By using Koatl...


OSLC APIs can help 3rd party applications connect to any other OSLC-Enabled application, for example: the tools provided by IBM ELM™.



# OSLC Integration → GitLab


OSLC APIs can expose real time data to other OSLC-Enabled applications, for example: IBM ELM™ Doors Next Generation (DNG).

**flask-pika-rabbitmq** 

Project ID: 39835097 

4 Commits 2 Branches 0 Tags 553 KB Project Storage

main flask-pika-rabbitmq / Find file

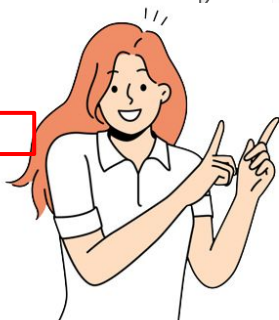
Merge branch 'development' into 'main'   
Mario Jimenez Carrasco authored 1 month ago

README No license. All rights reserved

Name	Last commit
README.md	Modified README
Testing Receiver and Sender.post...	First Commit
receive.py	First Commit
requirements.txt	First Commit
sender.py	First Commit



GitLab files



sender.py: sender.py

## Summary

**Details:**

Identifier	sender.py
Title	sender.py
Description	sender.py
Type	<a href="http://open-services.net/ns/scm#RepositoryFile">http://open-services.net/ns/scm#RepositoryFile</a>
Provider	<a href="http://192.168.100.59:5003/oslc/provider/39835097">http://192.168.100.59:5003/oslc/provider/39835097</a>
Project-area	<a href="http://192.168.100.59:5003/oslc/project-area/39835097">http://192.168.100.59:5003/oslc/project-area/39835097</a>

Show Less

Project Area 1 (RM)  
Ownership: Project Area 1 (RM)  
On: Nov 5, 2022, 7:08:40 PM  
By: koneksys  
On: Nov 5, 2022, 7:08:40 PM  
By: koneksys

Process Guidance  
Text

associated project areas with  
ital links are not authenticated. show

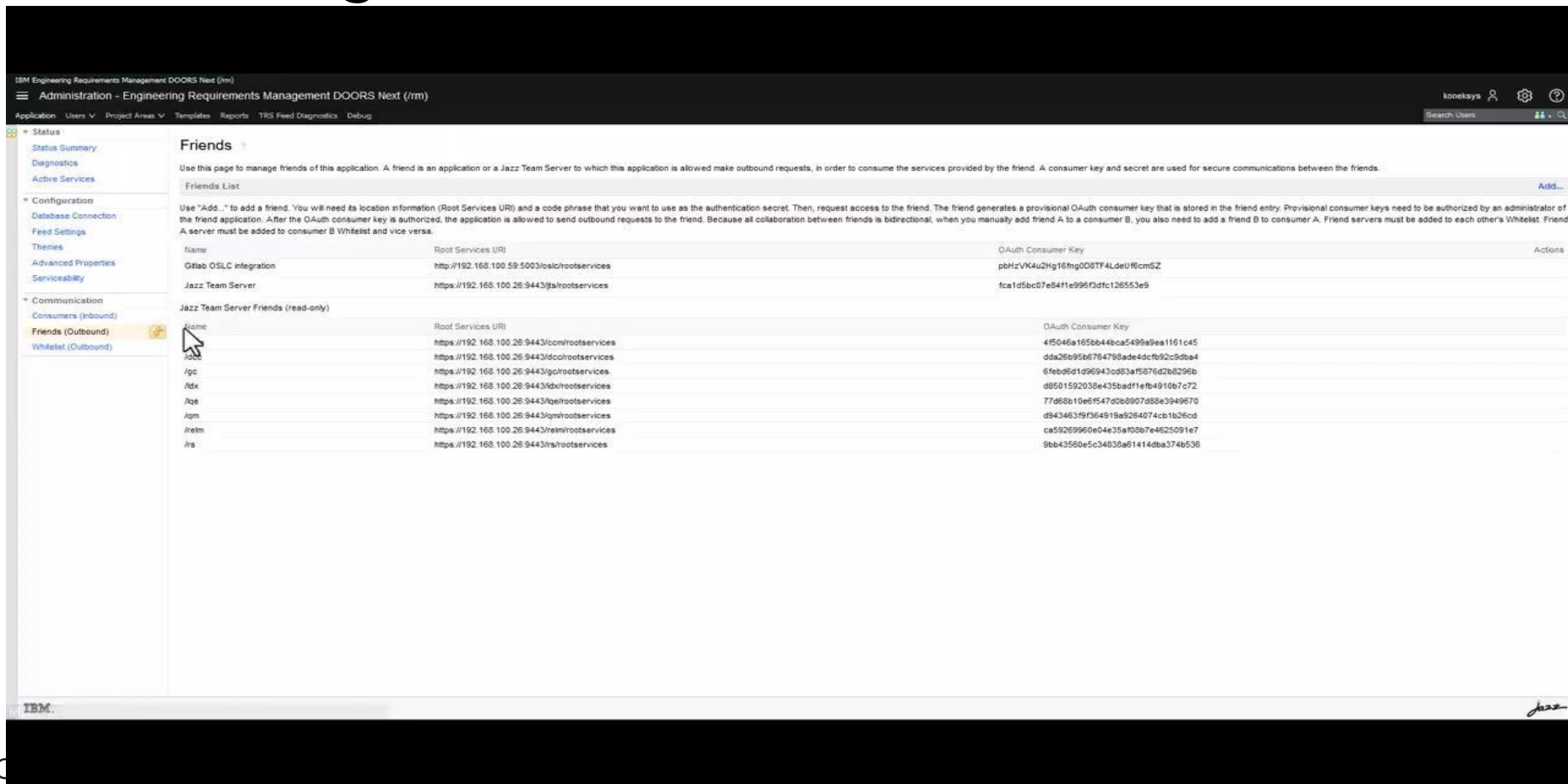
trains (1)  
256: Definition of the location of the  
extension point in the flow of events.

rences (1)  
sender.py: sender.py



GitLab file data via Preview  
UI dialogs

# OSLC Integration → GitLab & IBM ELM™ (DNG)



IBM Engineering Requirements Management DOORS Next (irm)

Administration - Engineering Requirements Management DOORS Next (/rm)

Application Users V Project Areas V Templates Reports TRS Feed Diagnostics Debug

Search Users

## Friends

Use this page to manage friends of this application. A friend is an application or a Jazz Team Server to which this application is allowed make outbound requests, in order to consume the services provided by the friend. A consumer key and secret are used for secure communications between the friends.

Friends List

Add...

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Name	Root Services URI	OAuth Consumer Key	Actions
GitLab OSLC Integration	http://192.168.100.59:5003/oslc/rootservices	pbHzVK4u2Hg16fng0D8TF4LdeUf6cm5Z	
Jazz Team Server	https://192.168.100.26:9443/jts/rootservices	fca1d5bc07e84f1e996f3dfc126553e9	

### Jazz Team Server Friends (read-only)

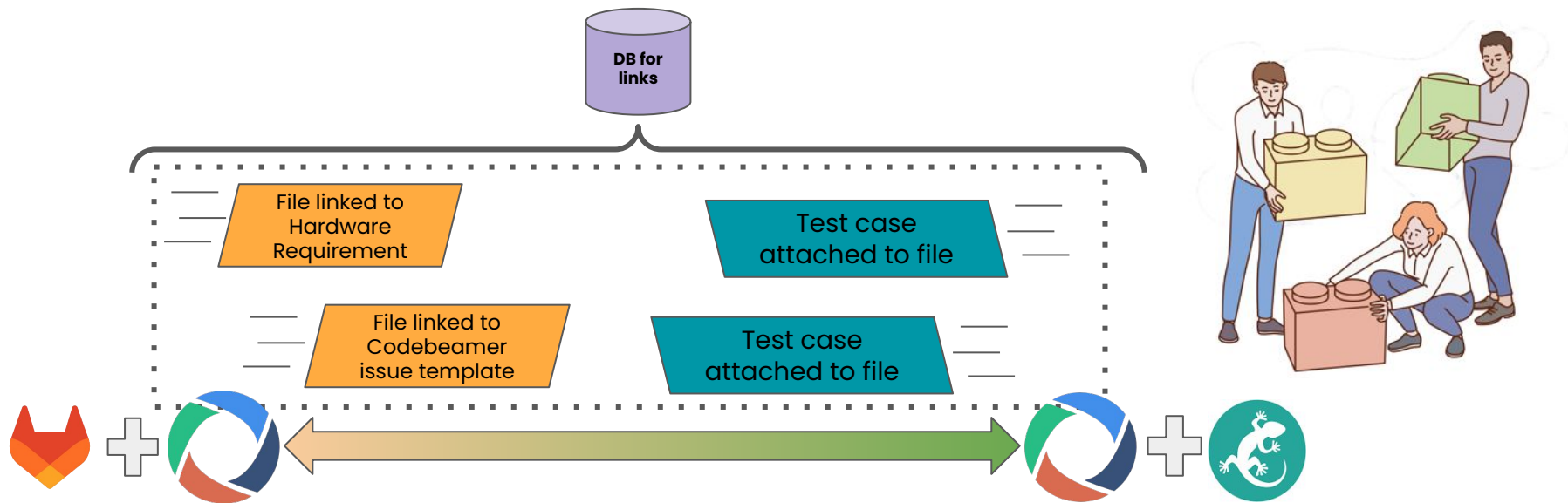
Name	Root Services URI	OAuth Consumer Key
Acc	https://192.168.100.26:9443/acc/rootservices	4f5046a165bb44bca5499a9ea1161c45
Acc	https://192.168.100.26:9443/acc/rootservices	dda26b95b676478ade4dcfb92c9dba4
lgc	https://192.168.100.26:9443/lgc/rootservices	6feb6d1d96943cd93af5876d2b8296b
ltx	https://192.168.100.26:9443/ltx/rootservices	d8501592038e435badf1efb4910b7c72
lqe	https://192.168.100.26:9443/lqe/rootservices	77d68b10e6f547d0b0907d88e3949670
lqm	https://192.168.100.26:9443/lqm/rootservices	d943463f9f364919a9264074cb1b26cd
lreim	https://192.168.100.26:9443/lreim/rootservices	ca59269960e04e35a70b7e4625091e7
lrs	https://192.168.100.26:9443/lrs/rootservices	9bb43560e5c34830a61414dba374b536

IBM

Jazz

# What about other OSLC APIs?

Generated OSLC APIs can connect applications with each other. We just have to store the generated links in a centralised link store.



# Easy as 1, 2, 3...

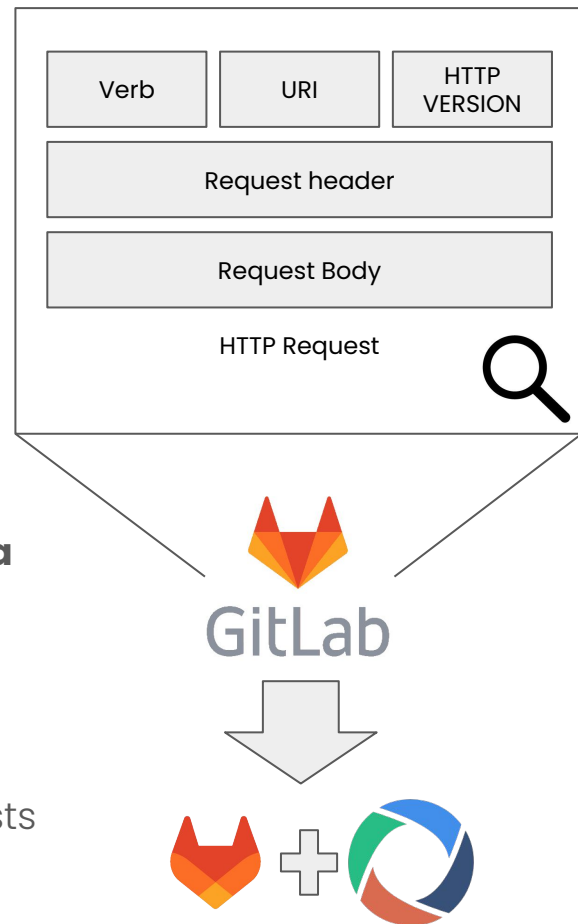
OSLC APIs can provide specific REST resources according to OSLC specifications.

- OSLC Core 2.0
- OSLC Configuration Management 1.0
- OSLC Tracked Resource Set 2.0

**How long this solution take?** Koatl OSLC APIs will be ready in **just a few weeks**

Why? We need to know REST API behavior:

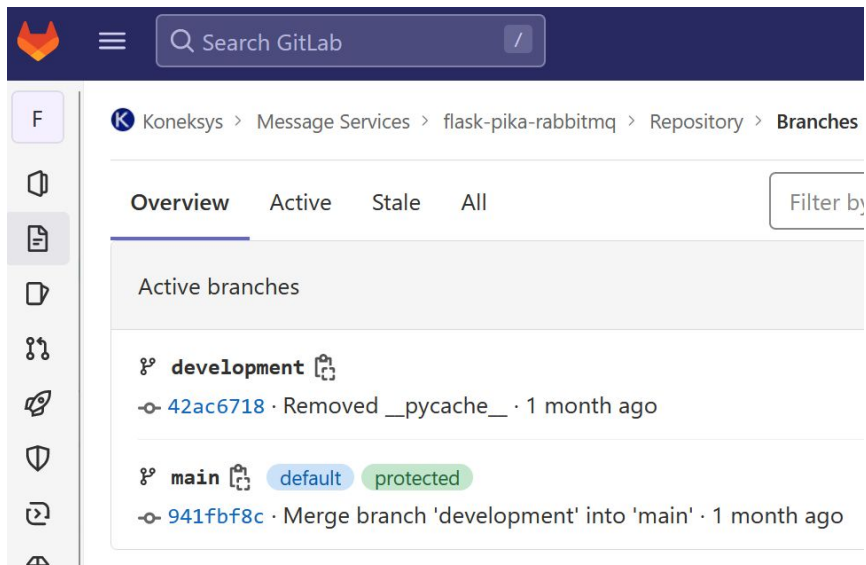
- REST API structure
- Authorization options (Basic or OAuth2.0) and header requests
- Methods for fetching REST resources



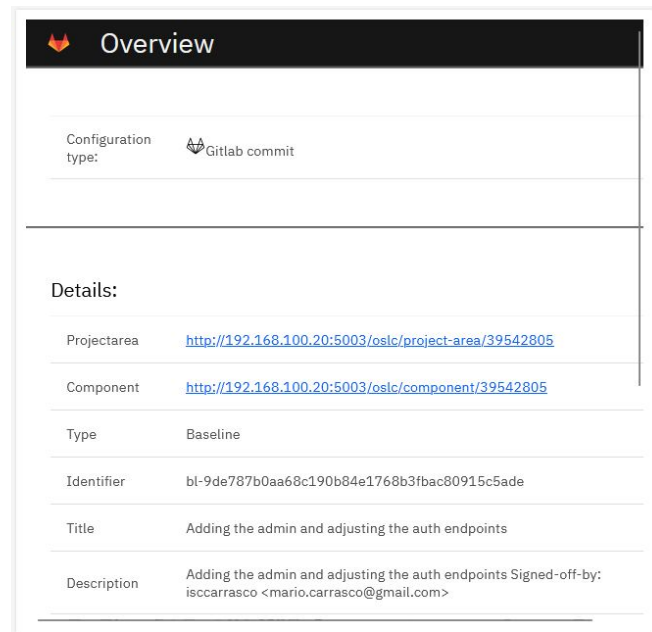
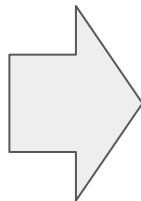


# OSLC Integration → OSLC Configuration Management

Adding more, OSLC APIs can expose real time data to IBM ELM™ Global configuration (GC).



GitLab commit



GitLab commit data via  
Preview UI dialogs

# OSLC Integration → GitLab & IBM ELM™ (GC)

The screenshot displays the IBM Engineering Global Configuration Management (GC) web interface. The top navigation bar includes a hamburger menu, 'Project Area 1 (GC)', and user information 'konekays'. Below the navigation bar, there are tabs for 'Global Configurations', 'Components', and 'Queries'. The main content area is titled 'Component 1 Initial Development' and shows a list of streams: 'Component 1 Initial Development', 'Project Area 1 (QM) Initial Stream', and 'Project Area 1 (RM) Initial Stream'. A mouse cursor is pointing at the 'Component 1 Initial Development' stream. On the right side, there is a detailed view of the selected stream, including attributes like Domain, Project Area, Team Area, Component, Type, Branch, and Tags. The 'Details' section shows the stream's history, including 'Created On: Nov 5, 2022' and 'Created From: Component 1 Initial Baseline'. The bottom of the interface features the IBM logo and a signature.

IBM Engineering Global Configuration Management (GC)

Project Area 1 (GC)

Global Configurations Components Queries

Browse / Component 1 /

Component 1 Initial Development

Component 1 Initial Development

Project Area 1 (QM) Initial Stream

Project Area 1 (RM) Initial Stream

Add Configurations... Create Baseline...

Component 1 Initial Development

Attributes Links (0) Baseline Staging Streams (0) Baselines (0)

Domain: Project Area 1 (GC)

Team Area: Unassigned (inherited)

Component: Component 1

Type: Stream

Branch: Unassigned

Tags: Add Custom Attributes

Details

Archived: ☐

Created By: konekays

Created On: Nov 5, 2022

Created From: Component 1 Initial Baseline

Modified On: Nov 13, 2022

My Personal Stream: Click to create

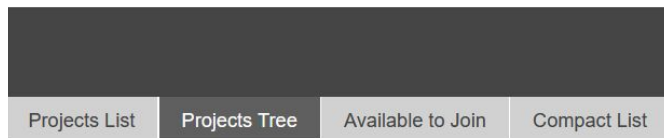
Description

IBM

# OSLC Integration → OSLC Tracked Resource Set

Furthermore, OSLC APIs can provide a log about REST application resources via Tracked Resource Set (TRS).

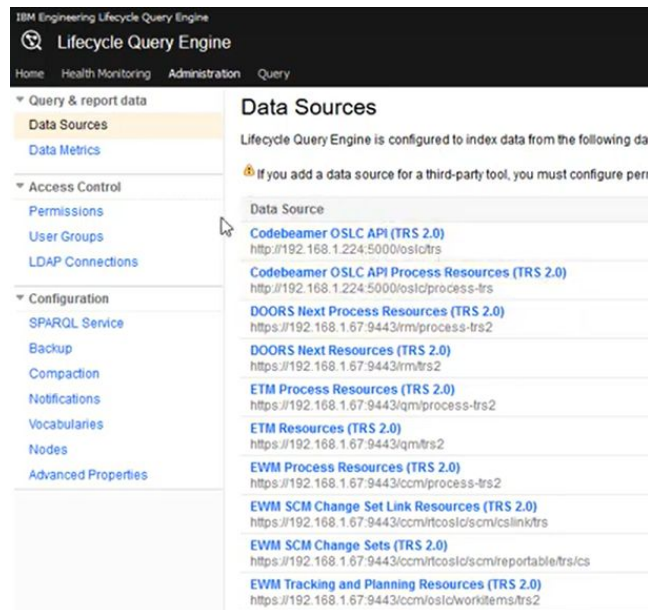
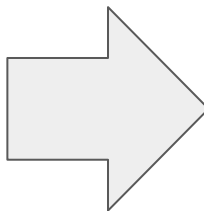
The information gathered by TRS can be shared with other OSLC-Enabled applications, for example: IBM Lifecycle Query Engine™.



## Uncategorized 4

 Intland Software's Agile-Waterfall Hybrid Template

 Intland Software's Scrum Template



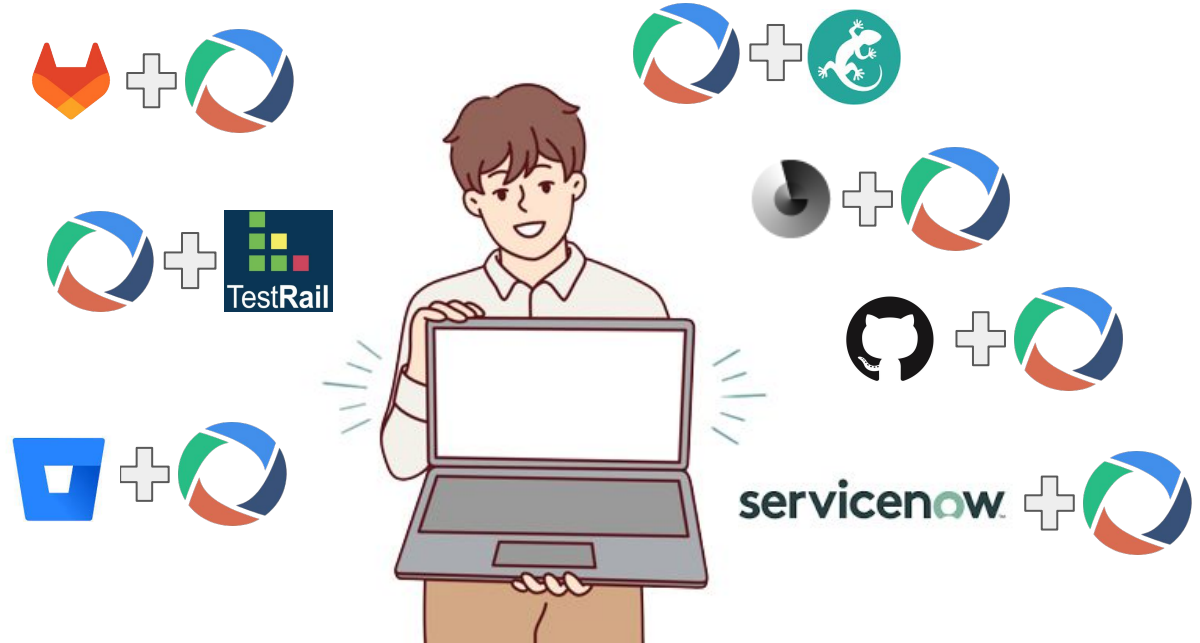
# OSLC Integration → Codebeamer & IBM LQE™

The screenshot displays the Codebeamer web application interface. At the top, the header includes the Codebeamer logo, the text "codebeamer Application Lifecycle Management (ALM)", and a warning: "Evaluation only! Not for production use!". A search bar and a user profile icon for "JuanQuAdmin" are also present. Below the header, a navigation bar contains links for "My Start", "Projects", "Reports", "Review Hub", "Tags", and "System Admin". A prominent pink banner message states: "Your ALM License will expire in 7 days. Please contact Intertec Software for a license code. When requesting the license code please attach your unique Host-ID, which is: WPR-60-3E-AA-EC-29". The main content area is titled "Project Browser" and features a sidebar with "STATUS FILTERING" and "CATEGORIES". The main pane shows an "Uncategorized" section with two project cards: "Intertec Software - Rigen Knowledge" and "Intertec Software - Sonnet Knowledge". The footer of the application includes the text "Transfiriendo datos desde localhost..." and a small copyright notice: "This site is powered by codebeamer (20.04.100) (copyright) | IBM LQE | Knowledge Base | IBM LQE | Licensed by Evaluation".

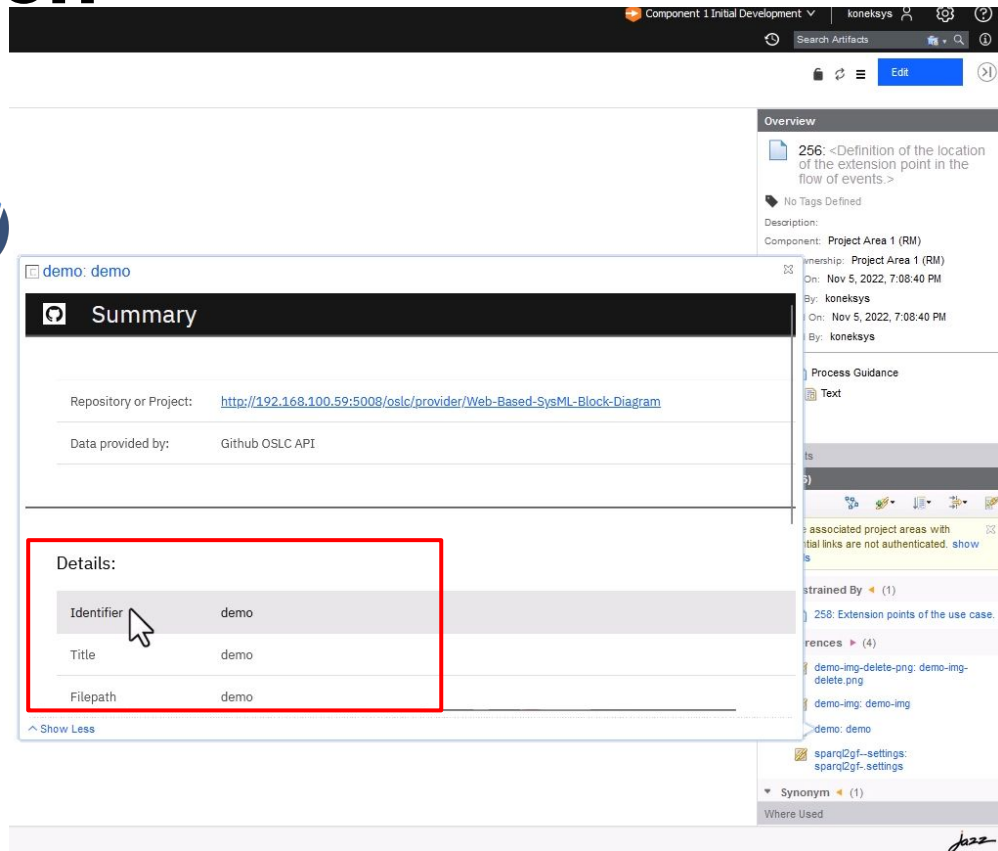
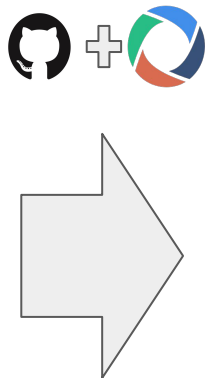
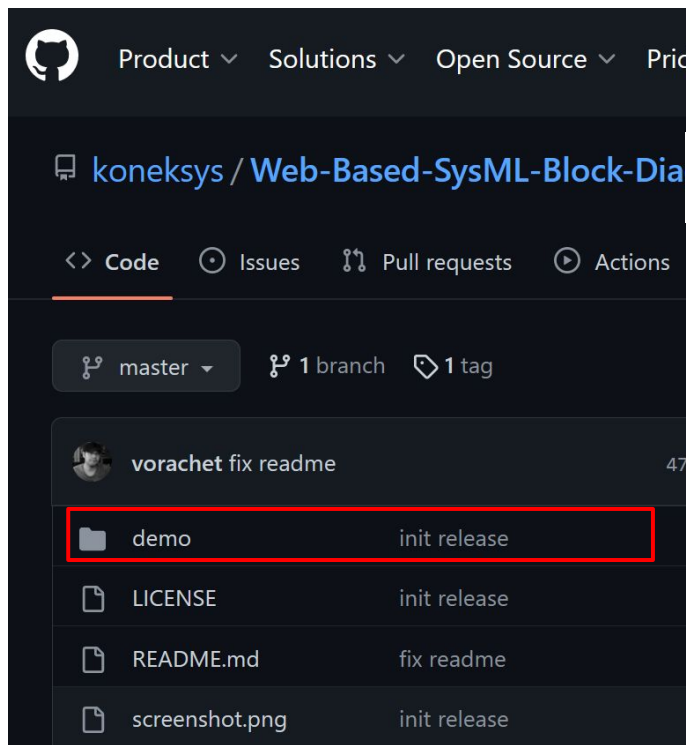
# And more!

Koatl-generated OSLC APIs have been created for multiple applications:

- GitLab
- CodeBeamer
- Atlassian JIRA
- Github
- Bitbucket
- TestRail
- ServiceNow
- And more...



# Github OSLC integration



# Github OSLC integration

IBM Engineering Requirements Management DOORS Next (/rm)

Administration - Engineering Requirements Management DOORS Next (/rm)

Application Users Project Areas Templates Reports TRS Feed Diagnostics Debug

koneksys

Search Users

Status

Status Summary

Diagnostics

Active Services

Configuration

Database Connection

Feed Settings

Themes

Advanced Properties

Serviceability

Communication

Consumers (Inbound)

Friends (Outbound)

Whitelist (Outbound)

## Friends

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Name	Root Services URI	OAuth Consumer Key	Actions
Github OSLC Integration	http://192.168.100.59:5008/oslc/rootservices	ShdEABRbDj8CHM3jXSVglQ5p6JqQqn	
Jazz Team Server	https://192.168.100.26:9443/jts/rootservices	fca1d5bc07e84f1e996f3dfc126553e9	

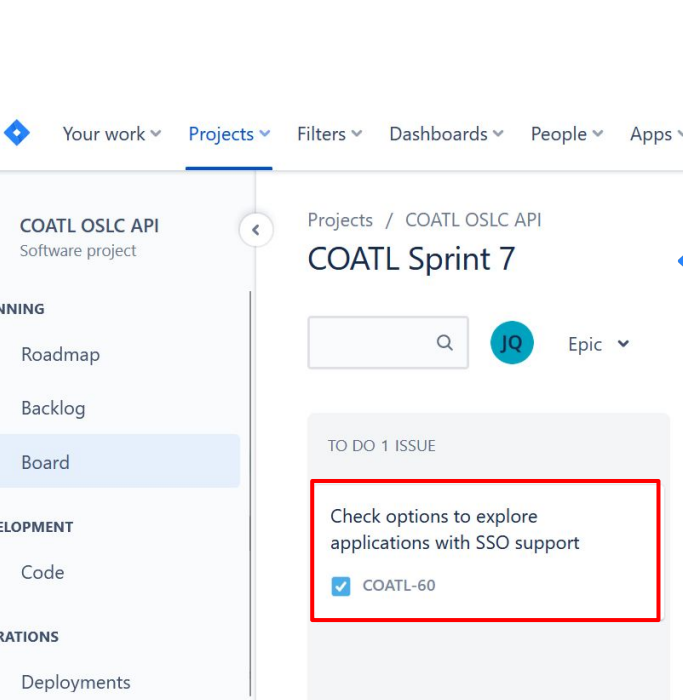
### Jazz Team Server Friends (read-only)

Name	Root Services URI	OAuth Consumer Key
/ccm	https://192.168.100.26:9443/ccm/rootservices	4f5046a165bb44bca5499a9ea1161c45
/dcc	https://192.168.100.26:9443/dcc/rootservices	dda26b95b6784798ade4dcfb92c9dba4
/gc	https://192.168.100.26:9443/gc/rootservices	6febdbd1d96943cd83af5876d2b8296b
/idx	https://192.168.100.26:9443/idx/rootservices	d8501592038e435badf1efb4910b7c72
/lqe	https://192.168.100.26:9443/lqe/rootservices	77d68b10e6f547d0b8907d88e3949670
/qm	https://192.168.100.26:9443/qm/rootservices	d943463f9f364919a9264074cb1b26cd
/reim	https://192.168.100.26:9443/reim/rootservices	ca59269960e04e35a108b7e4625091e7
/rs	https://192.168.100.26:9443/rs/rootservices	9bb43560e5c34838a61414dba374b536

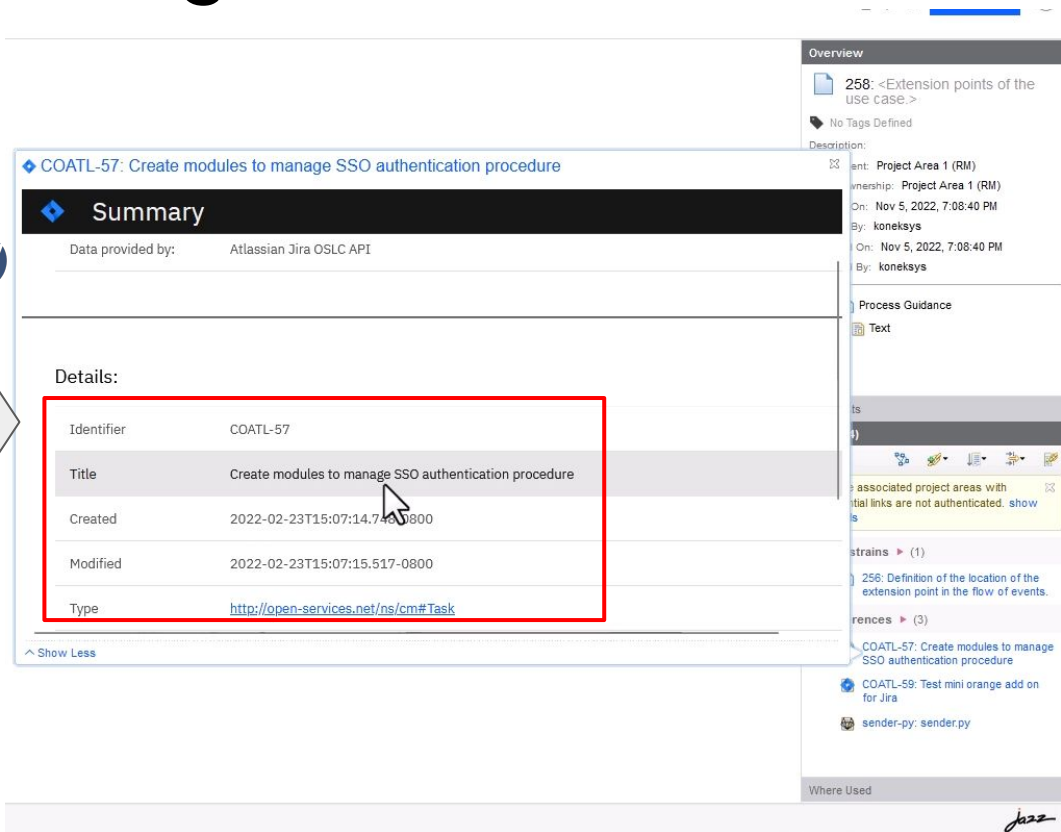
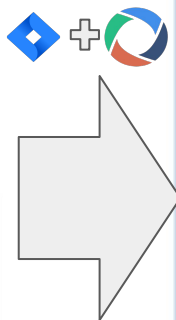
IBM

jazz

# Atlassian JIRA OSLC integration



The screenshot shows the Atlassian JIRA OSLC integration interface. The top navigation bar includes 'Your work', 'Projects', 'Filters', 'Dashboards', 'People', and 'Apps'. The left sidebar shows 'COATL OSLC API' and 'Software project'. The main content area displays 'Projects / COATL OSLC API' and 'COATL Sprint 7'. A search bar and a filter dropdown (JQ, Epic) are visible. Below the search bar, there is a section titled 'TO DO 1 ISSUE' with a red box highlighting the text 'Check options to explore applications with SSO support' and a checkbox labeled 'COATL-60' which is checked.



The screenshot shows the JIRA issue details view for 'COATL-57: Create modules to manage SSO authentication procedure'. The 'Summary' section displays 'Data provided by: Atlassian Jira OSLC API'. The 'Details' section contains a table with the following information:

Identifier	COATL-57
Title	Create modules to manage SSO authentication procedure
Created	2022-02-23T15:07:14.740+0800
Modified	2022-02-23T15:07:15.517-0800
Type	<a href="http://open-services.net/ns/cm#Task">http://open-services.net/ns/cm#Task</a>

The right sidebar shows the 'Overview' section with a description: '258: <Extension points of the use case.>'. It also includes a 'Process Guidance' section with a 'Text' tab and a 'Where Used' section.



# Atlassian JIRA OSLC integration

IBM Engineering Requirements Management DOORS Next (/rm)

Administration - Engineering Requirements Management DOORS Next (/rm)

ApplicationUsersProject AreasTemplatesReportsTRS FeedDiagnosticsDebug

koneksys

Search Users

StatusSummaryDiagnosticsActive Services

ConfigurationDatabase ConnectionFeed SettingsThemesAdvanced PropertiesServiceability

CommunicationConsumers (Inbound)Friends (Outbound)Whitelist (Outbound)

Friends

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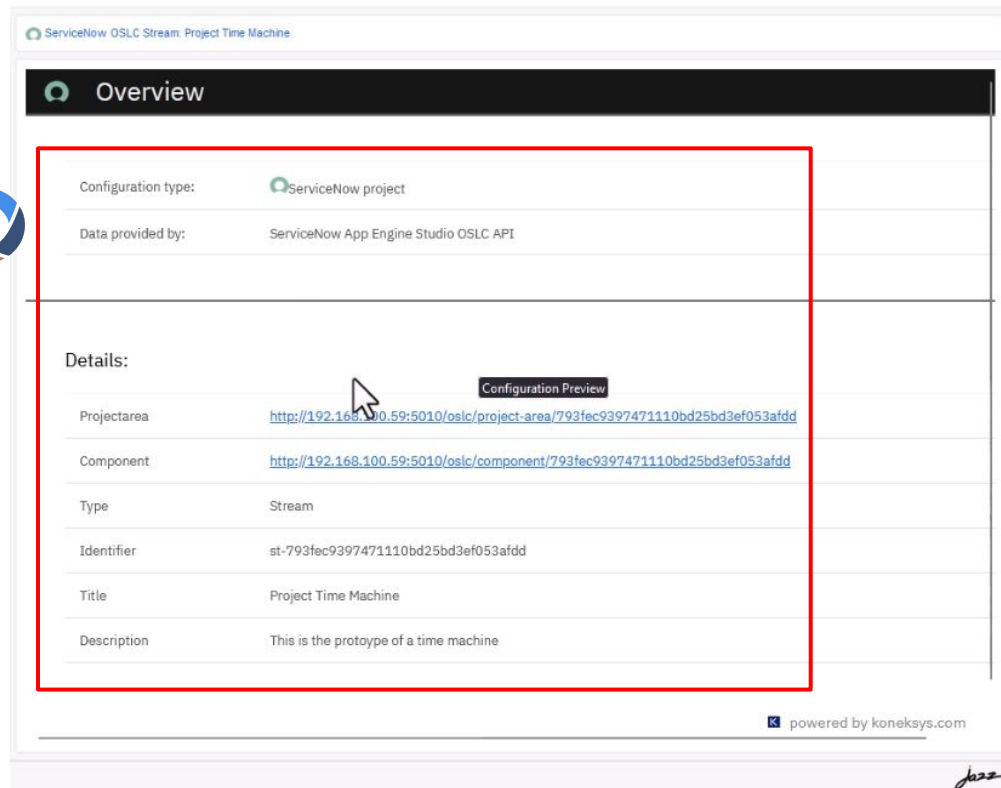
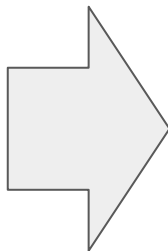
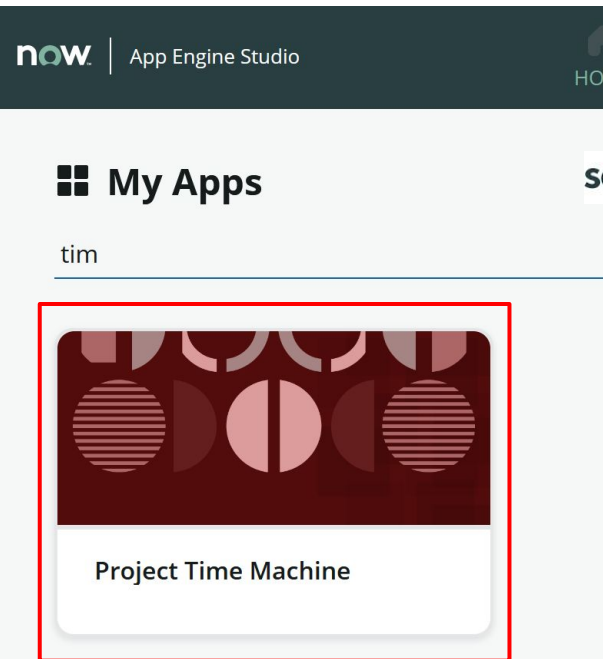
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Jazz Team Server	https://192.168.100.26:9443/jts/rootservices	fca1d5bc07e84f1e996f3d3fc126553e9	
JIRA OSLC integration	http://192.168.100.59:5002/oslc/rootservices	mlggHmg5b9R2fVCmotk1R4nThF3lYV	
Jazz Team Server Friends (read-only)			
Name	Root Services URI	OAuth Consumer Key	
/ccm	https://192.168.100.26:9443/ccm/rootservices	4f5046a165bb44bca5499a9ea1161c45	
/dcc	https://192.168.100.26:9443/dcc/rootservices	dda26b95b6764798ade4dcfb92c9dba4	
/gc	https://192.168.100.26:9443/gc/rootservices	6febdc61d96943cd83af5876d2b8296b	
/idx	https://192.168.100.26:9443/idx/rootservices	d8501592038e435badf1efb4910b7c72	
/tqe	https://192.168.100.26:9443/tqe/rootservices	77d68b10e6f547d0b6907d68e3949670	
/qm	https://192.168.100.26:9443/qm/rootservices	d943463f9f364919a9264074cb1b26cd	
/reim	https://192.168.100.26:9443/reim/rootservices	ca59269960e04e35af08b7e4625091e7	
/rs	https://192.168.100.26:9443/rs/rootservices	9bb43560e5c34838a61414dba374b536	

# ServiceNow OSLC integration



# ServiceNow OSLC integration

IBM Engineering Global Configuration Management (Igc)

Project Area 1 (GC)

Global Configurations ▾ Components ▾ Queries ▾

Search Streams

Browse / Component 1 /

## Component 1 Initial Development

Component 1 Initial Development

- ☐ Stream Gite OSLC Stream: SysRoot of master tenant [Gite OSLC integration](#)
- ☐ Jira OSLC Stream: KQCM [Jira OSLC integration](#)
- ☐ Gitlab OSLC Stream: main [Gitlab OSLC integration](#)
- ☐ Project Area 1 (QM) Initial Stream [QM](#)
- ☐ Project Area 1 (RM) Initial Stream [RM](#)

Component 1 Initial Development [Edit](#)

Attributes	Links (0)	Baseline Staging Streams (0)	Baselines (0)
Domain:	Global Configuration Management		
Project Area:	Project Area 1 (GC)		
Team Area:	Unassigned (inherited)		
Component:	Component 1		
Type:	Stream		
Branch:	Unassigned		
Tags:	<input type="text"/>		
<a href="#">Add Custom Attributes</a>			

Details

Archived: ☐

Created By: [konekys](#)

Created On: Nov 5, 2022

Created From: [Component 1 Initial Baseline](#)

Modified On: Nov 13, 2022

My Personal Stream: [Click to create](#)

Description

IBM

jas

# TestRail OSLC integration

← Return to Dashboard

## Project-1 - Baseline

OVERVIEW TODO MILESTONES TEST RUNS &

T43

Change document orientation from

Alpha 1.0: Run 3 (final run) › Updates

Type	Other
Automation Type	None

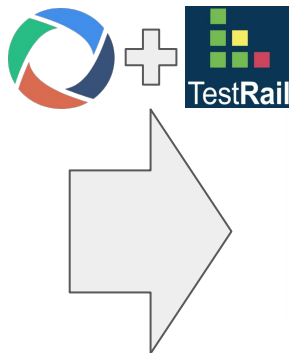
No additional details available.

RESULTS & COMMENTS HISTORY & CONTEXT

Passed

8/11/2021 8:35 PM Juan O.

Massa sodales eget lorem



43: Change document orientation from portrait to landscape mode

id	43
title	Change document orientation from portrait to landscape mode
url	<a href="https://koneksys3.testrail.io/index.php?tests/view/43">https://koneksys3.testrail.io/index.php?tests/view/43</a>
urlApi	<a href="https://testrail-oslc-openapi.koneksys.com/oslc/provider/1/resources/test-cases/43">https://testrail-oslc-openapi.koneksys.com/oslc/provider/1/resources/test-cases/43</a>

Show Less

By: koneksys

Process Guidance

Text

References (2)

43: Change document orientation from portrait to landscape mode

46: Change page color and verify print output

location of the extension point in the flow of events.>

No Tags Defined

Description:

Component: RM Juan 2

Team Ownership: RM Juan 2

Created On: Sep 1, 2021, 9:13:41 AM

Created By: koneksys

Modified On: Sep 1, 2021, 9:13:41 AM

# TestRail OSLC integration

Requirements Management (RM)

RM Juan 2 | RM Juan 2

Project Dashboard Artifacts Reviews Reports

COHP-HDC Initial Development koneksys

Search artifacts

## Artifacts

All Modules Collections

Create Folder \_Use Case Module (Format) Template artifacts

Type to filter by text or by ID

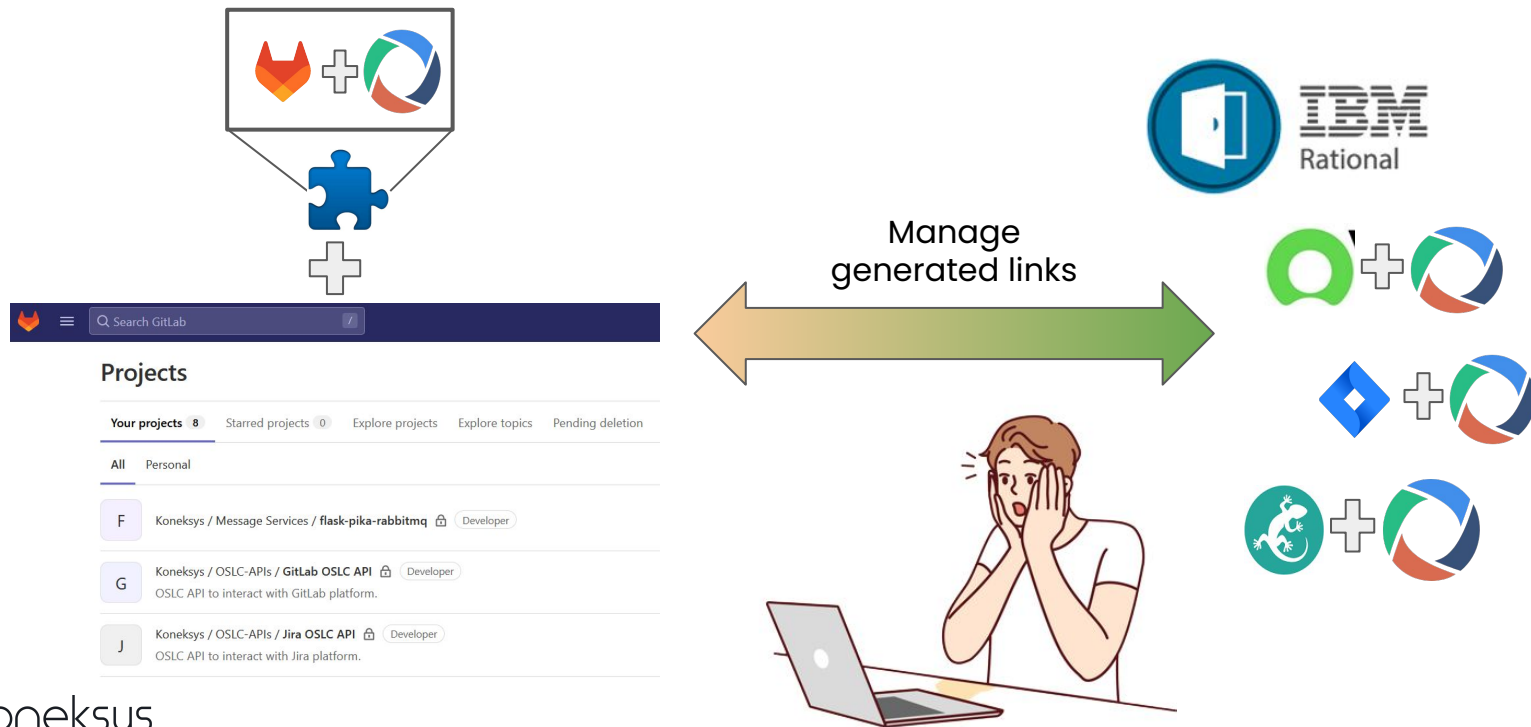
Folders	Views	ID	Name	Artifact Type	Modified By	Modified On
RM Juan 2		59562	Special Requirements	Heading	koneksys	Sep 1, 2021, 9:13:40 AM
Base Artifacts		59554	<Area of Functionality>	Heading	koneksys	Sep 1, 2021, 9:13:40 AM
JKE Enterprise Project		59544	Extension points of the use case.	Process Guidance	koneksys	Sep 1, 2021, 9:13:41 AM
Templates		59526	Provide a brief description of the audience for whom you are writing Use Case. This helps readers of your document identify whether it is a document intended for their use, and helps prevent the document from being used inappropriately.	Process Guidance	koneksys	Sep 1, 2021, 9:13:40 AM
_Use Case Module (Format)						
JKE Private Banking and Security		59524	Additional Information	Heading	koneksys	Sep 1, 2021, 9:13:41 AM
JKE Business Recovery Matters Framework		59523	Definition of the location of the extension point in the flow of events.	Process Guidance	koneksys	Sep 1, 2021, 9:13:41 AM
JKE Enterprise Project		59521	Overview	Heading	koneksys	Sep 1, 2021, 9:13:41 AM
JKE Private Banking and Security		59516	There may be, and most likely will be, a number of subflows in a use case. Keep each sub flow separate to improve clarity. Using sub flows improves the readability of the use case, as well as preventing use cases from being decomposed into hierarchies of u	Process Guidance	koneksys	Sep 1, 2021, 9:13:41 AM

Showing 25 of 53 Artifacts

Previous 1 2 3 Next

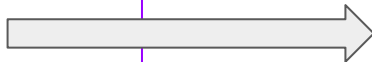
# Create links from within 3rd party app? Yes!

How? We have developed an extra tool to manage links with 3rd party application from main 3rd party application: a Web Browser Extension (WBE).



# WBE & Gitlab

Our Web browser extension can be **attached** into 3rd party web applications to open our **link editor**.



Updating the pipeline to deploy from dist folder  
Mario Jimenez Carrasco authored 1 month ago

Ignoring dist folder for the repo and linter  
Mario Jimenez Carrasco authored 1 month ago

project converted into vite  
Mahir Faisal authored 1 month ago

remove unused css code  
Mahir Faisal authored 1 month ago



GitLab



OSLC Link Manager modal

Source

OSLC Project	GitLab Repository
OSLC Stream	Branch "main"
OSLC Baseline	Commit "be6c5659"

Link type: implementedBy Target project: DNG Project XA23 Target resource type: Select target resource type

Target

Component: CME (Requirements)

What to look in: Folders Modules Select all modules, a single module, or search by a name or ID

Type to filter by text or by ID

Select artifact from the following recently visited artifacts:

- CME (Requirements)
- Base Artifacts
- SAFe Artifact Templates
- SAFe Artifacts

**Gitlab, WBE & IBM DNG™**





# TestRail, WBE & IBM DNG™

 [-- Return to Dashboard](#)  
**Project 1 UI**

Working On  Juan Quintanar  [Help & Feedback](#)    

OVERVIEW **TODO** MILESTONES TEST RUNS & RESULTS **TEST CASES** REPORTS

ADMINISTRATION

# Summary

OSLC APIs help in integrating REST APIs to connect with OSLC-Enabled applications.

Instead of spending months developing a solution to make an OSLC-Enabled application, it is possible to create it in a couple of weeks.

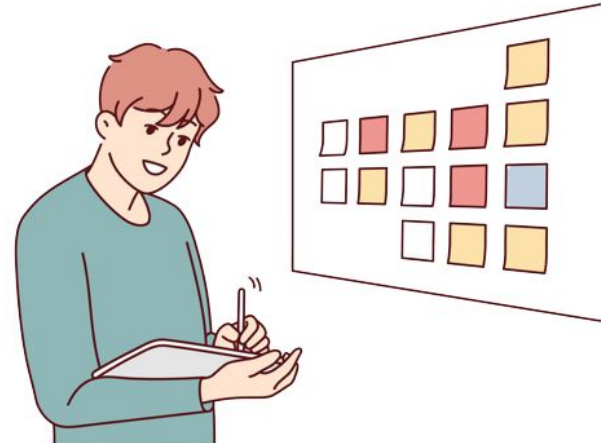
Generated OSLC APIs expose REST API resources according to OSLC specifications.

OSLC APIs can create links from 3rd party applications via our Web Browser Extension.



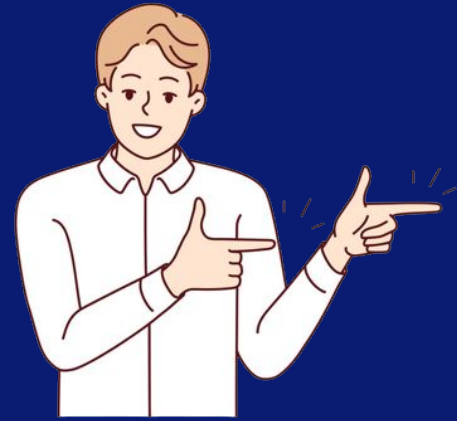
# Next steps

- Collaborate on achieving digital thread by using Koatl-generated OSLC APIs
- Support for extra Global Configuration Management tools
- Add support for multiple web Browsers



# Thanks!

## Contact us



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[juan.quintanar@koneksys.com](mailto:juan.quintanar@koneksys.com)