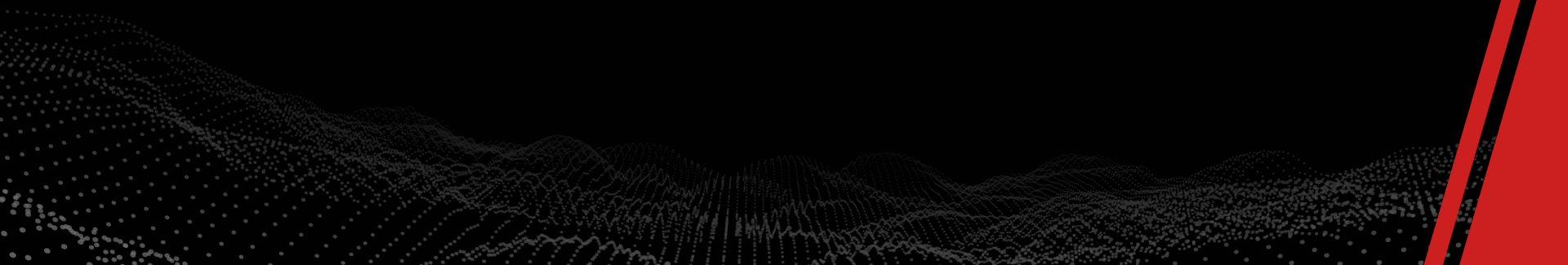




DETROIT ADOBE EXPERIENCE MEETUP

Sling Repolnit

July 9, 2020





About Me

- Last name pronounced “Kelso”
- Technical Director at Perficient
- Originally from Michigan
- Worked with AEM since CQ 5.2
- PMC member of Apache Sling

What do I get out of this?

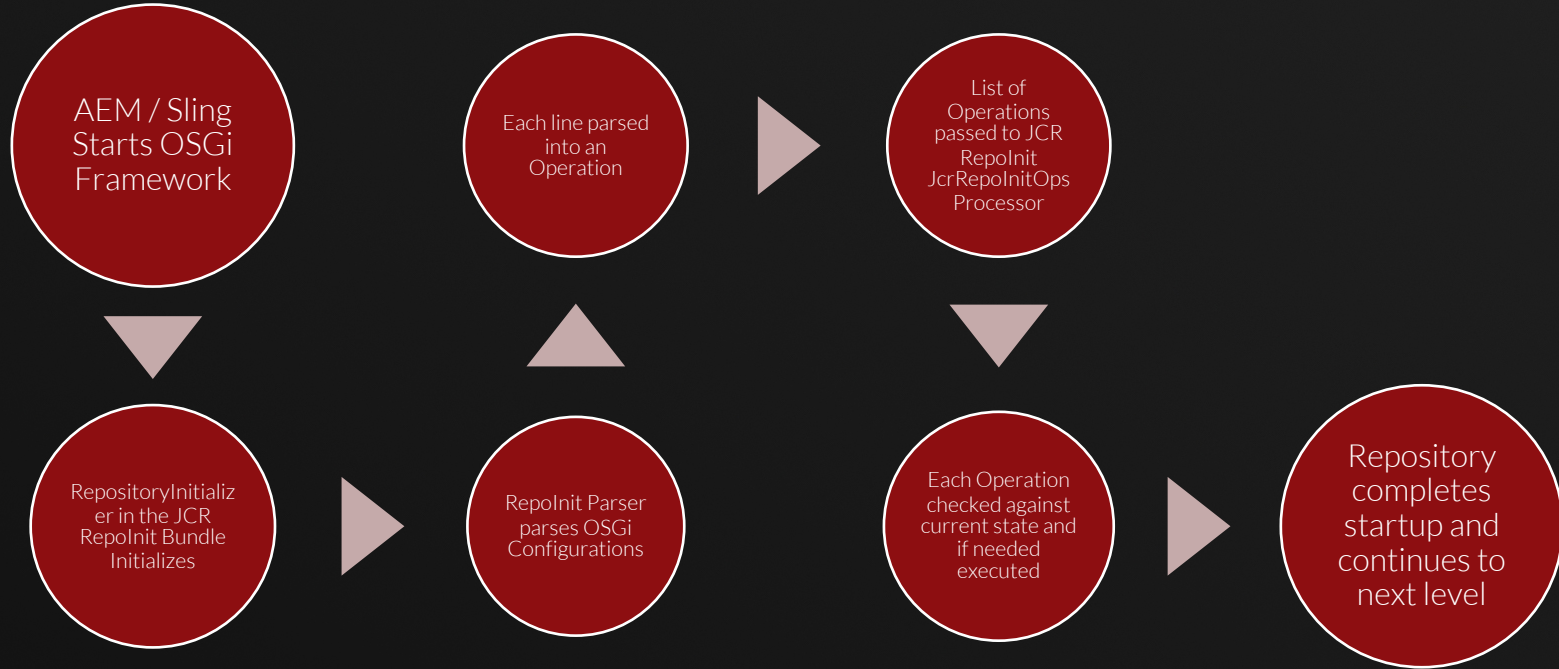
- Introduction to Sling Repolnit
- Sling Repolnit Project Use Cases
- Why Sling Repolnit vs Other Options
- Integrating Sling Repolnit into Your Project
- Tech Preview: Repolnit WebConsole

What is Sling Repolnit?

Sling Repolnit is:

- Part of the Apache Sling Project
- Used by Sling to initialize the Apache Sling repository in the Provisioning and Feature Model
- Also available to projects to further configure the repository
- Implemented as a Domain Specific Language (DSL) with a parser and JCR implementation

How Does Sling RepoInit Work in a Project?



Repolnit

Use Cases



LAKSA

Vegetarian Laksa 14
Curried coconut soup,
rice noodles, Asian veges,
boiled egg, bean sprouts
Add Chicken & Prawns +4

Crispy noodles, shredded
cabbage, carrots, cucumber,
toasted peanuts, Vietnamese
mint, coriander & lime dressing

OR

Singapore Rice
Noodle Salad 12
Aromatic rice noodles, toasted
peanuts, chillies, Vietnamese
mint, turmeric dressing

ADD:

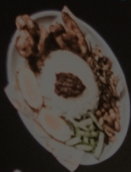
Szechuan Prawns +6
Five Spice Roast Duck +6
Malaysian Chicken +4

National Dish of Malaysia
- Coconut Rice & Condiments,
it's all about the texture

Coconut rice, sambal,
dried anchovy,
egg, toasted peanuts 10

ADD:

Spiced Chicken Wings +6
Beef Rendang +6
Chickpea Masala +4



SPICE IT UP

Sriracha 10
Fresh Chillies 10
Sambal 10
Nonya Dipping

SIDES

Roti Canai
with Nonya sauce 5
Steamed Rice 3



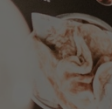
SWEET

Portuguese Custard Tart 3
Sweet Spiced Doughnuts
with Coconut Caramel 6

KIDS

For 12 and under
Kids Hawker Roll 9
Pork or Chicken

Bowl served
Steamed Rice 9
Pork or Chicken



DRINKS

Pandan & Lime 5
by Six Barrel Soda
Pineapple & Lemongrass 5
by Six Barrel Soda
+ Why not spike it with a shot
of Vodka, Gin, Rum, Whisky or
Tequila? 10

TEA/COFFEE

Vietnamese Coffee (Hot/Iced) 3/6
with condensed milk
Rosie (Hot/Iced) 5
Cranberry, Rose tea
Chinese Green Tea (Hot/Iced) 4

SOFT DRINKS/JUICES

Karma Cola/Sugar Free Cola 6
Gingerella 6
Lemmy Lemonade 6
Almighty Organic Guava
Lime Basil 6
Almighty Organic Apple 6
Sparkling water on tap 3
Sparkling water bottled 500ml 6
Still water bottled 600ml 6

BEER BY GARAGE PROJECT
Lager - Can Labl Hawker & Roll 4
4.6% Alc
Pacific Pale Ale - Napi Daze 10
4.6% Alc
Hoppy Session Ale - Puggal 8
2.5% Alc Low Alc
Seasonal - check with our Hawker Project

WINE

(per glass per seat)
JOY Sparkling Road 13
12% Alc 250ml
JOY Sauvignon Blanc 14
13% Alc 250ml
JOY Pinot Gris 14
12.5% Alc 250ml
JOY Pinot Noir 15
13.5% Alc 250ml

SPIRITS

Vodka, Gin, Tequila, Rum, Whisky 9

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Instagram Facebook Twitter
PLEASE NOTE WE CANNOT GUARANTEE ANY BARS
IS COMPLETELY FREE OF ANY BY SALLAPIN TRACES



MALAYSIAN INSPIRED
STREET-EATS WITH VIBRANT
AND AUTHENTIC FLAVOURS.



What you can do with Repolnit

Create, Delete, and
Enable/Disable:

- Groups
- Service Users
- Users

Set / Remove Privileges

Add Glob Restrictions

Add / Remove Group Membership

Create Resources

Set Properties

Create OSGi Configurations

Create Namespaces

Create JCR Node Types

Sling Repolnit Use Cases

Automated Permission Model


- Create Users & Groups
- Assign Group Membership
- Assign ACLs to paths

Configure Application

- Create Service Users
- Set Service User Permissions

Initialize Content Structure

- Create paths
- Set node types
- Set / default properties

A person is holding two green apples in a grocery store. The background is blurred, showing shelves of various fruits and vegetables. The lighting is warm and soft, creating a bokeh effect with the out-of-focus lights in the background. The person's hands are visible, holding the apples gently. The overall scene conveys a sense of freshness and quality.

Repolnit

Comparing to Other Solutions

Comparing to Other Solutions

ACL Packages

Use ACS AEM Commons or similar to create a Content Package with base content structure and ACLs

Netcentric AC Tool for AEM

Open Source tool for managing ACLs via YAML and Content Packages

Apache Sling Repointit

OOTB Apache Sling Repository Initialization

Comparing to Other Solutions

ACL Packages

Pro:

- Works on all AEM Versions

Con:

- Difficult to manage initial vs. current state
- Fragile, difficult to maintain

Netcentric AC Tool for AEM

Pro:

- Works on most AEM Versions
- Run mode support
- Cleans up changed / removed groups
- Configuration stored in consolidated file(s)

Con:

- Requires additional dependencies

Apache Sling Repoinit

Pro:

- OOTB Feature
- Supports Run Modes
- Configuration stored in consolidated file(s)

Con:

- Only supported in recent versions of AEM and Cloud Service
- Requires additional script to cleanup

Repolnit

Integrating



What do I need for Sling Repolnit?

Sling Repolnit* requires AEM 6.5 SP4+ or AEM as a Cloud Service.

* the cool stuff



Recommended Dependencies

AEM 6.5 includes an older version of Sling Repoinit, recommend installing:

- [org.apache.sling.jcr.repoinit – 1.1.24](#)
- [org.apache.sling.repoinit.parser – 1.6.2](#)

Integration Sling RepoInit

- Create OSGi Service Factory Configuration for PID `org.apache.sling.jcr.repoinit.RepositoryInitializer`, e.g:
`/apps/myapp/config/org.apache.sling.jcr.repoinit.RepositoryInitializer~myapp.config`
- Set the `scripts` property with an array of the operations to execute, e.g.:

```
scripts=[ \
  "create\ service\ user\ myuser", \
  "set\ ACL\ for\ myuser\r\nallow\ jcr:read\ on\ /content\r\nend", \
]
```

- I've also outlined a technique for loading the configurations via OSGi bundle resources here:
<https://blogs.perficient.com/2020/06/17/one-tool-to-configure-them-all-sling-repoinit/>



Demo

Sling Repolnit + IMS

Challenges

- Repolnit does not support Authorizable names with spaces
- IMS only creates groups on login

Solution

- Use Underscores or Dashes to Separate AEM Group Names in IMS
- Use the AMS Group Sync utility:
 - Create the groups in IMS
 - Synchronize the groups
 - Run the Repolnit scripts

OR

- Add a user to every group and attempt a login

OR

- Use IMS for authentication and AEM Repolnit Groups for authorization

Tech Preview

RepoInit Web Console

Adobe Experience Manager Web Console RepoInit

Main OSGi Sling Status Web Console

RepoInit is statements used to initialize the Sling repository. Use this tool to test these statements.

[Sling RepoInit Documentation](#)

Test RepoInit

RepoInit Statements

```
show some:content/mixin for foo_the_service
and
# Nodetypes inside the path apply to just that path element
create path /content/example.com(sling:Folder)
# Nodetypes and mixins applied to just a path element
# Specifying mixins require
# o.s.s.repoinit.parser 1.2.0 and
# o.s.s.jcr-repoinit 1.1.0
create path /content/example.com(sling:Folder mixin mix:referenceable,mix:shareable)
# Mixins applied to just a path element
create path /content/example.com(mixin mix:referenceable)
# A nodetype in front is used as the default for all path elements
create path (/s:unstructured) /var
set ACL for alice,bob,fred
# remove is currently not supported by the jcr-repoinit module
remove * on /content/_var
allow jcr:read on /content/example.com
deny jcr:write on /content/example.com
deny jcr:all on /nodetypes/example:Page
```

Execute



Run

FINISHING SUCCESSFULLY:

```
CreatedServiceInterface user1
CreatedServiceInterface user_2
SetACLPath (/lib/.apps)
ACLAllow (principal=user1, user_2), privileges=jcr:read
ACLAllow DENY (principal=user_2), privileges=jcr:write
ACLAllow DENY (principal=user1), privileges=jcr:lockManagement
ACLAllow REMOVE (principal=all), privileges=jcr:understand, some:other
CreatedServiceInterface bob_the_service
SetACLPath (/app)
ACLAllow ALLOW (principal=bob_the_service), privileges=some:otherPrivilege
CreatePath /content, example.com(sling:Folder)
CreatePath /content, example.com(sling:Folder mixin mix:referenceable, mix:shareable)
ACLAllow REMOVE (principal=all), privileges=jcr:read
CreatePath (/var(s:unstructured))
SetACLPrincipal (allow, bob, fred)
ACLAllow REMOVE All (path=/)
ACLAllow ALLOW (path=/content, /var), privileges=jcr:read
ACLAllow DENY (path=/content/example.com), privileges=jcr:write
ACLAllow DENY (nodetype=example:Page), path=/, privileges=jcr:all
```

EXECUTION FAILED:

```
java.lang.RuntimeException: Failed to set ACL. (java.lang.SecurityException: No such privilege jcr:understand) ACLAllow REMOVE (principal=all), privileges=jcr:all
```


Try It Yourself

- Update the configuration `com.adobe.granite.apicontroller.FilterResolverHookFactory` to set `org.apache.sling.repoinit.parser` to `org.apache.sling.*`
- Checkout the feature/SLING-9572 branch:

```
git clone --branch feature/SLING-9572 git@github.com:apache/sling-org-apache-sling-jcr-repoinit.git
```

- Build / install the code:

```
mvn clean install -P autoInstallBundle -Dsling.url=http://localhost:4502/system/console
```

- Navigate to: <http://localhost:4502/system/console/repoinit>

Resources to Get Started with Sling Repoinit

- Sling Documentation: <https://sling.apache.org/documentation/bundles/repository-initialization.html>
- More about Repoinit: <https://blogs.perficient.com/2020/06/17/one-tool-to-configure-them-all-sling-repoinit/>
- Repoinit Grammer: <https://github.com/apache/sling-org-apache-sling-repoinit-parser/blob/master/src/main/javacc/RepoinitGrammar.jjt>
- Repoinit Logging: Add an INFO logger for the packages:
 - org.apache.sling.repoinit
 - org.apache.sling.jcr.repoinit

Thanks!

@klcodanr

danklco.com

blogs.perficient.com/author/dklco



Auf Wiedersehen