

Zowe API Mediation Layer Made Easier: Faster Install, Smarter Admin Training

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SHARE Orlando
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Takeaways

1. Discover how recent updates simplify the configuration and operation of Zowe API Mediation Layer
2. Understand the benefits of these improvements for solutions that depend on Zowe API Mediation Layer as a prerequisite
3. Learn about a new training program designed to help administrators gain practical, hands-on experience with Zowe API Mediation Layer

Agenda

Managing & Securing APIs: Zowe API Mediation Layer

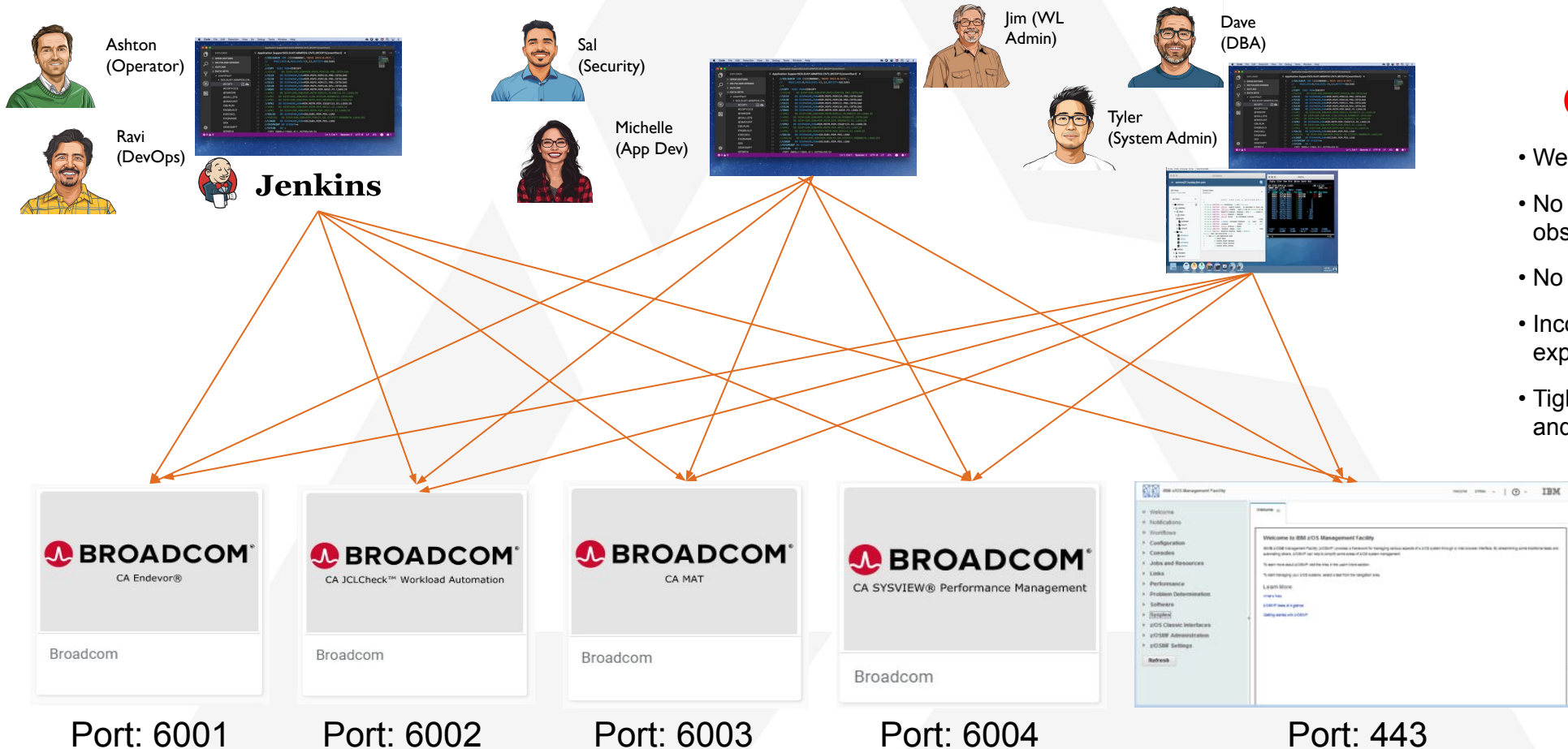
Simplified Configuration

Monitoring API use & health: OpenTelemetry

Education

Additional Resources

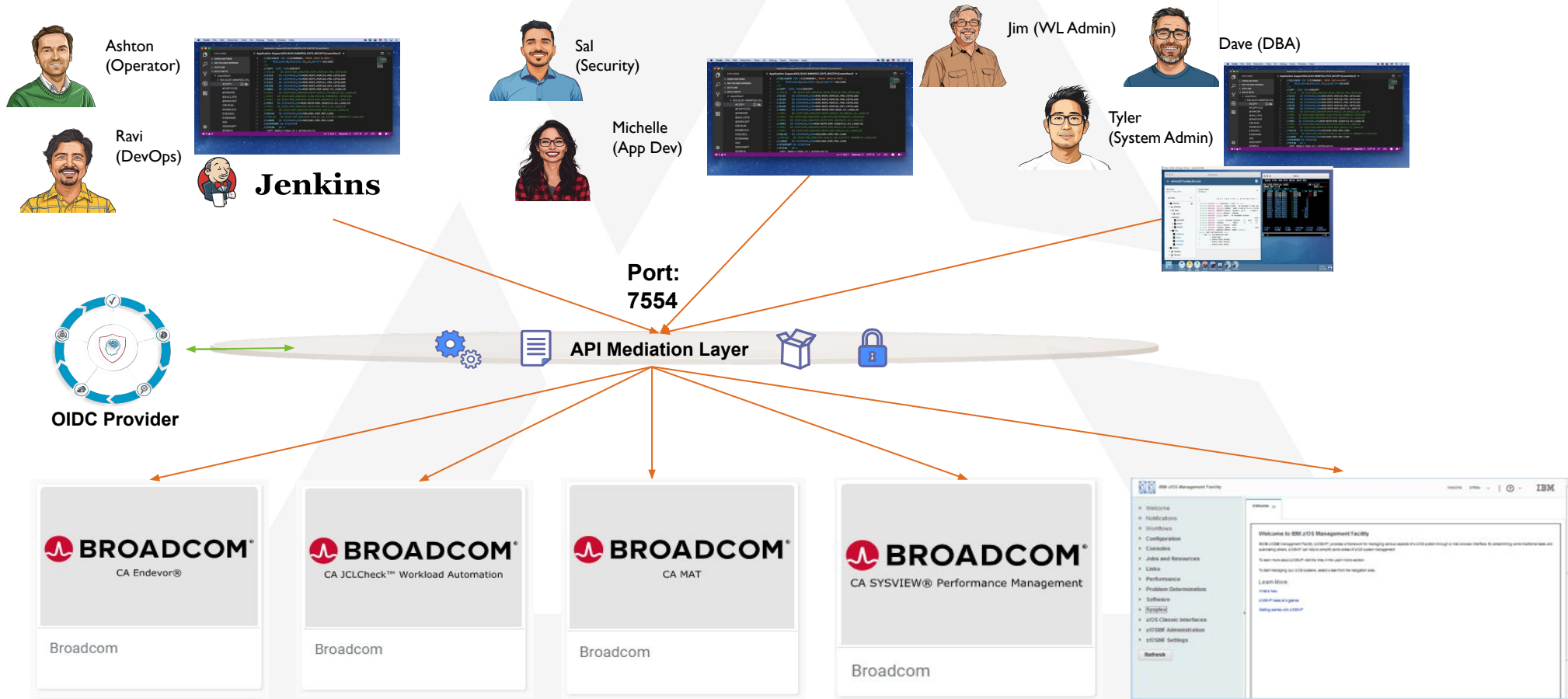
API Landscape without Zowe API ML



Concerns?

- Weak security posture
- No single-source of observation
- No SSO support
- Inconsistent API user experience
- Tight API to client coupling and interdependencies

API Landscape with Zowe API ML





Simplified Configuration

Key Improvements

- Setup & Config Intro
- JCL install
- z/OSMF dependency for authentication
- Single service deployment
- “Preflight” checklists

zowe.yaml: Setup & Configuration

- Setup `zowe.yaml`
- Item notation in doc:
 - `zowe.setup.x.y`



```
30 zowe:
31
32 ..#-----
33 ..# The setup section is used during setup only.
34 ..# It can be used by a variety of install & configure options,
35 ..# As seen in the documentation:
36 ..# https://docs.zowe.org/stable/user-guide/zos-components-installation-checklist
37 ..#-----
38 ..setup:
39 ...jcl:
40 .....# When enabled, "zwe install & init" will use job submission for system changes
41 .....# instead of shell commands. A `--dry-run` option is also enabled
42 .....# which allows you to see jobs instead of submitting.
43 .....enable: true
44 .....# Edit to set a header for job cards. Some systems need this, but not all.
45 .....# See `zwe init generate --help` for examples.
46 .....header: ""
47 .....# MVS data set related configurations
48 ...dataset:
49 .....# where Zowe MVS data sets will be installed
50 .....prefix: IBMUSER.ZWEV3
51 .....# PROCLIB where Zowe STCs will be copied over
52 .....proclib: USER.PROCLIB
53 .....# Zowe PARMLIB
54 .....parmlib: IBMUSER.ZWEV3.CUST.PARMLIB
55 .....# Holds Zowe PARMLIB members for plugins
56 .....parmlibMembers:
57 .....# For ZIS plugins
58 .....zis: ZWESIP00
59 .....# JCL library where Zowe will store temporary JCLs during initialization
60 .....jcllib: IBMUSER.ZWEV3.CUST.JCLLIB
```

zowe.yaml: Setup & Configuration

- Runtime `zowe.yaml`
- Can be split
 - Specified via list

```
454  java:
455  | ..#-**COMMONLY_CUSTOMIZED**
456  | ..#-Path-to-your-Java-home-directory
457  | ..home: "/u/users/dkelosky/J17.0_64/usr/lpp/java/J17.0_64"
458
459  #-----
460  #-node.js-configuration
461  #
462  #-Some-Zowe-components-requires-node.js-Define-the-path-where-you-have-your
463  #-node.js-is-installed.
464  #
465  #-**NOTE**:-this-field-can-be-updated-automatically-if-you-pass-`--update-config`
466  #-to-`zwe-init`-command.
467  #-----
468  node:
469  | ..#-**COMMONLY_CUSTOMIZED**
470  | ..#-Path-to-your-node.js-home-directory
471  | ..home: "/usr/lpp/IBM/cnj/v18r0/IBM/node-latest-os390-s390x"
```

zwe: CLI

- zwe operates on `zowe.yaml`
- Used:
 - Directly
 - z/OSMF workflows via JCL



```
$ ./zwe --help
zwe

-----
Synopsis
  zwe [sub-command [sub-command]...] [parameter [parameter]...]

-----
Description
  A command line utility helps you managing Zowe instance.

  You can issue --help or -h to find information for all commands it supports.

-----
Global parameters
  --help|-h (optional)
    Display this help.

  --debug|--verbose|-v (optional)
    Enable verbose mode.

  --trace|-vv (optional)
    Enable trace level debug mode.

  --silent|-s (optional)
    Do not display messages to standard output.

  --log-dir|--log|-l string (optional)
    Write logs to this directory.

  --config|-c string (optional)
    Path to Zowe configuration zowe.yaml file.
```

JCL-Based Install

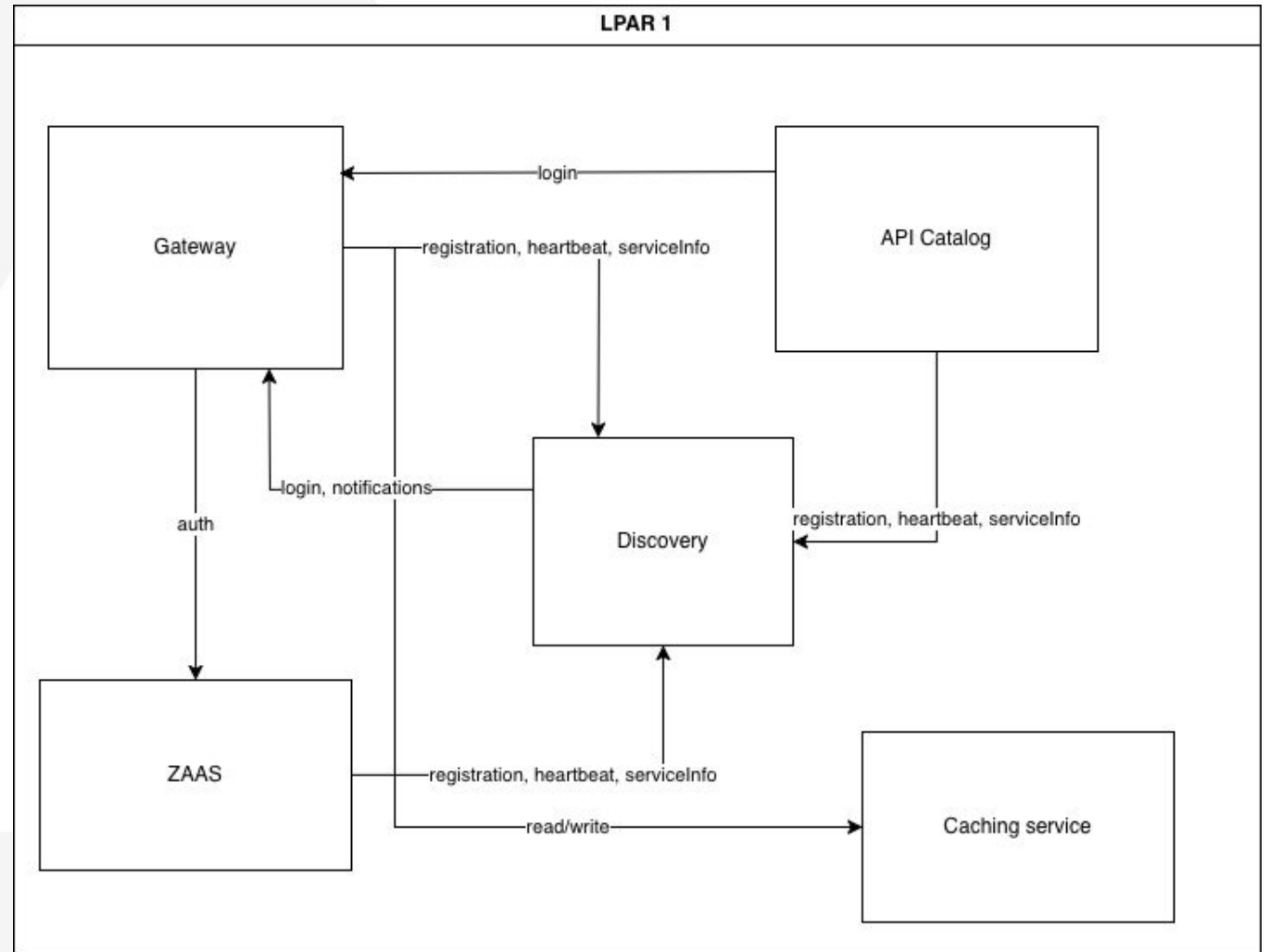
- Previously customize JCL `SZWESAMP` samples
 - `ZWEIMVS` , `ZWEIAPF` , ...
 - Snippet:
 - `//STDPARM DD *`
 - `export LOADLIB='{zowe.setup.dataset.authLoadlib}'`
 - See “Core tasks” in docs.zowe.org
- `zwe` w/`--jcl` OR `zowe.setup.jcl.enabled: true`
 - Latter is new default in `example-zowe.yaml` 3.4
 - (Optionally) Add `zowe.setup.jcl.header` for JOB header customization
 - Performs JCL substitutions
 - Add `--dry-run` to emit only (no submission)
- Previously, `zwe` executed ~foreground
- Patch release change (likewise for remaining items)
 - (impacts new installs)

Remove z/OSMF Authentication Dependency

- zowe.yaml
 - New default (3.4+) - `apiml.security.auth.provider: saf`
 - (previous value `zosmf`)
 - Retain `zosmf` for z/OSMF REST API usage OR z/OSMF passticket setup
 - Removed these items from default:
 - `components.gateway.apiml.security.auth.zosmf.serviceId: ibmzosmf`
 - `components.gateway.apiml.security.auth.zosmf.jwtAutoconfiguration: jwt`

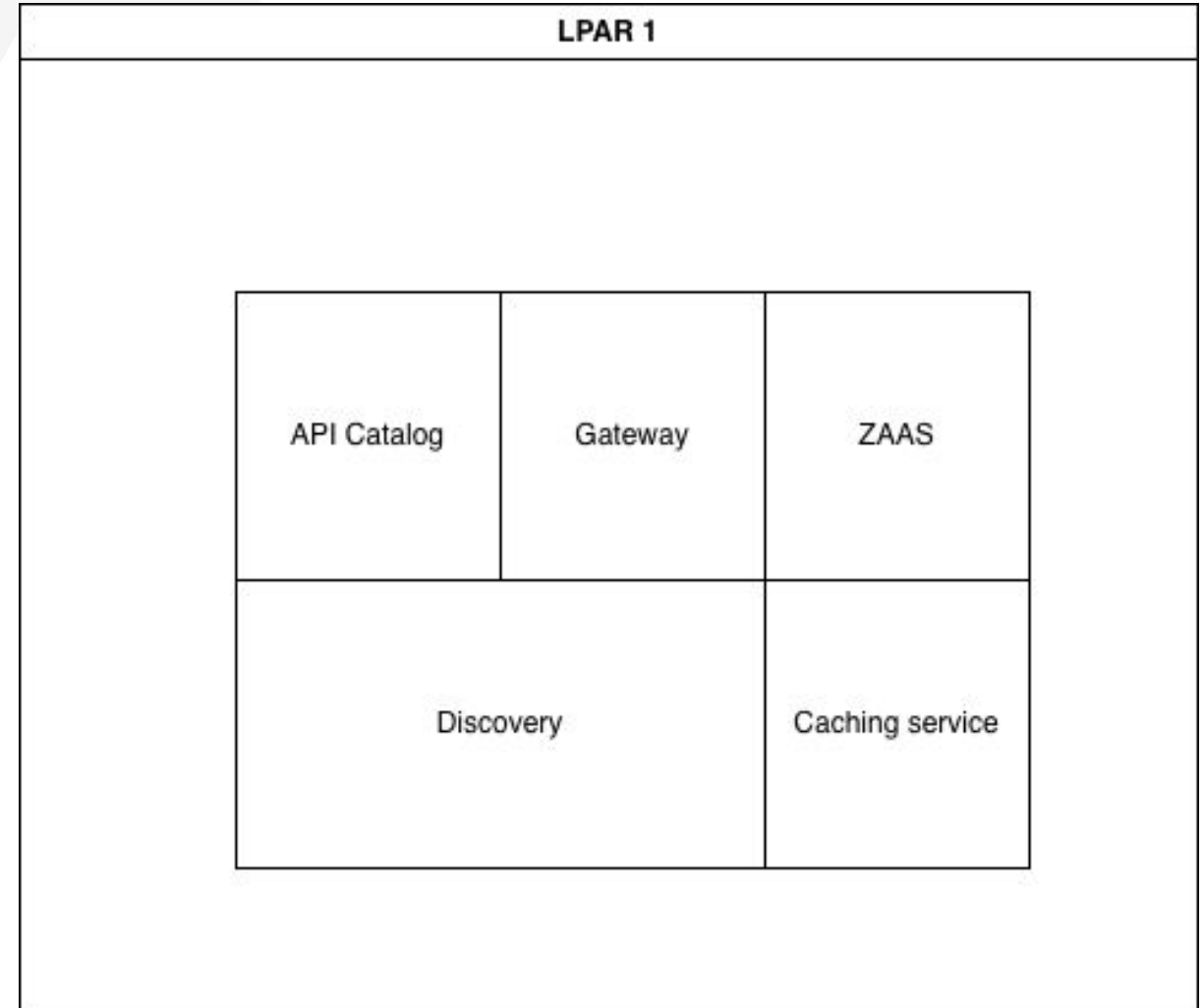
API ML Microservices

- “Microservices” architecture
 - Caching, Catalog, Discovery, Gateway, ZAAS
 - Loose coupling
 - Complex
- Opposite - “Monolith”
 - Simple, single code base
 - Tight coupling



Single Service Deployment “Modulith”

- “Modulith”
 - Combine aspects of microservices and monolith
 - New default in 3.4:
 - `components.apiml.enabled: true`
- Faster startup (especially for emulated environments)
- Decreased network traffic
 - Simplifies troubleshooting
- See “Enabling Single-Service Deployment of API Mediation Layer”



“Preflight” Checks

- Validate and optional fail with clear errors at startup
 - ~Installation & Verification Program (IVP) experience
- Currently:
 - z/OSMF startup check
 - Port check (`bind-test`)
- `zowe.launchScript.startupChecks.default: exit|warn|disable`
 - `zowe.launchScripts.startupChecks.zosmf: exit|warn|disable`
 - `zowe.launchScripts.startupChecks.ports: exit|warn|disable`
- Certificate verification next

Theme: Simplified Configuration

- JCL batch install
- Reduce runtime dependencies
 - Defaults to **saf** provider and single service / modulith
- Preflight



Monitoring API Use & Health

OpenTelemetry is...

A vendor-neutral open source Observability **framework** for instrumenting, generating, collecting, and exporting telemetry data such as traces, metrics, and logs.



API Usage

I need to understand the adoption of APIs onboarded to my API ML instance

- Source of usage
- Frequency of use
- Timing of use

Service	Total requests (last 24h)	Total requests (last month)	Distinct users (last 24h)	Distinct users (last month)
<u>idms</u>	1000	25638	265	365
esp	800	19652	95	198

Status of services

I need to understand the health and performance of services onboarded to my API ML instance

- Overall performance metrics
- Number and frequency of failed requests



Improved Support Experience

I need to capture the relevant information required to open a support case

- User **x** with issue **y** is using Zowe Explorer **V.x**, to access **API V.x**
- Here are the symptoms

Submitter Name :

Date/Time : **IssueType:**

Issue Type :

Priority (High)

Detailed Description of Problem

User reports "Blue Screen of Death" (BSOD) errors occurring randomly throughtout the day, often accompangied the often buzzing sound from the tower. User is unable to access to access on their desktop. Has already attempted restarted restaring the machiple times. Screenshots attached.

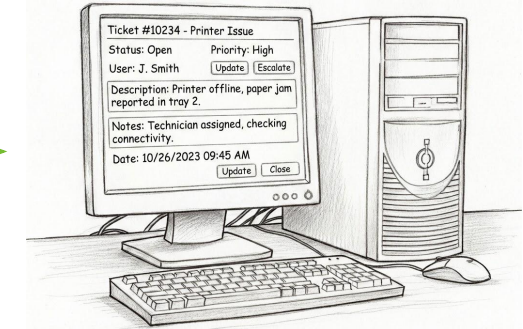
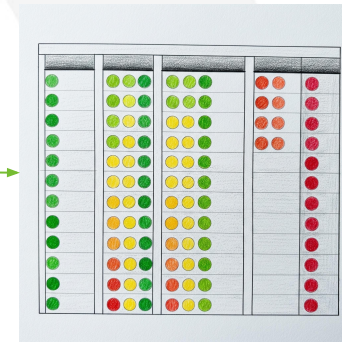
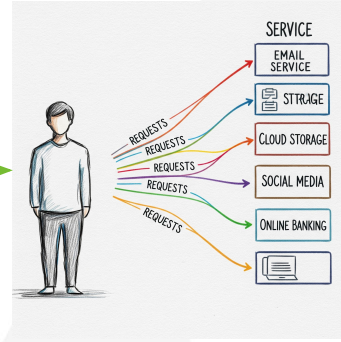
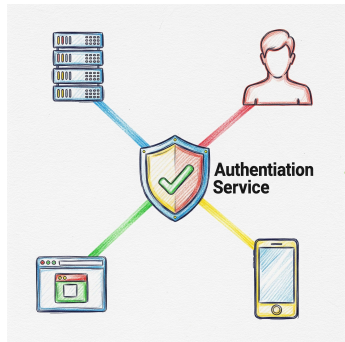
System Data

Operating System: Windows 10 Pro
Processor: Intel Core i7-10700K
RAM: 16 GB DDR4
Storage: TB GB DDR4
Storage: 1TB NVMe SSD
GPU: NVIDIA Geforce RTX 3070

Roll Out

Zowe 3.5
May 2026

Zowe 3.6
Fall 2026



Where and how often is service used?

Who uses what service?

Status of the services

Support data and information



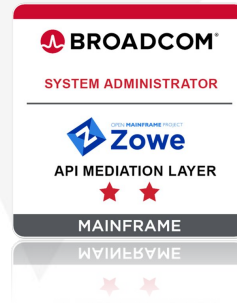
Zowe API ML Education

HANDS-ON TRAINING



Zowe API Mediation Layer: Intermediate – Digital Badge 06ZWE2001C

Earners of this badge curriculum have a solid understanding of installing, configuring, administering, and troubleshooting Open Mainframe Project Zowe® API Mediation Layer (API ML).



Zowe API Mediation Layer Training 06ZWE20011 4 hrs

Module 1 of a 4-module series offers practical z/OSMF installation tips, basic configuration settings and troubleshooting for Zowe API Mediation Layer. The series includes hands-on administration training, advanced configuration & security facilities with practical troubleshooting examples, challenges and guidance.



Zowe API Mediation Layer: Digital Badge Assessment 06ZWE2000E 1 hr

SELF-PACED TRAINING

Getting Started with the Zowe API Mediation Layer
06ZWE10080 | 30 min

Preparing for the Installation and Configuration of the
Zowe API Mediation Layer
06ZWE10050M | 20 min

Configuring the Zowe API Mediation Layer
06ZWE10060 | 30 min

Team Config for Zowe
06ZWE10040M | 45 min

Configuring the Zowe API Mediation Layer for High
Availability, Security, and Performance
06ZWE10012M | 40 min

Zowe Explorer - What's New, What's Planned, What's Next
06ZWE100060M | 30 min

CA Spool Plugin for Zowe CLI
06ZWX100060M | 30 min

Zowe Training Opportunities

Getting Started with Instructor-Led Training (ILT)

1. Check the online ILT [schedule](#)
2. [Accessing](#) Learning@Broadcom
3. [Search](#) for training by course code
4. Register for the Digital Badge Curriculum
 - Enroll in the ILT session
 - Complete the pre-work!
 - Technical check ahead of the ILT
 - Attend the hands-on class
 - Take the assessment
 - Earn your Digital Badge!

Large group? Ask about a private session

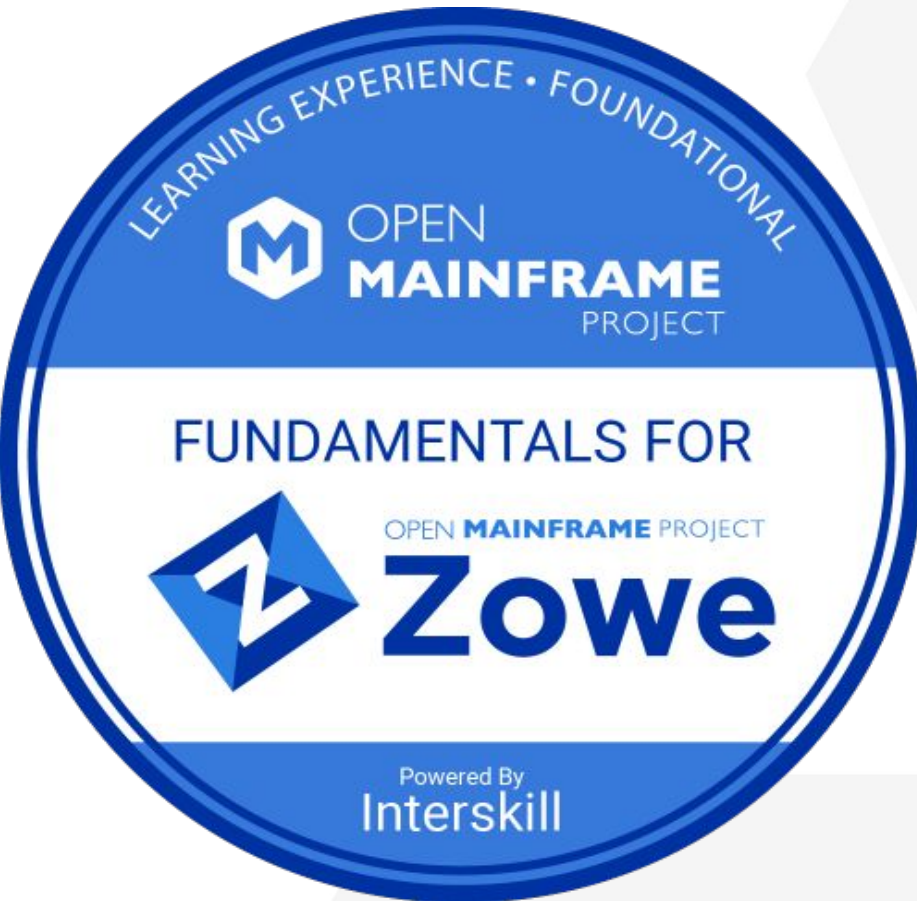


***Learning@Broadcom
Quick Start Guide***

Zowe Training Opportunities

Interskill Zowe Foundations for system programmers/administrators

<https://interskill.com/course/zowe-foundations>



- Covers Zowe features and major components: Application Framework, CLI, Explorer, Desktop and API ML
- Demonstrates user interaction and advantages
- Details startup, runtime, and prerequisites
- Explains default component capabilities and methods to extend functionality
- Concludes with the installation and customization of Zowe server and client components



Additional Resources

Further Reading

Traditional product documentation, real-life experiences, and Community information

Documentation

- <https://docs.zowe.org>

Blogs

- <https://medium.com/zowe>

Webpage

- <https://zowe.org>

Medium

Zowe
Modern, open source interface for the mainframe

ARCHIVE ZOWE GENERAL API ML CLI ZOWE DESKTOP ZOWE EXPLORER INCUBATION | ZOWE.ORG

Writer

Upgrading your Zowe client apps to a major new version

{Core} Support for Zowe V1 ends soon. Zowe V3 arrives soon. See the options for upgrading Zowe client applications.

Gene Johnston
Aug 19 · 14 min read

Zowe CLI and client certificates

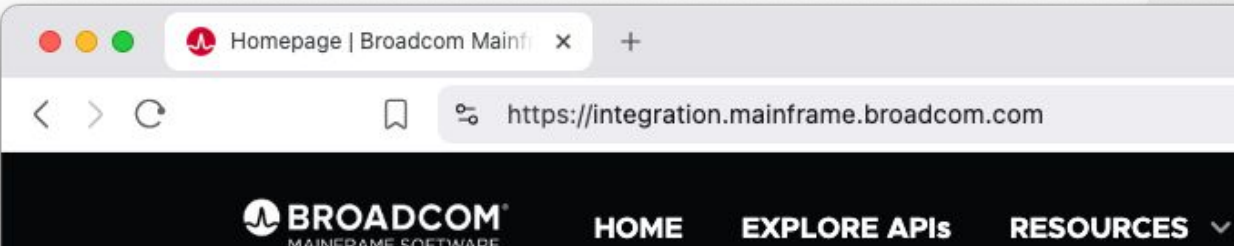
{Core} Step by step guide to create a z/OS user certificate and configure a Zowe CLI profile to use this as an x509 client cert.

Joe Winchester
Jul 15 · 11 min read

Should I be concerned about security with Zowe?

{Core} As anyone working in the field of cyber-security knows first-hand, the world is becoming increasingly more dangerous in the...

Jakub Balhar
Jul 2 · 8 min read



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API Catalog

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Endevor®

ESP Workload Automation

File Master Plus™

IDMS Systems

Mainframe Application Tuner (MAT)

On this page

Endevor®

Use the Endevor RESTful API services to perform a wide range of actions. You can use the REST API services for example to process various element actions. You can also list inventory and work with packages.

Swagger

Service ID and Version:

Select swagger version:

bcm.endevor v1.0.0

COMPARE API VERSIONS

Element

GET	/EndevorService/api/v1/{datasource}/env/{environment}/stgnum/{stage}/sys/{system}/subsys/{subsystem}/type/{type}/element/{printElement}	Print element
PUT	/EndevorService/api/v1/{datasource}/env/{environment}/stgnum/{stage}/sys/{system}/subsys/{subsystem}/type/{type}/element/{transferElement}	Transfer Element
GET	/EndevorService/api/v1/{datasource}/env/{environment}/stgnum/{stage}/sys/{system}/subsys/{subsystem}/type/{type}/element/{retrieveElement}	Retrieve element
GET	/EndevorService/api/v1/{datasource}/env/{environment}/stgnum/{stage}/sys/{system}/subsys/{subsystem}/type/{type}/element/{element}	List element
POST	/EndevorService/api/v1/{datasource}/env/{environment}/stgnum/{stage}/sys/{system}/subsys/{subsystem}/type/{type}/element/{element}	Add element
PUT	/EndevorService/api/v1/{datasource}/env/{environment}/stgnum/{stage}/sys/{system}/subsys/{subsystem}/type/{type}/element/{element}	Update element
DELETE	/EndevorService/api/v1/{datasource}/env/{environment}/stgnum/{stage}/sys/{system}/subsys/{subsystem}/type/{type}/element/{element}	Delete element

Mainframers on Discord

Join the ZOWE discussions on DISCORD <https://discord.com/>

System Z Enthusiasts
Our community draws together System Z enthusiasts, students, and professionals to discuss mainframe technology.
152 Online · 1,768 Members

Channels & Roles
Customize Browse Channels **NEW**
Search Channels

- # general
- # news
- z/os
 - # general
 - # zowe
 - Hey Steven, let me see if...
- z/VM

Active 8 days ago

- # zoau
Active 14 minutes ago · Discussion specifically around IBM Z Open Automation Utilities.
- # zosmf
Active 2 hours ago · Discussions specifically around z/OSMF.
- # zowe
Active 3 days ago · Discussions specifically for the Open Mainframe Project Zowe.

about the z/OS Operating System.
ents specific to z/OS.
ools community is here to provide popular Open Source tools and to encourage z/OS Open Source tools development - <https://github.com/ZOSOpenTools>

Broadcom Introduces No-Cost Enterprise Support for **Zowe**

Full Coverage for Broadcom Customers



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Technical Education Direct from the Experts

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European MTE
Prague, Czech Republic
Apr. 21-23, 2026

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Virtual MTE
Held Virtually
June 23-25, 2026

In-Person

North American MTE
Plano, TX
Oct. 20-22, 2026

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Senthil Mathur, Manager, Accenture

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