



SHARE Webinar October 31st
Getting Started with Zowe

Meet your Zowe Presenters



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- Zowe is an open source project - IBM is a founding member along with Rocket Software and Broadcom
- Zowe is not an IBM product
- All the information presented in this session is public information but subject to change
- Future plans depends on the open community decisions. Time frames for delivery are not guaranteed since it depends on the staffing and time commitment of the open community
- You are encouraged to get involved in the community for the latest information and to influence the project direction and priorities

Agenda



- Introducing Zowe
 - Zowe Vision Statement
- What's in Zowe?
 - *Zowe API Mediation Layer*
 - *Zowe REST Services*
 - *Zowe Web Desktop*
 - *Zowe CLI*
- Zowe Installation and Configuration
- Zowe Demo
- Zowe Best Practices, Tips & Hints
- Zowe Useful Resources and How to Get Involved
- Questions?

What is Zowe?



- An extensible software framework on z/OS for connecting primarily – but not limited to – system administrative and development tools to the mainframe.
- Aims to make the mainframe an integrated and agile platform within the changing IT architectural landscape.
- First open source project on z/OS. All code is licensed under the Eclipse Public License version 2.0



Zowe



Zowe Vision Statement

- Reduce the learning curve
 - ✓ Improve productivity
 - ✓ Modern, platform-neutral interfaces
 - ✓ Cloud-like experience
- Attract new people
 - ✓ Demystify the Z platform
 - ✓ Enhance integration and consumability
 - ✓ Promote Open community of practice
- Simplify architecture
 - ✓ Reduce operational overhead
 - ✓ Improve co-existence
 - ✓ Enable rich ecosystem of free and commercial solutions

Zowe V1.0.0

GA Feb 8th 2019

100% Open Source under EPL 2.0 license

Zowe V1.6.0 released October 2019

THE LINUX FOUNDATION PROJECTS



What is Zowe? Download

Announcements

Zowe 1.6.0 is now available. See [What's New](#).

A pre-release of the Zowe SMP/E install is now available. This is an alpha release based on Zowe 1.6.0, and should not be used in production. An active development, offline-installable version of the Zowe CLI is now available. This is the [@zowe/cli@latest](#) release.

What is Zowe?

Zowe is an open source project created to host technologies that benefit the Z platform from all members of the Z community (Integrated Software Vendors, System Integrators and z/OS consumers). Zowe, like Mac OS or Windows, comes with a set of APIs and OS capabilities that applications build on and also includes some applications out of the box.

Zowe offers modern interfaces to interact with z/OS and allows you to work with z/OS in a way that is similar to what you experience on cloud platforms today. You can use these interfaces as delivered or through plug-ins and extensions that are created by clients or third-party vendors.

Zowe consists of the following main components.

Zowe Application Framework: A web user interface (UI) that provides a virtual desktop containing a number of apps allowing access to z/OS function. Base Zowe includes apps for traditional access such as a 3270 terminal and a VT Terminal, as well as an editor and explorers for working with JES, MVS Data Sets and Unix System Services.



Since Announce



1,500+

Community Slack
Members Engaged

23+

Zowe Conformant
apps, plug-ins and
extensions

160

Active committers.

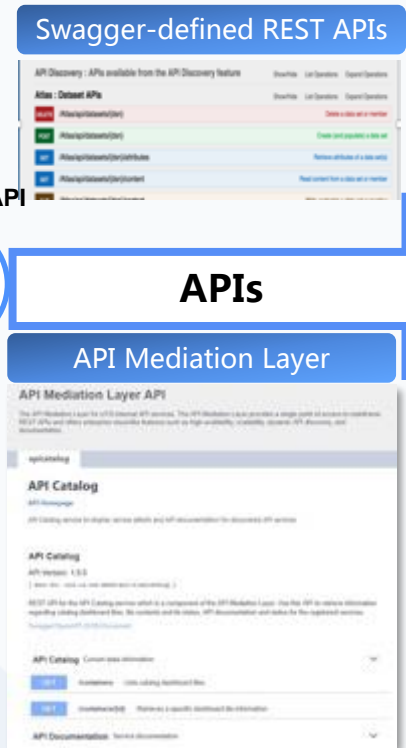
6,000

Downloads
Beta + GA

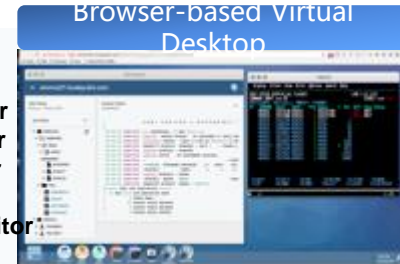
Zowe accelerates digital transformation through API-enabled services



- z/OSMF
- TSO
- ISPF
- USS
- Rexx
- JCL
- Product Interfaces



- MVS Explorer
- USS Explorer
- JES Explorer
- TN3270
- Workflow editor



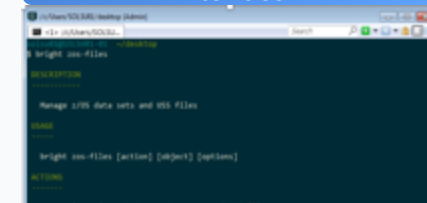
Web UI

CLI



Development and Operations Teams
(Internal/IT Facing)

Node.js-based Cmd Line Interface



- zos-files
- zos-console
- zos-jobs
- zos-tso
- zos-workflow

Zowe framework and ecosystem at a glance

Core Zowe includes API Mediation Layer, Command Line Interface (CLI), and Web User Interface

Vendors can build 'Zowe Compliant' plugins that will leverage this framework

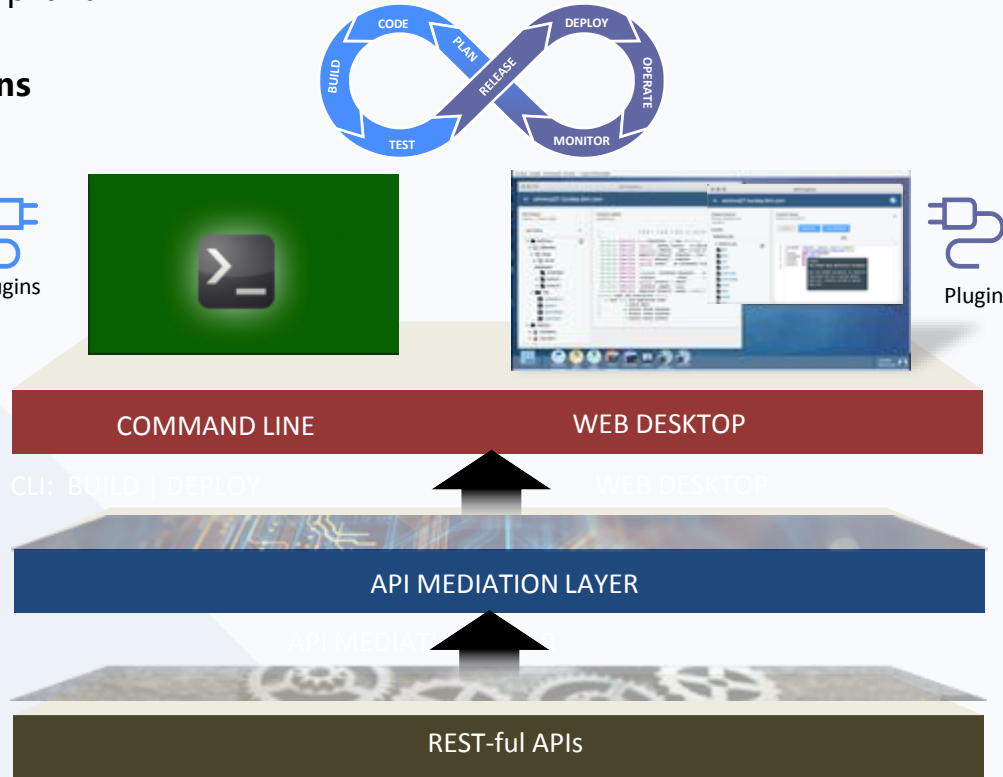
Bold - Commercial Extensions

CLI Plug-in and Extensions

- CLI Plug-in for CICS
- CLI Plug-in for Db2
- CLI Plug-in for z/OS Connect
- CLI Plug-in for MQ
- Visual Studio Code Extension
- **Phoenix Software International (E)JES**
- **(Tech Preview) Wazi**
- **CA OPS MVS**
- **CA Workload Automation**
- **CA Sysview**
- **CA Endevor**
- **CA File Master**
- **CA Brightside**



Plugins



Web Desktop Apps and Plug-ins

- JES Explorer
- Data Set Explorer
- UNIX System Services File Explorer
- Iframe, Angular and React Samples
- TN3270
- VT Terminal
- API Catalog
- Zowe Editor
- z/OSMF Workflow Editor
- Jupyter (separate download)
- **IBM OMEGAMON**
- **IBM Service Management Unite**
- **SMU**
- **IBM NetView (SOD)**
- **(Demo) Vicom Infinity Voice Assistant**
- **Db2 DevOps Experience**
- **Rocket Bluezone Web**

Installation and Configuration



- **SMPE Install**
 - Available as alpha since Zowe 1.4.
 - Requires knowledge of SMPE install process. (Receive, Apply , Accept, etc..)
 - Even though still delivered as Alpha, installation is smooth.
 - Customization is made after the install.
 - Vendor neutral FMID AZWE001.
- **PAX Install**
 - Requires knowledge of Unix file editing and script execution.
 - Configuration data lost on upgrade before 1.5.
 - Customization is made at the install time.

Installation of Pax file via z/OSMF Workflow



- **Workflow installation of Pax**
 - Available in Project Zorow repositories.
 - <https://github.com/openmainframeproject/zorow/blob/master/IBM-GTS-Workflows/IBM-MF-AUTO-ZOWE-INSTALL.xml>
 - Downloads the Pax file for you if you have Curl installed.
 - Reduces the complexity for building the configuration files.
 - Reduces the complexity for running Unix type of scripts.
 - Reduces the amount of time you spend installing Zowe.
 - Provides a friendly, point and click environment for the install.

What is a z/OSMF Workflow?



The z/OSMF Workflow is:

A framework that supports z/OS System Programmers (Workflow provider) to define a guided flow (workflow) through steps to accomplish a system management or configuration task.

What is a z/OSMF Workflow?



- The z/OSMF Workflow is useful to:
 - Assist people unfamiliar with how to perform a given task, or a task that they perform rarely
 - Ensure that all tasks are performed in the right order and only when their dependencies have been met
 - Ensure that all steps are completed
 - Even if many of the tasks have been delegated to a number of different colleagues
 - Monitor and track progress toward the completion of the task
 - Provide a history (audit trail) of the steps performed for a task
 - Perform the same tasks on multiple systems
 - Enabling a function (e.g. zEDC)
 - Upgrading a new release of software (e.g., z/OS)
- The z/OSMF Workflow also provides RESTful APIs that allow user to run workflows programmatically meaning you can basically externalize any service you currently run via JCL, Shell or Rexx.

Challenges with z/OSMF Workflow adoption



- z/OS System Programmers have historically built their own home grown processes to perform common system management tasks
- Organizations are wanting to reduce the complexity of their organization's z/OS management processes so they can transfer their knowledge to the early tenure staff
 - Additional skills are needed to create z/OSMF Workflows
- How can early tenure and more experienced z/OS System Programmers share best practices and common workflow patterns?

Z Open Repository Of Workflows (zorow)



- Provides a repository for z/OS systems programmers and product vendors to contribute and share z/OSMF workflows
 - All workflows made available under an [Apache 2 license](#)
 - IBM and Rabobank have made initial contributions of z/OSMF workflows to this community
- Community is led by both vendors along with customers, and open to anyone to participate.
 - [Vendor-neutral open source governance](#) established with the guidance of the Open Mainframe Project.



OPEN **MAINFRAME** PROJECT
ZOROW




DEMO

Workflows

Simplifies tasks through guided step-based workflows, and provides administrative functions for assigning workflow responsibilities and tracking progress.

Actions  Active Search

 No filter applied

Workflow Name Filter	Description Filter	Version Filter	Vendor Filter	Access Filter	Owner Filter	System Filter
---	---------------------------------------	-----------------------------------	----------------------------------	----------------------------------	---------------------------------	----------------------------------

There is no data to display.

Total: 0 Selected: 0

Refresh

Last refresh: Oct 28, 2019, 4:30:52 PM local time (Oct 28, 2019, 7:30:52 PM GMT)



Network
Configuration
Assistant



General
Settings



Systems



Import
Manager



FTP Servers



ISPF



Capacity
Provisioning

SDSF




TSO Messages


Overview

All Jobs x

Work with jobs in any phase of processing.

Common Filters | Messages   1  27 | Help

File  Actions  View Refresh  40 seconds ago

 1 of 1 items shown.

<input type="checkbox"/>	JOBNAME Filter starts with "z*" and does not equal "zfs"	JobID Filter	Owner Filter	PrtY Filter	Queue Filter
--------------------------	---	---------------------------------	---------------------------------	--------------------------------	---------------------------------

There is no data to display.

Total: 0 Selected: 0

< 1 >

25 | 50 | 100 | 250 +

Graphs **Properties**

Properties of

Edit properties

Apply

Type to filter properties

Cancel

General

ASID:
ASIDX:
JobCorrelator:
JobID:
JOBNAME:
SysName:
Type:

Accounting

Acct:
EMail:
End-DateTime:
JobCrDate:
Notify:
Programmer-Name:
Rd-DateTime:
RNum:
St-DateTime:

Advanced

ASys:
BERTNum:
Cards:
Device:
ESys:
ExecNode:
ISue:



Hide cursor when not moved Alt+H

A089712 ^





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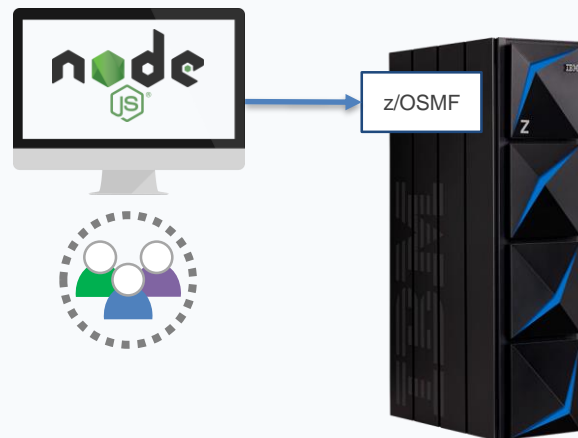


Zowe CLI



```
> unzip zowe-cli-package-1.6.0.zip
```

```
> npm install -g zowe-cli.tgz
```



```
> zowe profiles cre zosmf-profile AnyName --host 192.192.192.1 --port 443 --user z99999 --password yourpassword  
--reject-unauthorized false
```

```
williampereira in OpenSourceProjects/zowe/ShareWebinar  
> |
```

I

williampereira in OpenSourceProjects/zowe/ShareWebinar

> |

williampereira in OpenSourceProjects/zowe/ShareWebinar

> |

}

EXPLORER

OPEN EDITORS

X uploadFiles.sh

SHAREWEBINAR

> .vscode

sometext.txt

uploadFiles.sh

uploadFiles.sh X

uploadFiles.sh

```
1  #/bin/sh
2  zowe profiles set zosmf LBI9
3  bd="/u/A028356/share-upload"
4  ls . | awk {'print $1'} -\
5  | while read line;
6  do zowe files ul ftu $line $bd/$line -b;
7  done;
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL

1: zsh

```
williampereira in OpenSourceProjects/zowe/ShareWebinar
> ./uploadFiles.sh
```

> OUTLINE



ZOWE

DATA SETS

> Favorites

> LBI9



UNIX SYSTEM SERVICES (USS)

JOBS

> Favorites

> LBI9

uploadFiles.sh

uploadFiles.sh

```
1  #/bin/sh
2  zowe profiles set zosmf LBI9
3  bd="/u/A028356/share-upload"
4  ls . | awk {'print $1'} \
5  | while read line;
6  do zowe files ul ftu $line $bd/$line -b;
7  done;
```



Why you and your organization should be a part of Zowe

Individual Contributors and Committer

- Exploit and learn new technology
- Build a global network
- Develop marketable skills through involvement in open source

Company Exploitation of Zowe Technology

- Quick adoption and new app development
- Improved integration and co-existence with other solutions
- Access to market place (future)

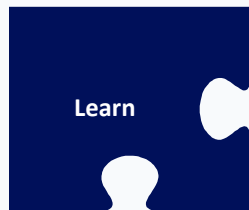
Company Investment in Developer Community

- Influence Zowe direction with contributions
- Expand reputation as industry leader
- Anticipate technology direction
- Reduced dependency on outside troubleshooting



How to get involved in Zowe

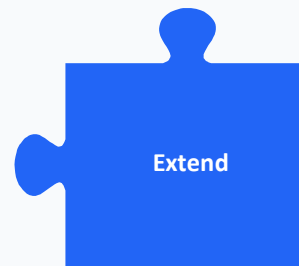
We are building more than just technology, we are building a **community**



- Visit the [Open Mainframe Project](#)
- Visit [Zowe.org](#)
- Connect with us on [Slack](#) or via [email list](#)
- Zowe on [zTrial](#) (under IT Operations)
- Interskill Basics for Zowe badge [Zowe Basics](#)



- [Zowe Github](#)
- [Download Zowe](#)
- Review [documentation](#)
- [Troubleshooting](#)
- Reach out to us on [Slack](#) or via [email list](#)



- Review the [extenders guide](#)
- Zowe [Tutorials](#) and [Samples](#)



- Provide feedback, problems or recommendations to us on [Slack](#) or via [email list](#)
- Submit [Git](#) Issues
- Review the community [backlog](#) and contribute code
- Earn your committer status through [meritocracy](#)

How to get involved in Zorow



Sign up to the Zorow email lists

User List:

<https://lists.openmainframeproject.org/g/zorow-user/>

Developer List:

<https://lists.openmainframeproject.org/g/zorow-dev/>



Find other users and developers on Slack

<https://slack.openmainframeproject.org>

Channel: #zorow



View the code and contribute workflows

<https://github.com/openmainframeproject/zorow>

Contribution Guidelines at

<https://github.com/openmainframeproject/zorow/blob/master/CONTRIBUTING.md>



Thanks

Intro Demo:

<https://www.youtube.com/watch?v=NX20ZMRoTtk&feature=share>

Visual Studio Code (using command line):

https://www.youtube.com/watch?v=la1_Ss27fn8

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