

# From zero to hero using the Open Mainframe Project's tooling platform zowe.org

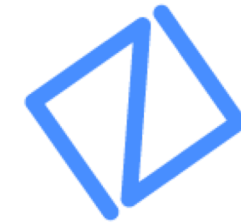
Steven Horsman & Joe Winchester  
IBM

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Session PG



# Introducing Zowe

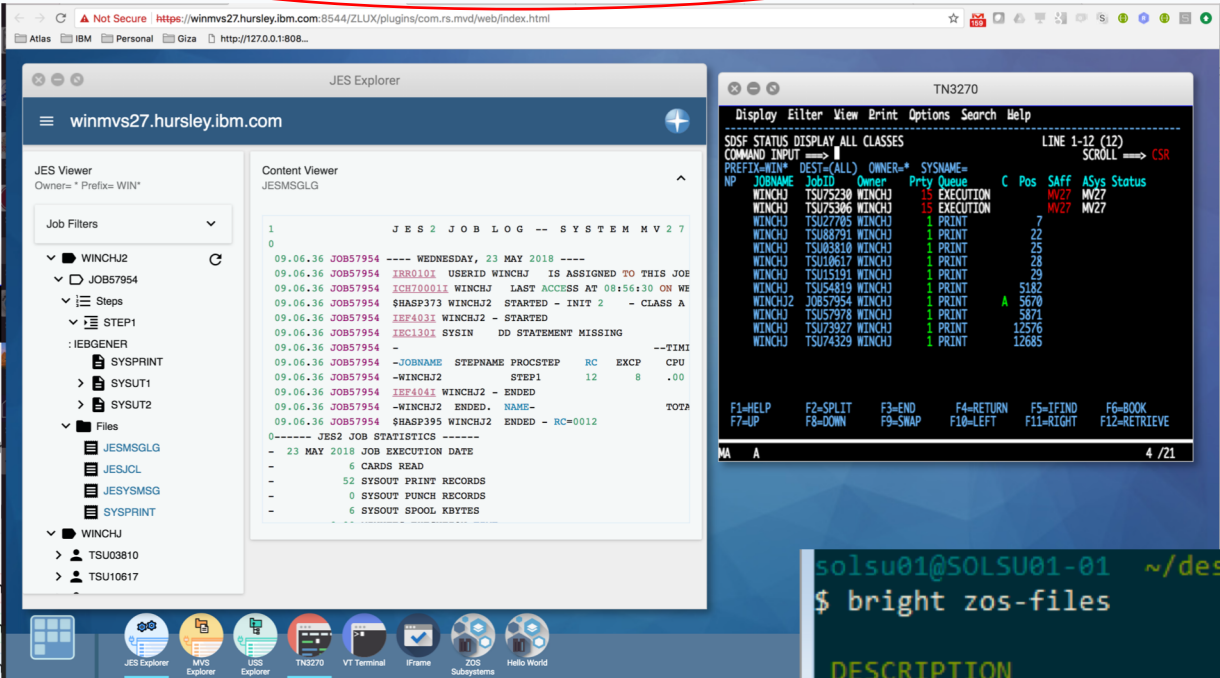
- An extensible framework for connecting applications and tools to mainframe data and applications.
- Aims to make the mainframe an integrated and agile platform within the changing IT architectural landscape.
- First open source project on z/OS. All code is licensed under the Eclipse Public License version 2.0



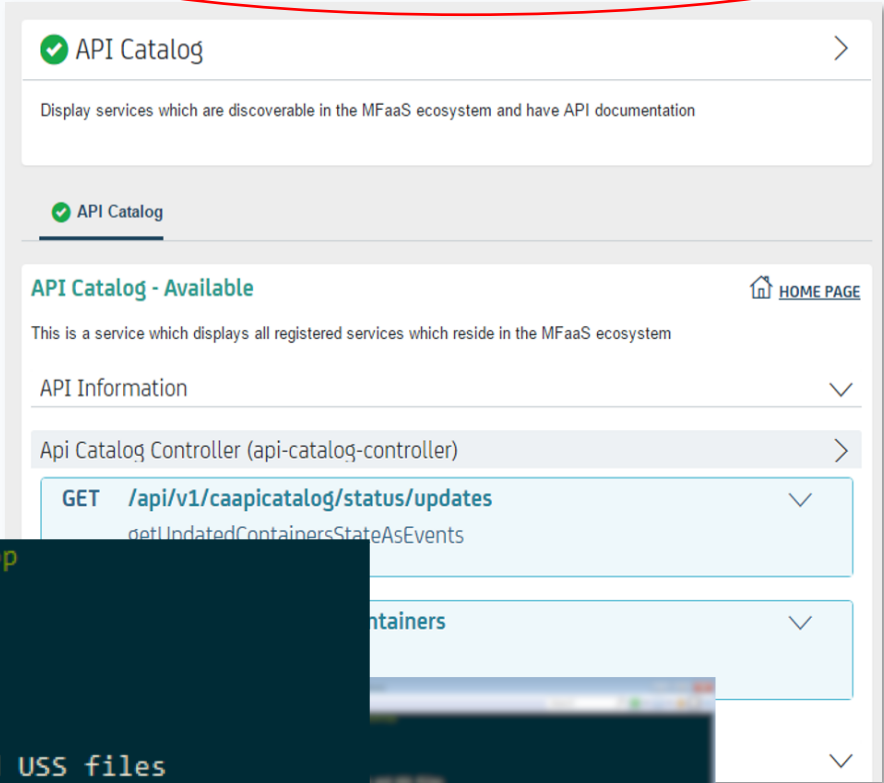
# Zowe

# What's in Zowe?

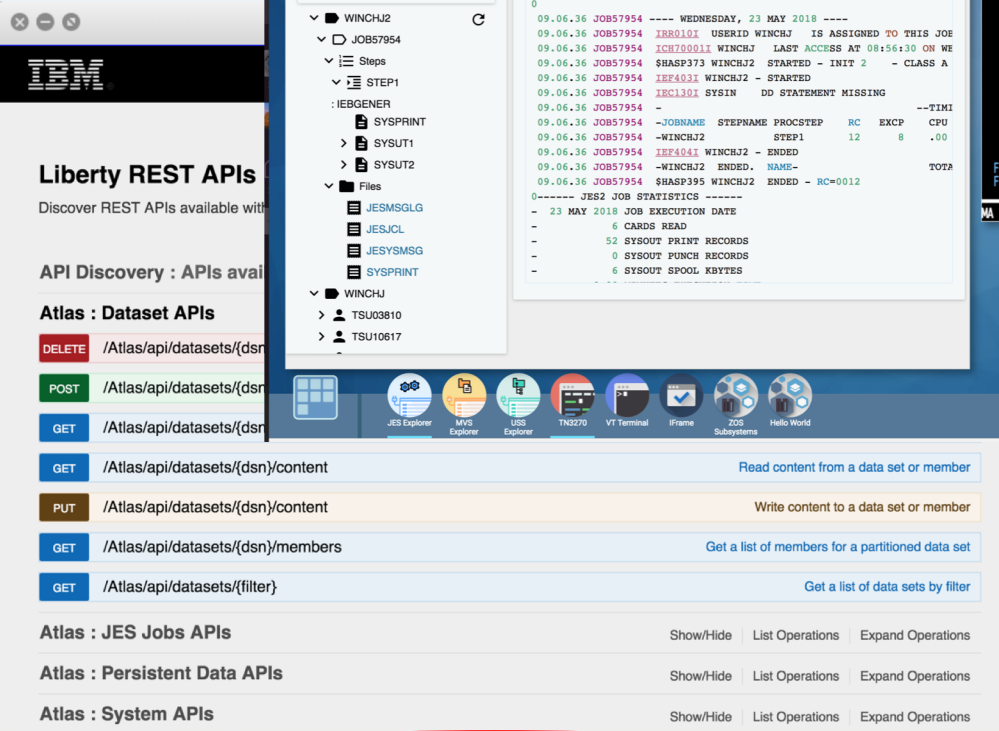
## Browser-based Web Desktop



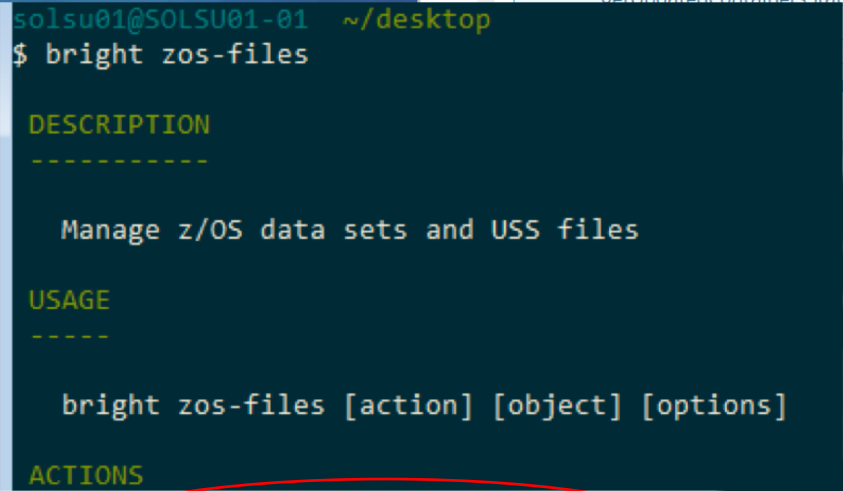
## API Mediation Layer (API Catalog, Discovery Service)



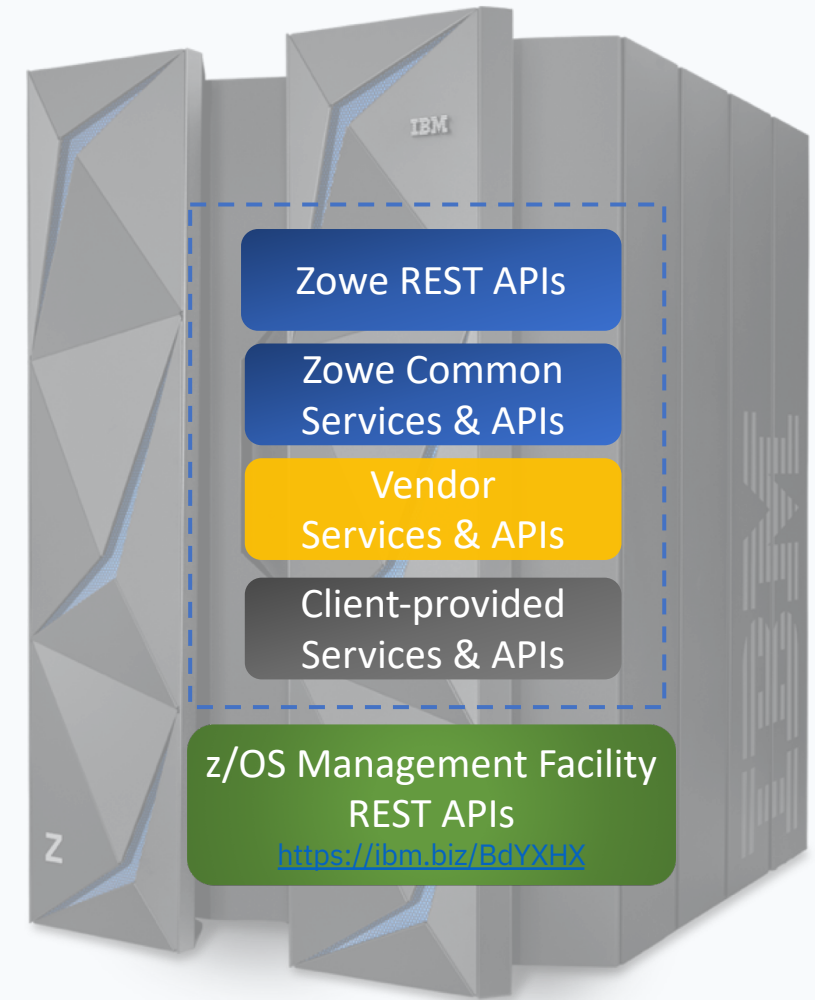
## Swagger-defined z/OS REST APIs



## Node.js- based CLI



- Industry standard REST interfaces to z/OS resources that are language and platform neutral, stateless and scalable
  - Foundational building blocks for system services
- 
- **Dataset APIs**
    - Create, read, update, delete, and list data sets
  - **JES APIs**
    - View the information and files of jobs, and submit and cancel job
  - **USS APIs**
    - Create, read, update, and delete USS files
  - **System APIs**
    - View information about PARMLIB, SYSPLEX, and USER

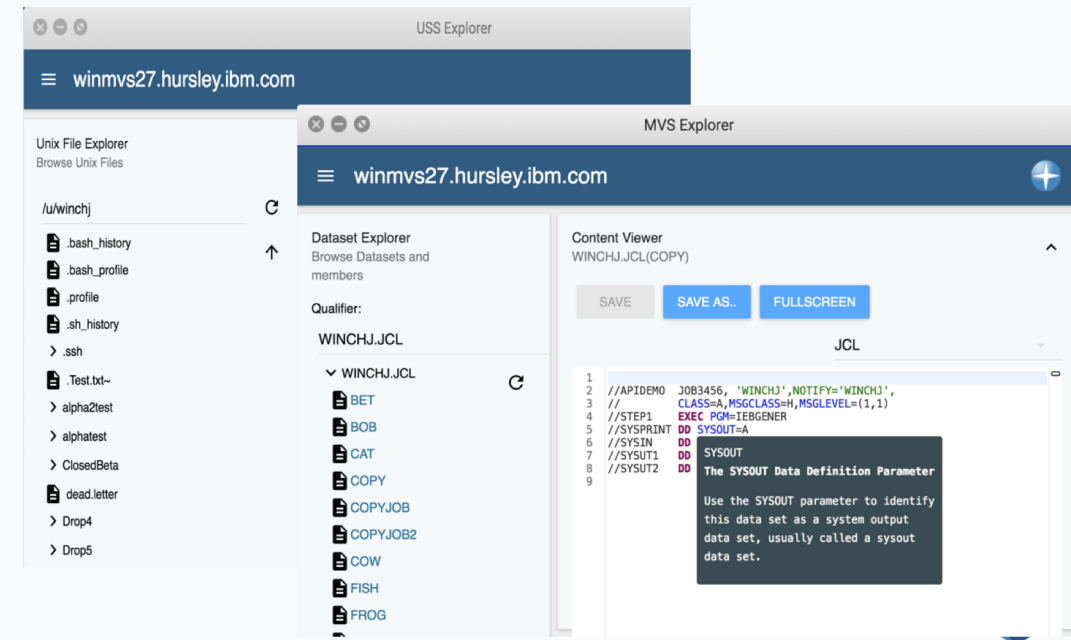
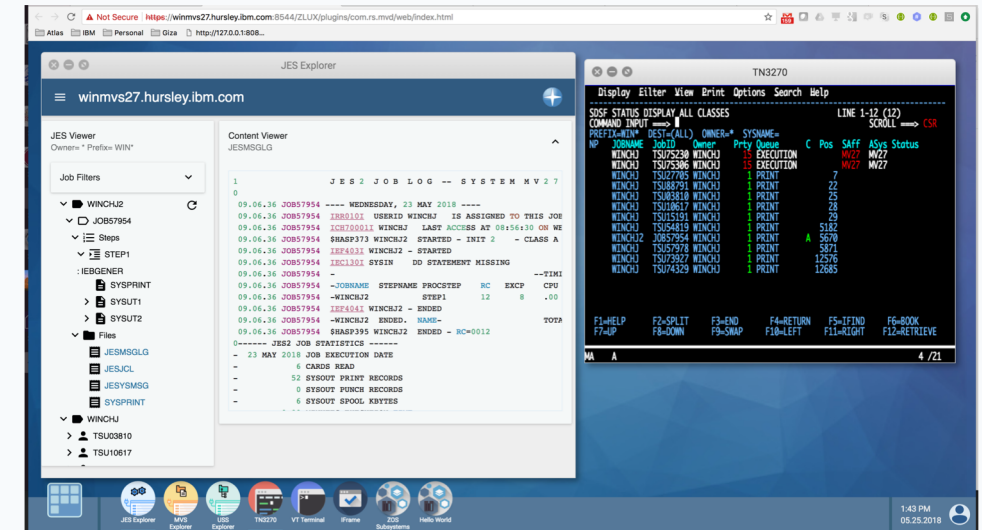






# Zowe Web Desktop – An app container in a browser

- Known as **zLUX**, the Zowe Web UI is a virtual desktop system that offers a rich and open platform for a web-based mainframe user experience.
- Mainframe Virtual Desktop**
  - A web-based window manager that provides full screen interactive experience
- Zowe Node Server**
  - Runs zLUX; uses Express.js as web service framework for communication between applications and z/OS services and components, pre-reqs Node.js for z/OS
- ZSS Server**
  - Provides secured REST API services
- Application plug-in**
  - Dataservices, Configuration dataservice, URI broker, app-to-app communication, Error reporting UI, Logging utility
- Explorers**
  - JES, MVS, USS explorers
  - Basic editing support for REXX and JCL

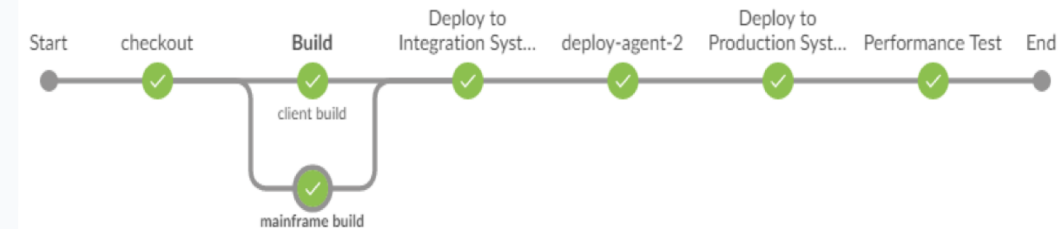




# Zowe CLI – Enables cloud-like access to mainframe

- Enables app developer and DevOps engineers to interact with the mainframe easily through a CLI from any terminal on Windows, MacOS, Linux
- Easily integrates with IDEs, shell commands, bash scripts, and build tools; installs using NPM
  - **Interact with mainframe files**  
Create, edit, download, and upload mainframe files (data sets) directly
  - **Submit jobs**  
Submit JCL from data sets or local storage, monitor status, view and download output automatically
  - **Issue TSO and z/OS console commands**  
Issue TSO and console commands to the mainframe directly
  - **Integrate z/OS actions into scripts**  
Build local scripts that accomplish both mainframe and local tasks
  - **Produce responses as JSON documents**  
Return data in JSON format on request for consumption in other programming languages

## Build | Test | Deploy



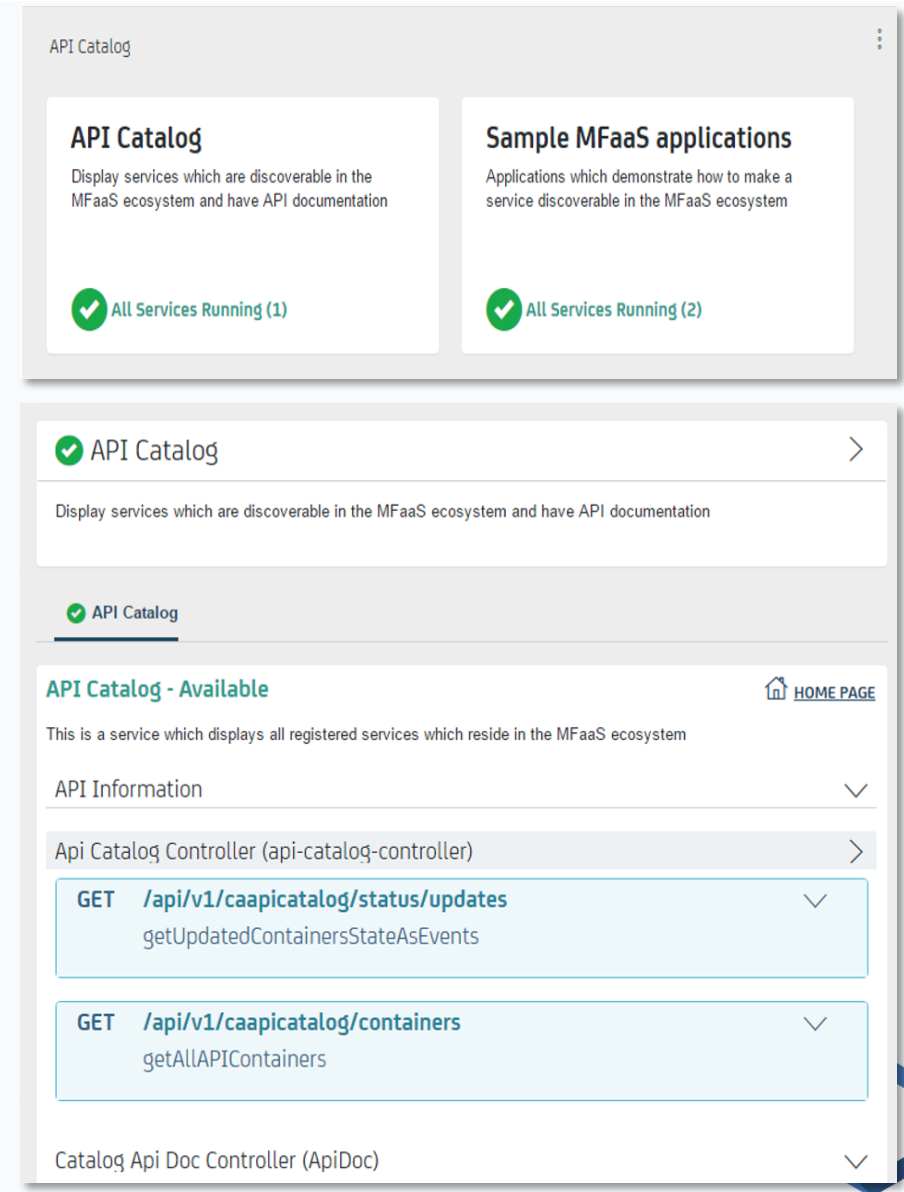
```
$ zowe zos-files create data-set-classic "...JCL" ...  
  
$ zowe jobs submit data-set "...JCL(copy)" ...  
  
$ zowe jobs view job-status-by-jobid JOB03306 ...
```





# Zowe API Mediation Layer – Gateway to mainframe APIs

- Enables a single point of access to mainframe APIs with high-availability, scalability, dynamic API discovery, consistent security, “one-time” sign-on experience and unified standard API documentation (OpenAPI / Swagger)
- **API Catalog**  
UI Catalog of available APIs with their Swagger doc and service status
- **API Gateway**  
Single point of entry to an ecosystem of microservices. Hides complexity. Highly available. Based on Netflix Zuul.
- **Discovery Service**  
Discover APIs across many applications. Repository of active services. Based on Netflix Eureka.
- **ESM Microservice**  
Authenticate and authorize API users with mainframe credentials



# **Zowe Demo**

# Getting Started with ...



Open. Simple. Familiar.

- Project Community site
  - <https://zowe.org>
- Access to Beta Download
  - <https://zowe.org/download>
- Review Zowe squads, missions and activities
  - <https://zowe.org/contribute/>
- Code Guidelines
  - <https://zowe.org/code-guidelines/>
- Project Governance
  - <https://zowe.org/about-us/>
- GitHub
  - <https://github.com/zowe>
- Project Documentation (includes user and install guides)
  - <https://zowe.github.io/docs-site/>
- Developer Tutorials
  - <https://zowe.github.io/docs-site/guides/intro.html>
  - <https://developer.ibm.com/tutorials/zowe-step-by-step-tutorial/>



**Community Slack Channels**



**Community Mailing Lists**



**Community Calendar**



**Community Meeting Minutes**



# We want your feedback!

- Please submit your feedback online at ....
  - <http://conferences.gse.org.uk/2018/feedback/PG>
- Paper feedback forms are also available from the Chair person
- This session is PG

