

Upcoming Virtual Db2 Meeting
Now Now Now
July 15, 2025

Db2 and Zowe:
Everything, Everywhere, All at Once

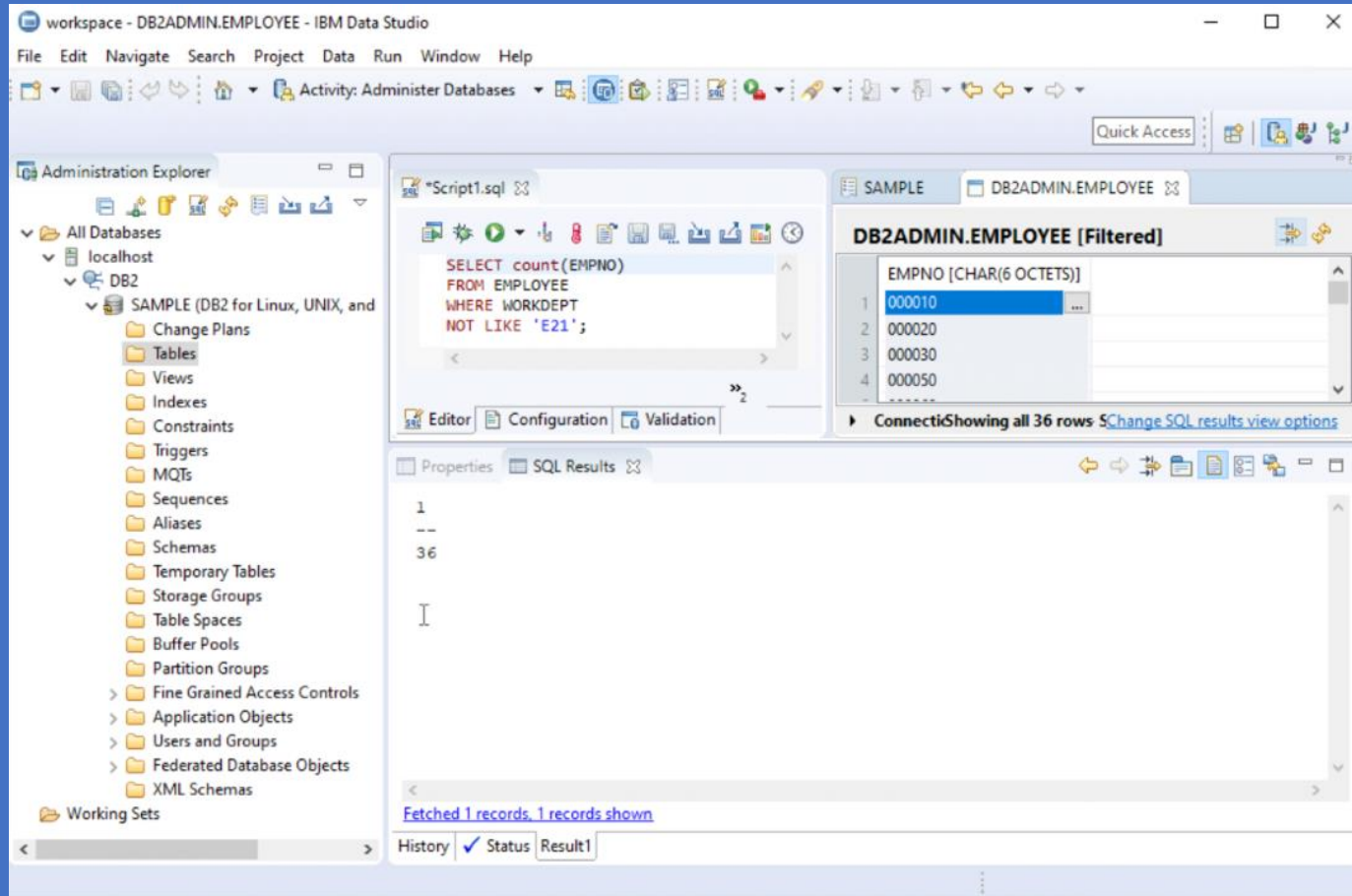


Joe Winchester

Senior Technical Staff Member
IBM zSystems

Register Now!

- What is going on in the Db2 world?
- Why has this got anything to do with Zowe ?
 - Answer:
 - Db2 Administration Foundation use Zowe Desktop
 - VS Code extension Db2 Developer for z/OS has a good co-existence story with Zowe Explorer
- Let's take a look at the Zowe Desktop and Db2 AF Story
- Let's take a look at the VS Code story



Data Studio for Z support ended
March 31st 2025

IBM does not support Db2 13
but with Db2 13 R1M100 some
limited function does work

DSM End of service March 31st
2024

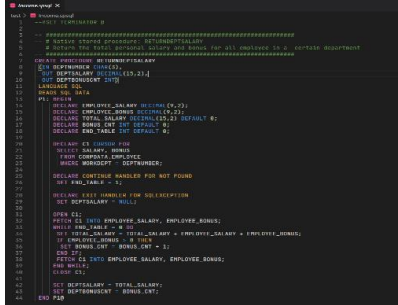


Db2 Developer
Extension for VS
Code

Db2 Administration
Foundation for z/OS

Db2 Developer Extension for VS Code, Db2 Administration Foundation for z/OS

Develop and test



- VS Code extension
- SQL Editor with syntax checking reduces time, errors and efforts
- Navigate Db2 catalog
- Execution of SQL with parameter markers and export query results to CSV
- BIND/REBIND with editing
- Stored procedure development
 - NSP deploy/debug/run
 - Java SP deploy/run

Discover



- Intuitive search of entire Sysplex with visual object representation
- Browser-based user interface built on the open source Zowe Virtual Desktop
- Search across multiple subsystems
- Flexible filtering options and customizable results table

Tune



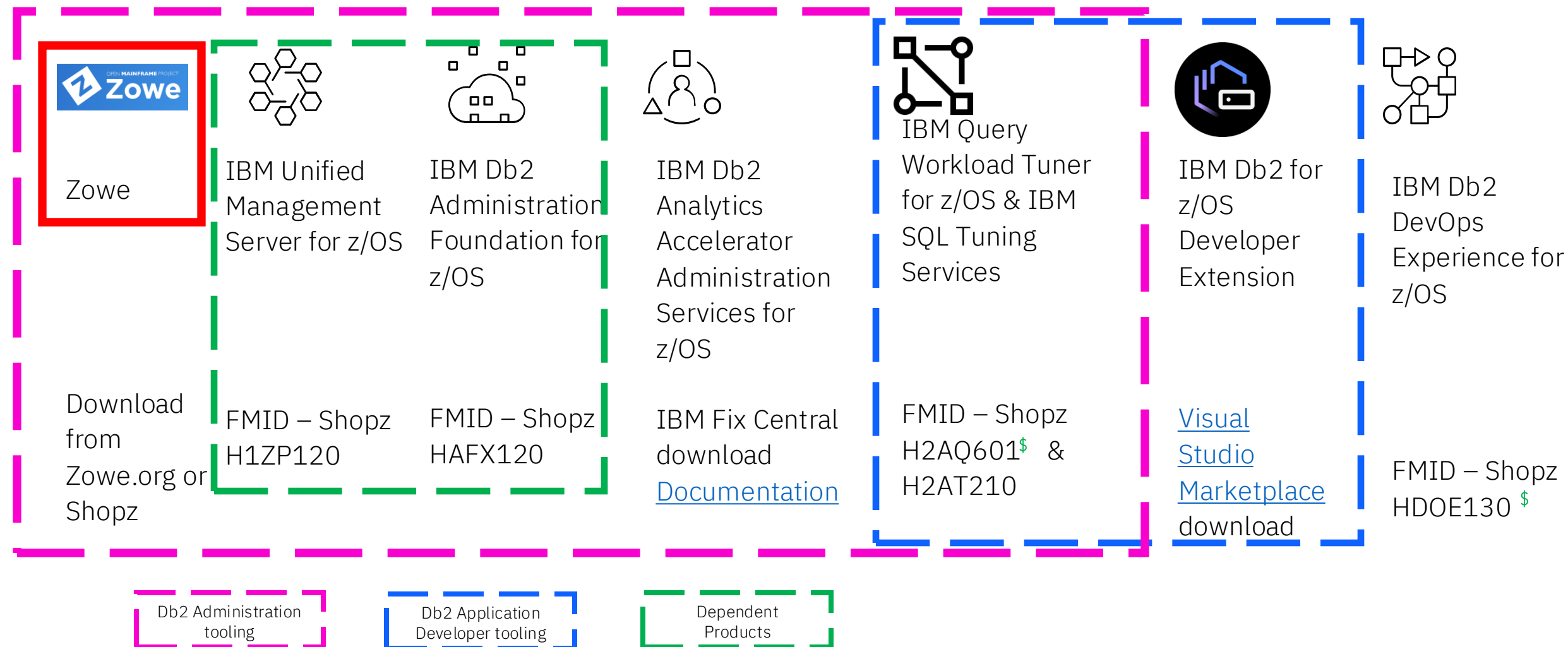
- Single-query and workload tuning
- Visual Explain
- Access Path Advisor
- Query rewrite Advisor
- Statistics Advisor
- Index Advisor
- Statement cache + dynamic plan stability features

Administer

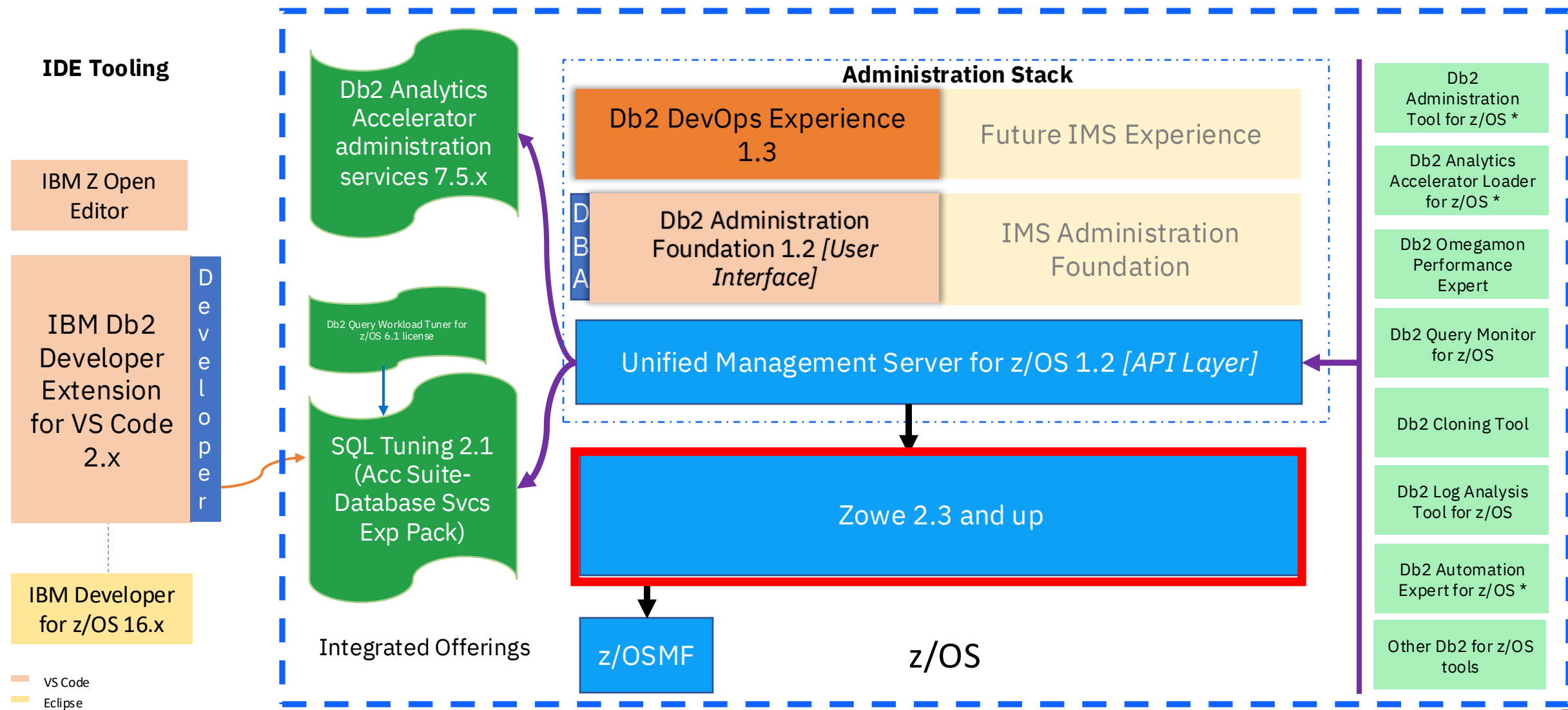


- Dashboard-style object details view
- Db2 Analytics Accelerator administration
- Intelligent Db2 command
- Single-object DDL generation
- Augmented with Zowe: JES, MVS, and USS explorers

What are all the products involved in this strategy



Architecture overview



* All communication between components involved happen over secure channels (HTTPS/SSL setup required)

IBM Db2 +



**EVERYTHING
EVERYWHERE
ALL AT ONCE**



THE **LINUX** FOUNDATION

The Linux Foundation and the projects we support form the most ambitious and successful investment in the creation of shared technology



zowe.org



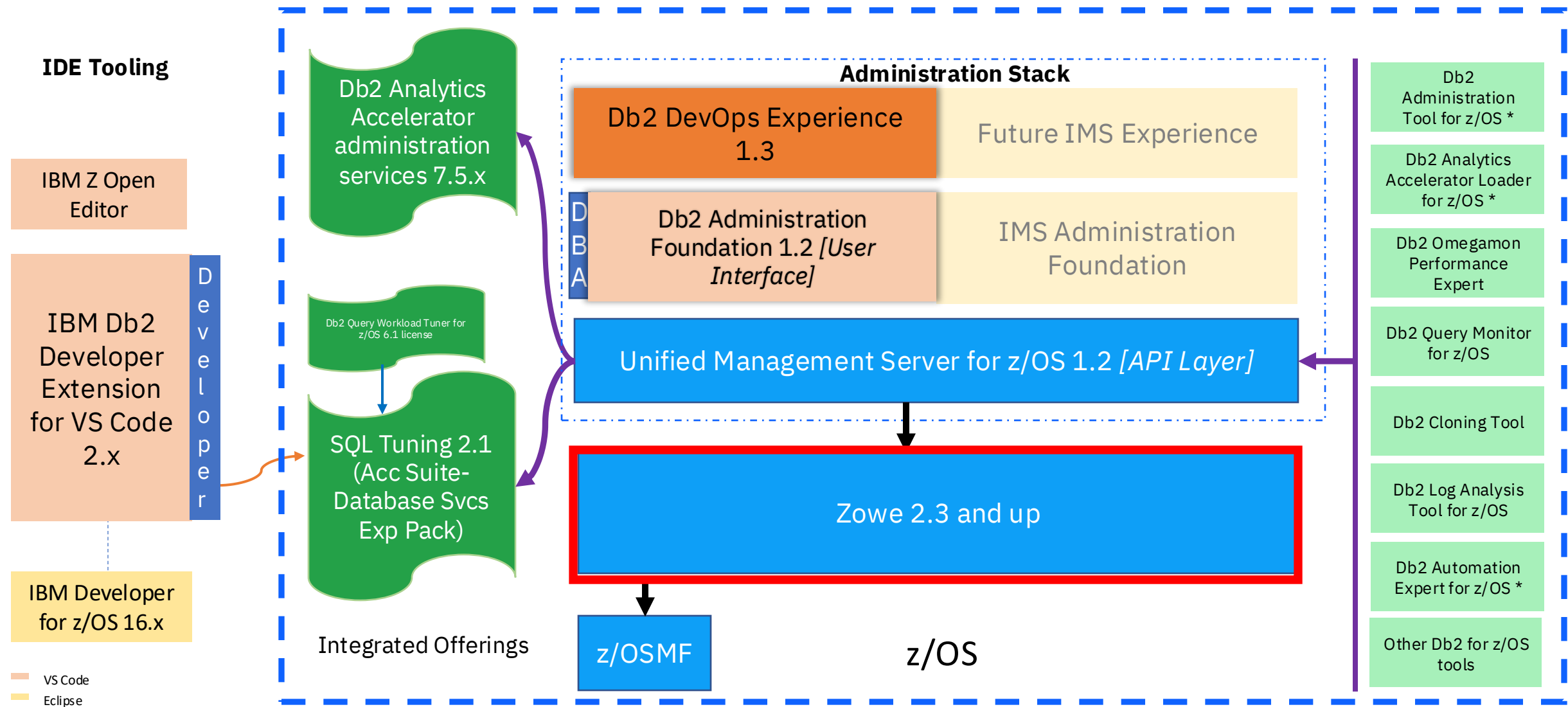


PC



z/OSMF: 443

Architecture overview



* All communication between components involved happen over secure channels (HTTPS/SSL setup required)



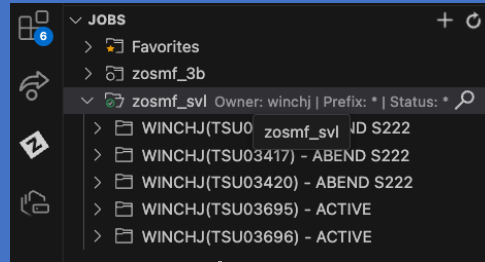
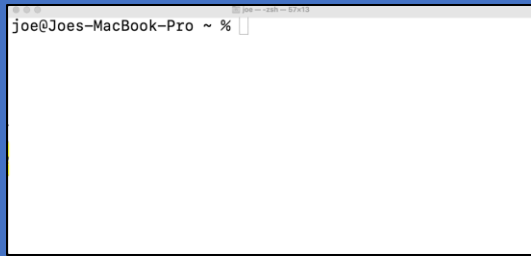
Username

user1

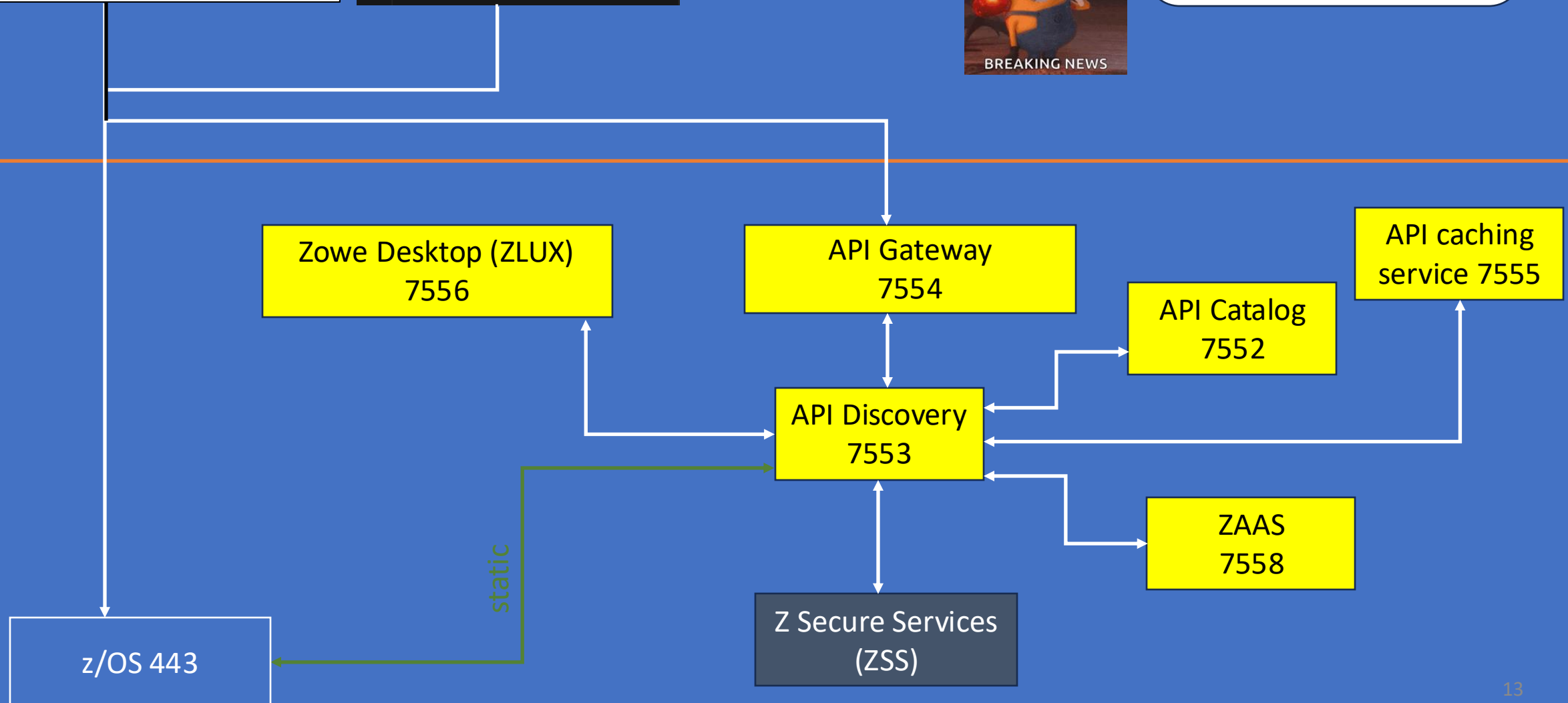
Password

Login

v. 3.2.0+20250430



Zowe 3.3 will allow all APIML micro services to run under one address space !!!



Issues with the Zowe certificate

- The z/OSMF certificate isn't trusted by Zowe
- The Zowe certificate isn't trusted by the browser clients it presents itself to
- The Zowe certificate isn't valid to be used as a client side certificate
- The Zowe certificate doesn't have a valid Subject Alternate Name to match the IP address being used
- The private key is held in ICSF and AT-TLS isn't being used

ERR_CERT_AUTHORITY_INVALID



Your connection is not private

Attackers might be trying to steal your information from **tvt5003.svl.ibm.com** (for example, passwords, messages or credit cards). [Learn more](#)

NET::ERR_CERT_AUTHORITY_INVALID

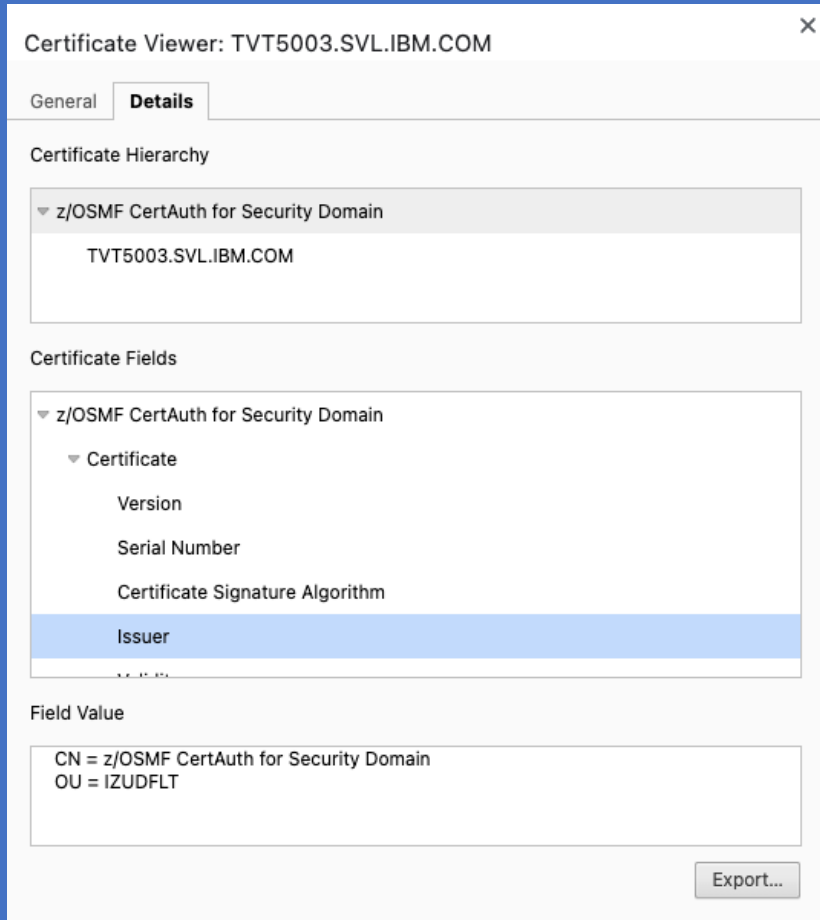
Hide advanced

Back to safety

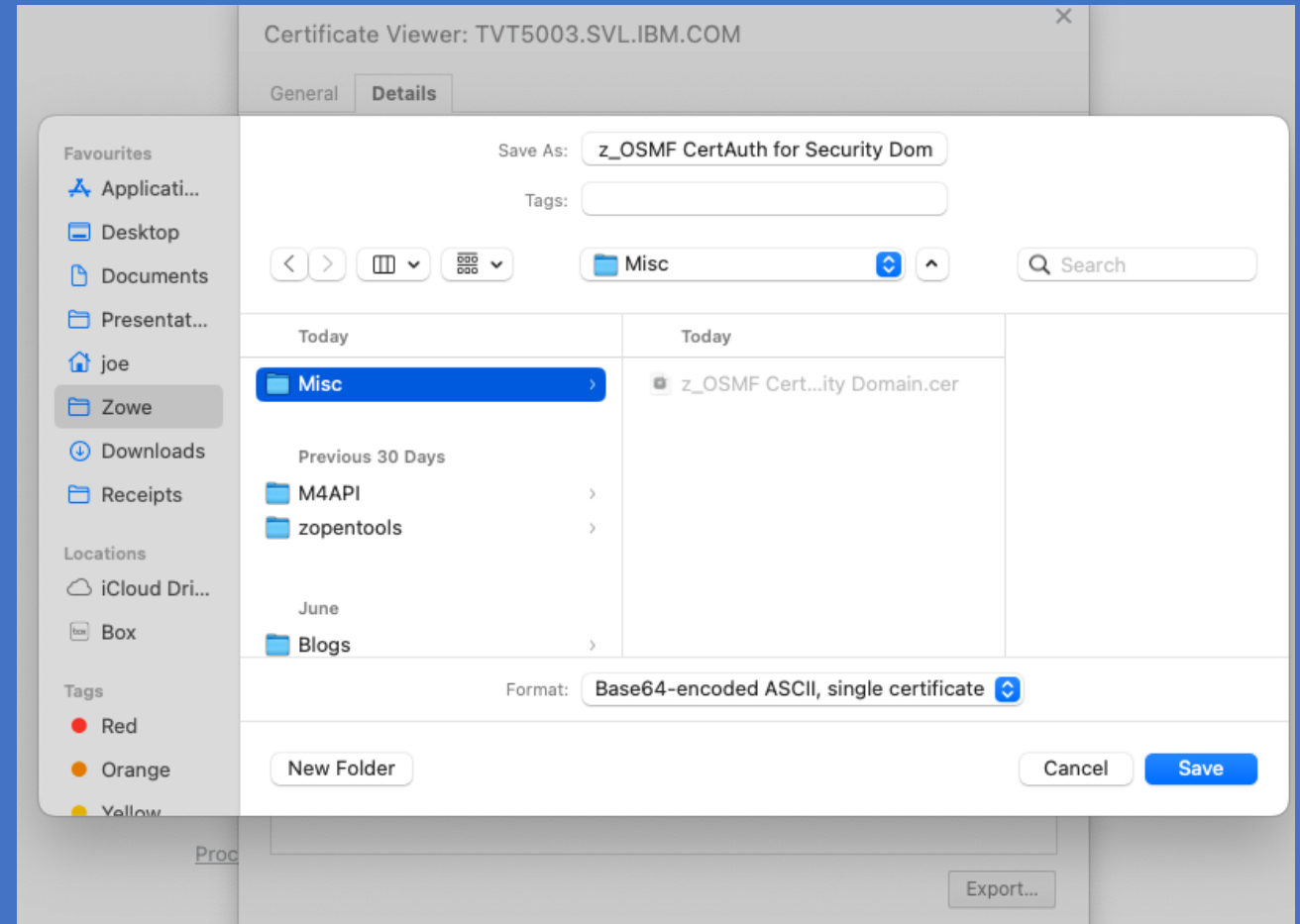
This server could not prove that it is **tvt5003.svl.ibm.com**; its security certificate is not trusted by your computer's operating system. This may be caused by a misconfiguration or an attacker intercepting your connection.

[Proceed to tvt5003.svl.ibm.com \(unsafe\)](#)

Who signed the certificate root ?



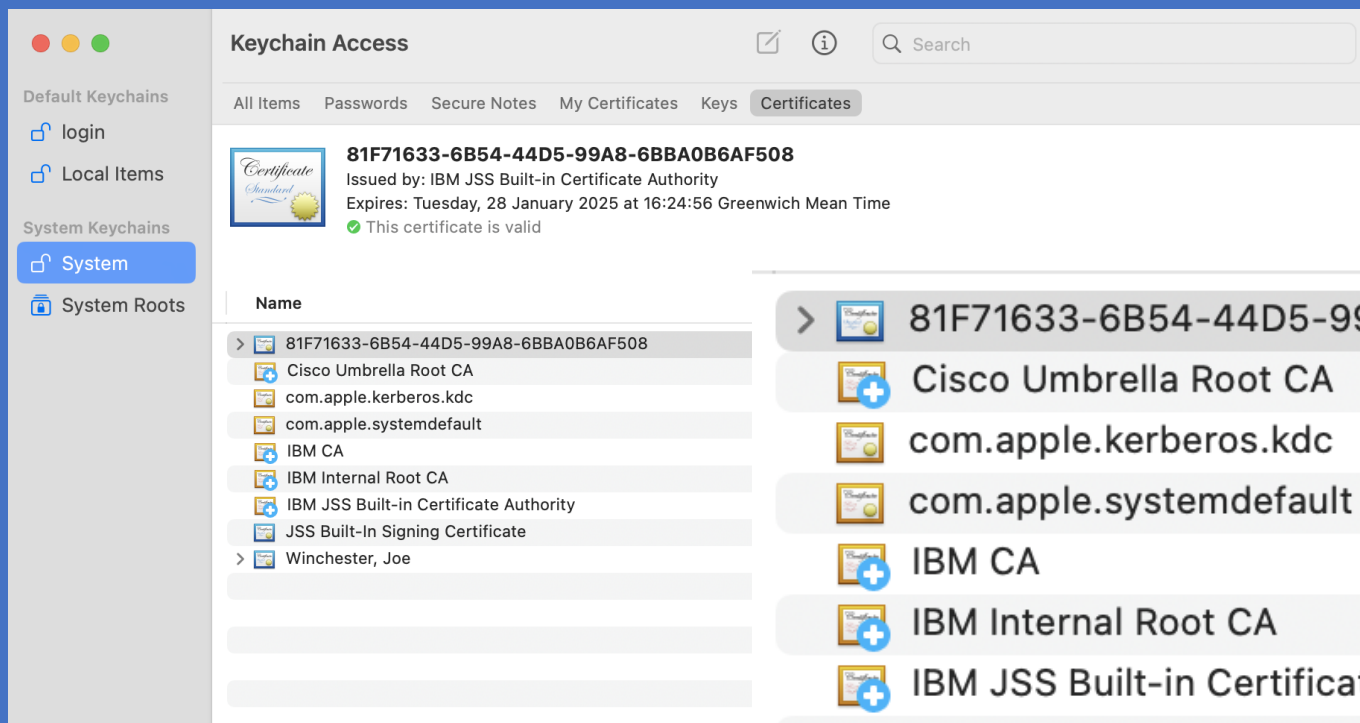
Issuer: CN=its own name so it is a self signed CA



Export the CA or Certificate to a .cer file

Add the certificate .cer file

```
sudo security add-trusted-cert -d -r trustAsRoot -k /Library/Keychains/System.keychain <.cer file>
```



Keychain Access

Default Keychains

- login
- Local Items

System Keychains

- System
- System Roots

Certificates

81F71633-6B54-44D5-99A8-6BBA0B6AF508

Issued by: IBM JSS Built-in Certificate Authority
Expires: Tuesday, 28 January 2025 at 16:24:56 Greenwich Mean Time
✓ This certificate is valid

Name	Type
> 81F71633-6B54-44D5-99A8-6BBA0B6AF508	certificate
+ Cisco Umbrella Root CA	certificate
+ com.apple.kerberos.kdc	certificate
+ com.apple.systemdefault	certificate
+ IBM CA	certificate
+ IBM Internal Root CA	certificate
+ IBM JSS Built-in Certificate Authority	certificate
+ JSS Built-In Signing Certificate	certificate
+ TVT5003.SVL.IBM.COM	certificate
> Winchester, Joe	certificate

Zowe keyring is also a trust store

```
>> Connect existing certificate to Zowe keyring
```

```
Error ZWEL0137E: z/OSMF root certificate authority is not provided (or cannot be detected) with trusting z/OSMF option enabled.
```

```
/u/winchj/zwe-instance-keyring-zosmf:>
```

zowe.verifyCertificates: DISABLED

Use if the certificates presented to Zowe fail trust, or fail expiry validity.

The TLS encryption will still occur, but Zowe cannot verify the origin of the certificates. Not recommended for production, only for POC.

Subject Alternate Name



Your connection is not private

Attackers might be trying to steal your information from **tvt5003.svl.ibm.com** (for example, passwords, messages or credit cards). [Learn more](#)

NET::ERR_CERT_COMMON_NAME_INVALID

Hide advanced

Back to safety

This server could not prove that it is **tvt5003.svl.ibm.com**; its security certificate does not specify Subject Alternative Names. This may be caused by a misconfiguration or an attacker intercepting your connection.

[Proceed to tv5003.svl.ibm.com \(unsafe\)](#).

Certificate Viewer: Zowe Service

General

Details

Certificate Hierarchy

▼ Zowe Development Instances Certificate Authority

Zowe Service

Certificate Fields

▼ Extensions

Certification Authority Key ID

Extended Key Usage

Certificate Key Usage

Certificate Subject Alternative Name

Certificate Subject Key ID

Certificate Signature Algorithm

Certificate Signature Value

Field Value

Not Critical

DNS Name: tv5011.svl.ibm.com

DNS Name: localhost.localdomain

DNS Name: localhost

IP Address: 127.0.0.1

Export...

SAN Mismatch – Cross Site Forgery

Field Value

Not Critical

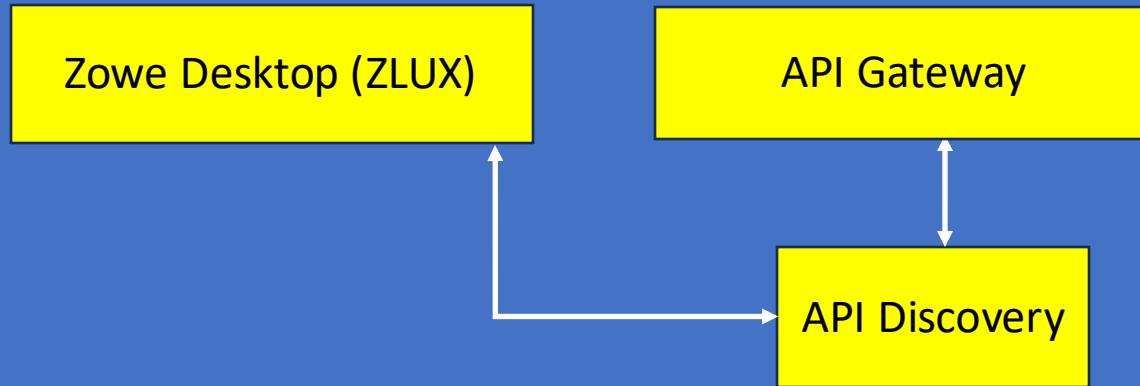
DNS Name: tvt5011.svl.ibm.com

DNS Name: localhost.localdomain

DNS Name: localhost

IP Address: 127.0.0.1

Zowe client AND a server



Certificate Fields

Subject Public Key Algorithm

Subject's Public Key

▼ Extensions

Certificate Subject Alternative Name

Certificate Key Usage

Extended Key Usage

CRL Distribution Points

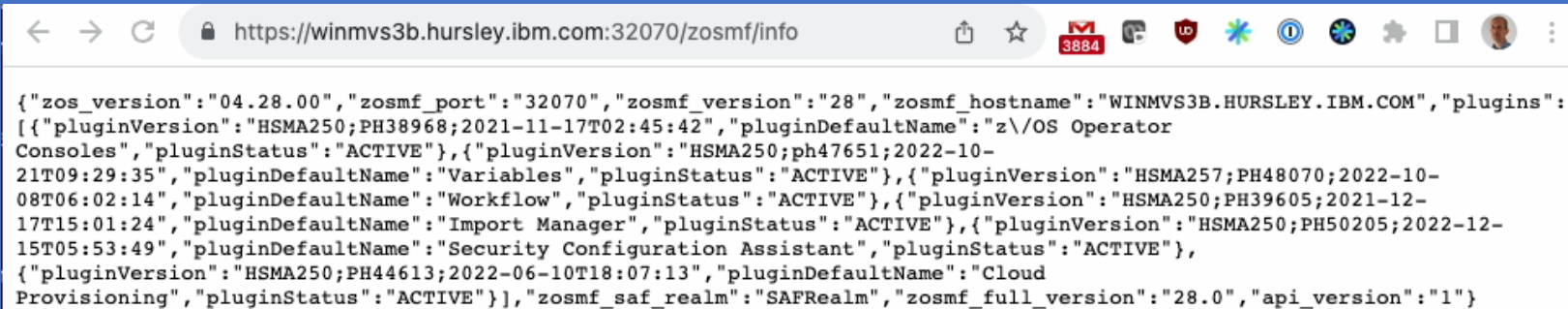
Field Value

Not Critical

TLS WWW Server Authentication (OID.1.3.6.1.5.5.7.3.1)

TLS WWW Client Authentication (OID.1.3.6.1.5.5.7.3.2)

What does a valid certificate look like ?



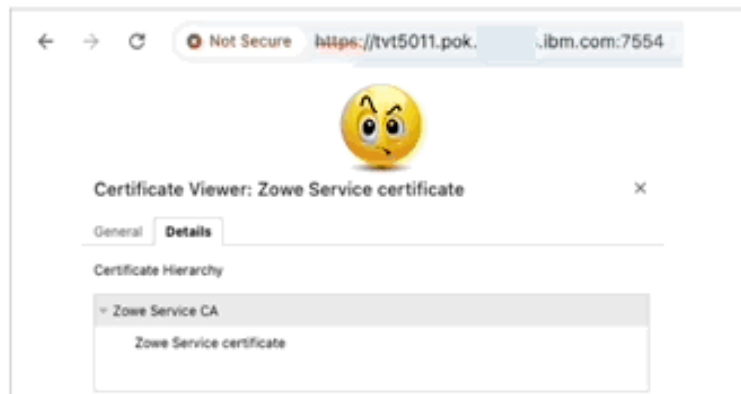
The screenshot shows a web browser window with the address bar displaying `https://winmvs3b.hursley.ibm.com:32070/zosmf/info`. The page content is a JSON object representing system information and active plugins. The JSON structure includes fields for version, port, hostname, and a list of plugins with their respective versions, default names, and statuses.

```
{
  "zos_version": "04.28.00",
  "zosmf_port": "32070",
  "zosmf_version": "28",
  "zosmf_hostname": "WINMVS3B.HURSLEY.IBM.COM",
  "plugins": [
    {
      "pluginVersion": "HSMA250;PH38968;2021-11-17T02:45:42",
      "pluginDefaultName": "z\\OS Operator Consoles",
      "pluginStatus": "ACTIVE"
    },
    {
      "pluginVersion": "HSMA250;ph47651;2022-10-21T09:29:35",
      "pluginDefaultName": "Variables",
      "pluginStatus": "ACTIVE"
    },
    {
      "pluginVersion": "HSMA257;PH48070;2022-10-08T06:02:14",
      "pluginDefaultName": "Workflow",
      "pluginStatus": "ACTIVE"
    },
    {
      "pluginVersion": "HSMA250;PH39605;2021-12-17T15:01:24",
      "pluginDefaultName": "Import Manager",
      "pluginStatus": "ACTIVE"
    },
    {
      "pluginVersion": "HSMA250;PH50205;2022-12-15T05:53:49",
      "pluginDefaultName": "Security Configuration Assistant",
      "pluginStatus": "ACTIVE"
    },
    {
      "pluginVersion": "HSMA250;PH44613;2022-06-10T18:07:13",
      "pluginDefaultName": "Cloud Provisioning",
      "pluginStatus": "ACTIVE"
    }
  ],
  "zosmf_saf_realm": "SAFRealm",
  "zosmf_full_version": "28.0",
  "api_version": "1"
}
```

- ✓ Certificate is trusted (It's root and intermediate CA are known to the PC's trust store)
- ✓ Certificate's SAN includes the Network host address name
- ✓ Certificate's EKU contains client as well as server OID



medium.com/zowe



Securing Zowe's z/OS server with an externally signed certificate for enterprise...

{Core} How to configure Zowe to use a certificate signed by an issuing certificate authority, avoiding browser trust challenges



Joe Winchester

Apr 9 · 17 min read



Configuring Zowe to use an existing keyring and its certificate

{Core} Configuring Zowe to use an existing keyring and its certificate. No need for ZWESVUSR to have its own keyring !!!!!



Joe Winchester

Apr 4 · 9 min read

If using ICSF with a private key you must use AT-TLS
<https://docs.zowe.org/stable/user-guide/configuring-at-tls-for-zowe-server/>

There is an update
<https://github.com/zowe/docs-site/blob/master/docs/user-guide/configuring-at-tls-for-zowe-server.md>

Swagger UI

Swagger UI

Zowe | IBM Unified Experience for z/OS

← → ↺ https://stlabe8.svl.ibm.com:8544/ZLUX/plugins/org.zowe.zlux.bootstrap/web/ ☆ 🔍 Search 🛡️ 🔔 🌐 🍱

X - 5 IBM Unified Experience for z/OS ?

Dashboard / Explore objects

Explore objects

New search ^

Load search

Name

Starts with emp

Schema

Starts with

Object type

Filter object types

☐ Stored procedure

☐ Table

☒ Accelerator (Db2)

☐ Alias

☐ Database

Subsystem

Filter subsystems

Applied filters

Name : Starts with > emp

Object type: Stored procedure

Object type: Table

Clear all

Save as

Apply

5 objects found

Objects meeting the search criteria are listed below. Use the column selector button to select columns to display.

Column selector

Name	Schema	Object type	Subsystem ID	Database	Type	Table space	Implicit	History schema	History table	Created by
EMP	DSN81210	Table	DB0C	DSN8D12A	T	DSN8S12E	N			L057898
EMP	EMPSchema	Table	DB0C	DOEPTMP	T	EMPTSC1E	N			SCHAUFU
EMP	SCBWXBOTM	Table	DB0C	DBWDRWDY	T	EMPTSC1E	N			RMSMITH
EMP	SCWVKWXUO	Table	DB0C	DBLUDTWD	T	EMPTSC1E	N			RMSMITH
EMPPROJACT	DSN81210	Table	DB0C	DSN8D12A	T	DSN8S12P	N			L057898

10:30 AM

PC (Mac, Linux, Win) ↔ Mainframe

Basic Authentication

```
{ user: userID,  
  password: password }
```

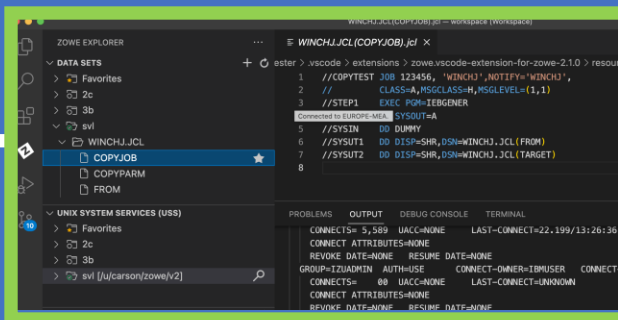


CLI

```
joewinchester@Joes-MBP-New ~ % zowe jobs list jobs  
JOB07030 CC 0000 COPYTEST OUTPUT  
JOB07026 CC 0000 COPYTEST OUTPUT  
JOB07025 CC 0000 COPYTEST OUTPUT  
TSU07015 ABEND S222 WINCHJ OUTPUT  
JOB07020 CC 0000 COPYTEST OUTPUT  
JOB07019 CC 0000 COPYTEST OUTPUT  
JOB07018 CC 0000 COPYTEST OUTPUT  
JOB07017 CC 0000 COPYTEST OUTPUT  
JOB07016 JCL ERROR COPYTEST OUTPUT  
TSU06996 ABEND S222 WINCHJ OUTPUT  
TSU06989 ABEND S222 WINCHJ OUTPUT  
TSU06889 ABEND S222 WINCHJ OUTPUT  
TSU06886 ABEND S222 WINCHJ OUTPUT
```



Developer



z/OS

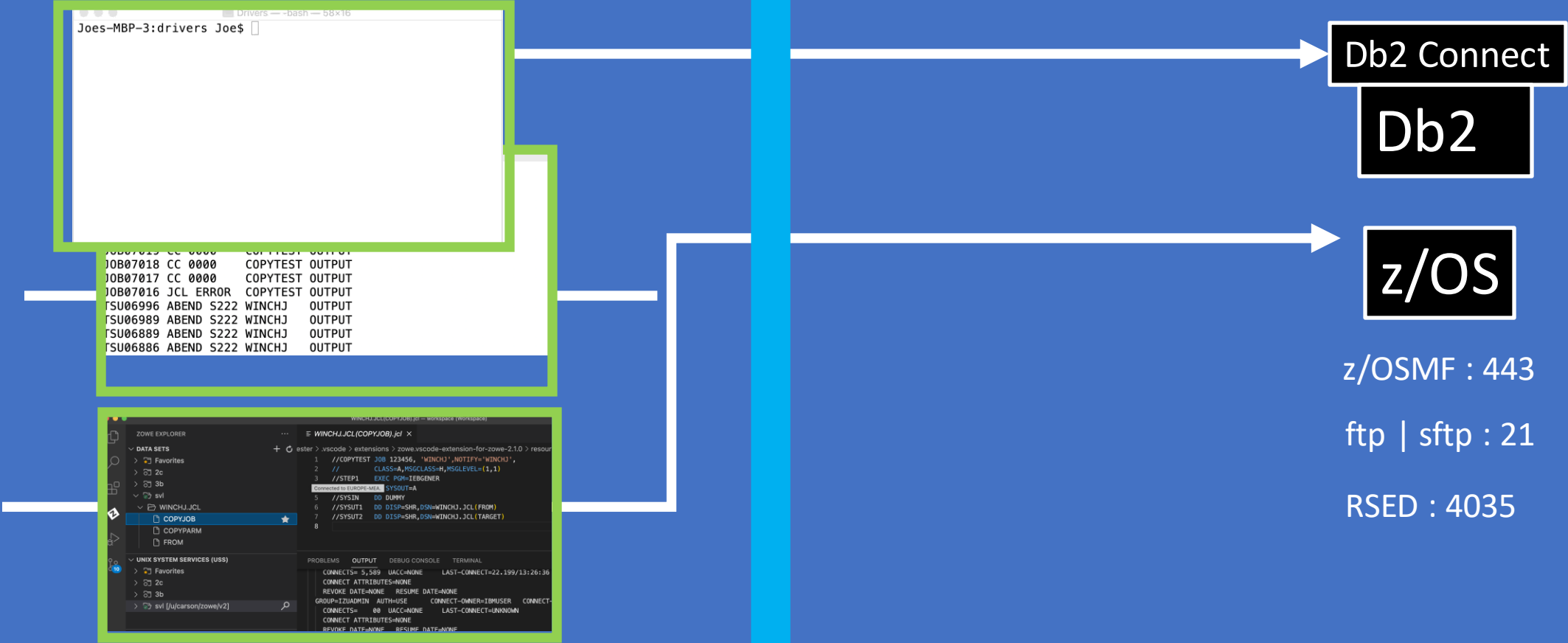
z/OSMF : 443

ftp | sftp : 21

RSED : 4035

PC (Mac, Linux, Win) ↔ Mainframe

Basic Authentication
{ user: userID,
password: password }



PC (Mac, Linux, Win) ↔ Mainframe

Basic Authentication

{ user: userID,
password: password }



CLI



Developer

```
joewinchester@Joes-MBP-New ~ % zowe jobs list jobs
00B07030 CC 0000 COPYTEST OUTPUT
00B07026 CC 0000 COPYTEST OUTPUT
00B07025 CC 0000 COPYTEST OUTPUT
TSU07015 ABEND S222 WINCHJ OUTPUT
00B07020 CC 0000 COPYTEST OUTPUT
00B07019 CC 0000 COPYTEST OUTPUT
00B07018 CC 0000 COPYTEST OUTPUT
00B07017 CC 0000 COPYTEST OUTPUT
00B07016 JCL ERROR COPYTEST OUTPUT
TSU06996 ABEND S222 WINCHJ OUTPUT
TSU06989 ABEND S222 WINCHJ OUTPUT
TSU06889 ABEND S222 WINCHJ OUTPUT
TSU06886 ABEND S222 WINCHJ OUTPUT
```

```
WINCHJ.JCL(COPYJOB).jcl
1 //COPYTEST JOB 123456, 'WINCHJ',NOTIFY='WINCHJ',
2 // CLASS=A,MSGCLASS=H,MSGLEVEL=(1,1)
3 //STEP1 EXEC PGM=IEBGENER
4 //SYSIN DD DUMMY
5 //SYSUT1 DD DISP=SHR,DSN=WINCHJ.JCL(FROM)
6 //SYSUT2 DD DISP=SHR,DSN=WINCHJ.JCL(TARGET)
```

DS Replicas

Instances currently registered with Eureka

Application	Addr	Availability	Zone	Status
APPCATALD	nv1 02	02	UP (1) - nv05011.aol.ibm.com/gateway/27052	
CACHESERVICE	nv1 02	02	UP (1) - nv05011.aol.ibm.com/caching/mv1/27055	
DISCOVERY	nv1 02	02	UP (1) - nv05011.aol.ibm.com/discovery/27053	
GATEWAY	nv1 02	02	UP (1) - nv05011.aol.ibm.com/gateway/27054	
IBMAZSAM	nv1 02	02	UP (1) - STATIC nv05011.aol.ibm.com/ibmazsam/443	
ZLUK	nv1 02	02	UP (1) - nv05011.aol.ibm.com/zlu/27056	
TOSMP	nv1 02	02	UP (1) - STATIC nv05011.aol.ibm.com/tosmp/443	
ZSS	nv1 02	02	UP (1) - STATIC nv05011.aol.ibm.com/zss/27057	

General Info

Name	Value
total-avail-memory	78mb
num-nodes	1
num-of-apps	4
current-memory-usage	59mb/27052



z/OSMF : 443

ftp | sftp : 21

RSED : 4035

Advanced Auth

SSO

MFA

x509 client cert

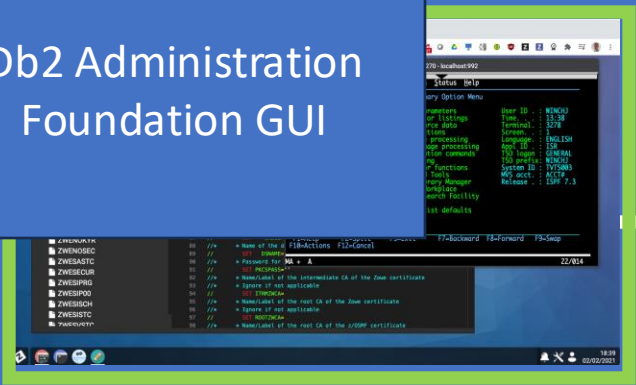
Federated Identity

PC (Mac, Linux, Win) ↔ Mainframe

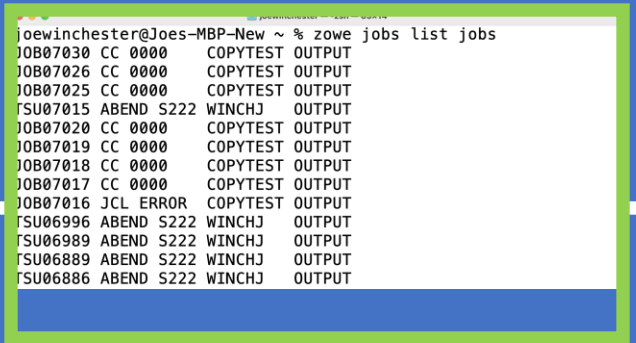


Browser
surfer

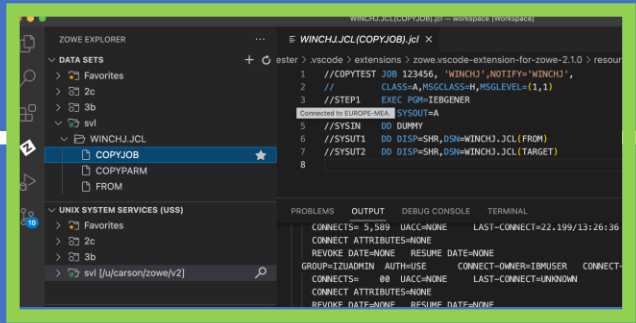
Db2 Administration
Foundation GUI



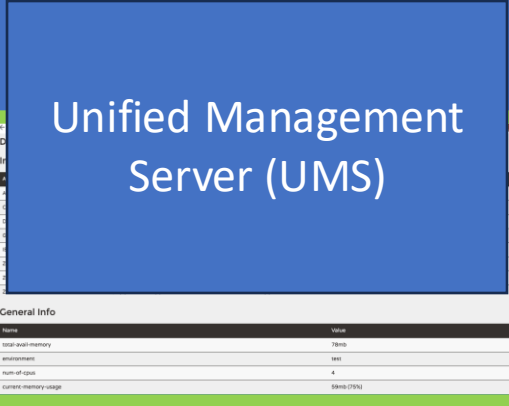
CLI



Developer

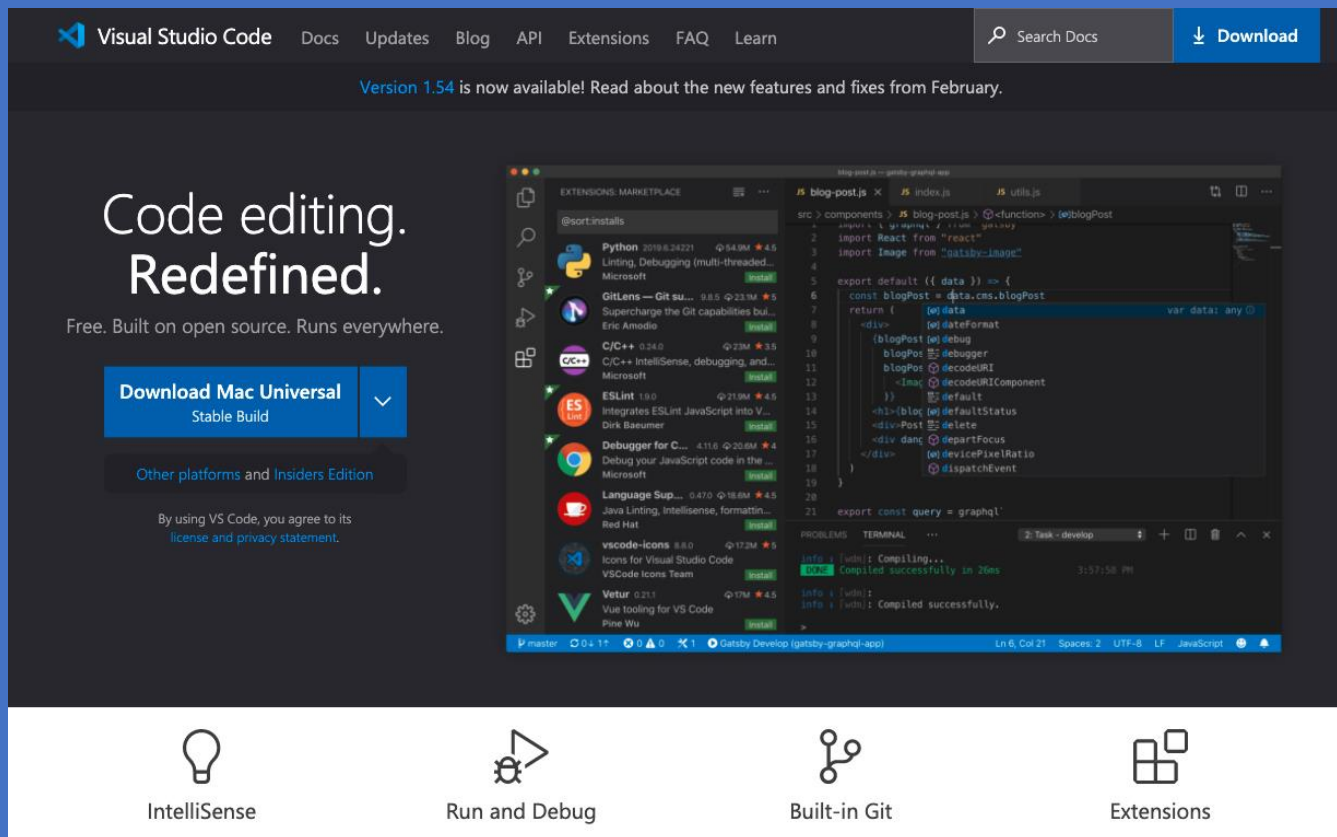


Zowe Desktop
platform for Db2 Admin Foundation



z/OSMF : 443
ftp | sftp : 21
RSED : 4035

VS Code: <https://code.visualstudio.com/>



Visual Studio Code Docs Updates Blog API Extensions FAQ Learn

Version 1.54 is now available! Read about the new features and fixes from February.

Code editing. Redefined.

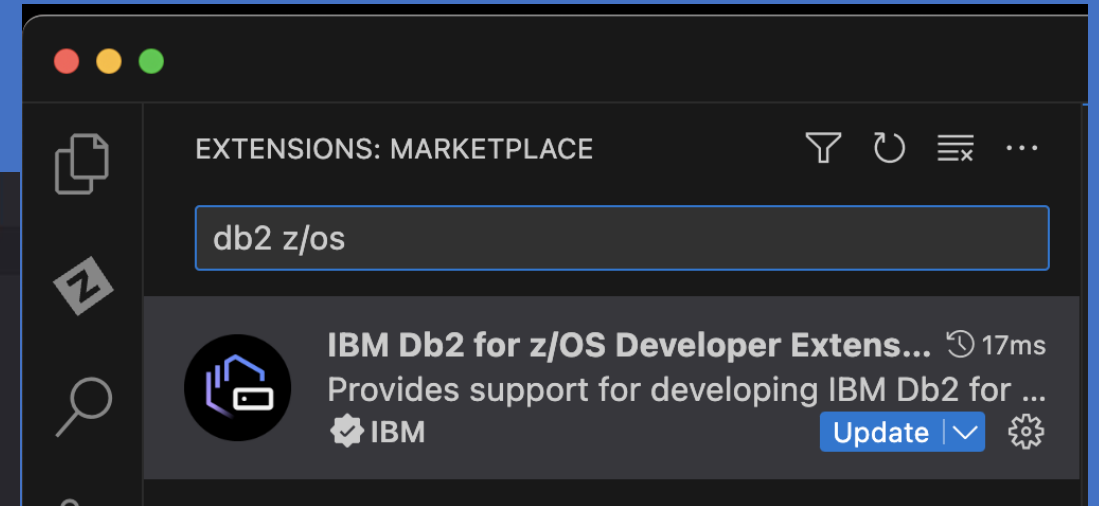
Free. Built on open source. Runs everywhere.

Download Mac Universal
Stable Build

Other platforms and Insiders Edition

By using VS Code, you agree to its [license and privacy statement](#).

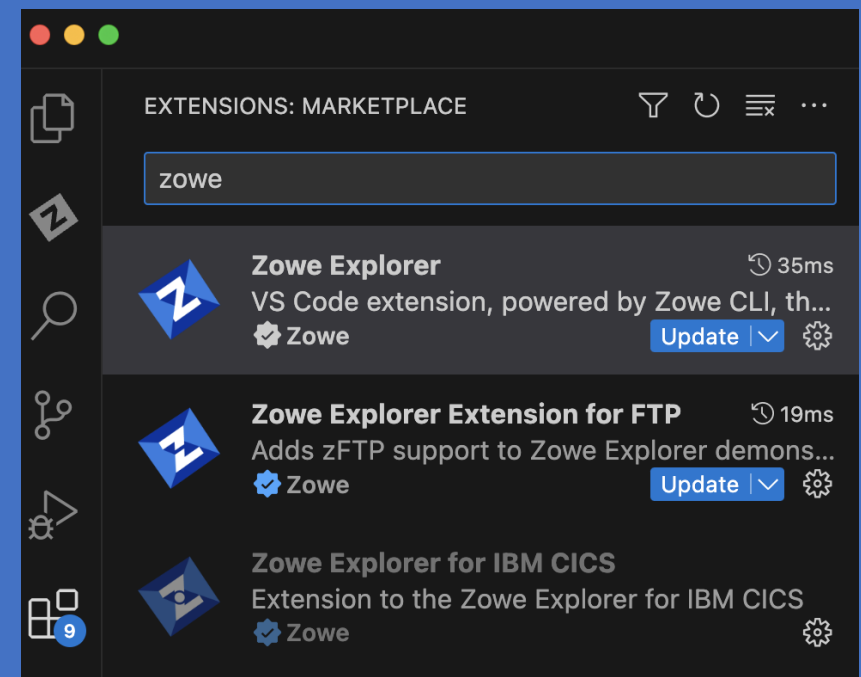
IntelliSense **Run and Debug** **Built-in Git** **Extensions**



EXTENSIONS: MARKETPLACE

db2 z/os

IBM Db2 for z/OS Developer Extens... 17ms
Provides support for developing IBM Db2 for ...
IBM **Update**



EXTENSIONS: MARKETPLACE

zowe

Zowe Explorer 35ms
VS Code extension, powered by Zowe CLI, th...
Zowe **Update**

Zowe Explorer Extension for FTP 19ms
Adds zFTP support to Zowe Explorer demons...
Zowe **Update**

Zowe Explorer for IBM CICS
Extension to the Zowe Explorer for IBM CICS
Zowe



joewinchester — -zsh — 80x24

joewinchester@Joes-MBP-New ~ %

```
DEMO_PDS="STEVENH.DEMO.JCL"
```

```
ZOSMF_PROFILE=3bsh
```

```
# Check and see if pds already exists
```

```
MATCHES=`zowe zos-files list data-set "$DEMO_PDS" --zosmf-p $ZOSMF_PROFILE --response-format-json | jq -r '.data.apiResponse.returnedRows'`
```

```
if [ $MATCHES -gt 0 ]; then
```

```
    echo "Data set $DEMO_PDS already exists, deleting"
```

```
    zowe zos-files delete data-set -f "$DEMO_PDS" --zosmf-p $ZOSMF_PROFILE
```

```
fi
```

```
zowe zos-files create data-set-classic $DEMO_PDS --zosmf-p $ZOSMF_PROFILE
```

```
zowe zos-files upload stdin-to-data-set "$DEMO_PDS(INPUT)" <<< $1 --zosmf-p $ZOSMF_PROFILE
```

```
zowe zos-files upload stdin-to-data-set --zosmf-p $ZOSMF_PROFILE "$DEMO_PDS(COPY)" <<EOF
```

```
//COPY JOB 123456, 'TSTRADM',NOTIFY='TSTRADM',
```

```
//          CLASS=A,MSGCLASS=H,MSGLEVEL=(1,1)
```

```
//STEP1     EXEC PGM=IEBGENER
```

```
//SYSPRINT DD SYSOUT=A
```

```
//SYSIN     DD DUMMY
```

```
//SYSUT1    DD DISP=SHR,DSN=$DEMO_PDS(INPUT)
```

```
//SYSUT2    DD DISP=SHR,DSN=$DEMO_PDS(OUTPUT)
```

```
//STEP2     EXEC PGM=AOPBATCH,PARM='sleep 5'
```

```
EOF
```

```
JOBID=`zowe jobs submit data-set "$DEMO_PDS(copy)" --zosmf-p $ZOSMF_PROFILE --response-format-json | jq -r '.data.jobid'`
```

```
echo "JOBID is $JOBID"
```

```
i="0"
```

```
while [ $i -lt 5 ]
```

```
do
```

```
    sleep 1s
```

```
    STATUS=`zowe jobs view job-status-by-jobid $JOBID --response-format-json --zosmf-p $ZOSMF_PROFILE | jq -r '.data.status'`
```

```
    if [ "$STATUS" = "OUTPUT" ]; then
```

```
        echo "Job $JOBID has now completed"
```

```
        i=5
```

```
    else
```

```
        echo "Waiting for job output to complete. Current status is $STATUS"
```

```
    fi
```

```
    i=$((i+1))
```

```
done
```



Zowe CLI

Tree View

Flat View

db2

- zowe
 - db2
 - call
 - procedure | proc | sp
 - execute
 - sql
 - export
 - table

Examples

- Execute a dummy SQL query:

- `zowe db2 execute sql --query "SELECT 'Hello World' FROM SYSIBM.SYSDUMMY1"` [Copy](#)

- Retrieve the employees table and total number of rows:

- `zowe db2 execute sql -q "SELECT * FROM SAMPLE.EMP; SELECT COUNT(*) AS TOTAL FROM SAMPLE.EMP"` [Copy](#)

- Execute a file with SQL statements:

- `zowe db2 execute sql --file backup_sample_database.sql` [Copy](#)

Examples

- Call stored procedure DEMO.SP1:

- `zowe db2 call procedure "DEMO.SP1"` [Copy](#)

- Call a stored procedure and pass values for parameter indicators:

- `zowe db2 call procedure "DEMO.SP2(?, ?)" --parameters "Hello" "world!"` [Copy](#)

- Call a stored procedure and pass values for two output parameters. The first output requires a 2-character buffer. The second output is a message that will be truncated to the length of the placeholder.:

- `zowe db2 call procedure "DEMO.SP3(NULL, ?, ?)" --parameters "00"
"message_placeholder_message_placeholder"` [Copy](#)

Examples

- Export employees data from the table SAMPLE.EMP and save it to the file 'employees.sql':

- `zowe db2 export table
SAMPLE.EMP --outfile
employees.sql` [Copy](#)

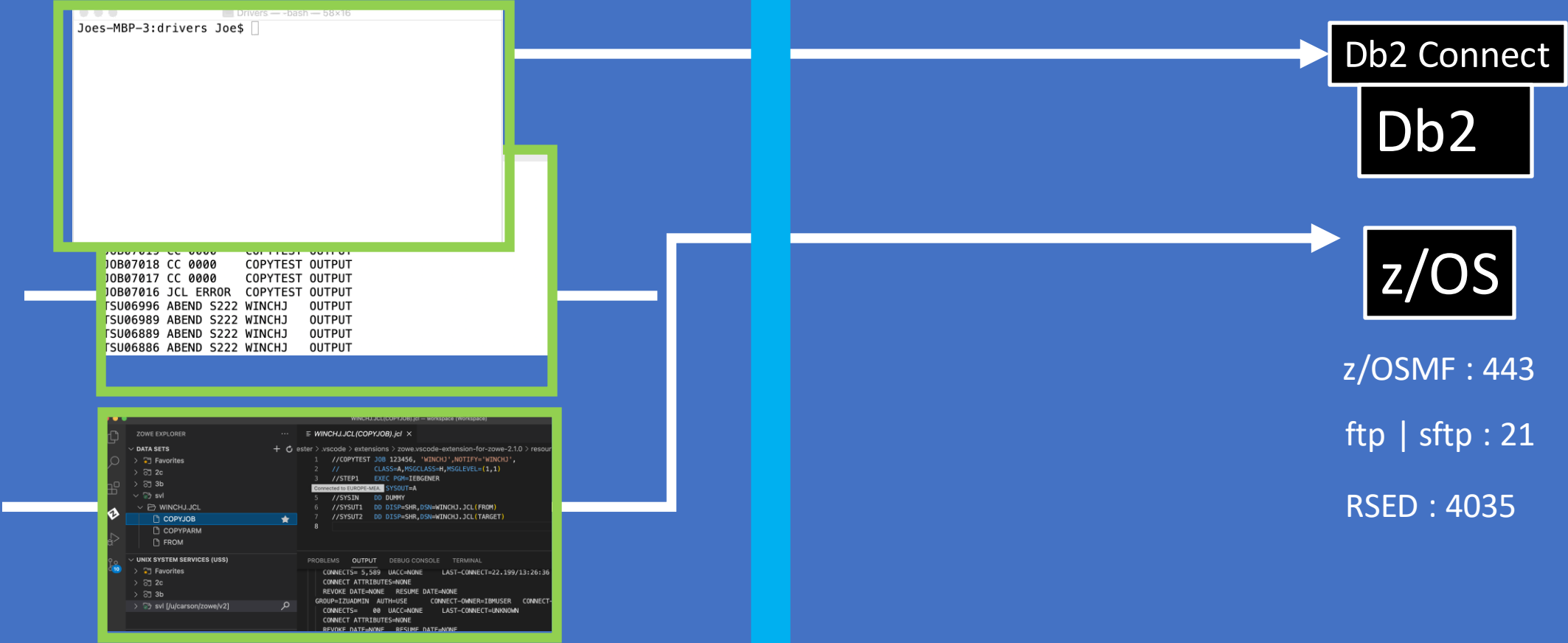


Drivers — -bash — 58x16

Joes-MBP-3:drivers Joe\$

PC (Mac, Linux, Win) ↔ Mainframe

Basic Authentication
{ user: userID,
password: password }



Configuring Zowe Db2 Command Line Interface



Joe Winchester · 8 min read · Jan 19, 2021



12



{Core} The Open Mainframe Project's Zowe command line interface (CLI) provides the ability for a developer to manipulate z/OS by issuing commands on their laptop. It does this by connecting to z/OS and issuing z/OSMF REST APIs. As well as providing base function, the CLI is also extensible allowing it to connect to other endpoints on z/OS including our favourite enterprise database Db2. This blog describes how to obtain, configure, troubleshoot, and use the Zowe Db2 CLI plugin. I'm fortunate enough to use a Mac as my go-to laptop so the article includes idiosyncrasies peculiar to MacOS, however the Zowe Db2 CLI works equally well on Windows, Linux, or any operating system that can run Node.js.

SQL1598N: Db2 connect license

If you get an error `SQL1598N` then this is because the Db2 connect license hasn't been applied.

```
zowe db2 execute sql --q "SELECT count(*) FROM SYSIBM.SYSTABLES"  
Command Error:  
DB2 ODBC Driver Error: [node-ibm_db] SQL_ERROR  
Error Details:  
Error:      [IBM][CLI Driver] SQL1598N An attempt to connect to the  
database server failed because of a licensing problem.  
SQLSTATE=42968  
SQLCODE:   -1598  
SQLSTATE:  42968
```

The CLI uses open database connectivity (ODBC) to connect to Db2. To make things all work correctly, a Db2 connect license file needs to be applied, either **locally on the client** (your laptop) or **on z/OS itself**.



z/OS Server db2connectactivate utility

To configure Db2 on z/OS to be able to accept ODBC client connections execute the `db2connectactivate` utility, see [Server License Activation Utility](#). Once `db2connectactivate` is run against a database every client using the `zowe db2 cli` can connect to it without needing a client side license. Performing `db2connectactivate` is a task where you'll need to contact your friendly neighbourhood z/OS Db2 system programmer and have them activate the license.

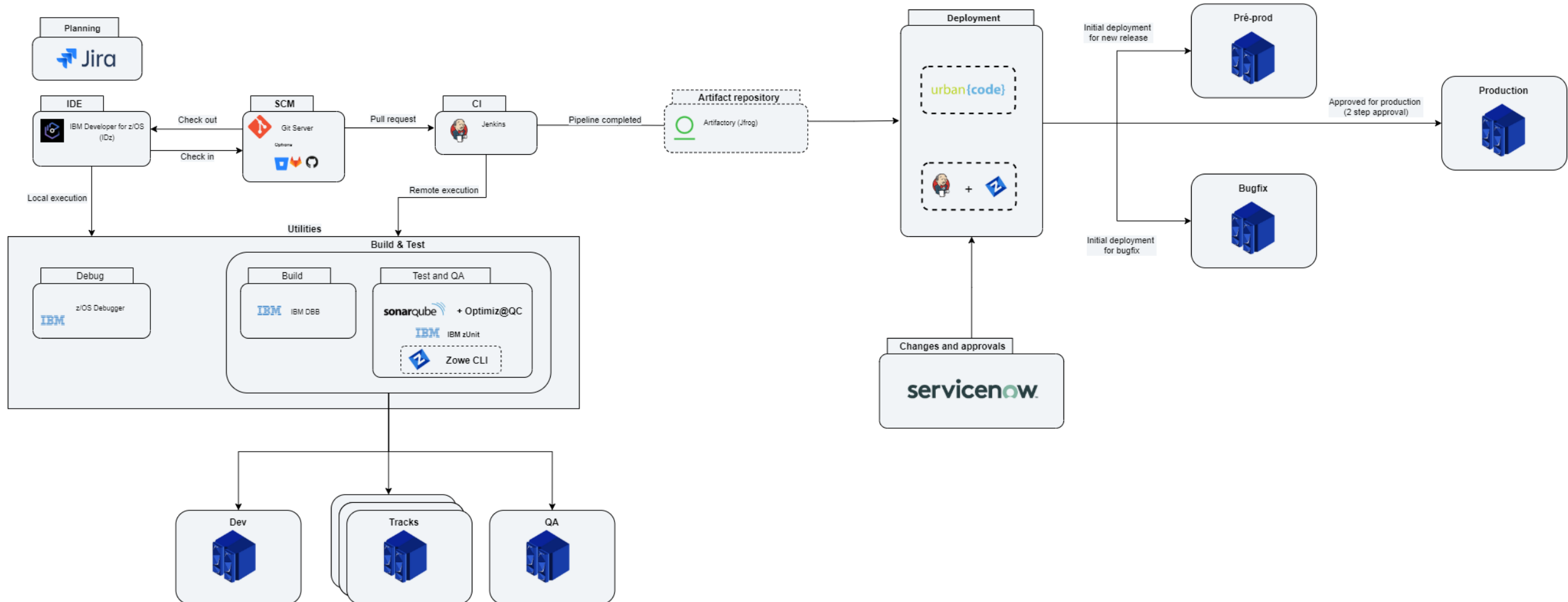
Client license activation

If the `db2connectactivate` utility has not been run on the z/OS DB2 database you're connecting to, you can resolve this by copying the file `db2consv_zs.lic` (which is included within DB2 connect itself) into the zowe plugin directory structure at :

```
~/.zowe/plugins/installed/lib/node_modules/@zowe/db2-for-zowe-  
cli/node_modules/ibm_db/installer/clidriver/license
```

If you don't have a copy of `db2consv_zs.lic` you'll need to contact your friendly neighbourhood Db2 system programmer and they should be able to send you the one that came with their copy of DB2 Connect.

DevOps Pipeline





Visual Studio Marketplace Extension

Zowe Explorer and Db2 Developer Extension side by side

EXTENSIONS: MARKETPLACE

zowe

-  **Zowe Explorer** 34ms
VS Code extension, powered by Zo...
Zowe [Update](#)
-  **Zowe Explorer Extension f...** 22ms
Adds zFTP support to Zowe Explore...
Zowe [Update](#)
-  **Zowe Explorer for IBM CICS**
Extension to the Zowe Explorer for I...
Zowe

db2

-  **IBM Db2 for z/OS Develop...** 60ms
Provides support for developing IB...
IBM

ZOWE EXPLORER

- DATA SETS
 - Favorites
 - zosmf_3b
 - zosmf_svl
 - zftp_3b_using_ftp
- UNIX SYSTEM SERVICES (USS)
 - Favorites
 - zosmf_3b
 - zosmf_svl
- JOBS
 - Favorites
 - zosmf_3b
 - zosmf_svl

DB2 DEVELOPER EXTENSION

- DB2 FOR Z/OS CONNECTIONS
- QUERY HISTORY
- SQL TUNING SERVICES SERVERS

Connected to EUROPE-MEA.





⌘ P

F5

> U

> J

Visual Studio Marketplace Extension

Zowe Explorer and Db2 Developer Extension side by side

EXTENSIONS: MARKETPLACE

zowe

- Zowe Explorer** 34ms
VS Code extension, powered by Zo...
Zowe [Update](#)
- Zowe Explorer Extension f...** 22ms
Adds zFTP support to Zowe Explore...
Zowe [Update](#)
- Zowe Explorer for IBM CICS**
Extension to the Zowe Explorer for I...
Zowe

db2

- IBM Db2 for z/OS Develop...** 60ms
Provides support for developing IB...
IBM

ZOWE EXPLORER

DATA SETS

- Favorites
- zosmf_3b
- zosmf_svl
- zftp_3b_using_ftp

UNIX SYSTEM SERVICES (USS)

- Favorites
- zosmf_3b
- zosmf_svl

JOBS

- Favorites
- zosmf_3b
- zosmf_svl

DB2 DEVELOPER EXTENSION

DB2 FOR Z/OS CONNECTIONS

QUERY HISTORY

SQL TUNING SERVICES SERVERS

DB2 DEVELOPER EXTENSION

CONNECTIONS

Db2 for z/OS connections

utec492 (connected)

utec648 (connected)

SQL Tuning Services servers

utec492:944 (a...

QUERY HISTORY

returndeptsalary.spsql 5/11/2022,...

returndeptsalary.spsql 5/11/2022,...

returndeptsalary.spsql 5/11/2022,...

runsql.sql 5/11/2022, 15:52:25 (ute...

SELECT

Untitled-1 12/14/2021, 6:22:25 (ut...

Untitled-1 10/19/2021, 10:38:13 (st...

TUNING HISTORY

SELECT EMP... 5/11/2022, 16:01:11...

select * f... 12/14/2021, 6:21:51 (ut...

select * f... 12/14/2021, 6:20:21 (ut...

select * f... 10/26/2021, 14:32:39 (...)

runsql.sql X

tune.sql

returndeptsalary.spsql

v13.sql 9+

runsql.sql

1 SELECT

2 EMPNO

3 , LASTNAME

4 , WORKDEPT

5 , SALARY

6 FROM

7 EMP

8 WHERE

9 WORKDEPT LIKE 'D%';

10

11 SELECT

12 EMPNO

13 , LASTNAME

14 , WORKDEPT

15 , SALARY

16 FROM

17 EMP

18 WHERE

19 WORKDEPT = ?;

TERMINAL

PROBLEMS 36

OUTPUT

DEBUG CONSOLE

bash

The default interactive shell is now zsh.
To update your account to use zsh, please run `chsh -s /bin/zsh`.
For more details, please visit <https://support.apple.com/kb/HT208050>.
MacBook-Pro:AppDev sowmyakameswaran\$

- ZOWE
- DATA SETS
 - Favorites
 - MyNewConnection
 - DEVEXT.CNTL.SQL
 - DEVEXT.SEQDS.SQL

- UNIX SYSTEM SERVICES (USS)
 - Favorites
 - MyNewConnection

- JOBS
 - Favorites
 - MyNewConnection



Show All Commands   

Go to File  

Find in Files   

Start Debugging 

Toggle Terminal  

[Zowe installation videos](#)

[Db2 for z/OS Developer extension](#)

[IBM Unified Management Server for z/OS](#)

[IBM SQL Tuning Services](#)

[IBM Db2 Analytics Accelerator Services](#)

[Red paper: Integrating Db2 for z/OS Database Changes Into a CI/CD Pipeline](#)