



# Teaching With zClouds

**A conversation that starts with 3 IBM  
Champions, focused on enabling the next  
generation(s) of Mainframers!**

**11am on June 13th, 2025**

**Cartoon Room, 3<sup>rd</sup> Floor**

# Meet The Hosting IBM Champions



**Leonard J Santalucia**  
**Vicom Infinity,**  
**A Converge Company**  
**CTO Mainframe, AI, Cloud,**  
**Analytics, Mobile, Security, IBM**  
**Champion & Chairperson of**  
**Linux Foundation Open**  
**Mainframe Project**



**Cameron Seay, Ph.D.**  
**Adjunct Instructor, East**  
**Carolina University and IBM**  
**Champion**  
**Founder, CEO EMMA**  
<https://emma.foundation/>  
**COBOL Working Group:**  
<https://lists.openmainframeproject.org/g/wg-cobol>



**Kurt Acker**  
**Linux on Velocity (zLOV)**  
**Architect,**  
**Velocity Software**  
**Sir Kurt, Angler of New**  
**Technologies and IBM Champion**

# Company Overview

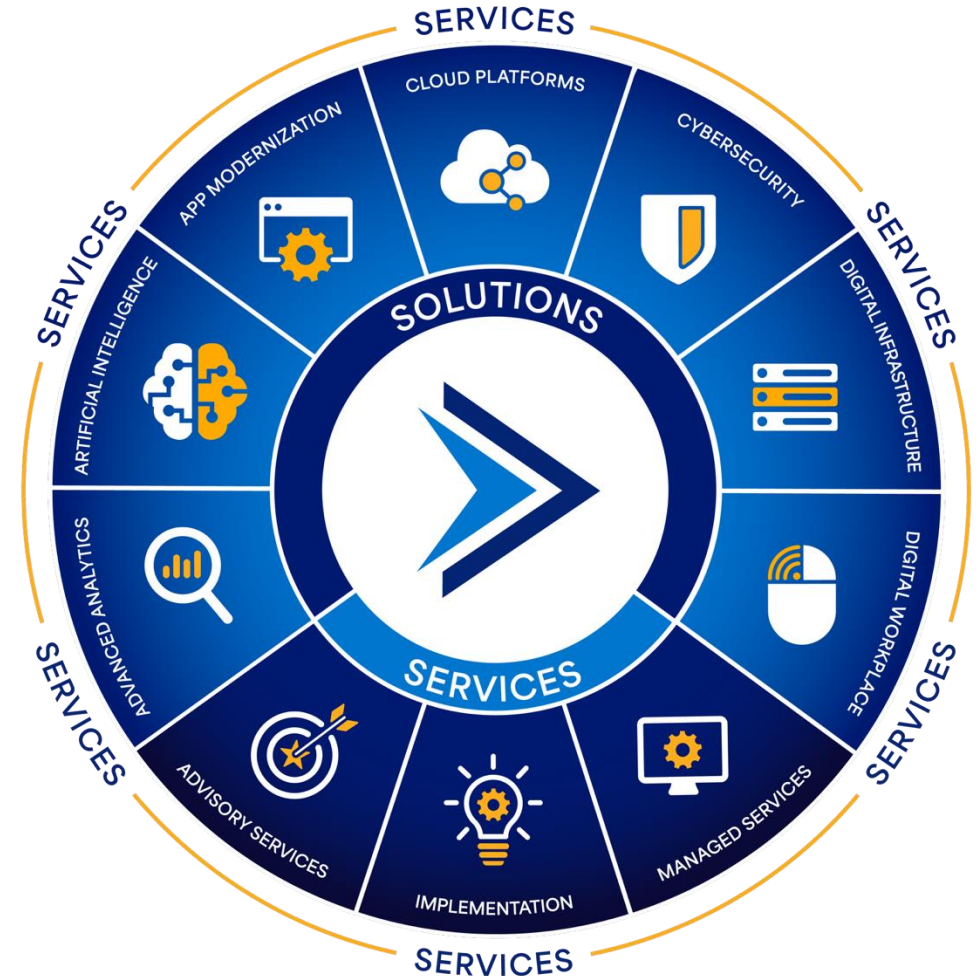
Converge is a **services-led**, software-enabled, **IT & Cloud Solutions provider** focused on delivering industry-leading solutions.

Converge supports these solutions with **advisory**, **implementation**, and **managed services** expertise across all major IT vendors in the marketplace.

[convergetp.com](https://convergetp.com)



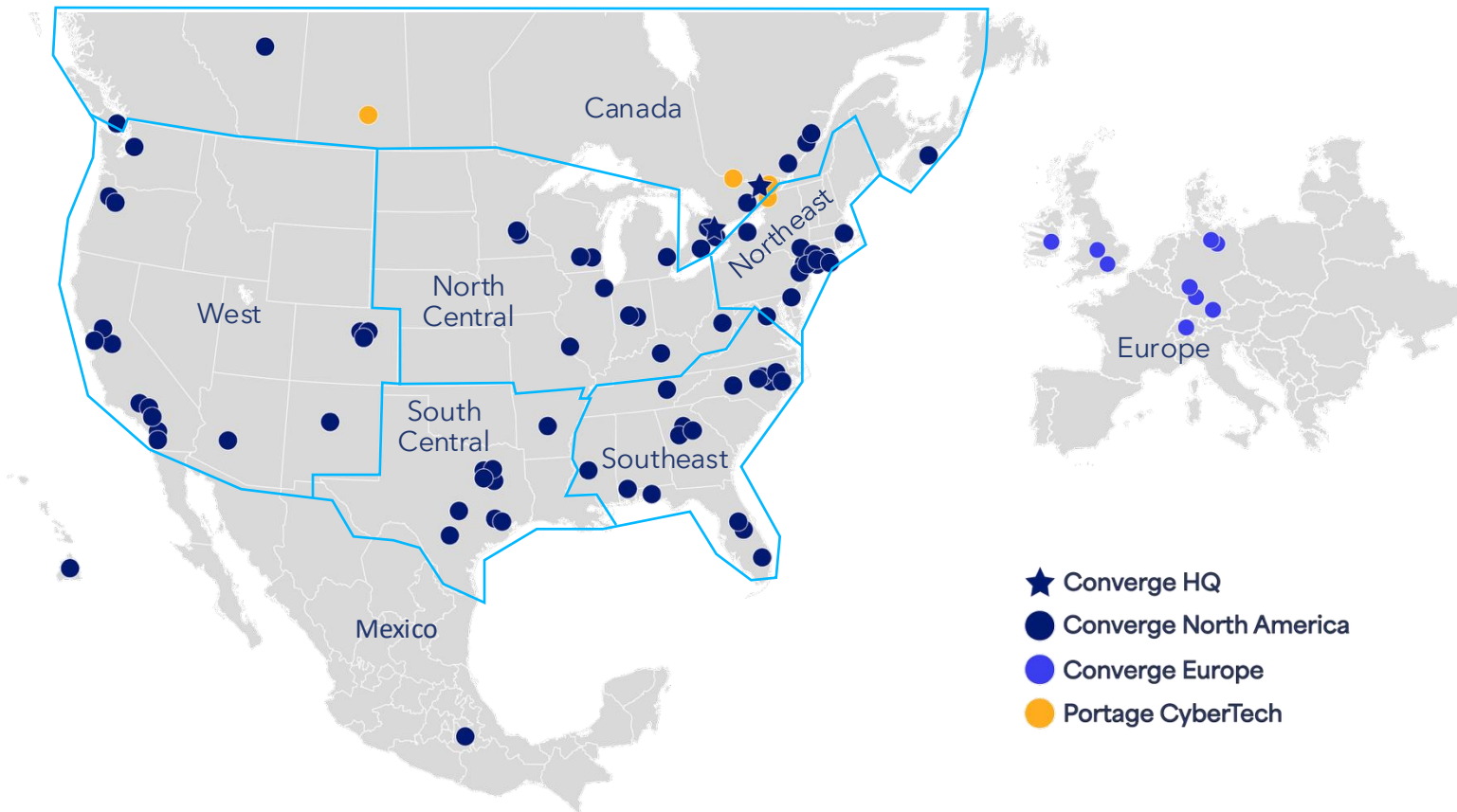
IT & Cloud Solutions •





# Converge Platform

**Scaled Footprint with Strong Partner Relationships and Capabilities**



|                                                 |                                          |                                                |
|-------------------------------------------------|------------------------------------------|------------------------------------------------|
| <b>60+</b><br>Global Office<br>Locations        | <b>500+</b><br>Global Sales<br>Personnel | <b>1,500+</b><br>Global Technical<br>Resources |
| <b>100+</b><br>Pre-Sales Solution<br>Architects | <b>50</b><br>Solution<br>Specialists     |                                                |
| <hr/> <i>with</i> <hr/>                         |                                          |                                                |
| <b>1,000+</b><br>Certifications                 | <b>4,000+</b><br>Customers               |                                                |





# Converge Mainframe Services



**The Converge IBM zSystems team has spent over three decades in the IBM mainframe and high-end storage market. Our experience and passion for this technology is unparalleled.**

**Members of our team have developed many of the models, studies, and methodologies that are widely used throughout the IBM community. This depth of experience and our deep technical skills give our clients a tremendous advantage in deploying mainframe-based solutions to address today's increasingly complex business and IT challenges.**



# Converge Breadth and Depth of Skills

## Distributions

Supported Versions



Community Versions



## Virtualization



LPAR

DPM

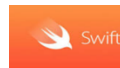


Docker)



LXD (Ubuntu)

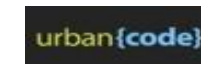
## Languages



## Runtimes



## Management



## Database



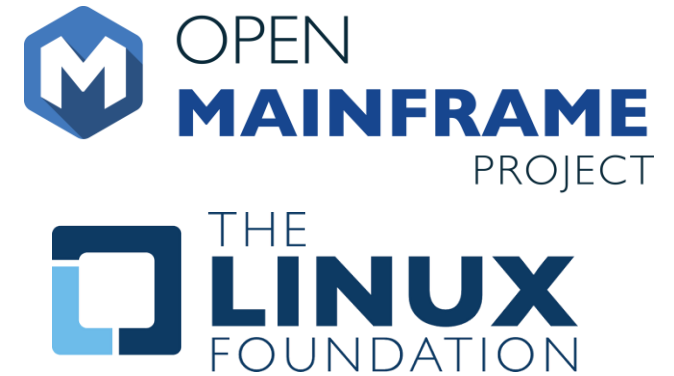
DB2

## Analytics



# Why Choose Converge?

- **Top North American IBM Platinum Business Partner for IBM zSystems**
- **Innovation Center of Excellence that delivers new IBM zSystems and other leading-edge technology solutions**
- **Unparalleled expertise in IBM Z and related solutions, including storage, networks, security, disaster recovery, resiliency, and others**
- **Dedication to successful client engagements. Each deployment is unique and customized**
- **Chair of the Linux Foundation Open Mainframe Project Governing Board since its inception**



# Velocity Software Inc. (VSI)

- **VSI works with IBM, IBM BP's and universities to provide the environments required for teaching the next generation of successful mainframers.**
- **We make our software stack available along with support for the required environments.**
- **When needed, that includes access to our system running z/VM, Linux, z/OS and VSE.**

## **zVPS**

### **PERFORMANCE SUITE**

THE WORLD'S LEADING PERFORMANCE MANAGEMENT SOLUTION FOR Z/VM WITH LINUX AND/OR VSE. NEWLY ADDED SUPPORT FOR Z/OS PLUS NO-CHARGE MONITORING FOR X86 LINUX AND WINDOWS.



## **zPRO**

### **CLOUD MANAGEMENT**

SOLUTION FOR MODERNIZING THE Z/VM PLATFORM, ADDING ON-PREM CLOUD SUPPORT WITH WEB-BASED CONTROLS FOR Z/VM SYSTEM MANAGEMENT PLUS LPAR CLONING AND ANSIBLE PLAYBOOKS USING VELOCITY'S HIGHLY AVAILABLE SMAPI-FREE API'S.



## **zTUNE**

### **SUPPORT SUBSCRIPTION**

VELOCITY SOFTWARE'S ELITE PERFORMANCE SUPPORT SERVICE THAT CREATES AUTOMATED DAILY REPORTS WITH RECOMMENDED ACTIONS



## **zVRM**

### **RESOURCE MANAGER**

REAL-TIME MANAGEMENT FACILITY FOR Z/VM WITH LINUX THAT AUTOMATES SYSTEM SETTINGS USING KNOWLEDGE-BASED INTELLIGENCE TO TUNE WORKLOAD REQUIREMENTS AND OPTIMIZE OVERALL SYSTEM PERFORMANCE.



**The z/VM and Linux  
Performance Management  
Company  
Since 1988**





# East Carolina University (ECU): Cam Seay



**ECU is a major regional university located in Greenville, NC. It has appx 30k students and is known for its medical school. Cam has been teaching at the College of Engineering and Technology since 2019.**

# Northern Illinois University (NIU): Geoffrey Decker



**NIU has a similar profile, and has been a national leader in education and research since 1899**



**The technical section of this presentation is prepared by  
EMMA R&D:  
Jeffery Brown, Christopher Petty- co directors.**

# **Eli Madison Memorial Apprenticeship (EMMA)**

**EMMA has two pieces to the foundation program**

**The first pre-apprenticeship, the second apprenticeship**

**The pre-apprenticeship includes training, resume review, coaching, and introductions to clients with apprenticeship positions.**

**The training is not lecture/quiz, it is topic-base videos, lab specific videos, and labs to be completed on the appropriate platform - z/OS, z/VM, z/LOV**

# EMMA Training





Mainframe Intro Class Lecture 1:

✓ Done

Password: lctn3210!



Mainframe Intro Class, Lecture 2

✓ Done

Password: lctn3210!

# EMMA Training

|                                                                                    |                                           |                                                                                      |
|------------------------------------------------------------------------------------|-------------------------------------------|--------------------------------------------------------------------------------------|
|   | Apprentice Lab 3, Move/Copy               |   |
|   | <u>Apprentice Lab 4, Create a dataset</u> |   |
|   | JCL Lab 1, Pt 1                           |   |
|  | JCL Lab 1, Pt 2                           |  |
|                                                                                    |                                           |                                                                                      |

# EMMA Training



Lab 4 Create a dataset

✓ Done

**Opened:** Monday, 9 December 2024, 12:00 AM  
**Due:** Monday, 3 March 2025, 12:00 AM



Apprentice Lab 5 Velocity -JCL Lab 1

✓ Done

**Opened:** Wednesday, 11 December 2024, 12:00 AM  
**Due:** Monday, 3 March 2025, 12:00 AM



Apprentice Lab 6 JCL Lab 2 Velocity

✓ Done



# EMMA Training - ISPF

```

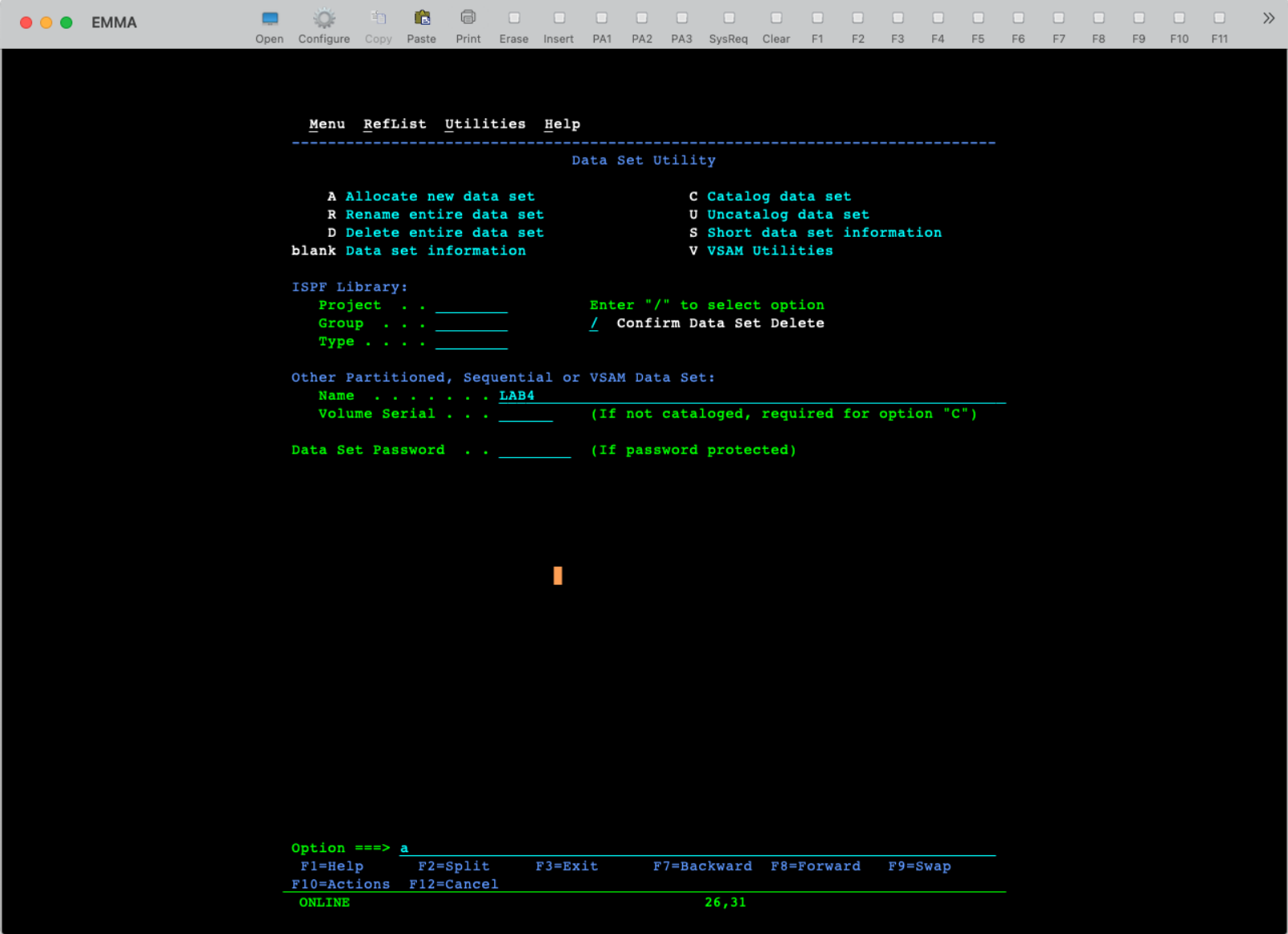
  Menu  Utilities  Compilers  Options  Status  Help
-----
                    ISPF Primary Option Menu

0  Settings      Terminal and user parameters      User ID . : TRAIN13
1  View          Display source data or listings    Time. . . : 22:16
2  Edit          Create or change source data       Terminal. : 3278
3  Utilities     Perform utility functions          Screen. . : 1
4  Foreground    Interactive language processing    Language. : ENGLISH
5  Batch         Submit job for language processing  Appl ID . : ISP
6  Command       Enter TSO or Workstation commands  TSO logon : IKJACCNT
7  Dialog Test   Perform dialog testing             TSO prefix: TRAIN13
9  IBM Products  IBM program development products     System ID : V24C
10 SCLM          SW Configuration Library Manager    MVS acct. : IZUACCT
11 Workplace     ISPF Object/Action Workplace       Release . : ISPF 7.4
12 z/OS System   z/OS system programmer applications
13 z/OS User     z/OS user applications

      Enter X to Terminate using log/list defaults

Option ==>
ONT INF
24 14
```

# EMMA Training - ISPF 3.2



# EMMA Training - ISPF 3.2 Parameters

EMMA

OpenConfigureCopyPastePrintEraseInsertPA1PA2PA3SysReqClearF1F2F3F4F5F6F7F8F9F10F11>>

MenuRefListUtilitiesHelp

-----

Allocate New Data Set

Data Set Name . . . : TRAIN13.LAB4

Management class . . . \_\_\_\_\_

(Blank for default management class)

Storage class . . . \_\_\_\_\_

(Blank for default storage class)

Volume serial . . . . 24ACAT

(Blank for system default volume) \*\*

Device type . . . . \_\_\_\_\_

(Generic unit or device address) \*\*

Data class . . . . \_\_\_\_\_

(Blank for default data class)

Space units . . . . trks

(BLKS, TRKS, CYLS, KB, MB, BYTES  
or RECORDS)

Average record unit \_\_\_\_\_

(M, K, or U)

Primary quantity . . 10

(In above units)

Secondary quantity . . 5

(In above units)

Directory blocks . . 10

(Zero for sequential data set) \*

Record format . . . . FB

Record length . . . . 80

Block size . . . . . 0

Data set name type library

(LIBRARY, HFS, PDS, LARGE, BASIC, \*

Data set version . : -

EXTREQ, EXTPREF or blank)

Num of generations : \_\_\_\_\_

Extended Attributes \_\_\_\_\_

(NO, OPT or blank)

Expiration date . . . \_\_\_\_\_

(YY/MM/DD, YYYY/MM/DD

Enter "/" to select option YY.DDD, YYYY.DDD in Julian form

DDDD for retention period in days

or blank)

\_ Allocate Multiple Volumes

( \* Specifying LIBRARY may override zero directory block)

( \*\* Only one of these fields may be specified)

Command ==>

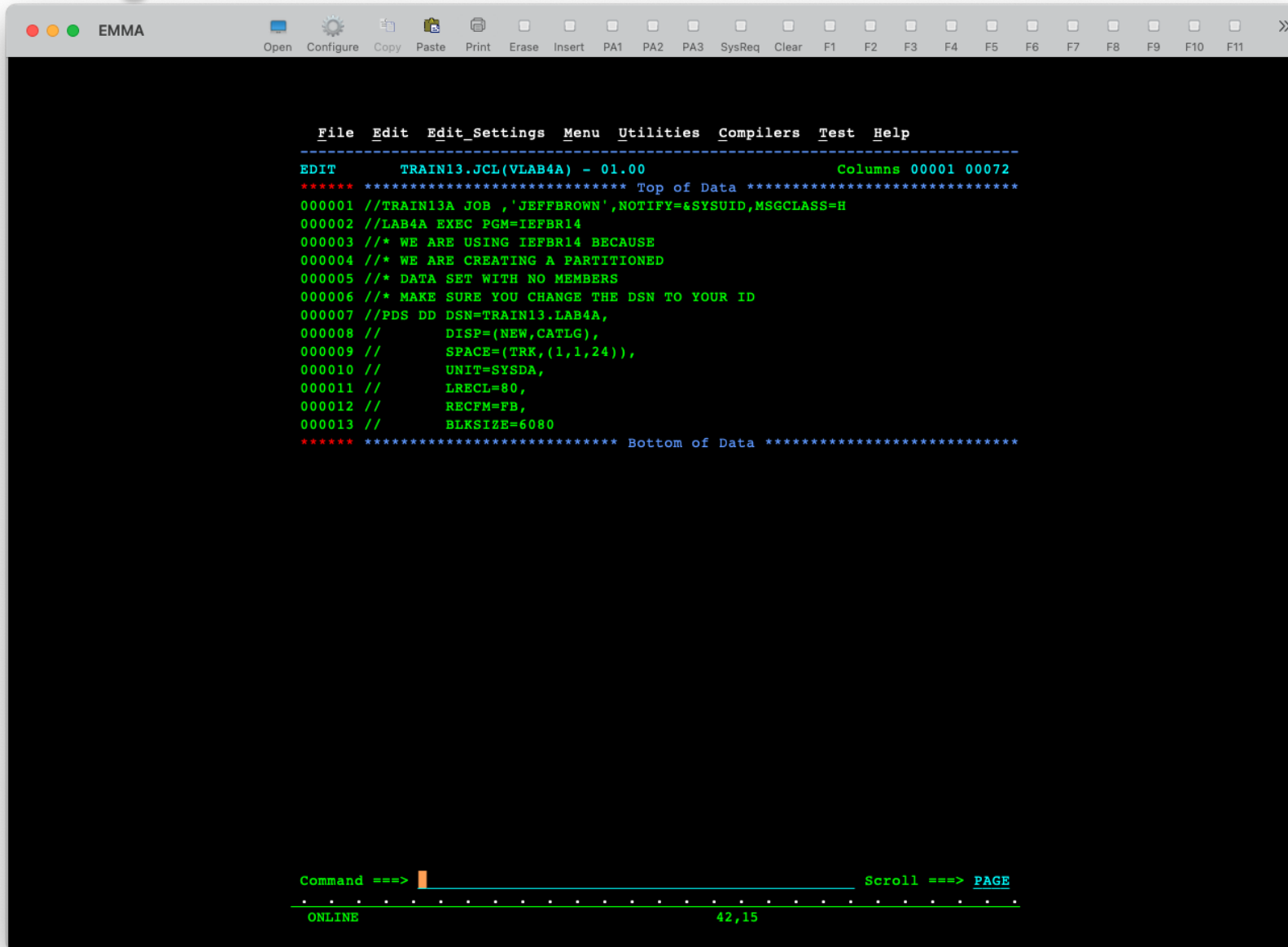
F1=HelpF2=SplitF3=ExitF7=BackwardF8=ForwardF9=Swap

F10=ActionsF12=Cancel

ONLINE

12,80

# EMMA Training - IEFBR14 JCL



The screenshot shows a terminal window titled "EMMA" with a menu bar containing: File, Edit, Edit\_Settings, Menu, Utilities, Compilers, Test, Help. The main display area shows the following text:

```
-----  
EDIT      TRAIN13.JCL(VLAB4A) - 01.00          Columns 00001 00072  
***** Top of Data *****  
000001 //TRAIN13A JOB , 'JEFFBROWN', NOTIFY=&SYSUID, MSGCLASS=H  
000002 //LAB4A EXEC PGM=IEFBR14  
000003 /* WE ARE USING IEFBR14 BECAUSE  
000004 /* WE ARE CREATING A PARTITIONED  
000005 /* DATA SET WITH NO MEMBERS  
000006 /* MAKE SURE YOU CHANGE THE DSN TO YOUR ID  
000007 //PDS DD DSN=TRAIN13.LAB4A,  
000008 //      DISP=(NEW,CATLG),  
000009 //      SPACE=(TRK,(1,1,24)),  
000010 //      UNIT=SYSDA,  
000011 //      LRECL=80,  
000012 //      RECFM=FB,  
000013 //      BLKSIZE=6080  
***** Bottom of Data *****  
  
Command ==> |  
-----  
ONLINE                                     42,15
```

# EMMA Training - IEFBR14 SDSF Output

```
EMMA
Open Configure Copy Paste Print Erase Insert PA1 PA2 PA3 SysReq Clear F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 >>

. . . . .
  Display Filter View Print Options Search Help
. . . . .
-----
SDSF OUTPUT DISPLAY TRAIN13A JOB05313 DSID      2 LINE 0      COLUMNS 02- 81
COMMAND INPUT ==> |
***** TOP OF DATA *****
              JES2 JOB LOG -- SYSTEM V 2 4 C -- N

22.00.44 JOB05313 ---- THURSDAY, 26 DEC 2024 ----
22.00.44 JOB05313 IRR010I USERID TRAIN13 IS ASSIGNED TO THIS JOB.
22.00.44 JOB05313 ICH70001I TRAIN13 LAST ACCESS AT 21:59:41 ON THURSDAY, DECEM
22.00.44 JOB05313 $HASP373 TRAIN13A STARTED - INIT 1 - CLASS A - SYS
22.00.45 JOB05313 IEF403I TRAIN13A - STARTED - TIME=22.00.45
22.00.45 JOB05313 IEF404I TRAIN13A - ENDED - TIME=22.00.45
22.00.45 JOB05313 $HASP395 TRAIN13A ENDED - RC=0000
----- JES2 JOB STATISTICS -----
      26 DEC 2024 JOB EXECUTION DATE
          13 CARDS READ
          51 SYSOUT PRINT RECORDS
           0 SYSOUT PUNCH RECORDS
           6 SYSOUT SPOOL KBYTES
          0.00 MINUTES EXECUTION TIME
1 //TRAIN13A JOB , 'JEFFBROWN', NOTIFY=&SYSUID, MSGCLASS=H
  IEFC653I SUBSTITUTION JCL - , 'JEFFBROWN', NOTIFY=TRAIN13, MSGCLASS=H
2 //LAB4A EXEC PGM=IEFBR14
  /* WE ARE USING IEFBR14 BECAUSE
  /* WE ARE CREATING A PARTITIONED
  /* DATA SET WITH NO MEMBERS
  /* MAKE SURE YOU CHANGE THE DSN TO YOUR ID
3 //PDS DD DSN=TRAIN13.LAB4A,
  // DISP=(NEW,CATLG),
  // SPACE=(TRK,(1,1,24)),
  // UNIT=SYSDA,
  // LRECL=80,
  // RECFM=FB,
  // BLKSIZE=6080
ICH70001I TRAIN13 LAST ACCESS AT 21:59:41 ON THURSDAY, DECEMBER 26, 2024
IEFA111I TRAIN13A IS USING THE FOLLOWING JOB RELATED SETTINGS:
      SWA=BELOW, TIOT SIZE=32K, DSENQSHR=DISALLOW, GDGBIAS=JOB
IEF236I ALLOC. FOR TRAIN13A LAB4A
IGD100I 0221 ALLOCATED TO DDNAME PDS          DATACLAS ( )
IEF142I TRAIN13A LAB4A - STEP WAS EXECUTED - COND CODE 0000
IEF285I TRAIN13.LAB4A                                CATALOGED
      ONLINE                                5,21
```

# EMMA and VSI

**Velocity has allocated a number of resources to EMMA via zPRO and zLOV. Current allocations include:**

- **A z/OS instance supporting over 90 users learning fundamentals of ISPF, COBOL coding, HLASM coding, compiling, linking, execution**
- **CMS General User creation and access allowing for training in CP/CMS commands, REXX coding and execution, execution COBOL and HLASM programs**
- **Linux on z/VM allowing the creation of various versions of Linux servers Ubuntu, Red Hat, SuSE, etc.**
- **Creation of a second level z/VM 7.3 guest**

# EMMA and VSI - Resource Allocation

VELOCITY SOFTWARE

zPRO Enterprise Cloud Management

VSIVC1 (CloudDemo)

Auto Arrange | Refresh All | Minimize All | Close All

Create Servers

Server Management

View Resources

Resource Summary

Line 1 of 4

| System | Group   | User    | Servers | VCPUs | Memory(MB) | DASD  | DASD Storage |
|--------|---------|---------|---------|-------|------------|-------|--------------|
| VSIVC1 | SEAYEDU | CAMSEAY | 1       | 1     | 1024       | 0     | 0.00 M       |
| VSIVC1 | SEAYEDU | SEAYEDU | 5       | 5     | 608        | 0     | 0.00 M       |
| VSIVC1 | SEAYEDU | totals  | 6       | 6     | 1632       | 0     | 0.00 M       |
| VSIVC1 | SEAYEDU | limits  | 60      | 120   | 81920      | unlim | unlim        |

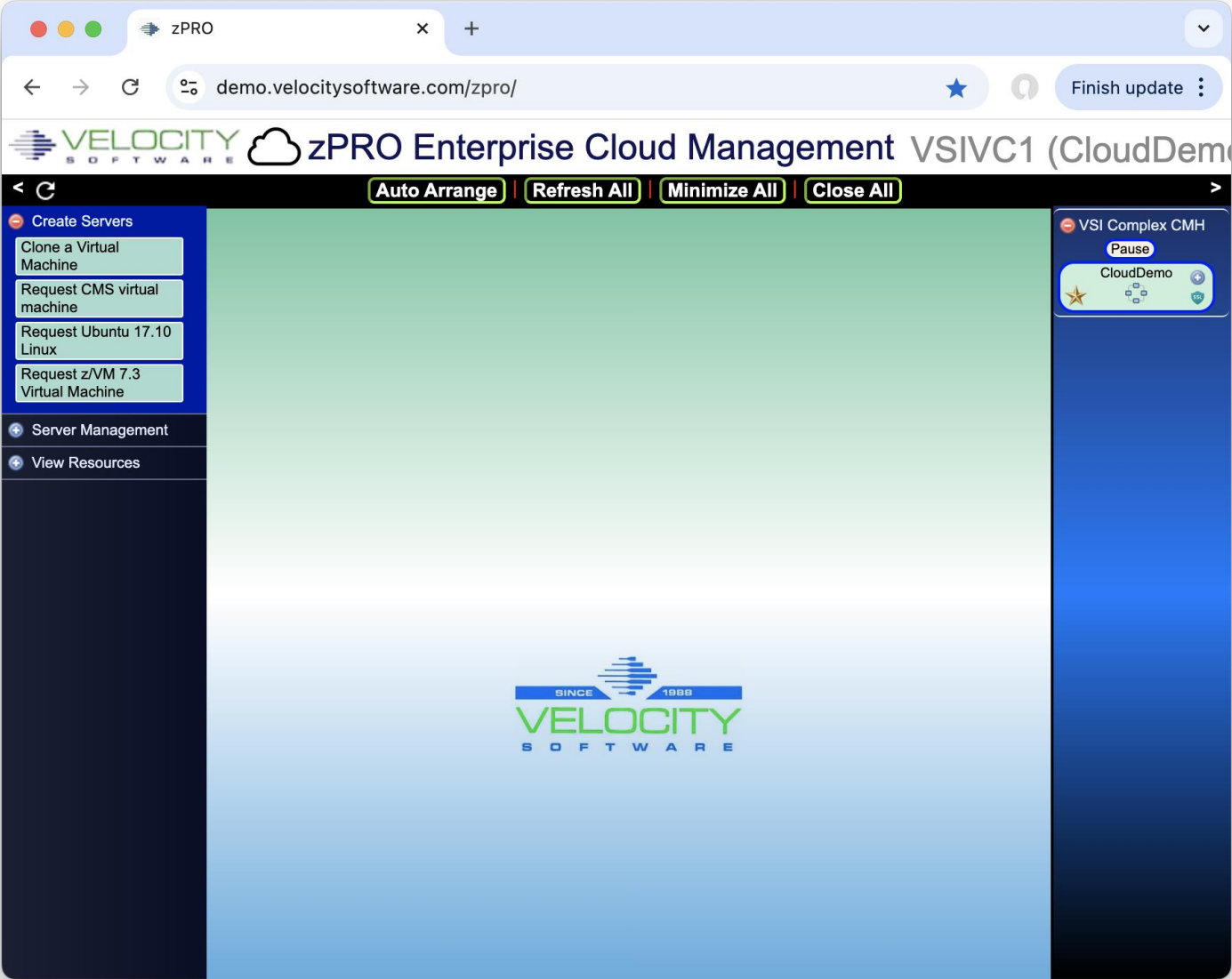
VELOCITY SOFTWARE

SINCE 1988

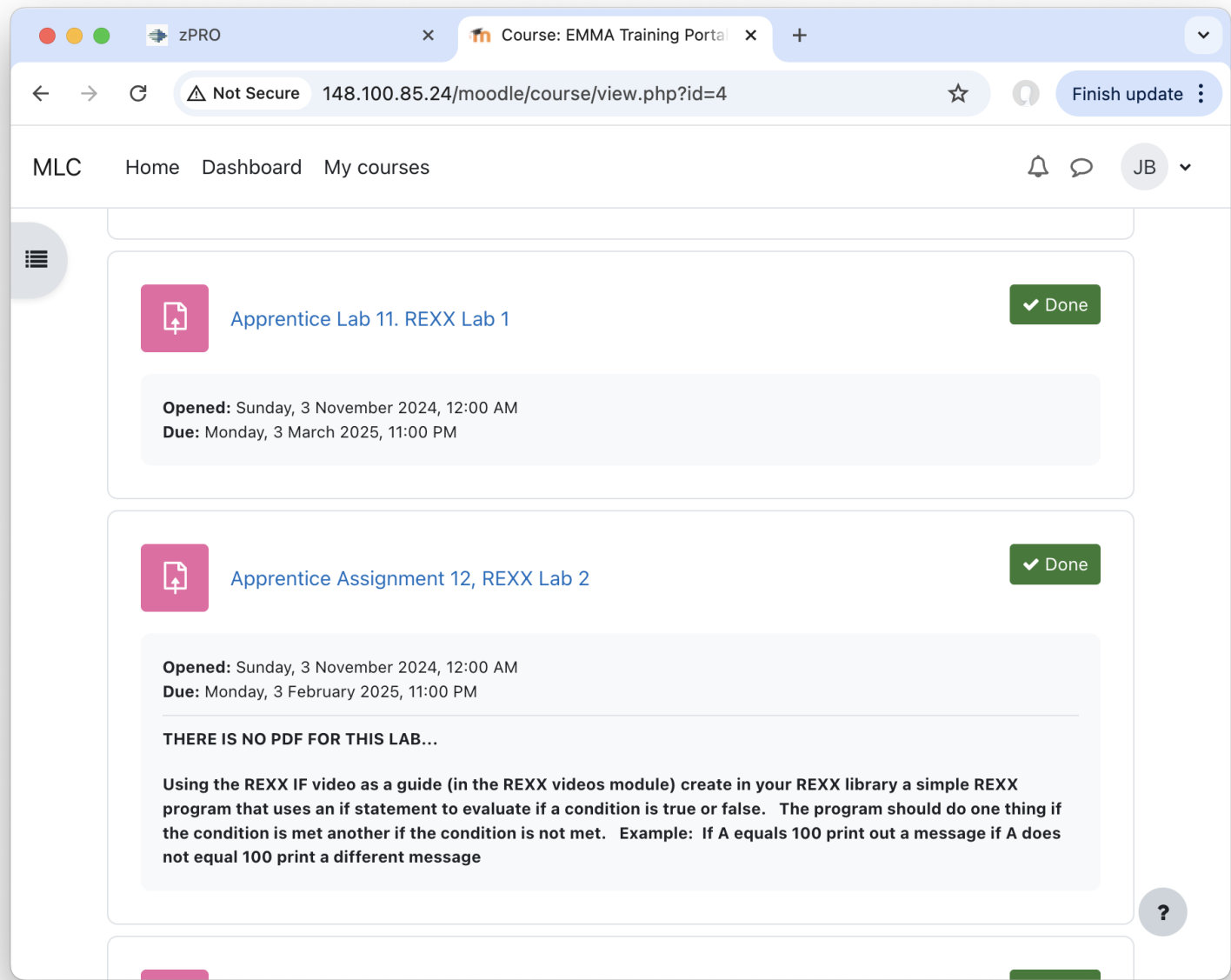
Caption



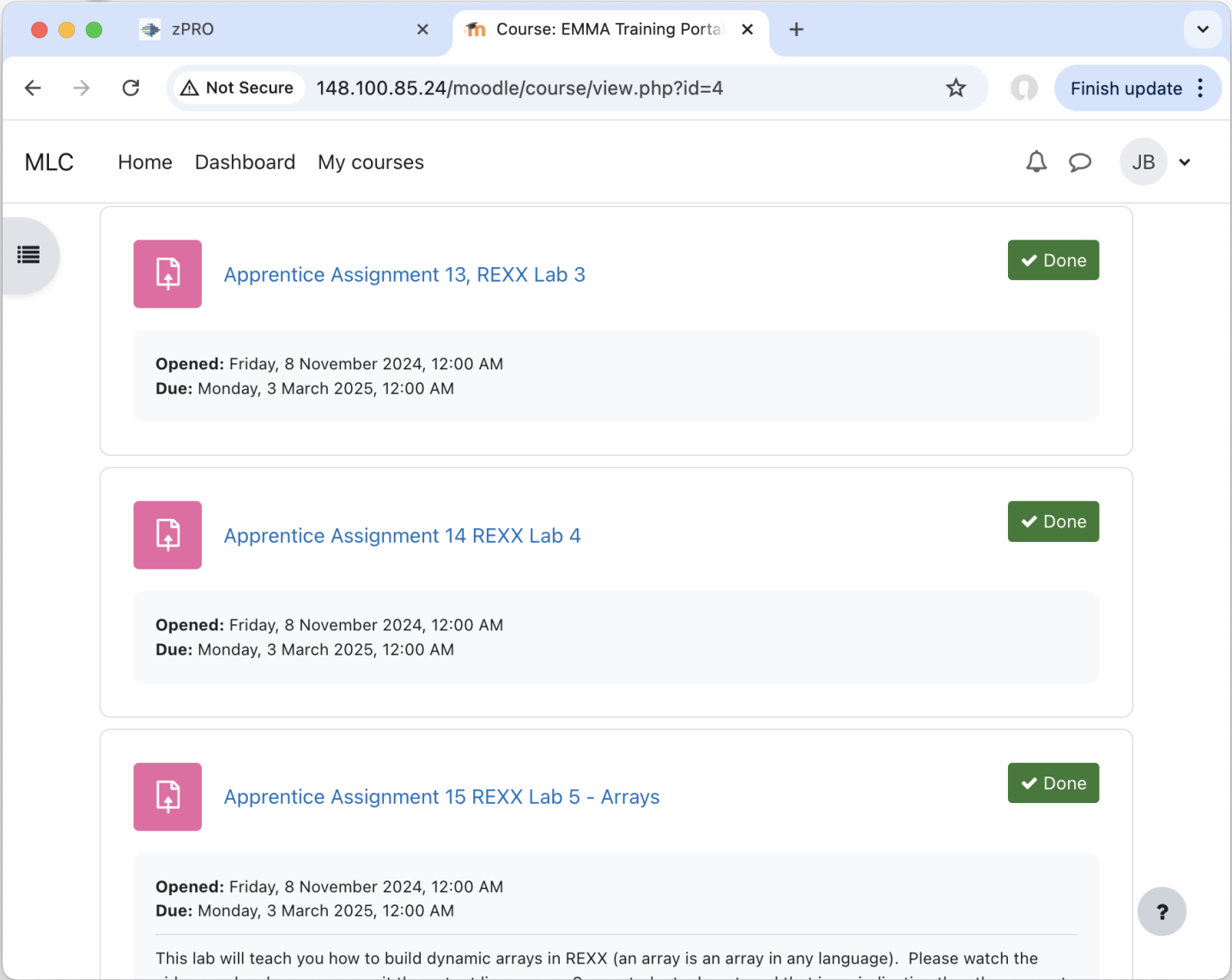
# EMMA and VSI - Server actions



# EMMA Training



# EMMA Training



# EMMA and VSI - CMS Screen 1

ZPRO-u4

Open

Configure

Copy

Paste

Print

Erase

Insert

PA1

PA2

PA3

SysReq

Clear

F1

>>

```
link tcpmaint 592 592
Ready; T=0.01/0.01 23:47:42
access 592 q
DMSACP723I Q (592) R/O
Ready; T=0.01/0.01 23:47:49
q disk

```

| LABEL  | VDEV | M   | STAT | CYL | TYPE | BLKSZ | FILES | BLKS USED-(%) | BLKS LEFT | BLK TOTAL |
|--------|------|-----|------|-----|------|-------|-------|---------------|-----------|-----------|
| GLDCMS | 191  | A   | R/W  | 1   | 3390 | 4096  | 11    | 18-10         | 162       | 180       |
| TCM592 | 592  | Q   | R/O  | 240 | 3390 | 4096  | 617   | 16085-37      | 27115     | 43200     |
| MNT190 | 190  | S   | R/O  | 207 | 3390 | 4096  | 695   | 23681-64      | 13579     | 37260     |
| MNT19E | 19E  | Y/S | R/O  | 500 | 3390 | 4096  | 1116  | 37407-42      | 52593     | 90000     |
| MNT19D | 19D  | Z/Z | R/O  | 292 | 3390 | 1024  | 438   | 76568-53      | 67972     | 144540    |

```
Ready; T=0.01/0.01 23:47:55
ifconfig
ETH0      inet addr: 184.105.60.17 mask: 255.255.255.224
          UP MTU: 8992
          vdev: 041C type: QDIO ETHERNET portname: UNASSIGNED portnumber: 0
          transport type: ETHERNET MAC address: 02-00-21-00-01-B7
          ipv6: ENABLED
          cpu: 0 forwarding: ENABLED ipv4 path MTU discovery: ENABLED
          RX bytes: 3060460514 TX bytes: 567900347
          IPv6 Addresses:

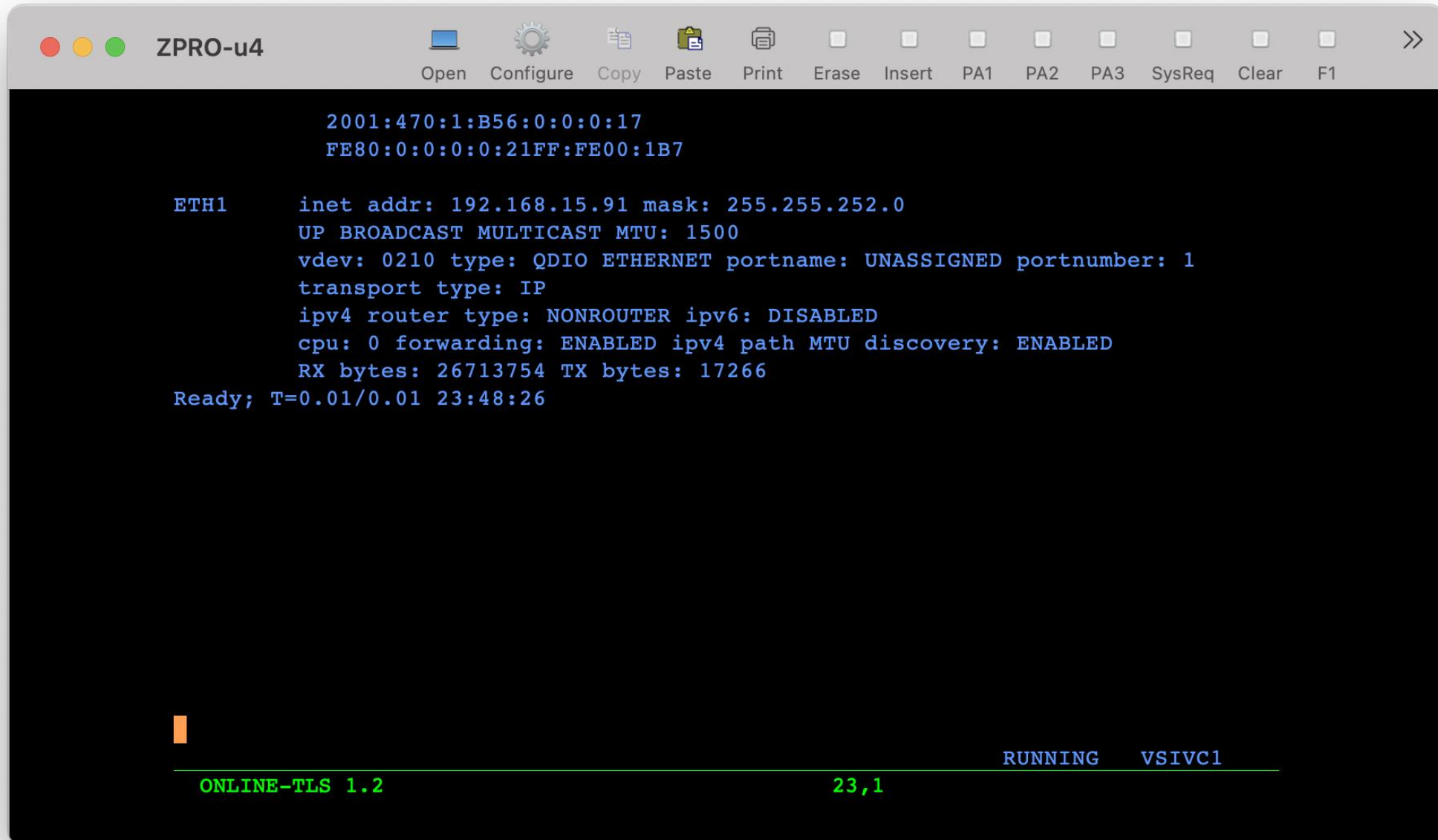
```

MORE...

VSIVC1

ONLINE-TLS 1.223,1

# EMMA and VSI - CMS Screen 2



The screenshot shows a terminal window titled "ZPRO-u4" with a menu bar containing icons for Open, Configure, Copy, Paste, Print, Erase, Insert, PA1, PA2, PA3, SysReq, Clear, and F1. The main display area shows the following text:

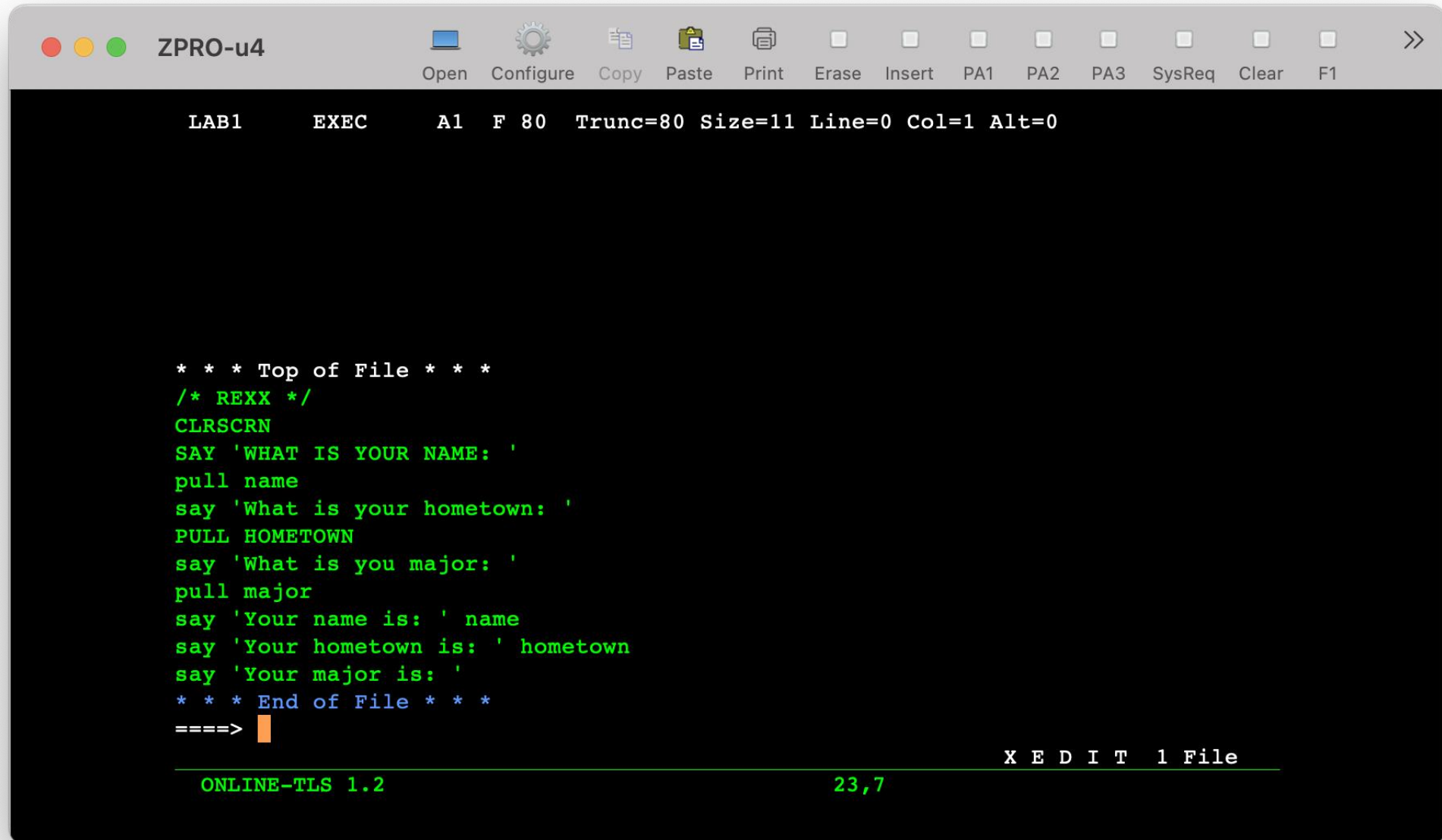
```
2001:470:1:B56:0:0:0:17
FE80:0:0:0:0:21FF:FE00:1B7

ETH1      inet addr: 192.168.15.91 mask: 255.255.252.0
          UP BROADCAST MULTICAST MTU: 1500
          vdev: 0210 type: QDIO ETHERNET portname: UNASSIGNED portnumber: 1
          transport type: IP
          ipv4 router type: NONROUTER ipv6: DISABLED
          cpu: 0 forwarding: ENABLED ipv4 path MTU discovery: ENABLED
          RX bytes: 26713754 TX bytes: 17266
Ready; T=0.01/0.01 23:48:26
```

At the bottom of the screen, there is a status bar with a green vertical bar on the left, followed by the text "ONLINE-TLS 1.2" in green, "23,1" in green, "RUNNING" in blue, and "VSIVC1" in blue.



# EMMA and VSI - CMS REXX Source



The screenshot shows a terminal window titled "ZPRO-u4" with a menu bar containing icons for Open, Configure, Copy, Paste, Print, Erase, Insert, PA1, PA2, PA3, SysReq, Clear, and F1. The terminal displays the following text:

```
LAB1      EXEC      A1  F 80  Trunc=80 Size=11 Line=0 Col=1 Alt=0

* * * Top of File * * *
/* REXX */
CLRSCRN
SAY 'WHAT IS YOUR NAME: '
pull name
say 'What is your hometown: '
PULL HOMETOWN
say 'What is you major: '
pull major
say 'Your name is: ' name
say 'Your hometown is: ' hometown
say 'Your major is: '
* * * End of File * * *
====>
```

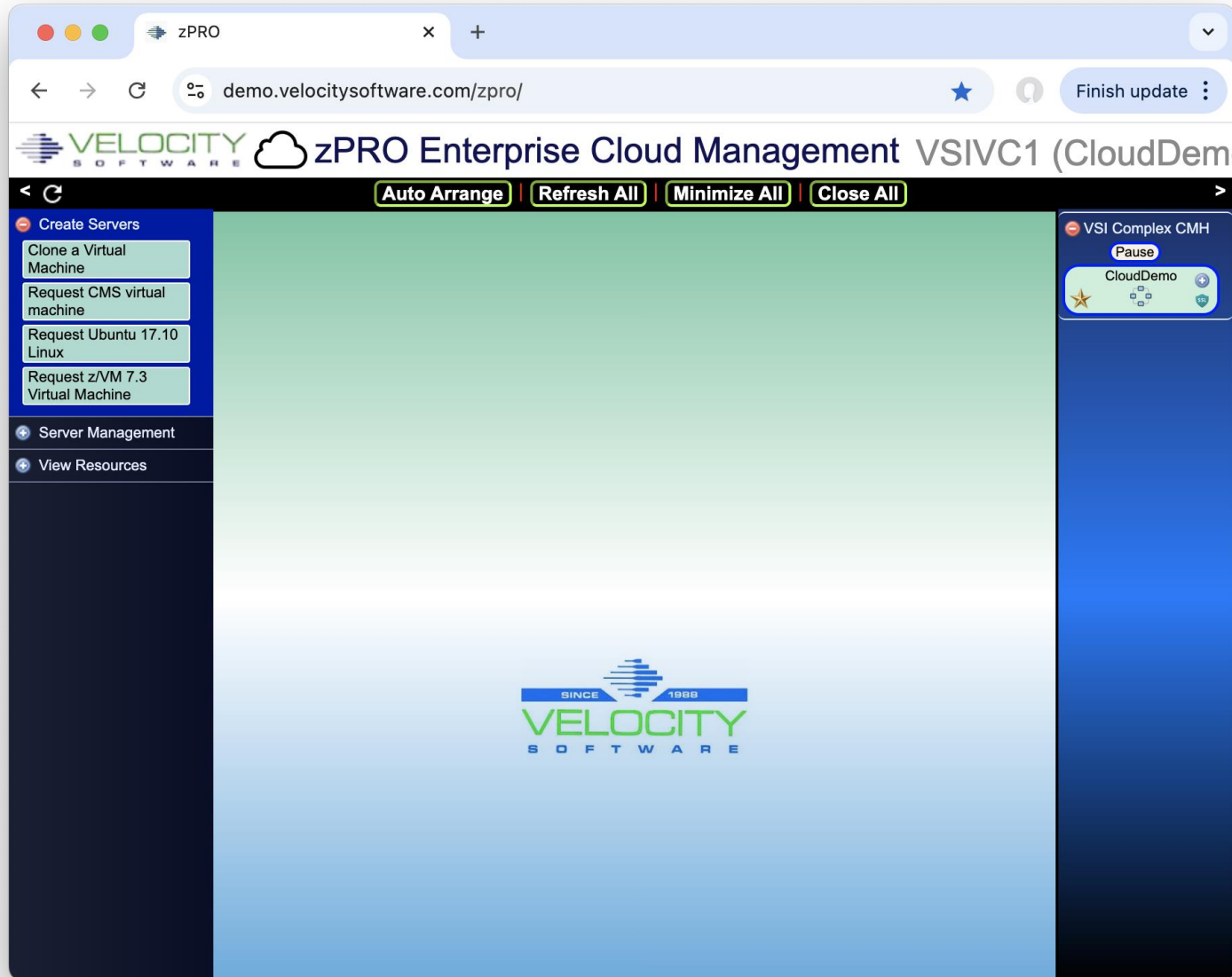
At the bottom of the terminal, there is a status line with "X E D I T 1 File" on the right and "ONLINE-TLS 1.2" and "23,7" on the left.

# EMMA and VSI - REXX Execution

```
WHAT IS YOUR NAME:
jeff
What is your hometown:
peoria
What is you major:
fishing
Your name is:  JEFF
Your hometown is:  PEORIA
YOUR MAJOR IS:  FISHING
Ready; T=0.01/0.01 23:36:31
```

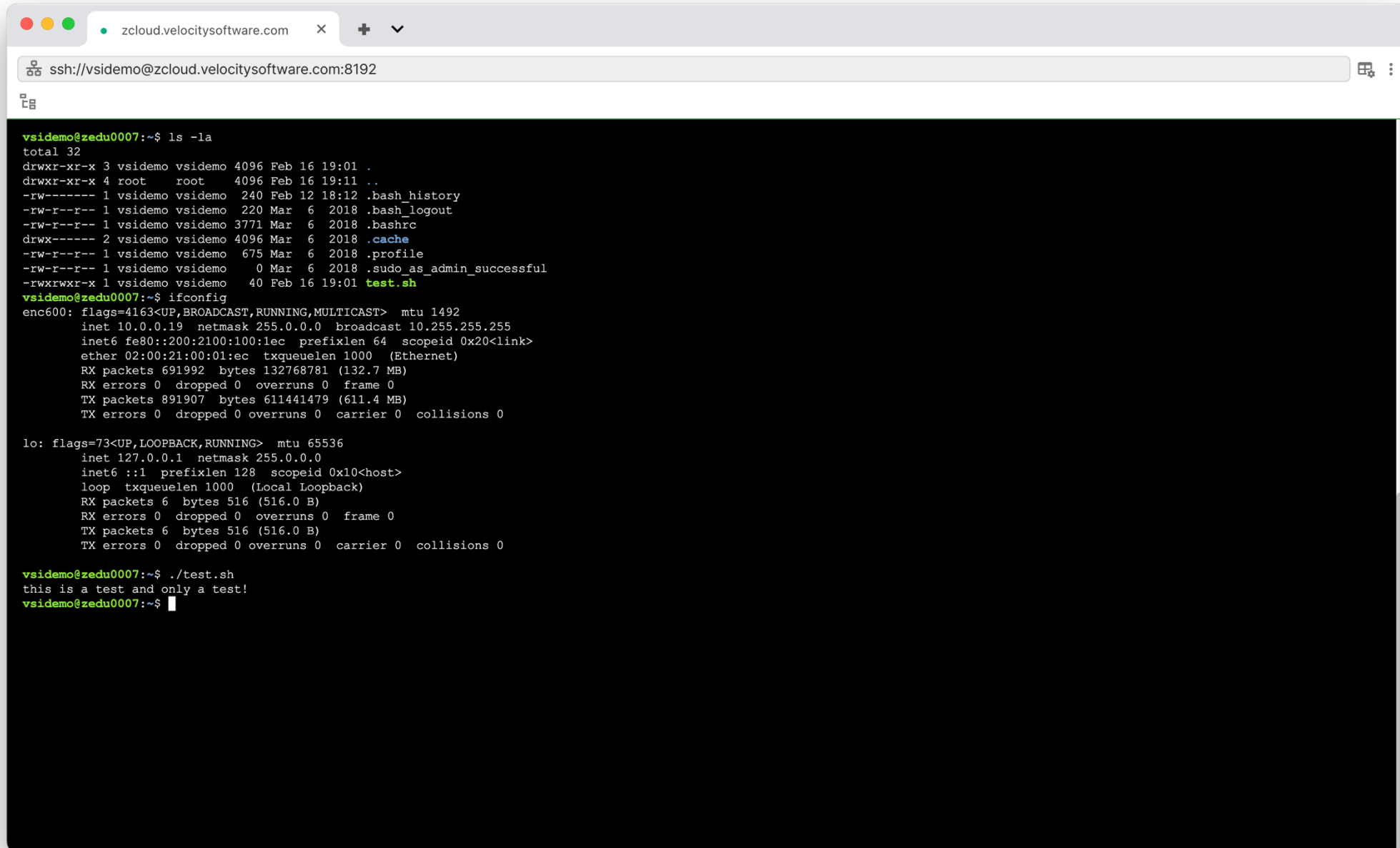
ONLINE-TLS 1.2 23,1 RUNNING VSIVC1

# EMMA and VSI - zLOV - Ubuntu





# EMMA and VSI - zLOV - Ubuntu



The screenshot shows a terminal window with a dark background and light green text. The window title is 'zcloud.velocitysoftware.com'. The address bar shows 'ssh://vsidemo@zcloud.velocitysoftware.com:8192'. The terminal output shows the following commands and results:

```
vsidemo@zedu0007:~$ ls -la
total 32
drwxr-xr-x 3 vsidemo vsidemo 4096 Feb 16 19:01 .
drwxr-xr-x 4 root    root    4096 Feb 16 19:11 ..
-rw----- 1 vsidemo vsidemo 240 Feb 12 18:12 .bash_history
-rw-r--r-- 1 vsidemo vsidemo 220 Mar  6 2018 .bash_logout
-rw-r--r-- 1 vsidemo vsidemo 3771 Mar  6 2018 .bashrc
drwx----- 2 vsidemo vsidemo 4096 Mar  6 2018 .cache
-rw-r--r-- 1 vsidemo vsidemo 675 Mar  6 2018 .profile
-rw-r--r-- 1 vsidemo vsidemo  0 Mar  6 2018 .sudo_as_admin_successful
-rwxrwxr-x 1 vsidemo vsidemo 40 Feb 16 19:01 test.sh

vsidemo@zedu0007:~$ ifconfig
enc600: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 1492
    inet 10.0.0.19  netmask 255.0.0.0  broadcast 10.255.255.255
    inet6 fe80::200:2100:100:1ec  prefixlen 64  scopeid 0x20<link>
    ether 02:00:21:00:01:ec  txqueuelen 1000  (Ethernet)
    RX packets 691992  bytes 132768781 (132.7 MB)
    RX errors 0  dropped 0  overruns 0  frame 0
    TX packets 891907  bytes 611441479 (611.4 MB)
    TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0

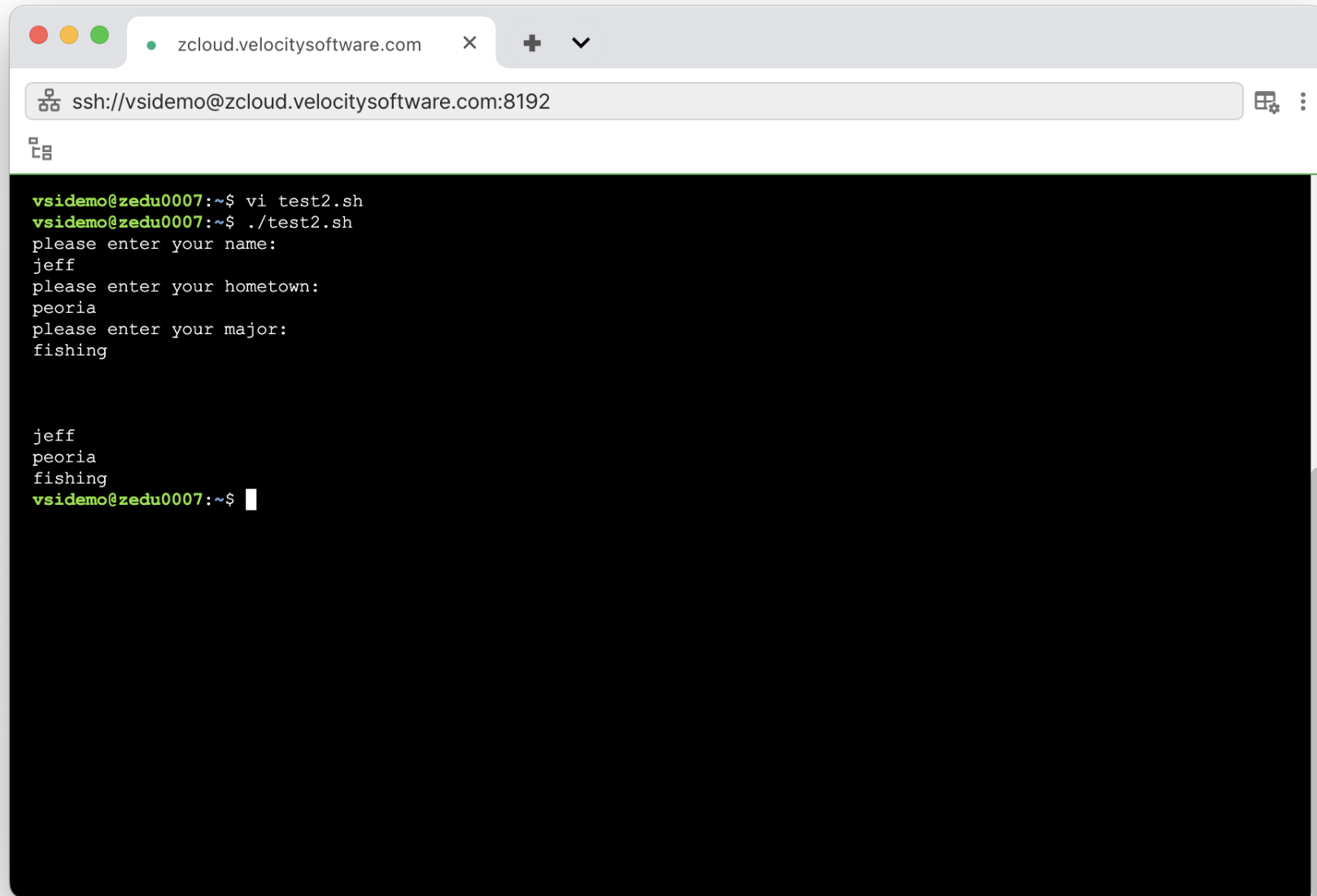
lo: flags=73<UP,LOOPBACK,RUNNING>  mtu 65536
    inet 127.0.0.1  netmask 255.0.0.0
    inet6 ::1  prefixlen 128  scopeid 0x10<host>
    loop txqueuelen 1000  (Local Loopback)
    RX packets 6  bytes 516 (516.0 B)
    RX errors 0  dropped 0  overruns 0  frame 0
    TX packets 6  bytes 516 (516.0 B)
    TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0

vsidemo@zedu0007:~$ ./test.sh
this is a test and only a test!
vsidemo@zedu0007:~$
```

# EMMA and VSI - zLOV - Ubuntu Shell Script Source

[illegible]

# EMMA and VSI - zLOV - Ubuntu Shell Script Execution

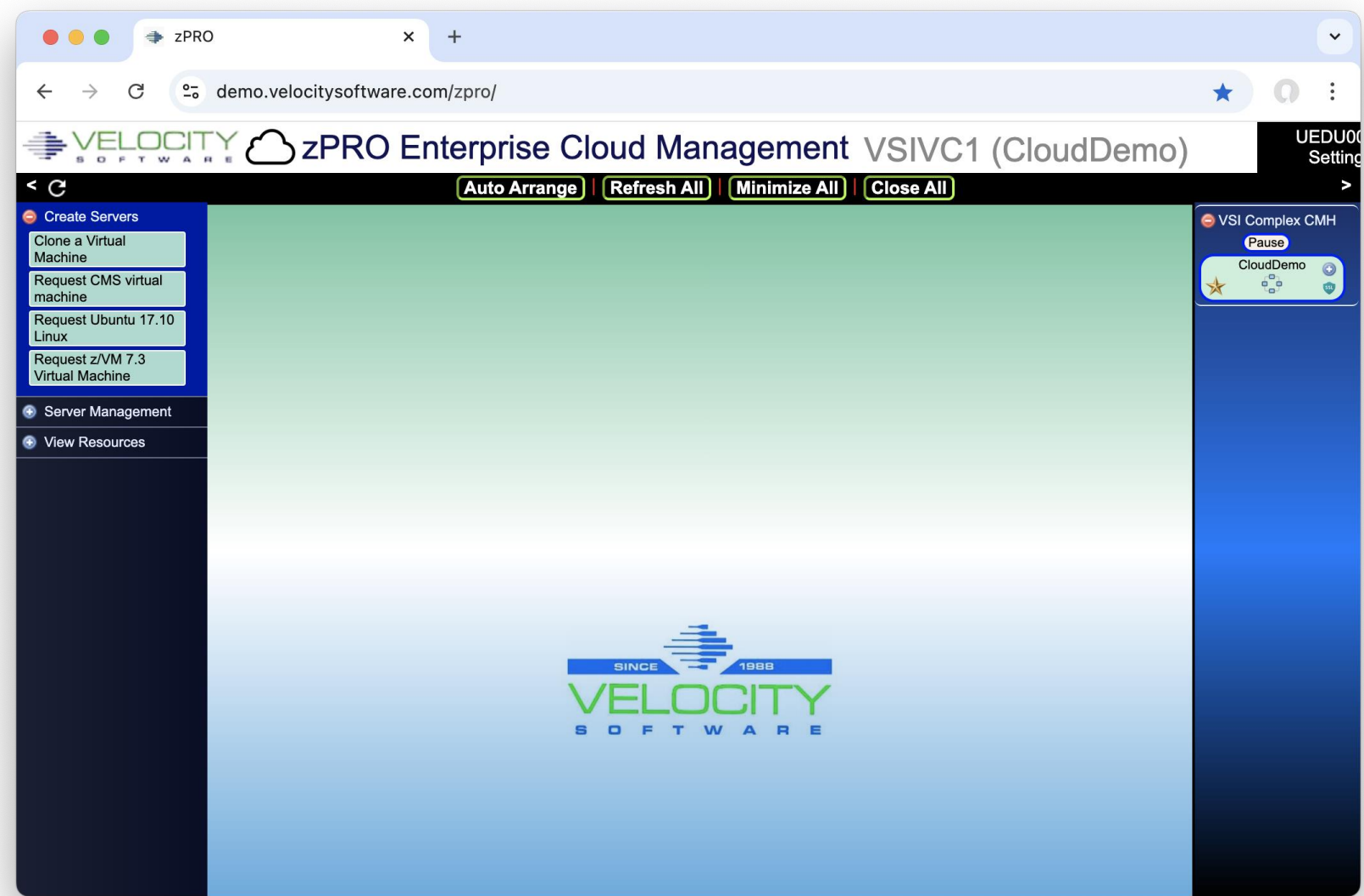


The screenshot shows a web browser window with a single tab titled "zcloud.velocitysoftware.com". The address bar displays the SSH connection URL: "ssh://vsidemo@zcloud.velocitysoftware.com:8192". The terminal window shows a user named "vsidemo" on a host named "zedu0007". The user has executed the command "vi test2.sh" to open a file in the vi editor. After saving and exiting the editor, the user has run the script with "./test2.sh". The script prompts the user for their name, hometown, and major, with the user providing the answers "jeff", "peoria", and "fishing" respectively. The terminal output shows the script's execution flow and the user's input.

```
vsidemo@zedu0007:~$ vi test2.sh
vsidemo@zedu0007:~$ ./test2.sh
please enter your name:
jeff
please enter your hometown:
peoria
please enter your major:
fishing

jeff
peoria
fishing
vsidemo@zedu0007:~$
```

# EMMA/VS1 - Second Level VM



# EMMA/VSI - Second Level VM

zPRO

demo.velocitysoftware.com/zpro/

VELOCITY SOFTWARE

zPRO Enterprise Cloud Management

VSIVC1 (CloudDemo)

UEDU0002 Setting

Auto Arrange | Refresh All | Minimize All | Close All

Create Servers

Server Management

Change a Guest's Password

Manage Owned Servers

View Resources

Server List for UEDU0002

Line 1 of 2

Running

Down

Changing State

Search Criteria ...

| Server   | Description                     | Hostname | IP Address | Owner    | Group   | Expiration             |
|----------|---------------------------------|----------|------------|----------|---------|------------------------|
| ZEDU0007 | UBUNTU 17.10 Linux for UEDU0002 | zedu0007 | 10.0.0.19  | UEDU0002 | SEAYEDU | 8 May 2025 - 16:35:57  |
| ZEDU0010 | z/VM 7.3 Guest for UEDU0002     | zedu0010 | 10.0.0.28  | UEDU0002 | SEAYEDU | 10 Jun 2025 - 12:15:44 |

Actions | View Log | Details | Edit | Chg Password

VSI Complex CMH

Pause

CloudDemo

# EMMA/VS1 - Second Level VM

zPRO

demo.velocitysoftware.com/zpro/

VELOCITY SOFTWARE zPRO Enterprise Cloud Management VSIVC1 (CloudDemo)

Auto Arrange | Refresh All | Minimize All | Close All

Server List for UEDU0002

☐ Line 1 of 2

☐ Running ☐ Down ☐ Changing State

| Description                    | Hostname | IP Address | Owner    | Group   | Expiration             | System | Status  |
|--------------------------------|----------|------------|----------|---------|------------------------|--------|---------|
| BUNTU 17.10 Linux for UEDU0002 | zedu0007 | 10.0.0.19  | UEDU0002 | SEAYEDU | 8 May 2025 - 16:35:57  | VSIVC1 | Running |
| VM 7.3 Guest for UEDU0002      | zedu0010 | 10.0.0.28  | UEDU0002 | SEAYEDU | 10 Jun 2025 - 12:15:44 | VSIVC1 | Running |

Actions

View Log

Details

Edit

Chg Pass

zPRO notifications

09:26:17 VSIVC1 - Guest ZEDU0010 started

09:26:17 Start request has been submitted to VSIVC1

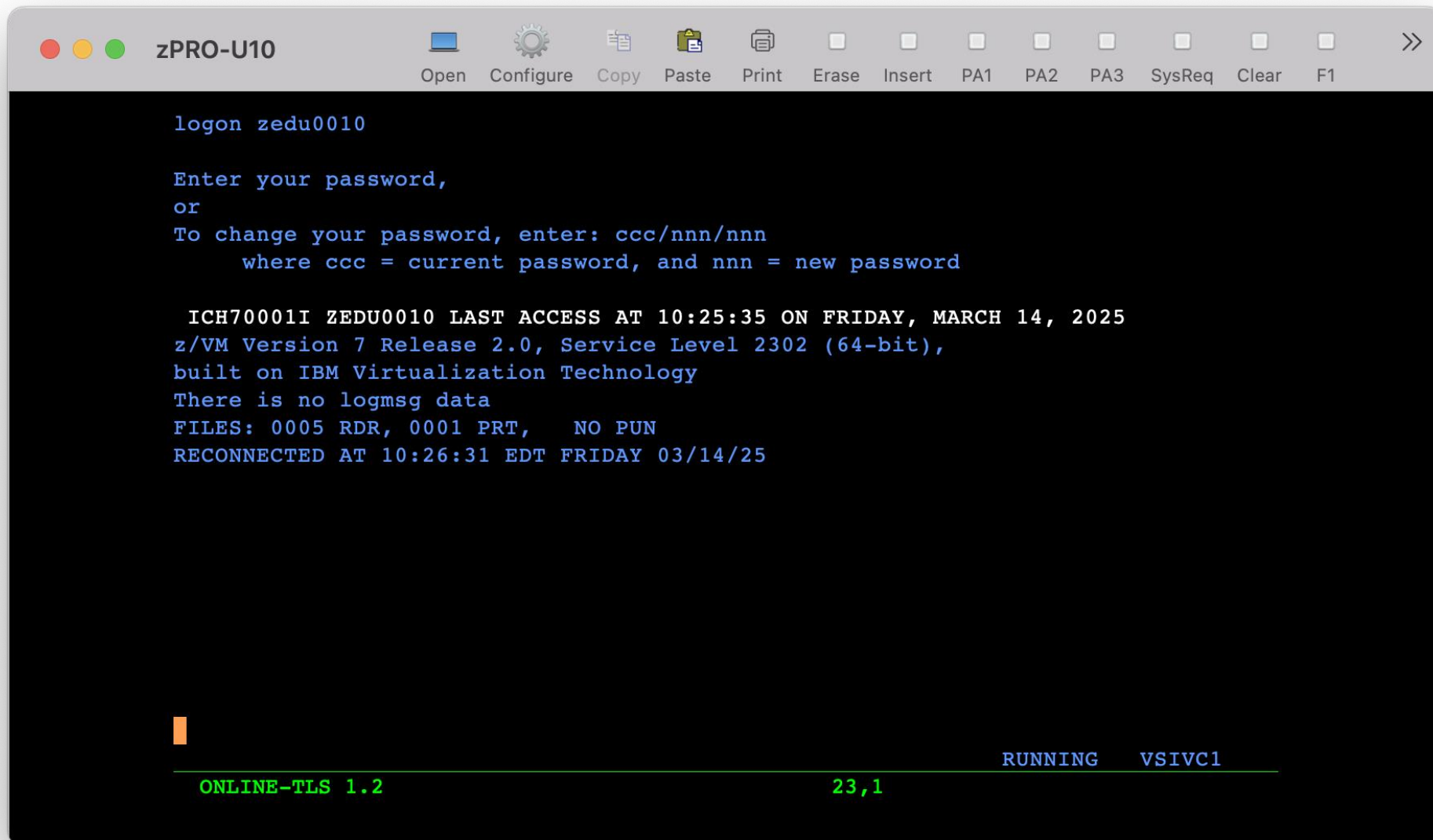
Delete All

VS1 Complex CMH

Pause

CloudDemo

# EMMA/VS1 - Second Level VM



```
zPRO-U10
Open  Configure  Copy  Paste  Print  Erase  Insert  PA1  PA2  PA3  SysReq  Clear  F1  >>

logon zedu0010

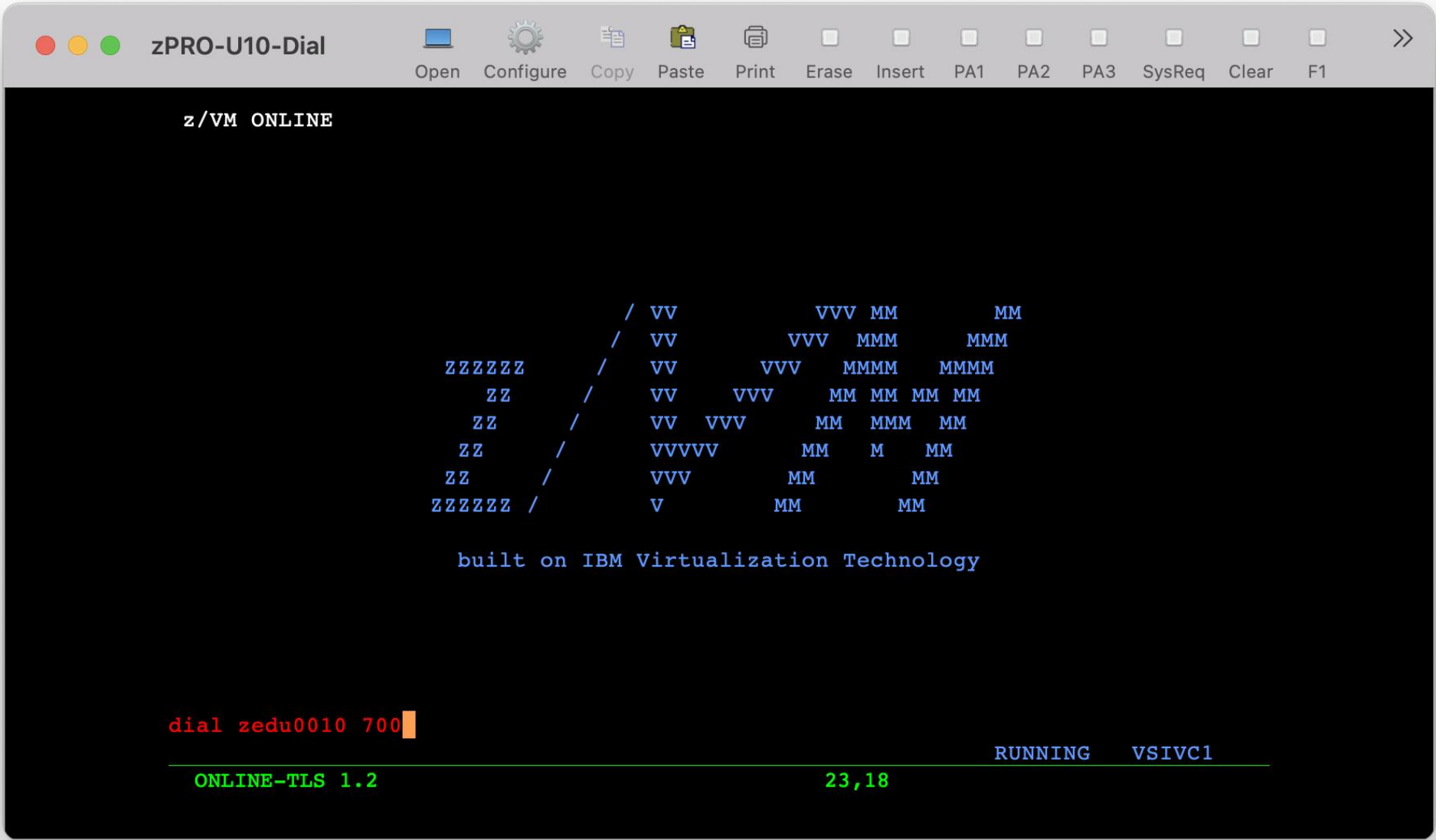
Enter your password,
or
To change your password, enter: ccc/nnn/nnn
      where ccc = current password, and nnn = new password

      ICH70001I ZEDU0010 LAST ACCESS AT 10:25:35 ON FRIDAY, MARCH 14, 2025
z/VM Version 7 Release 2.0, Service Level 2302 (64-bit),
built on IBM Virtualization Technology
There is no logmsg data
FILES: 0005 RDR, 0001 PRT,    NO PUN
RECONNECTED AT 10:26:31 EDT FRIDAY 03/14/25

ONLINE-TLS 1.2                23,1                RUNNING VSIVC1
```



# EMMA/VS1 - Second Level VM



# EMMA/VS1 - Second Level VM

zPRO-U10-Dial

>>

z/VM ONLINE - Velocity Software - ZEDU0010

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built on IBM Virtualization Technology

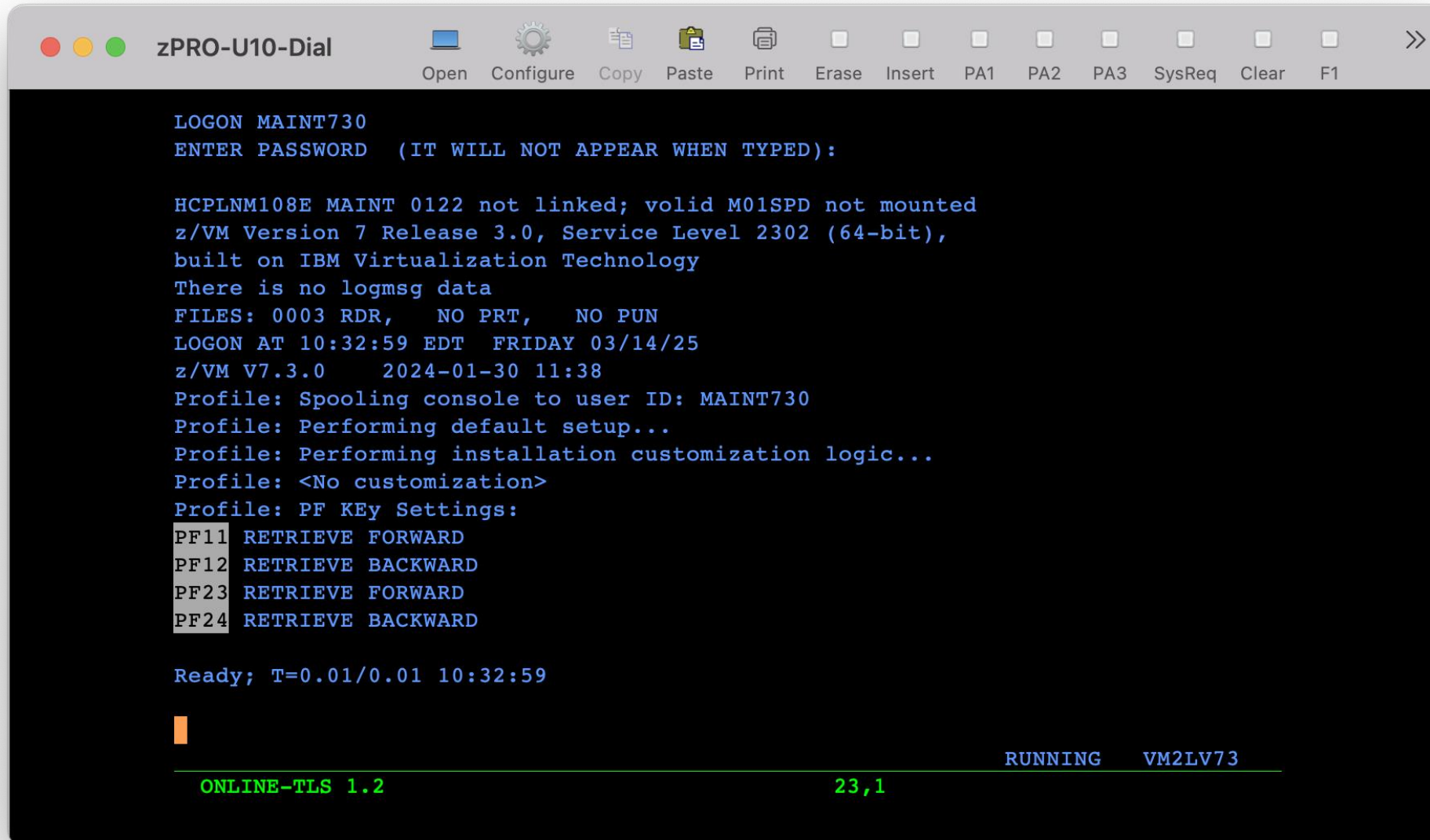
ONLINE-TLS 1.2

23,1

RUNNING

VM2LV73

# EMMA/VS1 - Second Level VM - MAINT User



The screenshot shows a terminal window titled "zPRO-U10-Dial" with a standard macOS-style title bar (red, yellow, green buttons). The terminal displays the following text:

```
LOGON MAINT730
ENTER PASSWORD (IT WILL NOT APPEAR WHEN TYPED):

HCPLNM108E MAINT 0122 not linked; valid M01SPD not mounted
z/VM Version 7 Release 3.0, Service Level 2302 (64-bit),
built on IBM Virtualization Technology
There is no logmsg data
FILES: 0003 RDR, NO PRT, NO PUN
LOGON AT 10:32:59 EDT FRIDAY 03/14/25
z/VM V7.3.0 2024-01-30 11:38
Profile: Spooling console to user ID: MAINT730
Profile: Performing default setup...
Profile: Performing installation customization logic...
Profile: <No customization>
Profile: PF Key Settings:
PF11 RETRIEVE FORWARD
PF12 RETRIEVE BACKWARD
PF23 RETRIEVE FORWARD
PF24 RETRIEVE BACKWARD

Ready; T=0.01/0.01 10:32:59
```

Below the main text, there is a status bar with a green line. On the left, it says "ONLINE-TLS 1.2". In the center, it says "23,1". On the right, it says "RUNNING VM2LV73".

# EMMA/VS1 - Second Level VM - MAINT User

The image is a screenshot of a z/OS console window titled "zPRO-U10-Dial". The window has a standard Mac OS-style title bar with red, yellow, and green window control buttons on the left. Below the title bar is a menu bar with icons and labels for "Open", "Configure", "Copy", "Paste", "Print", "Erase", "Insert", "PA1", "PA2", "PA3", "SysReq", "Clear", and "F1". The main content area is a black terminal window with white text. It displays the command "q dasd" followed by a list of DASD volumes: "DASD 0320 CP OWNED M01RES 109", "DASD 0321 CP OWNED M01SPG 0", "DASD 0323 CP OWNED VMCOM1 16", and "DASD 0324 CP SYSTEM 730RL1 26". Below this is the command "q disk" followed by a table of disk usage. The table has columns: LABEL, VDEV, M, STAT, CYL, TYPE, BLKSZ, FILES, BLKS, USED-(%), BLKS, LEFT, and BLK TOTAL. The rows represent different disk volumes: MNT191, MNT5E6, PMT2CC, MNT51D, PMT551, MNT190, and MNT19E. At the bottom of the terminal window, it says "Ready; T=0.01/0.01 10:33:41". Below the terminal window, there is a status bar with a green bar on the left. The status bar contains the text "ONLINE-TLS 1.2", "23,1", "RUNNING", and "VM2LV73".

# **EMMA Apprenticeship**

**Client post job descriptions to EMMA staff**

**EMMA staff forwards candidate resumes to client**

**Client schedules interviews with the candidate**

**Client accepts a candidate into an apprenticeship position**

**Client, Apprentice, and EMMA staff communicate weekly to continue training and coaching. Apprenticeship reporting follows Department of Labor standards**



Questions?  
Anybody have any questions?



Thank You!

