################################################################

Test7-: main

<https://docs.lxp.lu/web_services/slurmrestd/>

sacct --start=2025-04-11T00:30:00 --end=2025-04-11T17:00:00 -X -o ALL -P > /root/slurmtest/sacctOut2day2025v5-json.txt

curl --unix-socket /run/slurmrestd/slurmrestd.sock -H "X-SLURM-USER-TOKEN:$SLURM\_JWT" http://localhost/slurmdb/v0.0.42/jobs/

################################################################

mysql -u slurm -p -h localhost slurm\_acct\_db

Enter password:

ERROR 1045 (28000): Access denied for user 'slurm'@'localhost' (using password: YES)

sudo mysql -u root -p

DROP USER IF EXISTS 'slurm'@'localhost';

CREATE USER 'slurm'@'localhost' IDENTIFIED BY 'slurm@123';

GRANT ALL PRIVILEGES ON slurm\_acct\_db.\* TO 'slurm'@'localhost';

FLUSH PRIVILEGES;

SHOW GRANTS FOR 'slurm'@'localhost';

MariaDB [(none)]> SHOW GRANTS FOR 'slurm'@'localhost';

+--------------------------------------------------------------------------------------------------------------+

| Grants for slurm@localhost |

+--------------------------------------------------------------------------------------------------------------+

| GRANT USAGE ON \*.\* TO `slurm`@`localhost` IDENTIFIED BY PASSWORD '\*800D69B585E9D6EE748B9DBACC46120A7D33886C' |

| GRANT ALL PRIVILEGES ON `slurm\_acct\_db`.\* TO `slurm`@`localhost` |

+--------------------------------------------------------------------------------------------------------------+

2 rows in set (0.000 sec)

StorageUser=slurm

StoragePass=slurm@123

mysql -u slurm -p -h localhost slurm\_acct\_db

mysql -u slurm -p -h localhost slurm\_acct\_db

Enter password:

Welcome to the MariaDB monitor. Commands end with ; or \g.

Your MariaDB connection id is 14

Server version: 10.5.27-MariaDB MariaDB Server

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

StorageUser=slurm

StoragePass=slurm@123

StorageHost=localhost

StorageLoc=slurm\_acct\_db

/etc/slurm/slurmdbd.conf

AuthType=auth/munge

DbdHost=localhost

DbdPort=6819

SlurmUser=slurm

StorageType=accounting\_storage/mysql

StorageHost=localhost

StorageUser=slurm

StoragePass=slurm@123

StorageLoc=slurm\_acct\_db

LogFile=/var/log/slurm/slurmdbd.log

PidFile=/var/spool/slurmdbd/slurmdbd.pid

sudo systemctl restart slurmdbd

sudo systemctl status slurmdbd

Failed to start Slurm database daemon.

Maridb working and i can check mamaulay mysql -u slurm -p -h localhost slurm\_acct\_db

Working fin for

sudo journalctl -u slurmdbd -n 50 --no-pager

cat /var/log/slurm/slurmdbd.log

slurmdbd: error: Couldn't find the specified plugin name for accounting\_storage/mysql looking at all files

Apr 08 19:43:12 server slurmdbd[166950]: slurmdbd: error: cannot find accounting\_storage plugin for accounting\_storage/mysql

Apr 08 19:43:12 server slurmdbd[166950]: slurmdbd: error: cannot create accounting\_storage context for accounting\_storage/mysql

Apr 08 19:43:12 server slurmdbd[166950]: slurmdbd: fatal: Unable to initialize accounting\_storage/mysql accounting storage plugin

rpm -q mariadb-devel munge-devel readline-devel perl-ExtUtils-MakeMaker

package mariadb-devel is not installed

munge-devel-0.5.13-1732.0960.250401T2024.a.rhel96hpe.x86\_64

readline-devel-8.1-4.el9.x86\_64

perl-ExtUtils-MakeMaker-7.60-3.el9.noarch

rpm -q mariadb-devel munge-devel readline-devel perl-ExtUtils-MakeMaker

sudo dnf install mariadb-devel

cm node dnf --node admin install mariadb-devel

./configure --prefix=/opt/slurm --sysconfdir=/etc/slurm --enable-slurmrestd --with-munge

./configure --prefix=/opt/slurm --sysconfdir=/etc/slurm --with-munge --with-jwt --enable-slurmrestd

curl --unix-socket /run/slurmrestd/slurmrestd.sock http://localhost/openapi/v0.0.36/slurm/version

##################################################

TEST 4

sudo journalctl -u slurmrestd -n 50 --no-pager

# Step 1: Install needed tools

#sudo dnf install git cmake gcc make

cm node dnf --node admin install git cmake gcc make

# Step 2: Clone and build libjwt

cd /usr/local/src

sudo git clone https://github.com/benmcollins/libjwt.git

cd libjwt

sudo mkdir build && cd build

sudo cmake ..

sudo make

sudo make install

# Step 3: Make sure the system sees it

echo "/usr/local/lib64" | sudo tee /etc/ld.so.conf.d/libjwt.conf

sudo ldconfig

ls /usr/local/lib64/libjwt.so

ls /usr/local/include/jwt.h

sudo dnf install jansson-devel

ls /opt/slurm/lib/slurm/rest\_auth\_jwt.so

echo "/usr/local/lib64" | sudo tee /etc/ld.so.conf.d/libjwt.conf

sudo ldconfig

LDFLAGS="-L/usr/local/lib64" CPPFLAGS="-I/usr/local/include" ./configure --prefix=/opt/slurm --sysconfdir=/etc/slurm --with-munge --with-jwt --enable-slurmrestd

LDFLAGS="-L/usr/local/lib64" CPPFLAGS="-I/usr/local/include" ./configure \

--prefix=/opt/slurm \

--sysconfdir=/etc/slurm \

--enable-slurmrestd \

--with-jwt \

--with-munge

export PKG\_CONFIG\_PATH=/usr/local/lib64/pkgconfig

./configure --prefix=/opt/slurm --sysconfdir=/etc/slurm --with-munge --with-jwt --enable-slurmrestd

# Remove old shared and static libraries

sudo rm -f /usr/local/lib/libjwt.so\*

sudo rm -f /usr/local/lib64/libjwt.so\*

sudo rm -f /usr/local/lib/libjwt.a

# Remove headers

sudo rm -f /usr/local/include/jwt.h

sudo rm -f /usr/local/include/jwt\_export.h

# Remove pkg-config files

sudo rm -f /usr/local/lib/pkgconfig/libjwt.pc

sudo rm -f /usr/local/lib64/pkgconfig/libjwt.pc

# Optional: remove source folder

sudo rm -rf /usr/local/src/libjwt

# Refresh dynamic linker cache

sudo ldconfig

**sudo systemctl daemon-reexec**

**sudo systemctl restart slurmrestd**

**sudo systemctl status slurmrestd**

**curl --unix-socket /run/slurmrestd/slurmrestd.sock http://localhost/openapi/v0.0.36/slurm/version**

ls -l /run/slurmrestd/slurmrestd.sock

cat /etc/slurm/slurmrestd.env

SLURM\_JWT=enabled

SLURM\_JWT\_KEY=/etc/slurm/jwt/jwt.key

SLURMRESTD\_ARGS="-a rest\_auth/jwt -s openapi/v0.0.36 unix:/run/slurmrestd/slurmrestd.sock"

cat /etc/systemd/system/slurmrestd.service

sudo systemctl daemon-reexec

sudo systemctl daemon-reload

sudo systemctl restart slurmrestd

sudo systemctl status slurmrestd

journalctl -u slurmrestd -n 50 --no-pager

The slurmrestd service, part of the Slurm Workload Manager, should not run as root or the Slurm user, and it's generally recommended to run it as a unique, unprivileged user and group, especially when using JWT authentication.

# Stop the service first

sudo systemctl stop slurmrestd

# Delete the old user (and its group)

sudo userdel slurmapi

sudo groupdel slurmapi # only if not shared with anything else

# Recreate the user and group properly (no slurm group!)

sudo useradd --system --no-create-home --shell /sbin/nologin slurmapi

sudo chown slurmapi:slurmapi /etc/slurm/jwt/jwt.key

sudo chmod 600 /etc/slurm/jwt/jwt.key

sudo mkdir -p /run/slurmrestd

sudo chown slurmapi:slurmapi /run/slurmrestd

srun --job-name=testjob --ntasks=1 --nodes=1 --nodelist=n1 --time=00:01:00 hostname

srun --chdir=/tmp --ntasks=1 --nodelist=n1 hostname

squeue

sacct --starttime=2024-01-01

sudo systemctl stop slurmd

sudo systemctl stop slurmctld

sudo systemctl stop slurmdbd

sudo systemctl start slurmdbd

sudo systemctl start slurmctld

sudo systemctl status slurmdbd

sudo systemctl status slurmctld

sudo systemctl start slurmd

sudo systemctl status slurmd

PAACKAGES

rpm -q json-c-devel libjwt-devel libyaml-devel http-parser-devel

rpm -q json-c libjwt libyaml http-parser

TEST 5

# Stop the service first

sudo systemctl stop slurmrestd

# Delete the old user (and its group)

sudo userdel slurmapi

sudo groupdel slurmapi # only if not shared with anything else

# Recreate the user and group properly (no slurm group!)

sudo useradd --system --no-create-home --shell /sbin/nologin slurmapi

sudo chown slurmapi:slurmapi /etc/slurm/jwt/jwt.key

sudo chmod 600 /etc/slurm/jwt/jwt.key

sudo mkdir -p /run/slurmrestd

sudo chown slurmapi:slurmapi /run/slurmrestd

sudo git clone https://github.com/SchedMD/slurm.git

cd slurm

git config --global --add safe.directory /usr/local/src/slurm

git checkout slurm-24.11.3

ls slurmrestd/plugins/openapi/v0.0.42/

AuthAltTypes=auth/jwt

AuthAltParameters=jwt\_key=/etc/slurm/jwt/jwt.key

sudo systemctl restart slurmctld

sudo chown slurmapi:slurm /etc/slurm/jwt/jwt.key

sudo chmod 640 /etc/slurm/jwt/jwt.key

sudo systemctl restart slurmrestd

sudo useradd jwtuser

sudo -u slurm /opt/slurm/bin/scontrol token username=jwtuser lifetime=86400

sudo -u slurm /opt/slurm/bin/scontrol token username=jwtuser , with this i got token

export SLURM\_JWT=your\_generated\_token

export SLURMRESTD\_SOCKET=/run/slurmrestd/slurmrestd.sock

SLURM\_JWT=eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJleHAiOjE3NDQyOTE0MTcsImlhdCI6MTc0NDI4OTYxNywic3VuIjoiand0dXNlciJ9.t6-DJXUGky2nWPBQaRWZE2yuEKB3-rE5B0lj25dQ9Yw

curl --unix-socket "${SLURMRESTD\_SOCKET}" \

-H "X-SLURM-USER-TOKEN:${SLURM\_JWT}" \

http://localhost/slurm/v0.0.42/ping

curl --unix-socket "${SLURMRESTD\_SOCKET}" \

-H "X-SLURM-USER-TOKEN:${SLURM\_JWT}" \

http://localhost/slurm/v0.0.42/jobs

curl --unix-socket "${SLURMRESTD\_SOCKET}" \

-H "X-SLURM-USER-TOKEN:${SLURM\_JWT}" \

http://localhost/slurm/v0.0.42/nodes

Full api impmenataion

https://docs.lxp.lu/cloud/slurmrestd/?utm\_source=chatgpt.com#\_\_tabbed\_4\_1

Test 6

ls slurmrestd/plugins/openapi/v0.0.36/

https://stackoverflow.com/questions/79397516/latest-slurm-installataion-with-slurmrestd-missing-plugin

cd /usr/local/src

wget https://download.schedmd.com/slurm/slurm-24.11.3.tar.bz2

tar -xvjf slurm-24.11.3.tar.bz2

/usr/local/src/slurm-24.11.3/src/slurmrestd/plugins/openapi

Makefile Makefile.am Makefile.in slurmctld slurmdbd

https://github.com/SchedMD/slurm.git

/usr/local/src/slurm-24.11.3

sudo git clone https://github.com/SchedMD/slurm.git

cd slurm

git checkout slurm-24.11.3

git checkout slurm-24.11.3

fatal: detected dubious ownership in repository at 'usr/local/src/s/slurm-24-11-3/slurm'

To add an exception for this directory, call:

git config --global --add safe.directory /usr/local/src/s/slurm-24-11-3/slurm

git config --global --add safe.directory /home/nanjunde/others/slurm-24-11-3/slurm

ind.

rpm -q json-c-devel libjwt-devel libyaml-devel http-parser-devel

json-c-devel-0.14-11.el9.x86\_64

libjwt-devel-1.12.1-11.el9.x86\_64

libyaml-devel-0.2.5-7.el9.x86\_64

http-parser-devel-2.9.4-6.el9.x86\_64

rpm -q json-c libjwt libyaml http-parser

json-c-0.14-11.el9.x86\_64

libjwt-1.12.1-11.el9.x86\_64

libyaml-0.2.5-7.el9.x86\_64

http-parser-2.9.4-6.el9.x86\_64

/usr/lib64/libjwt.so exists

make clean

./configure --prefix=/opt/slurm \

--sysconfdir=/etc/slurm \

--enable-slurmrestd \

--with-jwt \

--with-munge \

--with-mysql\_config=/usr/bin/mysql\_config | tee configure.log

grep openapi configure.log

When

config.status: creating src/slurmrestd/plugins/openapi/Makefile

config.status: creating src/slurmrestd/plugins/openapi/slurmctld/Makefile

config.status: creating src/slurmrestd/plugins/openapi/slurmdbd/Makefile

My original source folder

/usr/local/src/slurm-24.11.3

ls

1 config.h configure CONTRIBUTING.md doc LICENSE.OpenSSL make\_ref.include RELEASE\_NOTES src

aclocal.m4 config.h.in configure.ac COPYING etc Makefile META SECURITY.md stamp-h1

AUTHORS config.log configure.log debian INSTALL Makefile.am NEWS slurm testsuite

auxdir config.status contribs DISCLAIMER libtool Makefile.in README.rst slurm.spec

[root@rudra slurm-24.11.3]#

Soo that i means i ./conifure this folder

/usr/local/src/slurm-24.11.3/src/slurmrestd

# ls

http.c Makefile Makefile.in openapi.h operations.h rest\_auth.c slurmrestd.c

http.h Makefile.am openapi.c operations.c **plugins**  rest\_auth.h usage.txt

/usr/local/src/slurm-24.11.3/src/slurmrestd/plugins/openapi

ls

Makefile Makefile.am Makefile.in slurmctld slurmdbd

sudo git clone <https://github.com/SchedMD/slurm.git>

Cd slumr

git config --global --add safe.directory /usr/local/src/slurm

sudo su -

cd /usr/local/src/slurm

chown -R root:root .

cd /usr/local/src/slurm

sudo git fetch --all --tags

sudo git checkout slurm-24.11.3

/opt/slurm/sbin/slurmrestd -s list

/opt/slurm/sbin/slurmrestd -s list

slurmrestd: fatal: slurmrestd should not be run as the root user.

sudo -u slurmapi /opt/slurm/sbin/slurmrestd -s list

Possible OpenAPI plugins:

openapi/slurmctld

openapi/slurmdbd

SLURM\_JWT=enabled

SLURM\_JWT\_KEY=/etc/slurm/jwt/jwt.key

SLURMRESTD\_ARGS="-a rest\_auth/jwt -s openapi/slurmctld unix:/run/slurmrestd/slurmrestd.sock"

/etc/slurm/slurmrestd.env

ls -l /etc/slurm/jwt/jwt.key

-rw-r----- 1 slurmapi slurm 1704 Apr 4 16:36 /etc/slurm/jwt/jwt.key

sudo systemctl daemon-reexec

sudo systemctl daemon-reload

sudo systemctl restart slurmdbd

sudo systemctl status slurmdbd

sudo systemctl restart slurmctld

sudo systemctl status slurmctld

sudo systemctl restart slurmrestd

sudo systemctl status slurmrestd

export

SLURM\_JWT=eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJleHAiOjE3NDQyOTE0MTcsImlhdCI6MTc0NDI4OTYxNywic3VuIjoiand0dXNlciJ9.t6-DJXUGky2nWPBQaRWZE2yuEKB3-rE5B0lj25dQ9Yw

export SLURMRESTD\_SOCKET=/run/slurmrestd/slurmrestd.sock

echo $SLURM\_JWT

echo $SLURMRESTD\_SOCKET

Test 7

[https://docs.lxp.lu/cloud/slurmrestd](https://docs.lxp.lu/cloud/slurmrestd/?utm_source=chatgpt.com)

curl --unix-socket "${SLURMRESTD\_SOCKET}" \

-H "X-SLURM-USER-TOKEN:${SLURM\_JWT}" \

http://localhost/slurm/v0.0.42/ping

curl --unix-socket "${SLURMRESTD\_SOCKET}" \

-H "X-SLURM-USER-TOKEN:${SLURM\_JWT}" \

http://localhost/slurm/v0.0.42/jobs

curl --unix-socket "${SLURMRESTD\_SOCKET}" \

-H "X-SLURM-USER-TOKEN:${SLURM\_JWT}" \

http://localhost/slurm/v0.0.42/nodes

scontrol show config | grep ClusterName

sudo journalctl -u slurmctld

sudo journalctl -u slurmctld

sudo journalctl -u slurmrestd

sudo journalctl -u slurmctld -n 50 -f

sudo journalctl -u slurmrestd-n 50 -f

scp /etc/munge/munge.key user@other-node:/etc/munge/munge.key

sudo chown munge:munge /etc/munge/munge.key

sudo chmod 400 /etc/munge/munge.key

sudo systemctl restart munge

Avoid use=ing token , as it is expire

sudo systemctl restart slurmd

BASE\_URL = "<http://localhost:6820/slurm/><>/jobs"

~

We run , where generate token and export and also SLURMRESTD\_SOCKET

curl --unix-socket "${SLURMRESTD\_SOCKET}" \

-H "X-SLURM-USER-TOKEN:${SLURM\_JWT}" \

http://localhost/slurm/v0.0.42/ping

Now in above can i change

ExecStart=/opt/slurm/sbin/slurmrestd $SLURMRESTD\_ARGS

RuntimeDirectory=slurmrestd

To

ExecStart=/usr/sbin/slurmrestd -f /etc/slurm/slurm.conf 0.0.0.0:6820

Before , what is $SLURMRESTD\_ARGS

I forgot

srun --ntasks=1 --nodes=1 --time=2:00 hostname

srun --ntasks=1 --cpus-per-task=2 --time=00:01:00 bash -c "echo Running on \$(hostname); stress --cpu 2 --timeout 30"

srun --ntasks=1 --time=00:01:00 python3 -c "import socket; print(f'Hello from {socket.gethostname()}')"

sacct -X --start=2025-04-01 --end=2025-04-16 -o ALL -P >> sacct\_all\_output.txt

{

"JobID": "job\_id",

"User": "user\_id",

"JobName": "job\_name",

"ReqCPUS": "num\_core\_req",

"ReqNodes": "num\_node\_req",

"Submit": "submit\_time",

"ReqMem": "mem\_size\_limit",

"Priority": "priority",

"Partition": "partition\_name",

"Group": "group",

"Timelimit": "wallclock\_req",

"ReqTRES": "cpu\_req",

"SubmitLine": "submit\_line",

"Account": "account",

"QOS": "qos",

"NTasks": "ntasks",

"Start": "start\_time",

"NodeList": "nodelist",

"WorkDir": "work\_dir",

"ReqCPUFreq": "freq\_req",

"AllocCPUS": "num\_core\_alloc",

"AllocNodes": "num\_node\_alloc",

"Elapsed": "wallclock\_allocated",

"NCPUS": "num\_of\_cpu",

"AdminComment": "admin\_comment",

"AssocID": "assoc\_id",

"SystemComment": "system\_comment"

}

**Sacct features list - TOTAL**

Account AdminComment AllocCPUS AllocNodes

AllocTRES AssocID AveCPU AveCPUFreq

AveDiskRead AveDiskWrite AvePages AveRSS

AveVMSize BlockID Cluster Comment

Constraints ConsumedEnergy ConsumedEnergyRaw Container

CPUTime CPUTimeRAW DBIndex DerivedExitCode

Elapsed ElapsedRaw Eligible End

ExitCode Extra FailedNode Flags

GID Group JobID JobIDRaw

JobName Layout Licenses MaxDiskRead

MaxDiskReadNode MaxDiskReadTask MaxDiskWrite MaxDiskWriteNode

MaxDiskWriteTask MaxPages MaxPagesNode MaxPagesTask

MaxRSS MaxRSSNode MaxRSSTask MaxVMSize

MaxVMSizeNode MaxVMSizeTask McsLabel MinCPU

MinCPUNode MinCPUTask NCPUS NNodes

NodeList NTasks Partition Planned

PlannedCPU PlannedCPURAW Priority QOS

QOSRAW Reason ReqCPUFreq ReqCPUFreqGov

ReqCPUFreqMax ReqCPUFreqMin ReqCPUS ReqMem

ReqNodes ReqTRES Reservation ReservationId

Start State StdErr StdIn

StdOut Submit SubmitLine Suspended

SystemComment SystemCPU Timelimit TimelimitRaw

TotalCPU TRESUsageInAve TRESUsageInMax TRESUsageInMaxNode

TRESUsageInMaxTask TRESUsageInMin TRESUsageInMinNode TRESUsageInMinTask

TRESUsageInTot TRESUsageOutAve TRESUsageOutMax TRESUsageOutMaxNode

TRESUsageOutMaxTask TRESUsageOutMin TRESUsageOutMinNode TRESUsageOutMinTask

TRESUsageOutTot UID User UserCPU

WCKey WCKeyID WorkDir

sstat commands

AveCPU AveCPUFreq AveDiskRead AveDiskWrite

AvePages AveRSS AveVMSize ConsumedEnergy

ConsumedEnergyRaw JobID MaxDiskRead MaxDiskReadNode

MaxDiskReadTask MaxDiskWrite MaxDiskWriteNode MaxDiskWriteTask

MaxPages MaxPagesNode MaxPagesTask MaxRSS

MaxRSSNode MaxRSSTask MaxVMSize MaxVMSizeNode

MaxVMSizeTask MinCPU MinCPUNode MinCPUTask

Nodelist NTasks Pids ReqCPUFreq

ReqCPUFreqMin ReqCPUFreqMax ReqCPUFreqGov TRESUsageInAve

TRESUsageInMax TRESUsageInMaxNode TRESUsageInMaxTask TRESUsageInMin

TRESUsageInMinNode TRESUsageInMinTask TRESUsageInTot TRESUsageOutAve

TRESUsageOutMax TRESUsageOutMaxNode TRESUsageOutMaxTask TRESUsageOutMin

TRESUsageOutMinNode TRESUsageOutMinTask TRESUsageOutTot