

PRN: 2020BTECS00112

1. Do the installation and configuration of Oracle/MySQL/IBM DB2 distributed databases. [Take minimum nodes]
2. Use the above installed distributed database as backend for Assignment No.3 & 4.
3. Demonstrate the working by connecting portals to different nodes, adding data from one node and available / display on portal connected to another node etc.

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Administrator: Command Prompt
C:\Windows\system32\cmd.exe
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C:\Windows\system32>cd /

C:\>cd "Program Files"

C:\Program Files>cd MySQL

C:\Program Files\MySQL>cd "MySQL Server 8.0"

C:\Program Files\MySQL\MySQL Server 8.0>cd bin

C:\Program Files\MySQL\MySQL Server 8.0\bin>mysql --initialize-insecure --basedir="C:\Program Files\MySQL\MySQL Server 8.0" --datadir="C:\MySQLInstance\data"

C:\Program Files\MySQL\MySQL Server 8.0\bin>mysql
2023-04-27T18:06:17.578678Z 0 [System] [MY-010116] [Server] C:\Program Files\MySQL\MySQL Server 8.0\bin\mysqld.exe (mysqld 8.0.33) starting as process 12084
2023-04-27T18:06:17.580942Z 0 [Warning] [MY-010801] [Server] Can't create test file C:\Program Files\MySQL\MySQL Server 8.0\data\mysqld_tmp_file_case_insensitive_test.lower-test
2023-04-27T18:06:17.581084Z 0 [Warning] [MY-010801] [Server] Can't create test file C:\Program Files\MySQL\MySQL Server 8.0\data\mysqld_tmp_file_case_insensitive_test.lower-test
2023-04-27T18:06:17.585529Z 0 [ERROR] [MY-013276] [Server] Failed to set datadir to 'C:\Program Files\MySQL\MySQL Server 8.0\data\' (OS errno: 2 - No such file or directory)
2023-04-27T18:06:17.589846Z 0 [ERROR] [MY-010119] [Server] Aborting
2023-04-27T18:06:17.589961Z 0 [System] [MY-010910] [Server] C:\Program Files\MySQL\MySQL Server 8.0\bin\mysqld.exe: Shutdown complete (mysqld 8.0.33) MySQL Community Server - GPL.
C:\Program Files\MySQL\MySQL Server 8.0\bin>mysql --install MySQL52 --defaults-file="C:\MySQLInstance\my.ini"
Service successfully installed.

C:\Program Files\MySQL\MySQL Server 8.0\bin>net start MySQL52
The MySQL52 service is starting...
The MySQL52 service was started successfully.

C:\Program Files\MySQL\MySQL Server 8.0\bin>

```

```
MySQL Shell 8.0.33

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Type '\help' or '\?' for help; '\quit' to exit.
mysql> \?
VC root@localhost:3306
Creating a session to 'root@localhost:3306'
Fetching schema names for auto-completion... Press ~C to stop.
Your MySQL connection id is 9
Server version: 8.0.33 MySQL Community Server - GPL
No default schema selected; type Use <schema> to set one.
mysql> localhost:3306> set @@var_cluster = dba.createcluster("cluster")
A new InnoDB Cluster will be created on instance 'CSE-MINICCF-2712:3306'.
Validating instance configuration at localhost:3306...

ERROR: New account(s) with proper source address specification to allow remote connection from all instances must be created to manage the cluster.
dba.createCluster: User 'root' can only connect from 'localhost'. (RuntimeError)
mysql> localhost:3306> set @@var_cluster = dba.createcluster("cluster")
Creating a session to 'icroot@localhost:3306'
Please provide the password for 'icroot@localhost:3306': ****
Have password for 'icroot@localhost:3306'? [Y]es/[N]o/[E]x[?]er (default No): y
Fetching schema names for auto-completion... Press ~C to stop.
Closing old connection...
Your MySQL connection id is 14
Server version: 8.0.33 MySQL Community Server - GPL
No default schema selected; type Use <schema> to set one.
mysql> localhost:3306> set @@var_cluster = dba.createcluster("cluster")
A new InnoDB Cluster will be created on instance 'CSE-MINICCF-2712:3306'.
Validating instance configuration at localhost:3306...

This instance reports its own address as CSE-MINICCF-2712:3306

Instance configuration is suitable.
NOTE: Group Replication will communicate with other members using 'CSE-MINICCF-2712:3306'. Use the localAddress option to override.

~ Checking connectivity and SSL configuration...

Creating InnoDB Cluster 'cluster' on 'CSE-MINICCF-2712:3306'...

Adding Seed Instance...
Cluster successfully created. Use Cluster.addInstance() to add MySQL instances.
At least 3 instances are needed for the cluster to be able to withstand up to
the server failure.
```

No default schema selected; type \use <schema> to set one.

```
MySQL localhost:3306 ssl JS> cluster.status()
{
  "clusterName": "cluster",
  "defaultReplicaSet": {
    "name": "default",
    "primary": "CSE-MINICCF-2712:3306",
    "ssl": "REQUIRED",
    "status": "OK_NO_TOLERANCE",
    "statusText": "Cluster is NOT tolerant to any failures.",
    "topology": {
      "CSE-MINICCF-2712:3306": {
        "address": "CSE-MINICCF-2712:3306",
        "memberRole": "PRIMARY",
        "mode": "R/W",
        "readReplicas": {},
        "replicationLag": "applier_queue_applied",
        "role": "HA",
        "status": "ONLINE",
        "version": "8.0.33"
      }
    },
    "topologyMode": "Single-Primary"
  },
  "groupInformationSourceMember": "CSE-MINICCF-2712:3306"
}
```

```
No default schema selected; type \use <schema> to set one.
MySQL localhost:3306 ssl JS> \c icroot@localhost:3306
Creating a session to 'icroot@localhost:3306'
Fetching schema names for auto-completion... Press ^C to stop.
Closing old connection...
Your MySQL connection id is 46
Server version: 8.0.33 MySQL Community Server - GPL
No default schema selected; type \use <schema> to set one.
MySQL localhost:3306 ssl JS> cluster.addInstance('icroot2@localhost:3307')

NOTE: The target instance 'CSE-MINICCF-2712:3307' has not been pre-provisioned (GTID set is empty). The Shell is unable to decide whether incremental state recovery can correctly provision it.
The safest and most convenient way to provision a new instance is through automatic clone provisioning, which will completely overwrite the state of 'CSE-MINICCF-2712:3307' with a physical snapshot from an existing cluster member. To use
this method by default, set the 'recoveryMethod' option to 'clone'.

The incremental state recovery may be safely used if you are sure all updates ever executed in the cluster were done with GTIDs enabled, there are no purged transactions and the new instance contains the same GTID set as the cluster or a
subset of it. To use this method by default, set the 'recoveryMethod' option to 'incremental'.

Please select a recovery method [C]lone/[I]ncremental recovery/[A]bort (default Clone): C
Validating instance configuration at localhost:3307...

This instance reports its own address as CSE-MINICCF-2712:3307

Instance configuration is suitable.
NOTE: Group Replication will communicate with other members using 'CSE-MINICCF-2712:3307'. Use the localAddress option to override.

* Checking connectivity and SSL configuration...
A new instance will be added to the InnoDB cluster. Depending on the amount of
data on the cluster this might take from a few seconds to several hours.

Adding instance to the cluster...

Monitoring recovery process of the new cluster member. Press ^C to stop monitoring and let it continue in background.
Clone based state recovery is now in progress.

NOTE: A server restart is expected to happen as part of the clone process. If the
server does not support the RESTART command or does not come back after a
while, you may need to manually start it back.

* Waiting for clone to finish...
NOTE: CSE-MINICCF-2712:3307 is being cloned from cse-miniccf-2712:3306
** Stage DROP DATA: Completed
** Clone transfer
FILE COPY ##### 100% Completed
PAGE COPY ##### 100% Completed
REDO COPY ##### 100% Completed

NOTE: CSE-MINICCF-2712:3307 is shutting down...

* Waiting for server restart... ready
* CSE-MINICCF-2712:3307 has restarted, waiting for clone to finish...
** Stage RESTART: Completed
* Clone process has finished: 73.66 MB transferred in about 1 second (~73.66 MB/s)

State recovery already finished for 'CSE-MINICCF-2712:3307'

The instance 'CSE-MINICCF-2712:3307' was successfully added to the cluster.
```

Added 2 nodes to the cluster

MySQL Shell

```
MySQL localhost:3306 ssl JS > cluster.status()
{
  "clusterName": "cluster",
  "defaultReplicaSet": {
    "name": "default",
    "primary": "CSE-MINICCF-2712:3306",
    "ssl": "REQUIRED",
    "status": "OK_NO_TOLERANCE",
    "statusText": "Cluster is NOT tolerant to any failures.",
    "topology": {
      "CSE-MINICCF-2712:3306": {
        "address": "CSE-MINICCF-2712:3306",
        "memberRole": "PRIMARY",
        "mode": "R/W",
        "readReplicas": {},
        "replicationLag": "applier_queue_applied",
        "role": "HA",
        "status": "ONLINE",
        "version": "8.0.33"
      },
      "CSE-MINICCF-2712:3307": {
        "address": "CSE-MINICCF-2712:3307",
        "memberRole": "SECONDARY",
        "mode": "R/O",
        "readReplicas": {},
        "replicationLag": "applier_queue_applied",
        "role": "HA",
        "status": "ONLINE",
        "version": "8.0.33"
      }
    },
    "topologyMode": "Single-Primary"
  },
  "groupInformationSourceMember": "CSE-MINICCF-2712:3306"
}
```