Here is the final end-to-end setup for running Drupal on RHEL 8 using Docker Compose, connecting to an Azure MySQL 8.4 Database, with backup and restore steps for Azure Blob Storage.

Step 1: Set Up Azure MySQL Database

Create an Azure MySQL Database (version 8.4):

az mysql flexible-server create \

--resource-group mysql-rg \

--name mysql84-demo-ruthwik \

--location eastus2 \

--admin-user adminuser \

--admin-password "SecureP@ss123!" \

--version 8.4 \

--tier Burstable \

--sku-name Standard\_B1s \

--storage-size 20 \

--public-access "0.0.0.0-255.255.255.255"

Verify Database Connectivity:

Ensure the firewall allows your local or VM IP to connect:

az mysql flexible-server show \

--resource-group mysql-rg \

--name mysql84-demo-ruthwik \

--query "network.publicNetworkAccess"

If it returns "Enabled", proceed to the next step. Otherwise, configure the firewall to allow connections.

Create Database and User:

Connect to Azure MySQL using the CLI:

az mysql flexible-server connect \

--name mysql84-demo-ruthwik \

--resource-group mysql-rg \

--admin-user adminuser \

--admin-password "SecureP@ss123!" \

--interactive

Once connected, create the drupaldb database:

sql

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CREATE DATABASE drupaldb;

CREATE USER 'drupaluser'@'%' IDENTIFIED BY 'drupalpassword';

GRANT ALL PRIVILEGES ON drupaldb.\* TO 'drupaluser'@'%';

FLUSH PRIVILEGES;

Step 2: Create and Set Up RHEL 8 VM

Create an Azure RHEL 8 VM (with appropriate resources for Docker installation):

az vm create \

--resource-group myresourcegroup \

--name myRHEL8VM \

--location eastus \

--image RedHat:RHEL:8-LVM:latest \

--admin-username azureuser \

--generate-ssh-keys \

--size Standard\_B2ms # Increase VM size if needed

Install Docker and Docker Compose on RHEL 8:

sudo yum install -y dnf

sudo dnf install -y docker

sudo systemctl enable --now docker

sudo usermod -aG docker azureuser

sudo yum install -y docker-compose

Verify Docker and Docker Compose:

docker --version

docker-compose --version

Step 3: Install Drupal Using Docker Compose

Create a docker-compose.yml file:

On your RHEL 8 VM, create a directory for the Drupal project and navigate to it:

mkdir ~/drupal-project

cd ~/drupal-project

Create the docker-compose.yml file:

yaml

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version: '3.8'

services:

drupal:

image: drupal:latest

container\_name: drupal

ports:

- "8080:80"

volumes:

- drupal\_modules:/var/www/html/modules

- drupal\_profiles:/var/www/html/profiles

- drupal\_themes:/var/www/html/themes

- drupal\_sites:/var/www/html/sites

restart: unless-stopped

environment:

- DRUPAL\_DATABASE\_HOST=mysql84-demo-ruthwik.mysql.database.azure.com

- DRUPAL\_DATABASE\_NAME=drupaldb

- DRUPAL\_DATABASE\_USER=drupaluser@mysql84-demo-ruthwik

- DRUPAL\_DATABASE\_PASSWORD=drupalpassword

- DRUPAL\_DATABASE\_PORT=3306

volumes:

drupal\_modules:

drupal\_profiles:

drupal\_themes:

drupal\_sites:

Start the Drupal container:

docker-compose up -d

Access Drupal:

Open your browser and go to:

cpp

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http://<your-vm-ip>:8080

Complete the Drupal installation by filling in the database details (they are already set in the docker-compose.yml).

Step 4: Backup and Restore MySQL Database to Azure Blob Storage

Install Azure CLI and configure it on your RHEL 8 VM:

curl -sL https://aka.ms/InstallAzureCLIDeb | sudo bash

az login # Log in with your Azure account

Create an Azure Blob Storage container:

az storage account create \

--name mystorageaccount \

--resource-group myresourcegroup \

--location eastus2 \

--sku Standard\_LRS

az storage container create \

--name backups \

--account-name mystorageaccount

Backup MySQL Database to Azure Blob:

First, create a backup of your drupaldb using mysqldump:

mysqldump -h mysql84-demo-ruthwik.mysql.database.azure.com -u drupaluser@mysql84-demo-ruthwik -p drupaldb > drupaldb\_backup.sql

Then, upload it to Azure Blob Storage:

az storage blob upload \

--account-name mystorageaccount \

--container-name backups \

--name drupaldb\_backup.sql \

--file drupaldb\_backup.sql

Restore MySQL Database from Azure Blob:

To restore the database, first download the backup from Azure Blob:

az storage blob download \

--account-name mystorageaccount \

--container-name backups \

--name drupaldb\_backup.sql \

--file drupaldb\_backup.sql

Then, restore it using mysql:

mysql -h mysql84-demo-ruthwik.mysql.database.azure.com -u drupaluser@mysql84-demo-ruthwik -p drupaldb < drupaldb\_backup.sql

Step 5: Clean Up

Stop and Remove Containers:

To stop and remove the containers:

docker-compose down

Stop Azure MySQL Server (if necessary):

If you no longer need the MySQL server:

az mysql flexible-server stop --name mysql84-demo-ruthwik --resource-group mysql-rg