



MinIO SFTP Setup using Docker Compose

Overview

This guide explains how to deploy a MinIO instance with SFTP access using Docker Compose. It includes configuration files, setup commands, user creation scripts, and validation steps.



1. Directory Structure

```
minio-sftp-setup/  
├── docker-compose.yml  
├── .env  
├── sshkeys/  
│   └── id_rsa  
├── scripts/  
│   └── create_sftp_user.sh  
└── minio-data/
```



2. Docker Compose Configuration

File: **docker-compose.yml**

```
version: "3.8"  
  
services:  
  minio:  
    image: minio/minio:latest  
    container_name: minio-sftp  
    restart: always  
    ports:  
      - "9008:9008"  # S3 API endpoint  
      - "9098:9098"  # Console  
      - "2222:8022"  # SFTP port
```

```
env_file:
- ./env
volumes:
- ./minio-data:/data
- ./sshkeys/id_rsa:/root/.ssh/id_rsa:ro
- ./scripts:/scripts
command: >
server /data
--address ":9008"
--console-address ":9098"
--ftp="address=:8021"
--ftp="passive-port-range=30000-30010"
--sftp="address=:8022"
--sftp="ssh-private-key=/root/.ssh/id_rsa"
--sftp="password-authentication=on"
healthcheck:
test: ["CMD", "curl", "-f", "http://localhost:9008/minio/health/live"]
interval: 30s
timeout: 20s
retries: 3
start_period: 40s
```

3. Environment Configuration

File: `.env`

```
MINIO_ENDPOINT=13.204.224.66
MINIO_PORT=9008
MINIO_API_ENDPOINT=13.204.224.66
MINIO_API_PORT=9098
MINIO_ROOT_USER=admin
MINIO_ROOT_PASSWORD=*****
MINIO_URL_EXPIRY_IN_SECONDS=3600
```

Replace the `*****` with your desired MinIO root password.

4. SSH Key Generation

Generate an SSH key pair for SFTP authentication.

```
ssh-keygen -t rsa -b 4096 -f sshkeys/id_rsa -N ""
```

This creates:

- `sshkeys/id_rsa` → Private key
- `sshkeys/id_rsa.pub` → Public key

Ensure correct permissions:

```
chmod 600 sshkeys/id_rsa
```

5. Deploy MinIO Container

Run the following command to start the MinIO SFTP service:

```
docker compose up -d
```

Check container status:

```
docker ps
```

You should see:

```
minio-sftp  minio/minio:latest  Up (healthy)
```

Access:

- **Console URL:** `http://<server-ip>:9098`

- **S3 API Endpoint:** `http://<server-ip>:9008`
- **SFTP Port:** `2222`

6. Create SFTP User Script

File: `scripts/create_sftp_user.sh`

```
#!/bin/bash
USER=$1
PASS=$2
BUCKET="dev"

docker exec minio-sftp sh -c "
mc alias set myminio http://localhost:9008 admin ***** >/dev/null 2>&1
mc mb myminio/$BUCKET >/dev/null 2>&1
cat > /tmp/$USER-policy.json <<EOF
{
  \"Version\": \"2012-10-17\",
  \"Statement\": [
    {\"Action\":
[\"s3:GetBucketLocation\", \"s3:ListBucket\"], \"Effect\": \"Allow\", \"Resource\": [\"arn:aws:s3:::$B
UCKET\"]},
    {\"Action\":
[\"s3:GetObject\", \"s3:PutObject\", \"s3:DeleteObject\"], \"Effect\": \"Allow\", \"Resource\": [\"arn:aw
s:s3:::$BUCKET/*\"]}
  ]
}
EOF
mc admin policy create myminio $USER-policy /tmp/$USER-policy.json >/dev/null 2>&1
mc admin user add myminio $USER $PASS >/dev/null 2>&1
mc admin policy attach myminio $USER-policy --user $USER >/dev/null 2>&1
echo \"✅ SFTP user '$USER' created with bucket '$BUCKET'."
"
```

Replace `*****` in the `mc alias set` line with your actual MinIO root password.



7. Run Script to Create SFTP User

Execute:

```
bash scripts/create_sftp_user.sh sftpuser <password>
```

Example:

```
bash scripts/create_sftp_user.sh sftpuser Sftp@1234
```

Output:

✓ SFTP user 'sftpuser' created with bucket 'dev'.



8. Validate SFTP Connection

Use any SFTP client (e.g., **WinSCP**, **FileZilla**, or **sftp** command).

Connection Details:

Parameter	Value
Host	<server-ip> (e.g., 13.204.224.66)
Port	2222
Username	sftpuser
Password	<password>
Protocol	SFTP

Example (CLI Validation):

```
sftp -P 2222 sftpuser@13.204.224.66
```

If successful:

Connected to 13.204.224.66.
sftp>

You can list files or upload:

```
sftp> ls  
sftp> put testfile.txt  
sftp> get testfile.txt
```

9. Common Commands

Check MinIO container logs:

```
docker logs -f minio-sftp
```

Access MinIO admin console:

<http://13.204.224.66:9098>

Restart container:

```
docker restart minio-sftp
```
