



## 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.

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### 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
```

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## 🔑 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
```

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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
```

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## 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`
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## 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 *****
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:::$BUCKET\"],
      {"Action":
        ["s3:GetObject","s3:PutObject","s3>DeleteObject"], "Effect\":\"Allow\", \"Resource\":[\"arn:aws:s3::$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'.\""
"
```

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

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## 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'.

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## 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
```

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## 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
```

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