

# Minio

Aplicativo storage tipo s3

- Instalação e Configurações Minio docker
  - Instalação Minio docker bitnami

# Instalação e Configurações Minio docker

Procedimentos de instalação e configurações.

# Instalação Minio docker bitnami

Link: <https://github.com/bitnami/containers/tree/main/bitnami/minio>

## What is Bitnami Object Storage based on MinIO®?

“MinIO® is an object storage server, compatible with Amazon S3 cloud storage service, mainly used for storing unstructured data (such as photos, videos, log files, etc.).

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## TL;DR

```
docker run --name minio bitnami/minio:latest
```

## Why use Bitnami Images?

- Bitnami closely tracks upstream source changes and promptly publishes new versions of this image using our automated systems.

- With Bitnami images the latest bug fixes and features are available as soon as possible.
- Bitnami containers, virtual machines and cloud images use the same components and configuration approach - making it easy to switch between formats based on your project needs.
- All our images are based on **minideb** -a minimalist Debian based container image that gives you a small base container image and the familiarity of a leading Linux distribution- or **scratch** -an explicitly empty image-.
- All Bitnami images available in Docker Hub are signed with [Notation](#). [Check this post](#) to know how to verify the integrity of the images.
- Bitnami container images are released on a regular basis with the latest distribution packages available.

Looking to use Bitnami Object Storage based on MinIO® in production? Try [VMware Tanzu Application Catalog](#), the commercial edition of the Bitnami catalog.

## How to deploy MinIO(R) in Kubernetes?

Deploying Bitnami applications as Helm Charts is the easiest way to get started with our applications on Kubernetes. Read more about the installation in the [Bitnami MinIO\(R\) Chart GitHub repository](#).

Bitnami containers can be used with [Kubeapps](#) for deployment and management of Helm Charts in clusters.

## Why use a non-root container?

Non-root container images add an extra layer of security and are generally recommended for production environments. However, because they run as a non-root user, privileged tasks are typically off-limits. Learn more about non-root containers [in our docs](#).

## Supported tags and respective `Dockerfile` links

Learn more about the Bitnami tagging policy and the difference between rolling tags and immutable tags [in our documentation page](#).

You can see the equivalence between the different tags by taking a look at the `tags-info.yaml` file present in the branch folder, i.e `bitnami/ASSET/BRANCH/DISTRO/tags-info.yaml`.

Subscribe to project updates by watching the [bitnami/containers GitHub repo](#).

## Get this image

The recommended way to get the Bitnami MinIO(R) Docker Image is to pull the prebuilt image from the [Docker Hub Registry](#).

```
docker pull bitnami/minio:latest
```

To use a specific version, you can pull a versioned tag. You can view the [list of available versions](#) in the Docker Hub Registry.

```
docker pull bitnami/minio:[TAG]
```

If you wish, you can also build the image yourself by cloning the repository, changing to the directory containing the Dockerfile and executing the `docker build` command. Remember to replace the `APP`, `VERSION` and `OPERATING-SYSTEM` path placeholders in the example command below with the correct values.

```
git clone https://github.com/bitnami/containers.git
cd bitnami/APP/VERSION/OPERATING-SYSTEM
docker build -t bitnami/APP:latest .
```

## Persisting your database

If you remove the container all your data will be lost, and the next time you run the image the database will be reinitialized. To avoid this loss of data, you should mount a volume that will persist even after the container is removed.

For persistence you should mount a directory at the `/bitnami/minio/data` path.

```
docker run --name minio \
  --publish 9000:9000 \
  --publish 9001:9001 \
  --volume /path/to/minio-persistence:/bitnami/minio/data \
  bitnami/minio:latest
```

or by modifying the `docker-compose.yml` file present in this repository:

```
services:
  minio:
    ...
  volumes:
    - /path/to/minio-persistence:/bitnami/minio/data
    ...
```

You can also mount a volume to a custom path inside the container, provided that you run the container using the `MINIO_DATA_DIR` environment variable.

```
docker run --name minio \  
  --publish 9000:9000 \  
  --publish 9001:9001 \  
  --volume /path/to/minio-persistence:/custom/path/within/container \  
  --env MINIO_DATA_DIR=/custom/path/within/container \  
  bitnami/minio:latest
```

or by modifying the `docker-compose.yml` file present in this repository:

```
services:  
  minio:  
    ...  
    volumes:  
      - /path/to/minio-persistence:/custom/path/within/container  
    ...  
    environment:  
      - MINIO_DATA_DIR=/custom/path/within/container  
    ...
```

“ NOTE: As this is a non-root container, the mounted files and directories must have the proper permissions for the UID `1001`.

# Connecting to other containers

Using Docker container networking, a MinIO(R) server running inside a container can easily be accessed by your application containers.

Containers attached to the same network can communicate with each other using the container name as the hostname.

## Using the Command Line

In this example, we will create a MinIO(R) client container that will connect to the server container that is running on the same docker network as the client.

### Step 1: Create a network

```
docker network create app-tier --driver bridge
```

## Step 2: Launch the MinIO(R) server container

Use the `--network app-tier` argument to the `docker run` command to attach the MinIO(R) container to the `app-tier` network.

```
docker run -d --name minio-server \  
  --env MINIO_ROOT_USER="minio-root-user" \  
  --env MINIO_ROOT_PASSWORD="minio-root-password" \  
  --network app-tier \  
  bitnami/minio:latest
```

## Step 3: Launch your MinIO(R) Client container

Finally we create a new container instance to launch the MinIO(R) client and connect to the server created in the previous step. In this example, we create a new bucket in the MinIO(R) storage server:

```
docker run -it --rm --name minio-client \  
  --env MINIO_SERVER_HOST="minio-server" \  
  --env MINIO_SERVER_ACCESS_KEY="minio-access-key" \  
  --env MINIO_SERVER_SECRET_KEY="minio-secret-key" \  
  --network app-tier \  
  bitnami/minio-client \  
  mb minio/my-bucket
```

# Using a Docker Compose file

When not specified, Docker Compose automatically sets up a new network and attaches all deployed services to that network. However, we will explicitly define a new `bridge` network named `app-tier`. In this example we assume that you want to connect to the MinIO(R) server from your own custom application image which is identified in the following snippet by the service name `myapp`.

```
version: '2'  
  
networks:  
  app-tier:  
    driver: bridge  
  
services:  
  minio:  
    image: 'bitnami/minio:latest'  
    ports:  
      - '9000:9000'  
      - '9001:9001'  
    environment:
```

- MINIO\_ROOT\_USER=minio-root-user
- MINIO\_ROOT\_PASSWORD=minio-root-password

networks:

- app-tier

myapp:

image: 'YOUR\_APPLICATION\_IMAGE'

networks:

- app-tier

environment:

- MINIO\_SERVER\_ACCESS\_KEY=minio-access-key
- MINIO\_SERVER\_SECRET\_KEY=minio-secret-key

### “ IMPORTANT:

1. Please update the **YOUR\_APPLICATION\_IMAGE\_** placeholder in the above snippet with your application image
2. In your application container, use the hostname `minio` to connect to the MinIO(R) server. Use the environment variables `MINIO_SERVER_ACCESS_KEY` and `MINIO_SERVER_SECRET_KEY` to configure the credentials to access the MinIO(R) server.
3. Make sure that the environment variables `MINIO_ROOT_PASSWORD` and `MINIO_SERVER_SECRET_KEY` meet the 8 character minimum length requirement enforced by MinIO(R).

Launch the containers using:

```
docker-compose up -d
```

# Configuration

## Environment variables

### Customizable environment variables

Name	Description	Default Value
<code>MINIO_DATA_DIR</code>	MinIO directory for data.	<code>/bitnami/minio/data</code>
<code>MINIO_API_PORT_NUMBER</code>	MinIO API port number.	<code>9000</code>



Name	Description	Default Value
MINIO_CONSOLE_PORT_NUMBER	MinIO RMI port number.	9001
MINIO_SCHEME	MinIO web scheme.	http
MINIO_SKIP_CLIENT	Skip MinIO client configuration.	no
MINIO_DISTRIBUTED_MODE_ENABLED	Enable MinIO distributed mode.	no
MINIO_DEFAULT_BUCKETS	MinIO default buckets.	nil
MINIO_STARTUP_TIMEOUT	MinIO startup timeout.	10
MINIO_SERVER_URL	MinIO server external URL.	\$MINIO_SCHEME://localhost:\$MINIO_API_PORT_NUMBER
MINIO_APACHE_CONSOLE_HTTP_PORT_NUMBER	MinIO Console UI HTTP port, exposed via Apache with basic authentication.	80
MINIO_APACHE_CONSOLE_HTTPS_PORT_NUMBER	MinIO Console UI HTTPS port, exposed via Apache with basic authentication.	443
MINIO_APACHE_API_HTTP_PORT_NUMBER	MinIO API HTTP port, exposed via Apache with basic authentication.	9000
MINIO_APACHE_API_HTTPS_PORT_NUMBER	MinIO API HTTPS port, exposed via Apache with basic authentication.	9443
MINIO_FORCE_NEW_KEYS	Force recreating MinIO keys.	no
MINIO_ROOT_USER	MinIO root user name.	minio
MINIO_ROOT_PASSWORD	Password for MinIO root user.	miniosecret

## Read-only environment variables

Name	Description	Value
MINIO_BASE_DIR	MinIO installation directory.	\${BITNAMI_ROOT_DIR}/minio
MINIO_BIN_DIR	MinIO directory for binaries.	\${MINIO_BASE_DIR}/bin
MINIO_CERTS_DIR	MinIO directory for TLS certificates.	/certs
MINIO_LOGS_DIR	MinIO directory for log files.	\${MINIO_BASE_DIR}/log
MINIO_TMP_DIR	MinIO directory for log files.	\${MINIO_BASE_DIR}/tmp
MINIO_SECRETS_DIR	MinIO directory for credentials.	\${MINIO_BASE_DIR}/secrets
MINIO_LOG_FILE	MinIO log file.	\${MINIO_LOGS_DIR}/minio.log
MINIO_PID_FILE	MinIO PID file.	\${MINIO_TMP_DIR}/minio.pid
MINIO_DAEMON_USER	MinIO system user.	minio
MINIO_DAEMON_GROUP	MinIO system group.	minio

Additionally, MinIO can be configured via environment variables as detailed at [MinIO\(R\) documentation](#).

A MinIO(R) Client (`mc`) is also shipped on this image that can be used to perform administrative tasks as described at the [MinIO\(R\) Client documentation](#). In the example below, the client is used to obtain the server info:

```
docker run --name minio -d bitnami/minio:latest
docker exec minio mc admin info local
```

or using Docker Compose:

```
curl -sSL https://raw.githubusercontent.com/bitnami/containers/main/bitnami/minio/docker-compose.yml > docker-compose.yml
docker-compose up -d
docker-compose exec minio mc admin info local
```

## Creating default buckets

You can create a series of buckets in the MinIO(R) server during the initialization of the container by setting the environment variable `MINIO_DEFAULT_BUCKETS` as shown below (policy is optional):

```
docker run --name minio \
  --publish 9000:9000 \
  --publish 9001:9001 \
  --env MINIO_DEFAULT_BUCKETS='my-first-bucket:policy,my-second-bucket' \
  bitnami/minio:latest
```

or by modifying the `docker-compose.yml` file present in this repository:

```
services:
  minio:
    ...
    environment:
      - MINIO_DEFAULT_BUCKETS=my-first-bucket:policy,my-second-bucket
    ...
```

## Securing access to MinIO(R) server with TLS

You can secure the access to MinIO(R) server with TLS as detailed at [MinIO\(R\) documentation](#).

This image expects the variable `MINIO_SCHEME` set to `https` and certificates to be mounted at the `/certs` directory. You can put your key and certificate files on a local directory and mount it in the container as shown below:

```
docker run --name minio \  
  --publish 9000:9000 \  
  --publish 9001:9001 \  
  --volume /path/to/certs:/certs \  
  --env MINIO_SCHEME=https \  
  bitnami/minio:latest
```

or by modifying the `docker-compose.yml` file present in this repository:

```
services:  
  minio:  
    ...  
    environment:  
      ...  
      - MINIO_SCHEME=https  
      ...  
    volumes:  
      - /path/to/certs:/certs  
    ...
```

## Setting up MinIO(R) in Distributed Mode

You can configure MinIO(R) in Distributed Mode to setup a highly-available storage system. To do so, the environment variables below **must** be set on each node:

- `MINIO_DISTRIBUTED_MODE_ENABLED`: Set it to 'yes' to enable Distributed Mode.
- `MINIO_DISTRIBUTED_NODES`: List of MinIO(R) nodes hosts. Available separators are ' ', ',' and ';'.
- `MINIO_ROOT_USER`: MinIO(R) server root user. Must be common on every node.
- `MINIO_ROOT_PASSWORD`: MinIO(R) server root password. Must be common on every node.

You can use the Docker Compose below to create an 4-node distributed MinIO(R) setup:

```
version: '2'  
  
services:  
  minio1:  
    image: 'bitnami/minio:latest'  
    environment:  
      - MINIO_ROOT_USER=minio-root-user  
      - MINIO_ROOT_PASSWORD=minio-root-password  
      - MINIO_DISTRIBUTED_MODE_ENABLED=yes  
      - MINIO_DISTRIBUTED_NODES=minio1,minio2,minio3,minio4
```

```

- MINIO_SKIP_CLIENT=yes
minio2:
  image: 'bitnami/minio:latest'
  environment:
    - MINIO_ROOT_USER=minio-root-user
    - MINIO_ROOT_PASSWORD=minio-root-password
    - MINIO_DISTRIBUTED_MODE_ENABLED=yes
    - MINIO_DISTRIBUTED_NODES=minio1,minio2,minio3,minio4
    - MINIO_SKIP_CLIENT=yes
minio3:
  image: 'bitnami/minio:latest'
  environment:
    - MINIO_ROOT_USER=minio-root-user
    - MINIO_ROOT_PASSWORD=minio-root-password
    - MINIO_DISTRIBUTED_MODE_ENABLED=yes
    - MINIO_DISTRIBUTED_NODES=minio1,minio2,minio3,minio4
    - MINIO_SKIP_CLIENT=yes
minio4:
  image: 'bitnami/minio:latest'
  environment:
    - MINIO_ROOT_USER=minio-root-user
    - MINIO_ROOT_PASSWORD=minio-root-password
    - MINIO_DISTRIBUTED_MODE_ENABLED=yes
    - MINIO_DISTRIBUTED_NODES=minio1,minio2,minio3,minio4
    - MINIO_SKIP_CLIENT=yes

```

MinIO(R) also supports ellipsis syntax (`{1..n}`) to list the MinIO(R) node hosts, where `n` is the number of nodes. This syntax is also valid to use multiple drives (`{1..m}`) on each MinIO(R) node, where `n` is the number of drives per node. You can use the Docker Compose below to create an 2-node distributed MinIO(R) setup with 2 drives per node:

```

version: '2'
services:
  minio-0:
    image: 'bitnami/minio:latest'
    volumes:
      - 'minio_0_data_0:/bitnami/minio/data-0'
      - 'minio_0_data_1:/bitnami/minio/data-1'
    environment:
      - MINIO_ROOT_USER=minio
      - MINIO_ROOT_PASSWORD=miniosecret
      - MINIO_DISTRIBUTED_MODE_ENABLED=yes
      - MINIO_DISTRIBUTED_NODES=minio-{0...1}/bitnami/minio/data-{0...1}
  minio-1:
    image: 'bitnami/minio:latest'
    volumes:
      - 'minio_1_data_0:/bitnami/minio/data-0'
      - 'minio_1_data_1:/bitnami/minio/data-1'
    environment:
      - MINIO_ROOT_USER=minio
      - MINIO_ROOT_PASSWORD=miniosecret
      - MINIO_DISTRIBUTED_MODE_ENABLED=yes

```

```
- MINIO_DISTRIBUTED_NODES=minio-{0...1}/bitnami/minio/data-{0...1}
volumes:
  minio_0_data_0:
    driver: local
  minio_0_data_1:
    driver: local
  minio_1_data_0:
    driver: local
  minio_1_data_1:
    driver: local
```

Find more information about the Distributed Mode in the [MinIO\(R\) documentation](#).

## Reconfiguring Keys on container restarts

MinIO(R) configures the access & secret key during the 1st initialization based on the `MINIO_ROOT_USER` and `MINIO_ROOT_PASSWORD` environment variables, respectively.

When using persistence, MinIO(R) will reuse the data configured during the 1st initialization by default, ignoring whatever values are set on these environment variables. You can force MinIO(R) to reconfigure the keys based on the environment variables by setting the `MINIO_FORCE_NEW_KEYS` environment variable to `yes`:

```
docker run --name minio \
  --publish 9000:9000 \
  --publish 9001:9001 \
  --env MINIO_FORCE_NEW_KEYS="yes" \
  --env MINIO_ROOT_USER="new-minio-root-user" \
  --env MINIO_ROOT_PASSWORD="new-minio-root-password" \
  --volume /path/to/minio-persistence:/bitnami/minio/data \
  bitnami/minio:latest
```

## Logging

The Bitnami MinIO(R) Docker image sends the container logs to the `stdout`. To view the logs:

```
docker logs minio
```

or using Docker Compose:

```
docker-compose logs minio
```

You can configure the containers [logging driver](#) using the `--log-driver` option if you wish to consume the container logs differently. In the default configuration docker uses the `json-file` driver.

## HTTP log trace

To enable HTTP log trace, you can set the environment variable `MINIO_HTTP_TRACE` to redirect the logs to a specific file as detailed at [MinIO\(R\) documentation](#).

When setting this environment variable to `/opt/bitnami/minio/log/minio.log`, the logs will be sent to the `stdout`.

```
docker run --name minio \  
  --publish 9000:9000 \  
  --publish 9001:9001 \  
  --env MINIO_HTTP_TRACE=/opt/bitnami/minio/log/minio.log \  
  bitnami/minio:latest
```

or by modifying the `docker-compose.yml` file present in this repository:

```
services:  
  minio:  
    ...  
    environment:  
      - MINIO_HTTP_TRACE=/opt/bitnami/minio/log/minio.log  
    ...
```

## Maintenance

### Upgrade this image

Bitnami provides up-to-date versions of MinIO(R), including security patches, soon after they are made upstream. We recommend that you follow these steps to upgrade your container.

#### Step 1: Get the updated image

```
docker pull bitnami/minio:latest
```

or if you're using Docker Compose, update the value of the image property to `bitnami/minio:latest`.

## Step 2: Stop and backup the currently running container

Stop the currently running container using the command

```
docker stop minio
```

or using Docker Compose:

```
docker-compose stop minio
```

Next, take a snapshot of the persistent volume `/path/to/minio-persistence` using:

```
rsync -a /path/to/minio-persistence /path/to/minio-persistence.bkp.$(date +%Y%m%d-%H.%M.%S)
```

## Step 3: Remove the currently running container

```
docker rm -v minio
```

or using Docker Compose:

```
docker-compose rm -v minio
```

## Step 4: Run the new image

Re-create your container from the new image.

```
docker run --name minio bitnami/minio:latest
```

or using Docker Compose:

```
docker-compose up minio
```

## Using `docker-compose.yml`

Please be aware this file has not undergone internal testing. Consequently, we advise its use exclusively for development or testing purposes. For production-ready deployments, we highly recommend utilizing its associated [Bitnami Helm chart](#).

If you detect any issue in the `docker-compose.yml` file, feel free to report it or contribute with a fix by following our [Contributing Guidelines](#).

# Contributing

We'd love for you to contribute to this Docker image. You can request new features by creating an [issue](#) or submitting a [pull request](#) with your contribution.

# Issues

If you encountered a problem running this container, you can file an [issue](#). For us to provide better support, be sure to include the following information in your issue:

- Host OS and version
- Docker version (`docker version`)
- Output of `docker info`
- Version of this container
- The command you used to run the container, and any relevant output you saw (masking any sensitive information)

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