Oracle® Cloud

Command-Line Reference for Oracle Cloud Infrastructure Object Storage Classic

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Preface

This document describes the Oracle Cloud Infrastructure Object Storage Classic File Transfer Manager command-line interface (FTM CLI).

Audience

This document is intended for users who want to store, access, and manage data using the Oracle Cloud Infrastructure Object Storage Classic File Transfer Manager command-line interface. Users must be familiar with the basics of Oracle Cloud Infrastructure Object Storage Classic.

Related Resources

For more information, see the following documents in the Oracle Cloud Infrastructure Object Storage Classic documentation set:

- *Using Oracle Cloud Infrastructure Object Storage Classic*
- *REST API for Standard Storage in Oracle Cloud Infrastructure Object Storage Classic*
- *REST API for Archive Storage in Oracle Cloud Infrastructure Object Storage Classic* (Not available on Oracle Cloud at Customer)
- *Java API Reference for Oracle Cloud Infrastructure Object Storage Classic File Transfer Manager*

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

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Preparing to Use the FTM CLI

You must install Oracle Cloud Infrastructure Object Storage Classic File Transfer Manager command-line interface (FTM CLI) first, and depending on your choice of authentication method, you might have to set up configuration files, or some environment variables.

Topics

- System Requirements and Supported Platforms
- Obtaining Account Information
- Getting Your Required Roles
- Obtaining the FTM CLI
- Setting Up Configuration Files
- Setting Up the Required Environment Variables

System Requirements and Supported Platforms

Supported Platforms

- Oracle Linux 6.3 or later
- Oracle Linux 7.0 or later
- Microsoft Windows 7
- Microsoft Windows 10
- Microsoft Windows Server 2012
- Ubuntu 14.04 LTS
- Ubuntu 16.04 LTS
- Mac OS X 10.7 or later
- Mac OS 10.12 or later

JRE Requirements

Ensure that one of the following JREs is installed:

- JRE 7
- JRE 8
- JRE 9
- OpenJDK 7
- OpenJDK 8

> **⊘ Important:**
>
> - For FTM CLI 2.3 or earlier, if you're using JRE 9, and if one of the below scenarios is applicable,
>
>   – You've used the `–save-auth-key` parameter in the command to save the password.
>
>   – The command accesses the encrypted password that's stored in the `ftmcliKeystore` file.
>
>   then use the following *general* command syntax:
>
>   ```
>   java --add-modules java.xml.bind -jar ftmcli.jar command
>   [command_specific_options] target
>   [general_CLI_command_options] -U user -A auth_url -S service -
>   I identity_domain
>   ```
>
>   or the following *simplified* command syntax:
>
>   ```
>   java --add-modules java.xml.bind -jar ftmcli.jar command
>   [command_specific_options] target [general_CLI_command_options]
>   ```
>
> - If you're using JRE 8, then for improved performance of FTM CLI 2.4, disable GCM:
>
>   1. Create a file `java.security` with the following line:
>
>      ```
>      jdk.tls.disabledAlgorithms=SSLv3,GCM
>      ```
>
>   2. Start your Java process with the command:
>
>      ```
>      java -Djava.security.properties=/path/to/my/java.security -
>      jar ftmcli.jar command [command_specific_options] target
>      [general_CLI_command_options] -P rest_endpoint -U user
>      ```

Obtaining Account Information

Identity Domain Name, User Name, and Password

After Oracle creates your account, you'll receive a Welcome email that contains your user name, and password for your Oracle Cloud Infrastructure Object Storage Classic account. Additionally, if your account type is **Traditional Account**, then the Welcome email also contains the identity domain. To know your account type, see About REST URLs for Oracle Cloud Infrastructure Object Storage Classic Resources in *Using Oracle Cloud Infrastructure Object Storage Classic*.
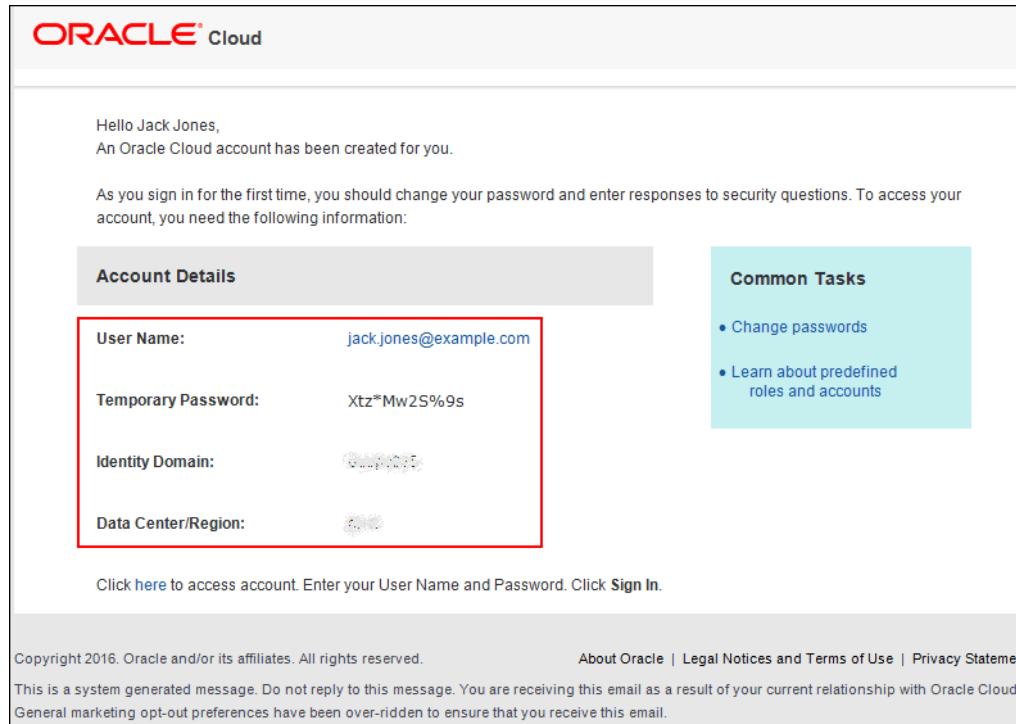
If you can't find this email or didn't receive it, then contact your service administrator.

REST Endpoint URL

To find the REST Endpoint URL for your storage account and to know your account type, see About REST URLs for Oracle Cloud Infrastructure Object Storage Classic Resources in *Using Oracle Cloud Infrastructure Object Storage Classic*.

Depending on the type of your account, you'll see one or both the REST Endpoints similar to the following example URLs:

REST Endpoint: https://acme.storage.oraclecloud.com/v1/Storage-acme

REST Endpoint (Permanent): https://
storage-7b16fede61e1417ab83eb52e06f0e365.storage.oraclecloud.com/v1/
Storage-7b16fede61e1417ab83eb52e06f0e365

To decide if you must use REST Endpoint or REST Endpoint (Permanent) in the FTM CLI for your use-case, see Finding the REST Endpoint URL for Your Cloud Account in *Using Oracle Cloud Infrastructure Object Storage Classic*.

> **✎ Note:**
>
> - In the above examples, `Storage` is the service name.
>
> - In FTM CLI 2.3 or earlier, for the authentication URL parameter, use only the part of the REST Endpoint URL that you see before the API version `/v1`. That is, use `https://acme.storage.oraclecloud.com` from the REST Endpoint or `https://storage-7b16fede61e1417ab83eb52e06f0e365.storage.oraclecloud.com` from the REST Endpoint (Permanent) from the above examples for the authentication URL parameter.

Constructing the `user` Parameter

If you're using FTM CLI 2.3 or earlier, then to obtain authentication to access Oracle Cloud Infrastructure Object Storage Classic, you must construct the user parameter using the user name and the REST API endpoint URL.

1. Obtain the part of the REST Endpoint URL after the API version `v1/`.

   For example, select `Storage-acme` if your REST Endpoint URL is similar to `https://acme.storage.oraclecloud.com/v1/`**`Storage-acme`**. Select `Storage-7b16fede61e1417ab83eb52e06f0e365` if your REST Endpoint URL is similar to `https://storage-7b16fede61e1417ab83eb52e06f0e365.storage.oraclecloud.com/v1/`**`Storage-7b16fede61e1417ab83eb52e06f0e365`**.

2. To construct the `user` parameter, insert a colon (`:`) after the selected part of the REST Endpoint URL and append the user name to it.

   If your user name is `jack.jones@examples.com`, and your REST Endpoint URL is similar to `https://acme.storage.oraclecloud.com/v1/Storage-acme`, then the `user` parameter is

   ```
   user=Storage-acme:jack.jones@example.com
   ```

   If your REST Endpoint URL is similar to `https://storage-7b16fede61e1417ab83eb52e06f0e365.storage.oraclecloud.com/v1/Storage-7b16fede61e1417ab83eb52e06f0e365`, then the `user` parameter is

   ```
   user=Storage-7b16fede61e1417ab83eb52e06f0e365:jack.jones@example.com
   ```

Getting Your Required Roles

Contact your account administrator and get the required roles assigned to your user name in Oracle Cloud Infrastructure Classic Console.

- To create, update, and delete the Oracle Cloud Infrastructure Object Storage Classic containers, you must have the `Storage_Administrator` role.

- To create, update, and delete the Oracle Cloud Infrastructure Object Storage Classic objects, you must have the `Storage_ReadWriteGroup` role.

- To view or retrieve details of the objects or containers, you must have the `Storage_ReadGroup` role.

For more information, see About Oracle Cloud Infrastructure Object Storage Classic Roles and Users in *Using Oracle Cloud Infrastructure Object Storage Classic*.

If the required role isn't assigned to you or you're not sure, then ask your system administrator to ensure that the role is assigned to you in Oracle Cloud Infrastructure Classic Console. See Modifying User Roles in *Managing and Monitoring Oracle Cloud*.

Obtaining the FTM CLI

To start using the CLI for the Oracle Cloud Infrastructure Object Storage Classic, download the CLI client and store it at an appropriate location on the host.

1. Download the FTM CLI client ftmcli.jar file from **http://www.oracle.com/technetwork/topics/cloud/downloads/index.html**.

2. Save the file at an appropriate location on the local host, for example, `/home/jack/FTM_CLI/ftmcli.jar`. Note that when you create the configuration file, you must store it at the same location. The CLI creates the `ftmcli.log` and `ftmcli.trace` files at the same location. You can view the contents of these files to debug issues.

3. Provide `Execute` permission to the `ftmcli.jar` file with the `chmod` command.

Setting Up Configuration Files

To avoid entering the authentication information with every command, setting the environment variables at the start of every session, or updating the configuration file with new set of parameters, you can store combinations of parameters permanently in multiple configuration files. You can also set the default values of some of the parameters associated with the Oracle Cloud Infrastructure Object Storage Classic File Transfer Manager command-line interface (FTM CLI) operation in the configuration file. By using the `--properties-file` command option on the command-line, you can specify the service instance against which the command must run or the CLI parameters that the command must use by specifying the appropriate configuration file. To create a configuration file on the local host on which you downloaded the FTM CLI client:

1. Store the following sample configuration file with a suitable name on your local host:

```
#---------------Account parameters---------------

# Your user name if you're using FTM CLI 2.4.
user=jack.jones@example.com
# In case of FTM CLI 2.3 or earlier, user=Storage-
acme:jack.jones@example.com
# OR similar to
user=Storage-7b16fede61e1417ab83eb52e06f0e365:jack.jones@example.com
for REST Endpoint (Permanent)

# REST Endpoint URL for your account
# In case of REST Endpoint (Permanent), use similar to https://
storage-7b16fede61e1417ab83eb52e06f0e365.storage.oraclecloud.com/v1/
Storage-7b16fede61e1417ab83eb52e06f0e365
```

```
rest-endpoint=https://acme.storage.oraclecloud.com/v1/Storage-acme

# Following parameters are deprecated. Supported only for backward
compatibility (FTM CLI 2.3 or earlier).
# If rest-endpoint is specified, then the following parameters will be
ignored.
# service name (FTM CLI 2.3 or earlier)
#service=Storage

#identity domain name (FTM CLI 2.3 or earlier)
#identity-domain=acme

# Authentication url endpoint of the storage service (FTM CLI 2.3 or
earlier)
#auth-url=https://acme.storage.oraclecloud.com

#---------------Other parameters---------------
# segment size in MiBs
segment-size=100

# number of retries
retries=5

# maximum number of threads created to transfer file(s)
max-threads=15

# storage Class (Archive or Standard)
storage-class=Standard

# container for segments, if not specified <container>_segments is used
segments-container=all_segments

# Proxy Host
#https-proxy-host = <proxy_host>

# Proxy Port
#https-proxy-port = <port_numbrt>
```

> **Note:**
>
> It's recommended that you use the REST Endpoint URL parameter to
> obtain authentication to access your storage account and not the
> deprecated parameters such as authentication URL, service name, and
> identity domain.

2. Update the parameters in the configuration file as follows:

Parameter	Description
user	If you're using FTM CLI 2.4, then this is your user name to access your storage account. See Obtaining Account Information. If you're using FTM CLI 2.3 or earlier, then this is the user parameter that you constructed using your user name and REST API endpoint URL. See Constructing the user Parameter. **Note**: You must have the appropriate role in Oracle Cloud Infrastructure Classic Console. See Getting Your Required Roles.
rest-endpoint	The REST Endpoint or the REST Endpoint (Permanent) of your storage account. See REST Endpoint URL.
auth-url (Deprecated from FTM CLI 2.4)	The authentication URL that you derived from the REST Endpoint URL of your Oracle Cloud Infrastructure Object Storage Classic instance. See REST Endpoint URL.
service (Deprecated from FTM CLI 2.4)	The cloud service name. See REST Endpoint URL.
identity-domain (Deprecated from FTM CLI 2.4)	The identity domain of your service instance. See Identity Domain Name, User Name, and Password.
storage-class	The storage class. By default, it's set to Standard, but you can also change it to Archive. (Archive support not available on Oracle Cloud at Customer).
max-threads	The maximum number of threads to be used in a request. You can specify any value between 1 and 100. Depending on the speed and quality of the network, the FTM CLI may perform better with a different number of threads. By default, it's set to 15.
retries	The number of times that a request must be retried in case of failure. By default, it's set to 5.
segment-size	The segment size in MB. By default, it's set to 200 MB.
segments-container	The container in which the segments must be stored during the upload process. By default, it's set to all_segments. If the segments container is not specified, then the segments are stored in the container <container>_segments where <container> is the name of the container specified to store the manifest object.

Parameter	Description
`https-proxy-host`, `https-proxy-port`	The proxy host and the proxy port. The lines to set these parameters are excluded from execution by default. Include the lines by uncommenting them and set the values of the proxy host and the proxy port if necessary.

> **⚠ Caution:**
>
> When you run a CLI command, if you specify the `--save-auth-key` option, then the key to decrypt your saved password is stored in the configuration file, as the `auth-key` parameter. Don't remove or edit that parameter.

Setting Up the Required Environment Variables

To avoid entering the authentication URL, service name, and identity domain name with every command, you can store them in the environment variables once at the beginning of the session. The values of the environment variables are lost when the session ends.

The CLI gives higher priority to the environment variables than to the configuration file. The values set in the configuration file get picked up by the Oracle Cloud Infrastructure Object Storage Classic File Transfer Manager command-line interface (FTM CLI) client if the environment variables haven't been set for the session.

To set the required environment variables on the host on which you downloaded the FTM CLI client:

1. Store the REST Endpoint of your storage account in the `FTM_REST_ENDPOINT` environment variable. See REST Endpoint URL.

    If your REST Endpoint is similar to `https://acme.storage.oraclecloud.com/v1/Storage-acme`, then

    ```
    export FTM_REST_ENDPOINT=https://acme.storage.oraclecloud.com/v1/Storage-acme
    ```

    If your REST Endpoint is similar to `https://storage-7b16fede61e1417ab83eb52e06f0e365.storage.oraclecloud.com/v1/Storage-7b16fede61e1417ab83eb52e06f0e365`, then

    ```
    export FTM_REST_ENDPOINT=https://
    storage-7b16fede61e1417ab83eb52e06f0e365.storage.oraclecloud.com/v1/
    Storage-7b16fede61e1417ab83eb52e06f0e365
    ```

2. Store your user parameter in the environment variable `FTM_USER`.

    *   If you're using FTM CLI 2.3 or earlier, then to construct your user paramater, follow the instructions at Constructing the `user` Parameter.

        ```
        export FTM_USER=myservice-bar:jack.jones@example.com
        ```

    *   If you're using FTM CLI 2.4, then the user name for your storage account is the value of your user parameter.

        ```
        export FTM_USER=jack.jones@example.com
        ```

> **Note:**
>
> You must have the appropriate role in Oracle Cloud Infrastructure Classic Console. See Getting Your Required Roles.

3. (Deprecated from FTM CLI 2.4) Store the authentication URL in the environment variable `FTM_AUTH_URL`.

   To derive the authentication URL from your REST Endpoint, follow the instructions at REST Endpoint URL.

   If your REST Endpoint is similar to `https://acme.storage.oraclecloud.com/v1/Storage-acme`, then

   ```
   export FTM_AUTH_URL=https://acme.storage.oraclecloud.com
   ```

   If your REST Endpoint is similar to `https://storage-7b16fede61e1417ab83eb52e06f0e365.storage.oraclecloud.com/v1/Storage-7b16fede61e1417ab83eb52e06f0e365`, then

   ```
   export FTM_AUTH_URL=https://storage-7b16fede61e1417ab83eb52e06f0e365.storage.oraclecloud.com
   ```

4. (Deprecated from FTM CLI 2.4) Store the cloud service name in the environment variable `FTM_SERVICE`.

   To find out the service name of your Oracle Cloud Infrastructure Object Storage Classic instance, see REST Endpoint URL.

   ```
   export FTM_SERVICE=myservice
   ```

5. (Deprecated from FTM CLI 2.4) Store the name of your identity domain in the environment variable `FTM_IDOMAIN`.

   To find out the identity domain of your service instance, follow the instructions at Identity Domain Name, User Name, and Password.

   ```
   export FTM_IDOMAIN=myIdentity3
   ```

> **Note:**
>
> It's recommended that you use the REST Endpoint URL parameter to obtain authentication to access your storage account and not the deprecated parameters such as authentication URL, service name, and identity domain.

2
General Syntax of FTM CLI Commands

The following is the *general* syntax of the commands on the Oracle Cloud Infrastructure Object Storage Classic File Transfer Manager command-line interface (FTM CLI):

```
java -jar ftmcli.jar command [command_specific_options] target
[general_CLI_command_options] -P rest_endpoint -U user
```

If you've set the authentication parameters using the environment variables or configuration file, then the *simplified* syntax of the FTM CLI commands is as follows:

```
java -jar ftmcli.jar command [command_specific_options] target
[general_CLI_command_options]
```

- For information about `rest_endpoint`, `user`, and `general_CLI_command_options`, see CLI Command Options.
- For information about `command`, see General CLI Command Actions.
- For information about `command_specific_options`, see the documentation for each command in Managing Containers and Managing Objects.
- `target` can be one or a combination of these parameters depending on the command: `container`, `object`, `file`, or `directory`.

> ✎ **Note:**
>
> - All the commands in this document are illustrated with the simplified syntax. However, use the appropriate syntax based on your choice of the method for setting the authentication parameters. See Authentication.
>
> - For FTM CLI 2.3 or earlier, use the following *general* syntax of the commands:
>
>   ```
>   java -jar ftmcli.jar command [command_specific_options] target
>   [general_CLI_command_options] -U user -A auth_url -S service -I
>   identity_domain
>   ```
>
>   - For information about `user`, `auth_url`, `service`, and `identity_domain`, see CLI Command Options. The options `auth_url`, `service`, and `identity_domain` are deprecated from FTM CLI 2.4. It's recommended that you use the REST Endpoint URL parameter to obtain authentication to access your storage account and not the deprecated parameters such as authentication URL, service name, and identity domain.

> **❗ Important:**
>
> - For FTM CLI 2.3 or earlier, if you're using JRE 9, and if one of the below scenarios is applicable,
>
>   – You've used the `—save-auth-key` parameter in the command to save the password.
>
>   – The command accesses the encrypted password that's stored in the `ftmcliKeystore` file.
>
>   then use the following *general* command syntax:
>
>   ```
>   java --add-modules java.xml.bind -jar ftmcli.jar command
>   [command_specific_options] target
>   [general_CLI_command_options] -U user -A auth_url -S service -
>   I identity_domain
>   ```
>
>   or the following *simplified* command syntax:
>
>   ```
>   java --add-modules java.xml.bind -jar ftmcli.jar command
>   [command_specific_options] target [general_CLI_command_options]
>   ```
>
> - If you're using JRE 8, then for improved performance of FTM CLI 2.4, disable GCM:
>
>   1. Create a file `java.security` with the following line:
>
>      ```
>      jdk.tls.disabledAlgorithms=SSLv3,GCM
>      ```
>
>   2. Start your Java process with the command:
>
>      ```
>      java -Djava.security.properties=/path/to/my/java.security -
>      jar ftmcli.jar command [command_specific_options] target
>      [general_CLI_command_options] -P rest_endpoint -U user
>      ```

CLI Command Options

Authentication

The following table describes the Oracle Cloud Infrastructure Object Storage Classic File Transfer Manager command-line interface (FTM CLI) command options that you can use for the authentication.

Option	Description	Required?
`-P` `rest_endpoint` `--rest—endpoint` `rest_endpoint`	The REST Endpoint or the REST Endpoint (Permanent) of your storage account. See REST Endpoint URL.	Required if you choose not to set the `FTM_REST_ENDPOINT` environment variable OR if you've not set the `rest-endpoint` parameter in the configuration file.

Option	Description	Required?
`-U user` `--user user`	If you're using FTM CLI 2.4, then this is your user name to access your storage account. See Obtaining Account Information. If you're using FTM CLI 2.3 or earlier, then this is the user parameter that you constructed using your user name and REST API endpoint URL. See Constructing the `user` Parameter. **Note**: You must have the appropriate role in Oracle Cloud Infrastructure Classic Console. See Getting Your Required Roles.	Required if you choose not to set the `FTM_USER` environment variable OR if you've not set the `user` parameter in the configuration file.
`-A auth_url` `--auth-url auth_url`	The authentication URL that you derived from the REST Endpoint URL of your Oracle Cloud Infrastructure Object Storage Classic instance. See REST Endpoint URL.	Required if you choose not to set the `FTM_AUTH_URL` environment variable OR if you've not set the `auth-url` parameter in the configuration file. (Deprecated from FTM CLI 2.4)
`-S service` `--service service`	The name of the service on Oracle Cloud. See REST Endpoint URL.	Required if you choose not to set the `FTM_SERVICE` environment variable OR if you've not set the `service` parameter in the configuration file. (Deprecated from FTM CLI 2.4)
`-I identity_domain` `--identity-domain identity_domain`	The identity domain of your Oracle Cloud Infrastructure Object Storage Classic instance. To find out the identity domain, see Identity Domain Name, User Name, and Password.	Required if you choose not to set the `FTM_IDOMAIN` environment variable OR if you've not set the `identity-domain` parameter in the configuration file. (Deprecated from FTM CLI 2.4)
`--save-auth-key`	Encrypts the password that you enter, and saves the encrypted password locally in the `ftmcliKeystore` file. The next time you run any command, the FTM CLI decrypts the previously stored password and uses it. You're not prompted to enter the password. **Caution**: - Don't edit, rename, move, or delete the `ftmcliKeystore` file. - The key to decrypt your saved password is stored in the `ftmcli.properties` file, as the `auth-key` parameter. Don't remove or edit that parameter.	Required only once when using FTM CLI for the first time.

> **Note:**
>
> It's recommended that you use the REST Endpoint URL parameter to obtain authentication to access your storage account and not the deprecated parameters such as authentication URL, service name, and identity domain.

Examples:

- If the REST Endpoint for your storage account is similar to `https://acme.storage.oraclecloud.com/v1/Storage-acme` and you're using FTM CLI 2.4, then the list command is

```
java -jar ftmcli.jar list -P https://acme.storage.oraclecloud.com/v1/
Storage-acme -U jack.jones@example.com --save-auth-key
```

- If the REST Endpoint for your storage account is similar to `https://storage-7b16fede61e1417ab83eb52e06f0e365.storage.oraclecloud.com/v1/Storage-7b16fede61e1417ab83eb52e06f0e365` and you're using FTM CLI 2.4, then the list command is

```
java -jar ftmcli.jar list -P https://
storage-7b16fede61e1417ab83eb52e06f0e365.storage.oraclecloud.com/v1/
Storage-7b16fede61e1417ab83eb52e06f0e365 -U jack.jones@example.com --
save-auth-key
```

- If the REST Endpoint for your storage account is similar to `https://acme.storage.oraclecloud.com/v1/Storage-acme` and you're using FTM CLI 2.3 or earlier, then the list command is

```
java -jar ftmcli.jar list -U Storage-acme:jack.jones@example.com -A
https://acme.storage.oraclecloud.com -S Storage -I acme --save-auth-key
```

General

The following table describes the general CLI command options.

Option	Description
-d --debug	Indicates that the command must be run in the debug mode. The output in this mode is very verbose. It includes the request and response details of the internal API call for the FTM CLI command. This output may be useful for debugging issues and is available in the `ftmcli.trace` file.
-i --silent	Indicates that the command must be run in the nonverbose mode.

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Option	Description

`-v`
`--version`
	Prints the version of the FTM CLI tool.
	Example
	`java -jar ftmcli.jar -v`
	Sample output
	`Version 2.3.0`

`-h` `--help`	Shows the help message and exits. **Example** `java -jar ftmcli.jar -h`

`--properties-file` *`/full/`*
`path/to/the/configuration/`
`file`
	Specify the full path and name of the configuration file if it's in a different directory than the FTM CLI client or if it has a name other than `ftmcli.properties`.
	Example
	`java -jar ftmcli.jar --properties-file /home/jack/temp/`
	`ftmcli.prop list`

General CLI Command Actions

The following table describes the general actions that you can perform on Oracle Cloud Infrastructure Object Storage Classic by using the FTM CLI commands.

Action	Description
`copy`	Copies an object from the source container to the target container.
`create-container`	Creates a container.
`delete`	Deletes a container or an object.
`download`	Downloads the specified object from a container on the storage account to the local host. To download the object from an archive container, you must restore it first.
`list`	Retrieves the list of objects in the specified container or the list of containers in the storage account.
`restore`	Restores the specified object in an archive container on the storage account. You can download the archived object to the local host only after it has been restored.
`upload`	Uploads the specified object from the local host to a standard or an archive container on the storage account. (Archive support not available on Oracle Cloud at Customer)
`describe`	Retrieves metadata of the account, a container, or an object.
`set`	Sets metadata for your account, container, or object.
`set-crp`	Sets the container-level replication policy for a container.

3

Workflows for Typical Use Cases

For certain use cases, you must run the Oracle Cloud Infrastructure Object Storage Classic File Transfer Manager command-line interface (FTM CLI) commands in a specific sequence. Some of these use cases are described here. Use this information as a guide to learn how to use the FTM CLI tool.

Topics

- Downloading an Object from an Archive Container (Not available on Oracle Cloud at Customer)
- Encrypting an Object on the Client-Side
- Downloading a Client-Side Encrypted Object
- Rotating the Client-Side Encryption Master Key

Downloading an Object from an Archive Container

 This topic does not apply to Oracle Cloud at Customer.

To download an object from an archive container on your storage account, you must restore it first.

Task	Procedure / CLI Command
1. Identify the object in the `Archive` container.	
2. Restore the object.	Restoring an Object
3. Download the object.	Downloading an Object

Encrypting an Object on the Client-Side

To enable client-side encryption for a file that you want to upload to the cloud service, you must use an encryption key.

Task	Procedure / CLI Command
1. Generate an RSA master key for encryption OR Identify an existing RSA master key for encryption	Generating the Master Key

Task	Procedure / CLI Command
2. Upload the file by providing the master key file path along with the `upload` command. The FTM CLI encrypts the file using the master key before uploading it to the cloud service.	Uploading Files
3. Manage the master key used for client-side encryption. You must use the same master key for decryption while downloading the object.	

Downloading a Client-Side Encrypted Object

To decrypt an encrypted object when you download it from the cloud service, specify the same master key that you'd used for encrypting the file.

Task	Procedure / CLI Command
1. Identify the RSA master key that you'd used for client-side file encryption.	
2. Download the object by providing the RSA master key file path. The FTM CLI uses the master key to decrypt the object during the download. If the object resides in a container of the `archive` class, then restore it first.	Downloading an Object Downloading an Object from an Archive Container

Rotating the Client-Side Encryption Master Key

You can change the master key that you use for client-side file encryption by rotating the key.

Task	Procedure / CLI Command
1. Generate a new RSA master key to replace the current RSA master key that you'd used for client-side file encryption. OR Identify an existing RSA master key to replace the current RSA master key that you'd used for client-side file encryption.	Generating the Master Key
2. Run the `set` command and provide the current master key file path and the new master key file path.	Setting Object Metadata

4

Command Line Reference

Topics

- Authentication
- Managing the Account
- Managing Containers
- Managing Objects
- Bulk Operations

Authentication

To authenticate the access to your account on Oracle Cloud Infrastructure Object Storage Classic, you must provide suitable values for the following parameters:

- REST Endpoint URL
- User name
- Password
- Authentication URL (Deprecated from FTM CLI 2.4)
- Service name (Deprecated from FTM CLI 2.4)
- Identity domain (Deprecated from FTM CLI 2.4)

> **Note:**
>
> It's recommended that you use the REST Endpoint URL parameter to obtain authentication to access your storage account and not the deprecated parameters such as authentication URL, service name, and identity domain.

This table describes the methods that you can use to specify the authentication parameters.

Method	Description	Priority
CLI Parameters	In this method, you can pass the values of the authentication parameters on the command line along with the respective command option. See CLI Command Options. You must pass the parameters with every command issued on the CLI. For the exact syntax of the CLI commands, see General Syntax of FTM CLI Commands. **Important**: If you don't want to enter the password for every command you run, you can use the `--save-auth-key` command option to encrypt the password that you enter, and save the encrypted password locally in the `ftmcliKeystore` file. The next time you run any command, the FTM CLI decrypts the previously stored password and uses it. You're not prompted to enter the password.	Highest
Environment Variables	You can set the authentication parameters by defining the environment variables with their respective values once during the current session. See Setting Up the Required Environment Variables. You must set the environment variables again in each new session.	Second

Method	Description	Priority
Configuration File	You can set up multiple configuration files with combinations of CLI parameters and authentication parameters; for example, one per Oracle Cloud Infrastructure Object Storage Classic instance or with different CLI parameters. See Setting Up Configuration Files. It's a good practice to set up the configuration file to simplify the script for the command line. **Important**: You must use the `--properties-file` command option to point to the configuration file in any of the following scenarios: • If the configuration file is in a different directory than the FTM CLI client • If the configuration file has a name other than `ftmcli.properties`	Least

> **Note:**
>
> Depending on your requirements, use any combination of the prior methods to set each authentication parameter.

The priority decides the value of the parameter that will be picked up by the FTM CLI client to authenticate the access to your storage account. Therefore, the values of parameters declared on the command line have the highest priority, followed by the values set in the environment variables. The values set in the configuration file get the least priority, but do get picked up by the FTM CLI client if the environment variables haven't been set for the session or the authentication parameters haven't been set on the command line.

Managing the Account

Learn how to manage your account in Oracle Cloud Infrastructure Object Storage Classic using the FTM CLI.

Operations:

• Getting Account Metadata
• Setting Account Metadata

Getting Account Metadata

Retrieves metadata of your account in Oracle Cloud Infrastructure Object Storage Classic.

You can retrieve the following information about your account:

- Replication policy (`X-Account-Meta-Policy-Georeplication`) (Georeplication support not available on Oracle Cloud at Customer)

- Support for `archive` containers (`X-Account-Meta-Policy-Archive`) (Not available on Oracle Cloud at Customer)

- Account quota, in bytes (`X-Account-Meta-Quota-Bytes`)

- Total number of objects created in all the containers in the account (`X-Account-Object-Count`)

- Number of containers in the account (`X-Account-Container-Count`)

- Storage space used, in bytes (`X-Account-Bytes-Used`)

- Custom account metadata (`X-Account-Meta-Name`)

Required Role: Any user within the identity domain can perform this task.

Syntax

```
java -jar ftmcli.jar describe [optional arguments]
```

Optional Arguments

The following optional arguments are specific to this command:

Argument	Description
`-h, --help`	Provides a detailed description of the `describe` command along with the optional arguments and usage.
`--replication-policies`	Lists all the replication policies available in the data region of your storage service instance.

When you run a command, you can either pass the authentication parameters with the command, or let the CLI pick up the required parameters from environment variables or the configuration file. See Authentication.

Example (Archive, georeplication, and S3 API support not available on Oracle Cloud at Customer)

- To retrieve the metadata of your account:

```
java -jar ftmcli.jar describe
```

  The following is an example of the output of this command:

```
              Name: myservice-bar
   Container Count: 40
```

```
          Object Count: 16707
            Bytes Used: 256496723604
           Bytes Quota: -1
        Archive Policy: arch-amsterdam
  Georeplication Policy: em2-em3

Custom Metadata
---------------
x-account-meta-temp-url-key: Welcome1*
x-account-meta-s3-secretkey-2: sectret2key!
x-account-meta-s3-secretkey: sectret1key!
```

Setting Account Metadata

Sets custom metadata for your account in Oracle Cloud Infrastructure Object Storage Classic.

Custom metadata are arbitrary key-value pairs associated with an account. You may create any custom or arbitrary metadata you need.

Required Role: To complete this task, you must have the `Storage_Administrator` role. If one of these roles isn't assigned to you or you're not sure, then ask your system administrator to ensure that the role is assigned to you in Oracle Cloud Infrastructure Classic Console. See Modifying User Roles in *Managing and Monitoring Oracle Cloud*.

Syntax

```
java -jar ftmcli.jar set [optional arguments]
```

Optional Arguments

The following optional arguments are specific to this command:

Argument	Description
-h, --help	Provides a detailed description of the `set` command along with the optional arguments and usage.
-R *retries*, --retries *retries*	Indicates the number of times that the request must be retried in case of failure. You can set the default value in the configuration file by updating the value of the variable `retries`. See Setting Up Configuration Files.
-C *custom_metadata_name:custom_metadata_value*, --custom-metadata *custom_metadata_name:custom_metadata_value*	Sets or updates the custom metadata for the account. You can repeat the use of this option multiple times in a command to set or update multiple custom metadata headers. FTM CLI adds a prefix `X-Account-Meta-` to the custom metadata name.

Argument	Description
-M *metadata_name:met adata_value*, -- metadata *metadata_name:met adata_value*	Sets or updates the account metadata. You can repeat the use of this option multiple times in a command to set or update multiple metadata headers. In case the georeplication policy for the account is not set, you can set it using this option.

> **✎ Note:**
>
> For the character restrictions applicable when you must select a name or a metadata value, see Character Restrictions.

When you run a command, you can either pass the authentication parameters with the command, or let the CLI pick up the required parameters from environment variables or the configuration file. See Authentication.

Examples

- To set a new custom metadata `X-Account-Meta-CoreTest` with the value `Welcome123`:

  ```
  java -jar ftmcli.jar set -C CoreTest:Welcome123
  ```

- To update the existing custom metadata `X-Account-Meta-HR-Key` with a new value `NewKey123`:

  ```
  java -jar ftmcli.jar set -C HR-Key:NewKey123
  ```

- To set the georeplication policy for the account with a value `us2-us6`, where `us2` is the primary DC and `us6` is the replication DC:

  ```
  java -jar ftmcli.jar set -M X-Account-Meta-Policy-Georeplication:us2-us6
  ```

Managing Containers

Learn how to manage your containers in Oracle Cloud Infrastructure Object Storage Classic using the FTM CLI.

Operations:

- Listing Containers
- Creating a Container
- Deleting a Container
- Getting Container Metadata
- Setting Container Metadata
- Setting a Container-Specific Replication Policy

Listing Containers

Lists the containers in Oracle Cloud Infrastructure Object Storage Classic.

Required Role: To complete this task, you must have the `Storage_ReadGroup` or `Storage_ReadWriteGroup` or `Storage_Administrator` role. If one of these roles isn't assigned to you or you're not sure, then ask your system administrator to ensure that the role is assigned to you in Oracle Cloud Infrastructure Classic Console. See Modifying User Roles in *Managing and Monitoring Oracle Cloud*.

Syntax

```
java -jar ftmcli.jar list [optional arguments]
```

Optional Arguments

The following optional arguments are specific to this command:

Argument	Description
`-h`, `--help`	Provides a detailed description of the `list` command along with the optional arguments and usage.
`-R retries`, `--retries retries`	Indicates the number of times that the request must be retried in case of failure. You can set the default value in the configuration file by updating the value of the variable `retries`. See Setting Up Configuration Files.
`-X prefix`, `--prefix prefix`	Lists the container names that have the specified prefix.
`-D delimiter`, `--delimiter delimiter`	Lists the containers with names that don't include the specified character. When FTM CLI encounters a container name that includes the specified character, it returns only the substring of the container name before the specified character. Only unique substrings are returned.
`-M marker`, `--marker marker`	Lists the containers with names greater than the specified string.
`-E end_marker`, `--end-marker end_marker`	Lists the containers with names less than the specified string.
`-L limit`, `--limit limit`	Limits the number of container names listed to the specified value. Default and maximum value: 10000.
`-a`, `--all`	Lists all the container names even if the storage service has to run multiple queries to get more than 10000 containers.

When you run a command, you can either pass the authentication parameters with the command, or let the CLI pick up the required parameters from environment variables or the configuration file. See Authentication.

Examples

- To list all the containers:

```
java -jar ftmcli.jar list
```

Command Output:

```
Testcontainer
compute_images
compute_images_segments
TestCLI
```

- To specify that the request must be retried `3` times in case of failure:

  ```
  java -jar ftmcli.jar list -R 3
  ```

- To list the container names that have the prefix `Test`:

  ```
  java -jar ftmcli.jar list -X Test
  ```

  Command Output:

  ```
  Testcontainer
  TestCLI
  ```

- To specify the delimiter `n`:

  ```
  java -jar ftmcli.jar list -D n
  ```

  Command Output:

  ```
  Testcontain
  compute_images
  compute_images_segmen
  TestCLI
  ```

- If a generic listing query for an account generated the following output:

  ```
  app_serve1
  auto_blocks
  bandwidth_data
  core_FS_backup
  device_profile
  filesystem_test
  testContainer
  ```

  - To list the containers from the above output starting from the container that has the string `core` as the first part of its name:

    ```
    java -jar ftmcli.jar list -M core
    ```

    Command output:

    ```
    core_FS_backup
    device_profile
    ```

```
filesystem_test
testContainer
```

– To list all the containers till the container that has the string `file` as the first part of its name:

```
java -jar ftmcli.jar list -E file
```

Command output:

```
app_serve1
auto_blocks
bandwidth_data
core_FS_backup
device_profile
```

– To list the first `3` container names:

```
java -jar ftmcli.jar list -L 3
```

Command output:

```
app_serve1
auto_blocks
bandwidth_data
```

Creating a Container

Creates a container in Oracle Cloud Infrastructure Object Storage Classic, and sets the metadata and container-level replication policy for the container.

Required Role: To complete this task, you must have the `Storage_ReadWriteGroup` or `Storage_Administrator` role. If one of these roles isn't assigned to you or you're not sure, then ask your system administrator to ensure that the role is assigned to you in Oracle Cloud Infrastructure Classic Console. See Modifying User Roles in *Managing and Monitoring Oracle Cloud*.

Syntax

```
java -jar ftmcli.jar create-container container [optional arguments]
```

Parameters and Optional Arguments

The following parameters are specific to this command:

Parameter	Description
container	The name of the container that you're creating

The following optional arguments are specific to this command:

Argument	Description
`-R retries`, `--retries retries`	Indicates the number of times that the request must be retried in case of failure. You can set the default value in the configuration file by updating the value of the variable `retries`. See Setting Up Configuration Files.
`-a, --archive`	Sets the storage class of the container to `Archive`. (Archive support not available on Oracle Cloud at Customer)
`-e, --server-side-encryption`	Enables server-side encryption for the container by setting the policy to `BASE_ENCRYPTION`. You can enable server-side encryption for a container only at the time of creating it, not later.
`-M metadata_name:metadata_value`, `--metadata metadata_name:metadata_value`	Sets the container metadata. You can repeat the use of this option multiple times in a command to set or update multiple metadata headers. You can set the container ACLs and quotas using this option.
`-C custom_metadata_name:custom_metadata_value`, `--custom-metadata custom_metadata_name:custom_metadata_value`	Sets the custom metadata for the container. You can repeat the use of this option multiple times in a command to set or update multiple custom metadata headers. FTM CLI adds a prefix `X-Container-Meta-` to the custom metadata name. You can set the custom metadata headers and CORS headers using this option.
`--source-region source_region`	Indicates the primary DC code of your container.
`--target-region target_region`	Indicates the replication DC code of the container in the same region. You can repeat the use of this argument multiple times in a command to set multiple replication DCs.
`--ext-source-region-url external_target_region_url`	Indicates the URL of the container in an external region from which the objects would be replicated into your container. You can repeat the use of this argument multiple times in a command to set multiple external source DCs.
`--ext-target-region-url external_target_region_url`	Indicates the URL of the container in an external region into which the objects in your container must be replicated. You can repeat the use of this argument multiple times in a command to set multiple external target DCs.

When you run a command, you can either pass the authentication parameters with the command, or let the CLI pick up the required parameters from environment variables or the configuration file. See Authentication.

Examples

- To create the container `myTestArchiveContainer` of the `Archive` storage class:

  ```
  java -jar ftmcli.jar create-container myTestArchiveContainer --archive
  ```

- To create the container `myTestContainer`, and enable server-side encryption:

```
java -jar ftmcli.jar create-container myTestContainer --server-side-
encryption
```

- For the example values of metadata to include the `--metadata` and `--custom-metadata` arguments in the command, see Setting Container Metadata.
- For the example values to set the container-level replication policy, see Setting a Container-Specific Replication Policy.

Deleting a Container

Deletes the specified container in Oracle Cloud Infrastructure Object Storage Classic.

Required Role: To complete this task, you must have the `Storage_Administrator` role. If this role isn't assigned to you or you're not sure, then ask your system administrator to ensure that the role is assigned to you in Oracle Cloud Infrastructure Classic Console. See Modifying User Roles in *Managing and Monitoring Oracle Cloud*.

Syntax

```
java -jar ftmcli.jar delete [optional arguments] container
```

Parameters and Optional Arguments

The following parameters are specific to this command:

Parameter	Description
container	The name of the container that must be deleted.

The following optional arguments are specific to this command:

Argument	Description
`-h, --help`	Provides a detailed description of the `delete` command along with the optional arguments and usage.
`-R` *retries*, `--retries` *retries*	Indicates the number of times that the request must be retried in case of failure. You can set the default value in the configuration file by updating the value of the variable `retries`. See Setting Up Configuration Files.
`-f, --force`	Deletes a container and all its contents.

When you run a command, you can either pass the authentication parameters with the command, or let the CLI pick up the required parameters from environment variables or the configuration file. See Authentication.

Examples

- To delete the container `TestCLI` and to specify that the request must be retried `6` times in case of failure:

```
java -jar ftmcli.jar delete -R 6 TestCLI
```

Command Output:

```
Container successfully deleted: TestCLI
```

- To delete the container `TestCLI` and all the objects in it:

```
java -jar ftmcli.jar delete -f TestCLI
```

Getting Container Metadata

Retrieves metadata of the specified container in Oracle Cloud Infrastructure Object Storage Classic.

You can retrieve the following information about your container:

- Number of objects in the container (`X-Container-Object-Count`)
- Storage space used by all objects in the container, in bytes (`X-Container-Bytes-Used`)
- Storage class of the container (`X-Storage-Class`)
- Date of creation of the container
- Date when the container was last modified
- Server-side encryption for the container, if enabled (`X-Server-Side-Encryption`)
- Custom metadata (`X-Container-Meta-Name`)
- Container replication policy details

Required Role: To complete this task, you must have the `Storage_ReadGroup` or `Storage_ReadWriteGroup` or `Storage_Administrator` role. If one of these roles isn't assigned to you or you're not sure, then ask your system administrator to ensure that the role is assigned to you in Oracle Cloud Infrastructure Classic Console. See Modifying User Roles in *Managing and Monitoring Oracle Cloud*.

Syntax

```
java -jar ftmcli.jar describe [optional arguments] container
```

Parameters and Optional Arguments

The following parameters are specific to this command:

Parameter	Description
container	The name of the container whose metadata must be retrieved.

The following optional arguments are specific to this command:

Argument	Description
-h, --help	Provides a detailed description of the `describe` command along with the optional arguments and usage.
--crp	Provides the container replication details for the container.

When you run a command, you can either pass the authentication parameters with the command, or let the CLI pick up the required parameters from environment variables or the configuration file. See Authentication.

Examples

* To retrieve the metadata of the container `testStandardContainer` that belongs to the `standard` storage class:

```
java -jar ftmcli.jar describe testStandardContainer
```

The following is an example of the output of this command:

```
              Name: testStandardContainer
      Object Count: 40
        Bytes Used: 85880410
     Storage Class: Standard
     Creation Date: Thu Mar 16 12:52:59 IST 2017
     Last Modified: Thu Mar 16 20:46:07 IST 2017
Server Side Encryption: BASE_ENCRYPTION

Custom Metadata
---------------
x-container-meta-filesyncpeerversion: 2
x-container-meta-lastlegacybackupversion: 1
x-container-meta-access-control-allow-origin: http://acme-
admin.example.com
```

* To retrieve the metadata of the container `testArchiveContainer` that belongs to the `archive` storage class (Archive support not available on Oracle Cloud at Customer):

```
java -jar ftmcli.jar describe testArchiveContainer
```

The following is an example of the output of this command:

```
              Name: testArchiveContainer
      Object Count: 2
        Bytes Used: 165540
```

```
Storage Class: Archive
Creation Date: Tue Sep 27 14:11:13 IST 2016
Last Modified: Tue Sep 27 14:11:13 IST 2016
```

- For the example to retrieve the container replication details, see Setting a Container-Specific Replication Policy.

Setting Container Metadata

Sets the metadata for the specified container in Oracle Cloud Infrastructure Object Storage Classic.

You can set or update the following metadata for the container:

- Container ACLs: The ability to read and write objects in a container is governed by the Access Control Lists (ACLs) assigned to the container. A container has two ACLs, `X-Container-Read` and `X-Container-Write`.

- Container Quotas: For each container, you can set quotas for the maximum number of bytes the container can contain (`X-Container-Meta-Quota-Bytes`) and the maximum number of objects the container can contain (`X-Container-Meta-Quota-Count`).

- Custom Metadata for the Container: Custom metadata are arbitrary key-value pairs associated with a container. You may create any custom or arbitrary metadata you need.

- CORS Metadata for the Container: Cross-Origin Resource Sharing (CORS) allows browser-based programs (like JavaScript) to access resources in another domain. This enables web applications to access Oracle Cloud Infrastructure Object Storage Classic, overcoming the **Same-Origin** policy that's used by browsers to prevent access to resources in other domains. A container has three CORS metadata headers, `X-Container-Meta-Access-Control-Allow-Origin`, `X-Container-Meta-Access-Control-Max-Age`, and `X-Container-Meta-Access-Control-Expose-Headers`.

For example values to set the metadata, see Setting Container Metadata in *Using Oracle Cloud Infrastructure Object Storage Classic*.

Required Role: To complete this task, you must have the `Storage_Administrator` role. If one of these roles isn't assigned to you or you're not sure, then ask your system administrator to ensure that the role is assigned to you in Oracle Cloud Infrastructure Classic Console. See Modifying User Roles in *Managing and Monitoring Oracle Cloud*.

Syntax

```
java -jar ftmcli.jar set [optional arguments] container
```

Parameters and Optional Arguments

The following parameters are specific to this command:

Parameter	Description
container	The name of the container whose metadata must be set.

The following optional arguments are specific to this command:

Argument	Description
`-h, --help`	Provides a detailed description of the `set` command along with the optional arguments and usage.
`-R retries, --retries retries`	Indicates the number of times that the request must be retried in case of failure. You can set the default value in the configuration file by updating the value of the variable `retries`. See Setting Up Configuration Files.
`-M metadata_name:metadata_value, --metadata metadata_name:metadata_value`	Sets or updates the container metadata. You can repeat the use of this option multiple times in a command to set or update multiple metadata headers. You can set the container ACLs and quotas using this option.
`-C custom_metadata_name:custom_metadata_value, --custom-metadata custom_metadata_name:custom_metadata_value`	Sets or updates the custom metadata for the container. You can repeat the use of this option multiple times in a command to set or update multiple custom metadata headers. FTM CLI adds a prefix `X-Container-Meta-` to the custom metadata name. You can set the custom metadata headers and CORS headers using this option.

> **Note:**
>
> For the character restrictions applicable when you must select a name or a metadata value, see Character Restrictions.

When you run a command, you can either pass the authentication parameters with the command, or let the CLI pick up the required parameters from environment variables or the configuration file. See Authentication.

Examples

- To update the container metadata `X-Container-Write` with the value `myIdentity3.myservice.Storage_ReadWriteGroup` for the container `testContainer`:

  ```
  java -jar ftmcli.jar set -M X-Container-
  Write:myIdentity3.myservice.Storage_ReadWriteGroup testContainer
  ```

- To set the custom metadata `X-Container-Meta-BackupVersion` with a value `2` for the container `testContainer`:

  ```
  java -jar ftmcli.jar set -C BackupVersion:2 testContainer
  ```

- To set or update multiple metadata with the corresponding values in a single command for the container `testContainer`:

```
java -jar ftmcli.jar set -M X-Container-
Read:myIdentity3.myservice.Storage_ReadGroup -M X-Container-Meta-Quota-
Count:100 -C Access-Control-Allow-Origin:http://acme-admin.example.com/
-C Access-Control-Max-Age:10000 testContainer
```

Setting a Container-Specific Replication Policy

This topic does not apply to Oracle Cloud at Customer.

You can specify a different replication policy for each container than the policy that's defined for your service instance. The container-level policy overrides the policy that's set for the service instance. This enables you to control, at a more granular level, what data gets replicated to a geographical distant data center (DC).

Required Role: To complete this task, you must have the `Storage_Administrator`. If this role isn't assigned to you or you're not sure, then ask your system administrator to ensure that the role is assigned to you in Oracle Cloud Infrastructure Classic Console. See Modifying User Roles in *Managing and Monitoring Oracle Cloud*.

> **⚠ Important:**
>
> - You can set a container-level georeplication policy for only containers of the `Standard` storage class.
> - The container-specific replication policy can be set only at the time of creation of the container or when the container is empty.

Setting the Replication in a Data Center Within the Same Region

You can set your container's primary DC and georeplication DC to be a subset of that of the service instance. For example, if the primary DC of your service instance is `us2` and the georeplication DCs are `us6` and `uscom-central-1`, then the primary DC of your container can be `us6`, `us2`, or `uscom-central-1`. One or both of the remaining DCs can be selected as the replication DC of the container.

To select a replication policy for your service instance or for the list of available data centers and the corresponding codes, first determine the account-level replication policy and the current replication policy of your container using the `describe` command. See Getting Account Metadata and Getting Container Metadata.

Setting the Replication in a Different Region

You can specify a replication policy for your container by selecting a data center outside the region where the primary DC and georeplication DC of your service instance are located. For example, if the primary DC and georeplication DC of your service instance are `us2` and `us6` in the US region, then you can select a data center, say `em2` that's located in a non-US region to replicate your container. Specify the external container to which the objects from your container must be replicated by

specifying the external container's URL with the `--ext-target-region-url` argument in the command. You can specify multiple external replication DCs for your container.

When your container is the destination for the replication of objects from an external container, specify the external container's URL with the `--ext-source-region-url` argument in the command. Your container can be the destination for replication of objects from multiple source containers.

> ✎ **Note:**
>
> While setting the container's replication policy in a different region, first set the replication policy of the target region with the `--ext-source-region-url` argument, and next set the replication of the source region with the `--ext-target-region-url` argument.

> 🛈 **Important:**
>
> To set the container's replication policy in a different region, ensure that the REST endpoint URLs specified in the command are in the GUID format (for example, `https://storage-7b16fede61e1417ab83eb52e06f0e365.storage.oraclecloud.com/v1/Storage-7b16fede61e1417ab83eb52e06f0e365/myContainer`). **Do not** use the friendly name format (for example, `https://acme.storage.oraclecloud.com/v1/Storage-acme/myContainer`). The friendly name REST endpoint URLs may change and lead to invalid replication policy.

Syntax

```
java -jar ftmcli.jar set-crp [optional arguments] container --source-
region source_region
```

Arguments

The following mandatory arguments are specific to set the container-level replication policy using the `set-crp` command:

Argument	Description
`--source-region` `source_region`	Indicates the primary DC code of your container.

The following optional arguments are specific to set the container-level replication policy using the `set-crp` command:

Argument	Description
`--target-region` `target_region`	Indicates the replication DC code of the container in the same region. You can repeat the use of this argument multiple times in a command to set multiple replication DCs.

Argument	Description
--ext-source-region-url *external_target_region_url*	Indicates the URL of the container in an external region from which the objects would be replicated into your container. You can repeat the use of this argument multiple times in a command to set multiple external source DCs.
--ext-target-region-url *external_target_region_url*	Indicates the URL of the container in an external region into which the objects in your container must be replicated. You can repeat the use of this argument multiple times in a command to set multiple external target DCs.
-R *retries*, --retries *retries*	Indicates the number of times that the request must be retried in case of failure. You can set the default value in the configuration file by updating the value of the variable retries. See Setting Up Configuration Files.

When you run a command, you can either pass the authentication parameters with the command, or let the CLI pick up the required parameters from environment variables or the configuration file. See Authentication.

Examples

To read the replication policy of your service instance:

```
java -jar ftmcli.jar describe
```

An example output of the command is:

```
              Name: Storage-abc123
   Container Count: 4
      Object Count: 3
        Bytes Used: 359
       Bytes Quota: 1099511627776
    Archive Policy: us2
Georeplication Policy: us2-us6

Custom Metadata
---------------
x-account-meta-owner: jack.jones@example.com
```

To read the replication policy of your container:

```
java -jar ftmcli.jar describe testContainer --crp
```

An example output of the command is:

```
              Name: testContainer
      Object Count: 0
        Bytes Used: 0
     Storage Class: Standard
     Creation Date: Mon Jan 15 12:56:16 IST 2018
     Last Modified: Mon Jan 15 12:56:15 IST 2018
```

```
Custom Metadata
---------------
x-container-meta-policy-georeplication: container

Container Replication Policy
-----------------------------
                    Mode:ACTIVE_PASSIVE
         Source Region:
                       name: us2
                       url: https://us2.storage.oraclecloud.com/v1/
Storage-acme/testContainer
        Target Regions:[
                       {name: us6
                       url: https://us6.storage.oraclecloud.com/v1/
Storage-acme/testContainer},]
External Target Regions:[ ]
        Target Regions:[ ]
```

To change the container-level replication policy for the container `testContainer` in the same data region, where:

- Your service instance has `us2` primary DC.

- Your service instance has `us6` replication DC.

- Primary DC for your container is `us2`.

- Replication DC for your container is `us6` .

- Primary DC for your container must be changed to `us6`.

- Replication DC for your container must be changed to `us2` .

```
java -jar ftmcli.jar set testContainer --source-region us6 --target-region
us2
```

To change the container-level replication policy for the container `testContainer2` in a different data region, where:

- Your service instance has `us2` primary DC.

- Source DC URL for your container in a different data region must be set to `https://<foo1>.storage.oraclecloud.com/v1/Storage-<bar1>/externalSourceContainer1` and `https://<foo2>.storage.oraclecloud.com/v1/Storage-<bar2>/externalSourceContainer2`.

- Target DC URL for your container in a different data region must be set to `https://<foo3>.storage.oraclecloud.com/v1/Storage-<bar3>/externalTargetContainer`.

> **Note:**
>
> The example demonstrates the use of GUID-based URLs to set the source and target regions. If the GUID-based URL for the container is `https://`**`storage-7b16fede61e1417ab83eb52e06f0e365`**`.storage.oraclecloud.com/v1/Storage-`**`7b16fede61e1417ab83eb52e06f0e365`**`/myContainer`, then `<fooN>` is `storage-7b16fede61e1417ab83eb52e06f0e365` and `<barN>` is `7b16fede61e1417ab83eb52e06f0e365`.

```
java -jar ftmcli.jar set testContainer2 \
--source-region us2 \
--ext-source-region-url https://<foo1>.storage.oraclecloud.com/v1/Storage-
<bar1>/externalSourceContainer1 \
--ext-source-region-url https://<foo2>.storage.oraclecloud.com/v1/Storage-
<bar2>/externalSourceContainer2 \
--ext-target-region-url https://<foo3>.storage.oraclecloud.com/v1/Storage-
<bar3>/externalTargetContainer
```

Managing Objects

Learn how to manage objects in your containers in Oracle Cloud Infrastructure Object Storage Classic.

Operations:

- Listing Objects
- Uploading Files
- Copying an Object
- Downloading an Object
- Restoring an Object
- Deleting an Object
- Getting Object Metadata
- Setting Object Metadata
- About Client-Side File Encryption

Listing Objects

Lists the objects in the specified container in Oracle Cloud Infrastructure Object Storage Classic.

Required Role: To complete this task, you must have the `Storage_ReadGroup` or `Storage_ReadWriteGroup` or `Storage_Administrator` role. If one of these roles isn't assigned to you or you're not sure, then ask your system administrator to ensure that the role is assigned to you in Oracle Cloud Infrastructure Classic Console. See Modifying User Roles in *Managing and Monitoring Oracle Cloud*.

Syntax

```
java -jar ftmcli.jar list [optional arguments] container
```

Parameters and Optional Arguments

The following parameters are specific to this command:

Parameter	Description
container	The name of the container in which the objects are located.

The following optional arguments are specific to this command:

Argument	Description
-h, --help	Provides a detailed description of the list command along with the optional arguments and usage.
-R *retries*, --retries *retries*	Indicates the number of times that the request must be retried in case of failure. You can set the default value in the configuration file by updating the value of the variable retries. See Setting Up Configuration Files.
-X *prefix*, --prefix *prefix*	Lists the object names that have the specified prefix.
-D *delimiter*, --delimiter *delimiter*	Lists the objects with names that don't include the specified character. When FTM CLI encounters an object name that includes the specified character, it returns only the substring of the object name before the specified character. Only unique substrings are returned.
-M *marker*, --marker *marker*	Lists the objects with names greater than the specified string.
-E *end_marker*, --end-marker *end_marker*	Lists the objects with names less than the specified string.
-L *limit*, --limit *limit*	Limits the number of object names listed to the specified value. Default and maximum value: 10000.
-a, --all	Lists all the object names even if the storage service has to run multiple queries to get more than 10000 objects.

When you run a command, you can either pass the authentication parameters with the command, or let the CLI pick up the required parameters from environment variables or the configuration file. See Authentication.

Examples

- To list all the objects in the container Testcontainer:

  ```
  java -jar ftmcli.jar list Testcontainer
  ```

Command Output:

```
Sample_script_v1.0
Sample_script_V1.3
Scripting_algorithm_v1.0
Scripting_algorithm_v1.3
```

- To specify that the request must be retried `3` times in case of failure:

```
java -jar ftmcli.jar list -R 3 Testcontainer
```

- To list the objects in the container `Testcontainer` with the names that have the prefix `Scripting`:

```
java -jar ftmcli.jar list -X Scripting Testcontainer
```

Command Output:

```
Scripting_algorithm_v1.0
Scripting_algorithm_v1.3
```

- To specify the delimiter `v`:

```
java -jar ftmcli.jar list -D v Testcontainer
```

Command Output:

```
Sample_script_v
Sample_script_V1.3
Scripting_algorithm_v1
```

- If a generic listing query for a container `testCLI` generated the following output:

```
analog_io
compare_analytics
debug_data
filesystem_log
performance_tracking
transfer_rate_log
```

  - To list the objects from the above output starting from the object that has the string `debug` as the first part of its name:

```
java -jar ftmcli.jar list -M debug testCLI
```

    Command output:

```
debug_data
filesystem_log
performance_tracking
transfer_rate_log
```

- To list all the objects till the object that has the string `perf` as the first part of its name:

```
java -jar ftmcli.jar list -E perf testCLI
```

Command output:

```
analog_io
compare_analytics
debug_data
filesystem_log
```

- To list the first `4` object names in the container `testCLI`:

```
java -jar ftmcli.jar list -L 4 testCLI
```

Command output:

```
analog_io
compare_analytics
debug_data
filesystem_log
```

Uploading Files

Uploads files to the specified container in Oracle Cloud Infrastructure Object Storage Classic.

When you upload a file, if it's larger than the specified segment size, the CLI divides the file into segments and then uploads all the segments along with a manifest object. The manifest object enables the proper concatenation of the segments when you download the large object.

Required Role: To complete this task, you must have the `Storage_Administrator` or `Storage_ReadWriteGroup` role. If one of these roles isn't assigned to you or you're not sure, then ask your system administrator to ensure that the role is assigned to you in Oracle Cloud Infrastructure Classic Console. See Modifying User Roles in *Managing and Monitoring Oracle Cloud*.

Syntax

```
java -jar ftmcli.jar upload [optional arguments] container filepath
```

For the syntax, arguments, and examples to bulk upload the files, see Creating Multiple Objects.

Parameters and Optional Arguments

The following parameters are specific to this command:

Parameter	Description
container	The name of the container to which the object must be uploaded. If the specified container doesn't exist, then it's created by the CLI.
filepath	The path of the file or directory that must be uploaded.

The following optional arguments are specific to this command:

Argument	Description
-h, --help	Provides a detailed description of the upload command along with the optional arguments and usage.
-R *retries*, --retries *retries*	Indicates the number of times that the request must be retried in case of failure. You can set the default value in the configuration file by updating the value of the variable retries. See Setting Up Configuration Files.
-N *object name*, --object-name *object_name*	Indicates the name by which the object must be saved in the container.
-T *threads*, --max-threads *threads*	Indicates the maximum number of threads to be used in the upload request. Depending on the speed and quality of the network, the CLI client may perform better with a different number of threads. The default number is 15. Choose any number between 1 and 100. You can set the default value in the configuration file by updating the value of the variable max-threads. See Setting Up Configuration Files.
-G *size*, --segment-size *size*	Indicates the segment size in MB. You can set the default value in the configuration file by updating the value of the variable segment-size. See Setting Up Configuration Files.
-C *segments_container*, --segments-container *segments_container*	Indicates the container in which the segments must be stored. You can set the default value in the configuration file by updating the value of the variable segments-container. See Setting Up Configuration Files.
-s, --skip	Skips uploading a file if an object with the same name exists in the destination container. If you don't specify this option, the object with the same name in the container will be overwritten with the file being uploaded.
-a, --archive	Indicates that the object must be archived in the specified Archive container. Use this option when you want to differentiate between the upload of standard and archive objects. You can set the default storage class in the configuration file by updating the value of the variable storage-class. See Setting Up Configuration Files. (Not available on Oracle Cloud at Customer)
-e, --server-side-encryption	Indicates that the file must be uploaded to a container that has server-side encryption enabled. If the container referenced in the command doesn't exist, then the container is created with the server-side encryption feature enabled, and the file then uploaded.

Argument	Description
`-K key_filepath, --encryption-key key_filepath`	Indicates the master key file that must be used for client-side file encryption. See Generating the Master Key. **Note**: Use the same master key file to decrypt the object when you download it from cloud storage.

> **Note:**
>
> For the character restrictions applicable when you must select a name or a metadata value, see Character Restrictions.

When you run a command, you can either pass the authentication parameters with the command, or let the CLI pick up the required parameters from environment variables or the configuration file. See Authentication.

> **Note:**
>
> When you upload a directory consisting of multiple files, the objects created on the container will have the full path and name of the directory as the prefix in their file names.

Examples

> **Note:**
>
> The examples shown here are for running the CLI from an Oracle Linux host. When running the CLI on Windows, use \ as the directory separators.

- To upload the file `/home/jack/FTM_CLI/StandardObject` to the container `TestCLI` and store it with the name `StandardObject_1`:

```
java -jar ftmcli.jar upload -N StandardObject_1 TestCLI /home/jack/
FTM_CLI/StandardObject
```

- To upload all the files from the directory `/home/jack/FTM_CLI/MultipleObjects` to the container `TestCLI`:

```
java -jar ftmcli.jar upload TestCLI /home/jack/FTM_CLI/MultipleObjects
```

The following is the example of the output of this command:

```
Uploading directory: /home/jack/FTM_CLI/MultipleObjects to container:
TestCLI
File uploaded: myFile1.txt
File uploaded: myFile2.txt
File uploaded: myFile3.txt
```

```
File uploaded: myFile4.txt
File uploaded: myFile5.txt
File(s) attempted: 5
File(s) succeeded: 5
File(s) skipped: 0
See Log for details
File(s) failed: 0
See Log for details
Estimated Transfer Rate: -- KB/s
```

The files uploaded to the container `TestCLI` are stored with the string `/home/jack/FTM_CLI/MultipleObjects` prefixed to their names. Example, `/home/jack/FTM_CLI/MultipleObjects/myFile1.txt`.

- To upload the file `/home/jack/FTM_CLI/StandardObject` to the container `TestCLI` and set the maximum threads to `10`:

  ```
  java -jar ftmcli.jar upload -T 10 TestCLI /home/jack/FTM_CLI/
  StandardObject
  ```

- To upload a 10-MB file `/home/jack/FTM_CLI/StandardObject` to the container `TestCLI` in 10 segments of size 1 MB each, and to store the segments in the segments container `TestCLI_segments`:

  ```
  java -jar ftmcli.jar upload -G 1 -C TestCLI_segments TestCLI /home/jack/
  FTM_CLI/StandardObject
  ```

- To upload the file `/home/jack/FTM_CLI/StandardObject` to the container `TestCLI` but skip the upload if an object with the same name already exists in the container:

  ```
  java -jar ftmcli.jar upload -R 3 -s TestCLI StandardObject
  ```

- To archive the file `/home/jack/FTM_CLI/ArchiveObject` to the `Archive` container `TestCLI_Archive` (Not available on Oracle Cloud at Customer):

  ```
  java -jar ftmcli.jar upload -a TestCLI_Archive /home/jack/FTM_CLI/
  ArchiveObject
  ```

- To upload a file `/home/jack/FTM_CLI/StandardObject` to a server-side encryption enabled container `SSE_TestCLI`:

  ```
  java -jar ftmcli.jar upload -e SSE_TestCLI /home/jack/FTM_CLI/
  StandardObject
  ```

- To encrypt a file `/home/jack/FTM_CLI/StandardObject` on the client side using the master key file `/home/jack/Encryption_Key.pem`, and then upload it to a container `TestCLI`:

  ```
  java -jar ftmcli.jar upload -K /home/jack/Encryption_Key.pem TestCLI /
  home/jack/FTM_CLI/StandardObject
  ```

Copying an Object

Copies the object from the source container to the target container in Oracle Cloud Infrastructure Object Storage Classic.

Required Role: To complete this task, you must have the `Storage_Administrator` or `Storage_ReadWriteGroup` role. If one of these roles isn't assigned to you or you're not sure, then ask your system administrator to ensure that the role is assigned to you in Oracle Cloud Infrastructure Classic Console. See Modifying User Roles in *Managing and Monitoring Oracle Cloud*.

Archived objects (Not available on Oracle Cloud at Customer): To copy an object from a container of the `Archive` storage class, restore it first. A copy operation can be performed only when the source object is in the restored state. The target container can be of any storage class, `Standard` or `Archive`. See Restoring an Object.

Large Objects: You can perform a copy operation on a static large object but not a dynamic large object.

Syntax

```
java -jar ftmcli.jar copy [optional arguments] source_container
source_object --target-container target_container
```

Parameters and Arguments

The following parameters are specific to this command:

Parameter	Description
source_container	The name of the container from which the object must be copied.
source_object	The object that must be copied.

The following argument is specific to this command:

Argument	Description
--target-container target_container	The name of the target container to which the object must be copied.

The following optional arguments are specific to this command:

Argument	Description
--target-object target_object_name	Indicates the name by which the object must be stored on the target container after copy.
-M metadata_name:metadata_value, --metadata metadata_name:metadata_value	Sets or updates the container metadata. You can repeat the use of this option multiple times in a command to set or update multiple metadata headers. You can set the container ACLs and quotas using this option.

Argument	Description
`-C` `custom_metadata_n ame:custom_metada ta_value`, `--custom-metadata` `custom_metadata_n ame:custom_metada ta_value`	Sets or updates the custom metadata for the container. You can repeat the use of this option multiple times in a command to set or update multiple custom metadata headers. FTM CLI adds a prefix `X-Container-Meta-` to the custom metadata name. You can set the custom metadata headers and CORS headers using this option.
`-R`, `--retries`	Indicates the number of times that the request must be retried in case of failure. You can set the default value in the configuration file by updating the value of the variable `retries`. See Setting Up Configuration Files.
`-T threads`, `--max-threads threads`	The maximum number of threads to be used in the download request. Depending on the speed and quality of the network, the CLI client may perform better with a different number of threads. The default number is 15. Any number between 1 and 100 is a valid entry. You can set the default value in the configuration file by updating the value of the variable `max-threads`. See Setting Up Configuration Files.
`--fresh-metadata`	Copy the object without any existing metadata. If you don't specify this option, FTM CLI copies the object by preserving it's existing metadata.
`--target-segments-container target_segments_c ontainer_name`	Indicates the container in which the segments must be stored after copy to the target container. If you don't specify the name of the target segments container, then the segments are stored in the default segments container `target_container_segments`.

When you run a command, you can either pass the authentication parameters with the command, or let the CLI pick up the required parameters from environment variables or the configuration file. See Authentication.

Examples

- To copy the large object `LargeObject` from the container `SourceContainer1` to the target container `TargetContainer1` and specify the target segments container `Common_Segments`:

  ```
  java -jar ftmcli.jar copy SourceContainer1 LargeObject --target-
  container TargetContainer1 --target-segments-container Common_Segments
  ```

- To copy the object `StandardObject1` from the container `SourceContainer1` to the target container `TargetContainer1` and store the object by the name `StandardObject2`:

  ```
  java -jar ftmcli.jar copy SourceContainer1 StandardObject1 --target-
  container TargetContainer1 --target-object StandardObject2
  ```

- To copy the object `StandardObject` from the container `SourceContainer1` to the target container `TargetContainer1` without any existing metadata:

  ```
  java -jar ftmcli.jar copy SourceContainer1 StandardObject --target-
  container TargetContainer1 --fresh-metadata
  ```

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- To copy the object `StandardObject` from the container `SourceContainer1` to the target container `TargetContainer1` without any existing metadata, and then create new custom metadata:

```
java -jar ftmcli.jar copy SourceContainer1 StandardObject --target-
container TargetContainer1 --fresh-metadata -C org:b99
```

Downloading an Object

Downloads the object from the specified container in Oracle Cloud Infrastructure Object Storage Classic.

Required Role: To complete this task, you must have the `Storage_Administrator`, `Storage_ReadWriteGroup` or `Storage_ReadGroup` role. If one of these roles isn't assigned to you or you're not sure, then ask your system administrator to ensure that the role is assigned to you in Oracle Cloud Infrastructure Classic Console. See Modifying User Roles in *Managing and Monitoring Oracle Cloud*.

Syntax

```
java -jar ftmcli.jar download [optional arguments] container object
```

For the syntax, arguments, and examples to bulk download the objects, see Downloading Multiple Objects.

Parameters and Optional Arguments

The following parameters are specific to this command:

Parameter	Description
container	The name of the container from which the object must be downloaded.
object	The object that must be downloaded. In case of directory download, this is the prefix in the names of the objects that must be downloaded together.

The following optional arguments are specific to this command:

Argument	Description
-h, --help	Provides a detailed description of the `download` command along with the optional arguments and usage.
-R *retries*, --retries *retries*	Indicates the number of times that the request must be retried in case of failure. You can set the default value in the configuration file by updating the value of the variable `retries`. See Setting Up Configuration Files.
-O *file name*, --output-file *file name*	Indicates the name by which the object must be stored on the local host after download.

Argument	Description
`-T` *threads*, `--max-threads` *threads*	The maximum number of threads to be used in the download request. Depending on the speed and quality of the network, the CLI client may perform better with a different number of threads. The default number is 15. Any number between 1 and 100 is a valid entry. You can set the default value in the configuration file by updating the value of the variable `max-threads`. See Setting Up Configuration Files.
`--directory`	Downloads a set of objects that have the specified prefix in their names.
	Specify the prefix in the names of the objects that must be downloaded, in the *object* parameter. The prefix can be the full path and name of the directory that you'd uploaded the files from. To identify the prefix that you must specify in the `download` command with the *object* parameter, run the `list` command before you download.
	Important:
	When running the CLI on Windows, you would've used \ as the directory separators for upload. However, match your download prefix to the result of the `list` command.
`-K` *key_filepath*, `--encryption-key` *key_filepath*	Indicates the master key file that must be used to decrypt the object data on the client-side after downloading it from the cloud storage.
	Note: Use the same master key file that you'd used to encrypt the object data when you'd uploaded it to cloud storage.
	To decrypt the object data that resides in a container of the `archive` storage class, restore the object first.

When you run a command, you can either pass the authentication parameters with the command, or let the CLI pick up the required parameters from environment variables or the configuration file. See Authentication.

> **✎ Note:**
>
> To download the archived objects from the `Archive` containers, you must first restore the objects. See Restoring an Object. (Not available on Oracle Cloud at Customer)

Examples

- To download the object `StandardObject` from the container `TestCLI` and specify that the request be retried `3` times in case of failure:

  ```
  java -jar ftmcli.jar download -R 3 TestCLI StandardObject
  ```

- To download the object `StandardObject` from the container `TestCLI` and save it on the local host by the name `DownloadedObject`:

  ```
  java -jar ftmcli.jar download -O DownloadedObject TestCLI StandardObject
  ```

- To download the object `StandardObject` from the container `TestCLI` and set the maximum threads to `18`:

```
java -jar ftmcli.jar download -T 18 TestCLI StandardObject
```

- To download an object `ArchiveObject` from the `Archive` container `TestCLI_Archive` after the object has been restored (Not available on Oracle Cloud at Customer):

```
java -jar ftmcli.jar download TestCLI_Archive ArchiveObject
```

- To download objects with the prefix `/home/jack/FTM_CLI/MultipleObjects` from the container `TestCLI`:

```
java -jar ftmcli.jar download --directory TestCLI /home/jack/FTM_CLI/
MultipleObjects
```

The following is the example of the output of this command:

```
Downloading files with path: /home/jack/FTM_CLI/MultipleObjects from
container: TestCLI
File downloaded: myFile1.txt
File downloaded: myFile2.txt
File downloaded: myFile3.txt
File downloaded: myFile4.txt
File downloaded: myFile5.txt
Files Attempted: 5
Files Downloaded: 5
Files Failed: 0
Estimated Transfer Rate: -- KB/s
```

The downloaded files are stored in the current directory by creating a full path specified. For example, if the CLI is executed at the location `/home/jack/ftmcli`, then the downloaded files are stored at `/home/jack/ftmcli/home/jack/FTM_CLI/MultipleObjects`.

> **Note:**
>
> To avoid creating the full path in the current folder, use the -O option to specify the destination directory as illustrated in the later example.

- To download an object `myEncryptedObject` from the `TestCLI` container and decrypt it using the master key file `/home/jack/Encryption_Key.pem`:

```
java -jar ftmcli.jar download -K /home/jack/Encryption_Key.pem TestCLI
myEncryptedObject
```

- Consider the case where multiple files are uploaded to the container `TestCLI` and contain the prefix `Folder1/Folder2/Folder3` when stored on the container.

```
java -jar ftmcli.jar list TestCLI
```

The following is the sample output of this command:

```
/Folder1/Folder2/Folder3/myFile1.txt
/Folder1/Folder2/Folder3/myFile2.txt
/Folder1/Folder2/Folder3/myFile3.txt
```

Create a local directory `TargetFolder` where the objects can be downloaded and stored:

```
mkdir TargetFolder
```

To download objects with the prefix `/Folder1/Folder2` to the local host in the location `./TargetFolder`:

```
java -jar ftmcli.jar download --directory -O ./TargetFolder TestCLI /
Folder1/Folder2
```

The following is the sample output of this command:

```
Downloading files with path: /Folder1/Folder2 from container: TestCLI
File downloaded: myFile1.txt
File downloaded: myFile2.txt
File downloaded: myFile3.txt
Files Attempted: 3
Files Downloaded: 3
Files Failed: 0
Estimated Transfer Rate: -- KB/s
```

Verify the download at the location `./TargetFolder`.

```
ls -lR ./TargetFolder/
```

The following is the sample output of this command:

```
drwxr-xr-x 1 john Users 0 Mar 6  2018 Folder3

TargetFolder/Folder3:
-rw-r--r-- 1 john Users 111 Mar 6  2018 myFile1.txt
-rw-r--r-- 1 john Users 111 Mar 6  2018 myFile1.txt
```

The files `myFile1.txt`, `myFile2.txt`, and `myFile3.txt` are downloaded to the location `./TargetFolder/Folder3/`.

Restoring an Object

This topic does not apply to Oracle Cloud at Customer.

Restores the object in an `Archive` container in Oracle Cloud Infrastructure Object Storage Classic.

Required Role: To complete this task, you must have the `Storage_Administrator` or `Storage_ReadWriteGroup` role. If one of these roles isn't assigned to you or you're not sure, then ask your system administrator to ensure that the role is assigned to you in Oracle Cloud Infrastructure Classic Console. See Modifying User Roles in *Managing and Monitoring Oracle Cloud*.

Syntax

```
java -jar ftmcli.jar restore [optional arguments] container object
```

Parameters and Optional Arguments

The following parameters are specific to this command:

Parameter	Description
container	The name of the `Archive` container in which the object is located.
object	The name of the object that must be restored.

The following optional arguments are specific to this command:

Argument	Description
`-h, --help`	Provides a detailed description of the `download` command along with the optional arguments and usage.
`-R` *retries*, `--retries` *retries*	Indicates the number of times that the request must be retried in case of failure. You can set the default value in the configuration file by updating the value of the variable `retries`. See Setting Up Configuration Files.
`-s , --status-only`	Indicates that the command must return the status of the restore action started earlier, and not initiate a restore.

When you run a command, you can either pass the authentication parameters with the command, or let the CLI pick up the required parameters from environment variables or the configuration file. See Authentication.

> **Note:**
>
> You must first restore the archived object before downloading it from the storage account. To download a restored object, see Downloading an Object.

Examples

- To restore the object `ArchivedObject` in the `Archive` container `TestCLI_Archive`:

  ```
  java -jar ftmcli.jar restore TestCLI_Archive ArchivedObject
  ```

- To get the status of the restore function initiated earlier for the object `ArchivedObject` in the `Archive` container `TestCLI_Archive`:

  ```
  java -jar ftmcli.jar restore -s TestCLI_Archive ArchivedObject
  ```

  Sample Output:

  ```
  Restoring object: ArchivedObject
  Restore Status: PROCESSING Restore Percentage: 15%
  ```

Deleting an Object

Deletes the object in the specified container in Oracle Cloud Infrastructure Object Storage Classic.

Required Role: To complete this task, you must have the `Storage_Administrator` or `Storage_ReadWriteGroup` role. If one of these roles isn't assigned to you or you're not sure, then ask your system administrator to ensure that the role is assigned to you in Oracle Cloud Infrastructure Classic Console. See Modifying User Roles in *Managing and Monitoring Oracle Cloud*.

Syntax

```
java -jar ftmcli.jar delete [optional arguments] container object
```

Parameters and Optional Arguments

The following parameters are specific to this command:

Parameter	Description
container	The name of the container in which the object is located.
object	The name of the object that must be deleted.

The following optional arguments are specific to this command:

Argument	Description
-h, --help	Provides a detailed description of the `delete` command along with the optional arguments and usage.
-R *retries*, --retries *retries*	Indicates the number of times that the request must be retried in case of failure. You can set the default value in the configuration file by updating the value of the variable `retries`. See Setting Up Configuration Files.

When you run a command, you can either pass the authentication parameters with the command, or let the CLI pick up the required parameters from environment variables or the configuration file. See Authentication.

Examples

- To delete the object `Sample-script.txt` in the container `TestCLI` and to specify that the request must be retried `3` times in case of failure:

```
java -jar ftmcli.jar delete -R 3 TestCLI Sample-script.txt
```

Command Output:

```
Object successfully deleted: Sample-script.txt
```

- To delete the object `Code-Samples/script1` in the container `TestCLI`:

```
java -jar ftmcli.jar delete TestCLI Code-Samples/script1
```

Command Output:

```
Object successfully deleted: Code-Samples/script1
```

Getting Object Metadata

Retrieves metadata of the specified object in a container in Oracle Cloud Infrastructure Object Storage Classic.

You can retrieve the following information about your object:

- Object type (`Content-Type`)
- Object size (`Content-Length`)
- MD5 checksum value (`Etag`)
- Date when the object was last modified
- Segmentation details, in case of large objects

Required Role: To complete this task, you must have the `Storage_ReadGroup` or `Storage_ReadWriteGroup` or `Storage_Administrator` role. If one of these roles isn't assigned to you or you're not sure, then ask your system administrator to ensure that the role is assigned to you in Oracle Cloud Infrastructure Classic Console. See Modifying User Roles in *Managing and Monitoring Oracle Cloud*.

Syntax

```
java -jar ftmcli.jar describe [optional arguments] container object
```

Parameters and Optional Arguments

The following parameters are specific to this command:

Parameter	Description
container	The name of the container in which the object is stored.

Parameter	Description
object	The object whose metadata must be retrieved.

The following optional arguments are specific to this command:

Argument	Description
`-h, --help`	Provides a detailed description of the `describe` command along with the optional arguments and usage.

When you run a command, you can either pass the authentication parameters with the command, or let the CLI pick up the required parameters from environment variables or the configuration file. See Authentication.

Examples

> **Note:**
>
> The examples shown here are for running the CLI from an Oracle Linux host. When running the CLI on Windows, use \ as the directory separators.

- To retrieve the metadata of the object `myFirstObject` stored in the container `testContainer`:

```
java -jar ftmcli.jar describe testContainer myFirstObject
```

  The following is an example of the output of this command:

```
          Name: myFirstObject
     Container: testContainer
          Etag: 8035e55f30ae3f8b8a3b3c507e1b6a6c
Content Length: 10485760
  Content Type: */*; charset=UTF-8
 Last Modified: Thu Mar 16 13:13:32 IST 2017
```

- To retrieve the metadata of the static large object `mySecondObject` stored in the container `testContainer`:

```
java -jar ftmcli.jar describe testContainer mySecondObject
```

  The following is an example of the output of this command:

```
          Name: mySecondObject
     Container: testContainer
          Etag: "841d932827eadec2f2cc101896b07b7d"
Content Length: 5582966
  Content Type: */*; charset=UTF-8
 Last Modified: Thu Mar 16 13:13:32 IST 2017
           SLO: True
```

The line `SLO: True` in the output shows that `mySecondObject` is a static large object.

- To retrieve the metadata of the dynamic large object `myThirdObject` stored in the container `testContainer`:

```
java -jar ftmcli.jar describe testContainer myThirdObject
```

The following is an example of the output of this command:

```
            Name: myThirdObject
       Container: testContainer
            Etag: "e35d9ebdbc191e5378b2f21ff2d92e51"
  Content Length: 25698103378
    Content Type: */*; charset=UTF-8
   Last Modified: Thu Mar 16 13:13:32 IST 2017
        Manifest: testContainer_segments/myThirdObject/_segment_/
1486973802120
```

The line `Manifest: testContainer_segments/myThirdObject/_segment_/` `1486973802120` in the output points to the path where the segments of the dynamic large object `myThirdObject` are stored.

- To retrieve the metadata of an encrypted object `myEncryptedObject` stored in the container `testContainer`:

```
java -jar ftmcli.jar describe testContainer myEncryptedObject
```

The following is an example of the output of this command:

```
            Name: myEncryptedObject
       Container: testContainer
            Etag: "e35d9ebdbc191e5378b2f21ff2d92e81"
  Content Length: 25698103498
    Content Type: */*; charset=UTF-8
   Last Modified: Thu Mar 16 13:13:14 IST 2017

        Custom Metadata
        ---------------
        x-object-meta-envelopekey2:
9CCB461080A8A4114FA82A9F07378D04A259EBB115218049DB23BECEFA12BF582E892367

D342E96664A4CC4960FE951BC3877A8DC0ECCDD83A23C2E88ED00A0DC3990BFF2E7FA0FC
8761303EB605921A37F897B28AC9

ABEB774F911B0BD444BC6352D152FA7AFE3E8A54D3069181B0DB1520277CE9BDB017FE88
DAEC7F07E94D
        x-object-meta-envelopekey1:
A0BB00E318AEEB7D4CA01C75D5CE45AB0B63153E948FF902E58F450DBBBE05E4802ED12C

2097C2AF509DAD94C182E64041F7B5AD696D1626276D6BEA37CC7BE3342517DAB7A34993
A7A981942A7796DE586E5D226FC1

5C596F4B381CC9CEEF8B98F732D4023A8043CD2325C5F9746D7E8DC12F8BB5C02DE43AA4
```

```
10FB0EB00F11
        x-object-meta-digestkey1:
B76A6CB74B1CFCB7C0E1B4BCD77A7DCA5B52817B62E3ACB28B69F7DB6D7DC2A9A9648A77
25

4ED9D83A64F255916860B9D4D95DFE83446D86C3376F4962C0B12D067EA3E84F78FA2B6A
BD09CB4E6623E113002F7D85F324

B6EB8B56D669B4EC8DDE5DDA798441BEB711EBEED0DBBDB83A76786C0F106E5191DF164C
18B637181B
        x-object-meta-digestkey2:
C3350D9F43318D45EC74993C0A01163C07A784C07A31E2DCCA48A5F691D6B1D59C78D032
BD

D4238DA29AE3DEDF371A4FE6045FD8CE2B6D4BAF49B1E30EDF8AF41461A1E2926EB5456A
CA2748A25B38F372869CCA3D3A3E

0CBD2DCEE10A48AC538C60AD15931151594C92F01FA0A50321AF59980192EFCEDAAD7376
F6BFFA8D6A
        x-object-meta-digest:
97316AC4B2460642E603A64350986942642A5FAC78F0059BBBA290C110DEE0C0
```

Setting Object Metadata

Sets the metadata of the specified object in a container in Oracle Cloud Infrastructure Object Storage Classic.

You can set or update the following metadata for the object:

- Custom metadata for the object: Custom metadata are arbitrary key-value pairs. You may create any custom or arbitrary metadata that you need.

- Scheduling automatic deletion of objects: You can schedule deletion of objects at a specified time in the future or after a specified period of time has elapsed, by using the `X-Delete-After` or `X-Delete-At` header, respectively.

- Client-side file encryption: When you enable client-side encryption for a file, the FTM CLI first generates a unique symmetric key, which is used to encrypt the file. Next, the FTM CLI encrypts the symmetric key using the master key that you specified in the upload command. When the symmetric key is encrypted by the FTM CLI, the following metadata is generated:`X-Object-Meta-Envelopekey1`, `X-Object-Meta-Envelopekey2`, `X-Object-Meta-Digest`, `X-Object-Meta-Digestkey1`, and `X-Object-Meta-Digestkey2`.
  You can rotate the master key that's used for client-side file encryption with the set command.

For example values to set the metadata, see Updating Object Metadata in *Using Oracle Cloud Infrastructure Object Storage Classic*.

Required Role: To complete this task, you must have the `Storage_Administrator` role. If one of these roles isn't assigned to you or you're not sure, then ask your system administrator to ensure that the role is assigned to you in Oracle Cloud Infrastructure Classic Console. See Modifying User Roles in *Managing and Monitoring Oracle Cloud*.

Syntax

```
java -jar ftmcli.jar set [optional arguments] container object
```

Parameters and Optional Arguments

The following parameters are specific to this command:

Parameter	Description
`container`	The name of the container in which the object is stored.
`object`	The object whose metadata must be set.

The following optional arguments are specific to this command:

Argument	Description
`-h, --help`	Provides a detailed description of the `set` command along with the optional arguments and usage.
`-R retries, --retries retries`	Indicates the number of times that the request must be retried in case of failure. You can set the default value in the configuration file by updating the value of the variable `retries`. See Setting Up Configuration Files.
`-M metadata_name:metadata_value, --metadata metadata_name:metadata_value`	Sets or updates the object metadata. You can repeat the use of this option multiple times in a command to set or update multiple metadata headers. You can schedule automatic deletion of objects using this option.
`-C custom_metadata_name:custom_metadata_value, --custom-metadata custom_metadata_name:custom_metadata_value`	Sets or updates the custom metadata for the object. You can repeat the use of this option multiple times in a command to set or update multiple custom metadata headers. FTM CLI adds a prefix `X-Object-Meta-` to the custom metadata name.
`-K key_filepath, --encryption-key key_filepath`	Indicates the current master key file that's used for client-side encryption of the object data. See About Client-Side File Encryption **Note**: The `--encryption-key` and `--new-encryption-key` command options must be used together to rotate master keys.
`-N key_filepath, --new-encryption-key key_filepath`	Indicates the new master key file that must be used for client-side encryption of the object data. Rotating the Master Key **Note**: The `--encryption-key` and `--new-encryption-key` command options must be used together to rotate master keys.

> **✎ Note:**
>
> For the character restrictions applicable when you must select a name or a metadata value, see Character Restrictions.

ORACLE

When you run a command, you can either pass the authentication parameters with the command, or let the CLI pick up the required parameters from environment variables or the configuration file. See Authentication.

Examples

> **✎ Note:**
>
> The examples shown here are for running the CLI from an Oracle Linux host. When running the CLI on Windows, use \ as the directory separators.

- To set the metadata `X-Delete-After` with the value `86400` for the object `myFirstObject` in the container `testContainer`:

  ```
  java -jar ftmcli.jar set -M X-Delete-After:86400 testContainer
  myFirstObject
  ```

- To set the custom metadata `X-Object-Meta-Country` with a value `US` for the object `mySecondObject` in the container `testContainer`:

  ```
  java -jar ftmcli.jar set -C Country:US testContainer mySecondObject
  ```

- To set or update multiple metadata in a single command for the object `myThirdObject` in the container `testContainer`:

  ```
  java -jar ftmcli.jar set -M X-Delete-At:1490196944 -C Language:english
  testContainer myThirdObject
  ```

- To rotate the master key used for client-side encryption of the object `myEncryptedObject` in the container `testContainer`, provide the current master key file `/home/jack/Encryption_Key.pem` and the new master key file `/home/jack/New_Encryption_Key.pem`:

  ```
  java -jar ftmcli.jar set -K /home/jack/Encryption_Key.pem -N /home/jack/
  New_Encryption_Key.pem testContainer myEncryptedObject
  ```

About Client-Side File Encryption

The FTM CLI enables client-side encryption of data that you want to store on Oracle Cloud Infrastructure Object Storage Classic. The FTM CLI on the client encrypts files before they are transferred to the cloud service. Files are encrypted when they are transferred to the cloud as well as when they are at rest on the cloud. The FTM CLI allows client-side encryption and decryption of static large objects (SLOs) but not dynamic large objects (DLOs).

Topics

- Encrypting a File
- Generating the Master Key
- Decrypting an Object

- Rotating the Master Key

Encrypting a File

To enable client-side encryption for a file when you upload it to the cloud service, provide a master key in the `2048-bit size RSA` format, along with the `--encryption-key` command option, in the `upload` command. To generate the RSA master key, see Generating the Master Key.

You can upload an encrypted file to a container of the storage class `standard` or `archive`. See Uploading Files. (Archive support not available on Oracle Cloud at Customer)

When you enable client-side encryption for a file, the FTM CLI first generates a unique symmetric key in the `128-bit AES` format, which is used to encrypt the file. Next, the FTM CLI encrypts the symmetric key using the master key that you specified in the `upload` command.

> **Important:**
>
> - If you have multiple master keys, then maintain a record of the master keys and the corresponding files encrypted using each key. To decrypt the encrypted data, you'll need the same master key that you've used for encryption.
> - The FTM CLI manages the generation, encryption, decryption, structure, and storage of the symmetric key.

The encrypted copy of the symmetric key is stored alongside the object data on the cloud service in the form of object metadata. When the symmetric key is encrypted by the FTM CLI, the following metadata is generated:

- A 256-bit envelope key, which is stored as two 128-bit metadata items `X-Object-Meta-Envelopekey1` and `X-Object-Meta-Envelopekey2`

- An HMAC (secure hash) of the object data using `HmacSHA256`, which is stored as the `X-Object-Meta-Digest` metadata item

- The encrypted form of the HMAC key. This encrypted form of the HMAC key is generated using the master key. The encrypted form of the HMAC key is stored as metadata items `X-Object-Meta-Digestkey1` and `X-Object-Meta-Digestkey2`

Generating the Master Key

To encrypt your files before uploading them to cloud storage, generate a 2048-bit RSA master key to use for encryption and decryption:

1. To generate the master key and store it in the file `Encryption_Key.pem`:

   ```
   openssl genrsa -out Encryption_Key.pem 2048
   ```

2. Make a note of the path where the key file is stored.

Decrypting an Object

To download an encrypted object, provide the same master key that you'd used for encrypting the file along with the `--encryption-key` option for the `download` command. See Downloading an Object.

If the object that you want to download resides in a container of the `archive` storage class, then you must restore it first. After the object is restored, download it by providing the master key along with the `--encryption-key` option for the `download` command. See Downloading an Object from an Archive Container. (Archive support not available on Oracle Cloud at Customer)

After the encrypted object is downloaded from the cloud service, the FTM CLI first decrypts the encrypted copy of the symmetric key using the master key. Next, the FTM CLI uses the decrypted symmetric key to decrypt the object and retrieve the original file content.

> **✏ Note:**
>
> - If you provide the wrong master key with the download command, then the FTM CLI gives an `IllegalArgument` exception, and the object isn't downloaded.
> - If you don't provide a master key when you download an encrypted object, then the object is downloaded but not decrypted. To retrieve the original content of the encrypted object, you must provide the right master key with the download command.

Rotating the Master Key

You can change the master key that you've used to encrypt a specific file by rotating the key. The following are a few scenarios when such a change may be necessary:

- You have a security policy that mandates periodically updating master keys
- You suspect that a master key might have been compromised

To rotate the master key, provide the old and new master keys along with the `--encryption-key` and `--new-encryption-key` options for the `set` command. See Setting Object Metadata. The FTM CLI does the following:

- Retrieves the encrypted symmetric key from the cloud service
- Decrypts the symmetric key using the old master key
- Encrypts the symmetric key using the rotated master key
- Stores the updated symmetric key as object metadata items

The encrypted object data on the cloud remains undisturbed during the process.

When you download an object using the rotated master key, the FTM CLI does the following::

- Downloads the encrypted object
- Retrieves the encrypted symmetric key

- Decrypts the symmetric key using the rotated master key
- Uses the unencrypted symmetric key to decrypt the object

> **Note:**
>
> - If you have to manage more than one master key, you can consider using third-party tools for key management. However, Oracle does not certify any such third-party tool for use with the FTM CLI.
>
> - The set command is issued for a specific object on the cloud service. Hence, the FTM CLI rotates the master key only for the specific object. Remember to rotate the master key for each object individually, if you plan to rotate the specific master key for several objects.
>
> - The FTM CLI manages the decryption, encryption, and storage of the symmetric key when you rotate the master key.

Bulk Operations

Learn how to perform bulk operations in Oracle Cloud Infrastructure Object Storage Classic using the FTM CLI.

Operations:

- Creating Multiple Objects
- Downloading Multiple Objects

Creating Multiple Objects

Creates multiple objects in the specified container in Oracle Cloud Infrastructure Object Storage Classic by extracting files from an archive file.

Required Role: To complete this task, you must have the `Storage_Administrator` or `Storage_ReadWriteGroup` role. If one of these roles isn't assigned to you or you're not sure, then ask your system administrator to ensure that the role is assigned to you in Oracle Cloud Infrastructure Classic Console. See Modifying User Roles in *Managing and Monitoring Oracle Cloud*.

Syntax

```
java -jar ftmcli.jar upload --extract-archive [optional arguments]
container filepath
```

Parameters and Arguments

The following parameters are specific to this command:

Parameter	Description
container	The name of the container to which the objects must be uploaded. If the specified container doesn't exist, then it's created by the CLI.
filepath	The path of the archive file that must be uploaded.
	The objects are created by extracting the files from this archive file

The following arguments are specific to this command:

Argument	Description
`-x, --extract-archive`	Indicates that the objects must be created by extracting the files from the archive file.
`-j` *prefix*, `--object-prefix` *prefix*	(Optional) Provides the prefix that's appended to the object name while storing it in the container. For example, for the file `myObject` that's extracted from the archive file `bulkFolder.tar.gz`, when the prefix specified is `large`, the object is stored as `large/bulkFolder/myObject`.
	Select the prefix to group the objects that might be bulk-downloaded with a single command. See Downloading Multiple Objects.
`-f` *format*, `--file-format` *format*	(Optional) Indicates the format of the archive file to be uploaded. The supported formats are `tar`, `tar.gz`, and `tar.bz2`.

Fro the complete list of optional arguments that you can use with the upload command, see Uploading Files.

When you run a command, you can either pass the authentication parameters with the command, or let the CLI pick up the required parameters from environment variables or the configuration file. See Authentication.

> **Note:**
>
> For the character restrictions applicable when you must select a name or a metadata value, see Character Restrictions.

> **Note:**
>
> When you upload multiple files from an archive file, the objects created on the container will have the name of the archive file as the prefix in their file names. For example, for the file `myObject` that's extracted from the archive file `bulkFolder.tar.gz`, it is stored in the container as `bulkFolder/myObject`.

Example

To upload the files from the archive file `bulkFolder1.tar` to the container `TestCLI` and store it with the prefix `downloadThis`:

```
java -jar ftmcli.jar upload --extract-archive --object-prefix downloadThis
--file-format tar TestCLI bulkFolder1.tar
```

To upload another set of files from the archive file `bulkFolder2.tar.gz` to the container `TestCLI` and store it with the prefix `downloadThis`:

```
java -jar ftmcli.jar upload --extract-archive --object-prefix downloadThis
--file-format tar.gz TestCLI bulkFolder2.tar.gz
```

You can now download the objects that were extracted from the archive files `bulkFolder1.tar` and `bulkFolder2.tar.gz` by specifying the prefix `downloadThis` along with the `--directory` argument in the download command.

Downloading Multiple Objects

Downloads the objects in bulk from the specified container in Oracle Cloud Infrastructure Object Storage Classic.

Required Role: To complete this task, you must have the `Storage_Administrator`, `Storage_ReadWriteGroup` or `Storage_ReadGroup` role. If one of these roles isn't assigned to you or you're not sure, then ask your system administrator to ensure that the role is assigned to you in Oracle Cloud Infrastructure Classic Console. See Modifying User Roles in *Managing and Monitoring Oracle Cloud*.

Syntax

```
java -jar ftmcli.jar download --directory [optional arguments] container
object
```

Parameters and Arguments

The following parameters are specific to this command:

Parameter	Description
`container`	The name of the container from which the objects must be downloaded.
`object`	In case of bulk download, this is the prefix in the names of the objects that must be downloaded together.

The following arguments are specific to this command:

Argument	Description
`-O file name, --output-file file name`	(Optional) Indicates the name by which the object must be stored on the local host after download.
`--directory`	Downloads a set of objects that have the specified prefix in their names.
	Specify the prefix in the names of the objects that must be downloaded, in the `object` parameter. To identify the prefix that you must specify in the `download` command, run the `list` command before you download.
	Important:
	When running the CLI on Windows, you would've used \ as the directory separators for upload. However, match your download prefix to the result of the `list` command.

For the complete list of arguments available with the download command, see Downloading an Object.

When you run a command, you can either pass the authentication parameters with the command, or let the CLI pick up the required parameters from environment variables or the configuration file. See Authentication.

> **Note:**
>
> To download the archived objects from the `Archive` containers, you must first restore the objects. See Restoring an Object. (Not available on Oracle Cloud at Customer)

Examples

- To download objects with the prefix `/home/jack/FTM_CLI/MultipleObjects` from the container `TestCLI`:

```
java -jar ftmcli.jar download --directory TestCLI /home/jack/FTM_CLI/
MultipleObjects
```

The following is the example of the output of this command:

```
Downloading files with path: /home/jack/FTM_CLI/MultipleObjects from
container: TestCLI
File downloaded: myFile1.txt
File downloaded: myFile2.txt
File downloaded: myFile3.txt
File downloaded: myFile4.txt
File downloaded: myFile5.txt
Files Attempted: 5
Files Downloaded: 5
Files Failed: 0
Estimated Transfer Rate: -- KB/s
```

The downloaded files are stored in the current directory by creating a full path specified. For example, if the CLI is executed at the location `/home/jack/ftmcli`, then the downloaded files are stored at `/home/jack/ftmcli/home/jack/FTM_CLI/MultipleObjects`.

> **Note:**
>
> To avoid creating the full path in the current folder, use the -O option to specify the destination directory as illustrated in the following example.

*   Consider the case where multiple files are uploaded to the container `TestCLI` .

```
java -jar ftmcli.jar list TestCLI
```

The following is the sample output of this command:

```
/Folder1/Folder2/Folder3/myFile1.txt
/Folder1/Folder2/Folder3/myFile2.txt
/Folder1/Folder2/Folder3/myFile3.txt
/Folder1/Folder2/Folder3/myFile4.txt
/Folder1/Folder2/Folder3/myFile5.txt
/Folder1/Folder2/myFile6.txt
/Folder1/Folder2/myFile7.txt
/Folder1/Folder2/myFile8.txt
/Folder1/Folder2/myFile9.txt
/Folder1/Folder2/myFile10.txt
myFile11.txt
myFile12.txt
myFile13.txt
myFile14.txt
myFile15.txt
```

To download objects with the prefix `/Folder1/Folder2` to the local host in the location `./PlaceHolder`:

```
java -jar ftmcli.jar download --directory -O ./PlaceHolder TestCLI /
Folder1/Folder2
```

As the result, the files `myFile1.txt`, `myFile2.txt`, `myFile3.txt`, `myFile4.txt`, and `myFile5.txt` are downloaded to the location `./PlaceHolder/Folder3/`. The files `myFile6.txt`, `myFile7.txt`, `myFile8.txt`, `myFile9.txt`, and `myFile10.txt` are downloaded to the location `./PlaceHolder`.

A
Character Restrictions

This section lists the character restrictions when creating and updating resources in Oracle Cloud Infrastructure Object Storage Classic.

Input Restrictions for Account Metadata Name and Value

Account Operation	Input Parameter	Input Restrictions	Unsupported Characters (If any)
Update account metadata name	Account custom metadata name (`X-Account-Meta-{name}`)	• Only ASCII characters • Maximum of 128 bytes	The following US-ASCII characters are not supported for use in the account metadata names: • Control characters (octet 0-31) and `DEL` (127) • Separators `(`, `)`, `<`, `>`, `@`, `,`, `;`, `:`, `\`, `"`, `/`, `[`, `]`, `?`, `=`, `{`, `}`, space, horizontal-tab
Update account metadata value	Account metadata value (`X-Account-Meta-name: {value}`)	• Any UTF-8 characters • Maximum of 256 bytes	None

Input Restrictions for Container Name, Custom Metadata Name and Value

Container Operation	Input Parameter	Input Restrictions	Unsupported Characters (If any)
Create a container	Container name	• Only UTF-8 characters • Maximum of 256 bytes • Can start with any character • Cannot contain a slash (`/`) character because this character delimits the container name	• **Characters**: `'`, `"`, `` ` ``, `<`, and `>`. For example: jack's_container, "Future_Use"_files, ToUs<Clients **Strings**: When the name contains `/./` or `/../`; When the name ends with `/.` or `/..`; For example: mymachine/./etc, current/../folder, download_directory/., root/misc/..

Container Operation	Input Parameter	Input Restrictions	Unsupported Characters (If any)
• Create a container • Update container metadata	Container custom metadata name (`X-Container-Meta-{name}`)	• Only ASCII characters • Maximum of 128 bytes	The following US-ASCII characters are not supported for use in the container metadata names: • Control characters (octet 0-31) and `DEL` (127) • Separators `(`, `)`, `<`, `>`, `@`, `,`, `;`, `:`, `\`, `"`, `/`, `[`, `]`, `?`, `=`, `{`, `}`, space, horizontal-tab
• Create a container • Update container metadata	Container metadata value (`X-Container-Meta-name: {value}`)	• Any UTF-8 characters • Maximum of 256 bytes	None

Input Restrictions for Object Name, Custom Metadata Name and Value

Object Operation	Input Parameter	Input Restrictions	Unsupported Characters (If any)
Create or replace an object	Object name	• Only UTF-8 characters • Maximum of 1061 bytes • Can start with any character	• **Characters**: `'`, `"`, `` ` ``, `<`, and `>`. For example: jane's_file, "Hello_World".txt, Send>Customers.pdf • **Strings**: When the name contains `/./` or `/../`; When the name ends with `/.` or `/..`; For example: mymachine/./etc, current/../file, php/., object/..

Object Operation	Input Parameter	Input Restrictions	Unsupported Characters (If any)
• Create or replace an object • Update object metadata	Object custom metadata name (`X-Object-Meta-{name}`)	• Only ASCII characters • Maximum of 128 bytes	The following US-ASCII characters are not supported for use in the object metadata names: • Control characters (octet 0-31) and `DEL` (127) • Separators `(`, `)`, `<`, `>`, `@`, `,`, `;`, `:`, `\`, `"`, `/`, `[`, `]`, `?`, `=`, `{`, `}`, space, horizontal-tab
• Create or replace an object • Update object metadata	Object metadata value (`X-Object-Meta-name: {value}`)	• Any UTF-8 characters • Maximum of 256 bytes	None