

# Bridge App REST API

## Bridge Application

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## General Operations

### Initialize

- Purpose: Provides all information needed to initialize the Bridge Ingest App
- Request: **POST** <https://host:port/bridge/init>
- Request Body: JSON in format:

```
{
  "originatorEmailAddress" : "<email address>",          # From email address for notifications
  "duracloudEmailAddresses" : ["<email address>"],        # Email address(es) of DuraCloud
  administrator
    "targetStoreEmailAddresses" : ["<email address>"],    # Email address(es) of preservation store
  (Chronopolis) administrator
    "duracloudUsername" : "<duracloud username>",         # DuraCloud user's username
    "duracloudPassword" : "<duracloud password>",         # DuraCloud user's password
    "awsAccessKey" : "<aws key>",                        # Access key to AWS, with rights to use SES
  (for notifications)
    "awsSecretKey" : "<aws secret key>",                 # Secret key to AWS
    "databaseUser" : "<database user>",                  # Bridge database username
    "databasePassword" : "<database password>",          # Bridge database password
    "databaseURL" : "jdbc:mysql://<database instance>:<database port>/<database name>?",
  sessionVariables=wait_timeout=200000,                  # Bridge database connection URL
  "clean" : "false",                                     # True to reset database to a clean state,
  false to maintain data
  "finalizerPeriodMs" : 60000,                           # Frequency of polling, optional, default is
  3600000 (1 hour)
  "daysToExpireRestore" : 30                             # Time to wait before clearing restored
  content
}
```

- Response Code: 200 (on success)
- Response Body: JSON:

```
{"message" : "success!"}
```

### Version

- Purpose: Provides the current version of the Bridge App
- Request: **GET** <https://host:port/bridge/version>
- Response Code: 200 (on success)
- Response Body: JSON:

```
{"version" : "1.0.0"}
```

## Reporting Operations

### Get Total Count of Snapshots

- Purpose: Retrieves the total count of snapshots. Several optional filters (see query parameters) limit the snapshots used to compute the total.
- Request: **GET** `https://host:port/bridge/snapshot/total/count ? host=(host) & storeId=(storeID) & status=(status)`
  - host - (optional) DuraCloud host from which the snapshot(s) originated. This is generally in the form (account).[duracloud.org](https://duracloud.org)
  - storeId - (optional) Identifier for DuraCloud storage provider from which the snapshot(s) originated.
  - status - (optional) Current status of the snapshot(s).
    - Possible status values:
      - INITIALIZED
      - TRANSFERRING\_FROM\_DURACLOUD
      - REPLICATING\_TO\_STORAGE
      - CLEANING\_UP
      - SNAPSHOT\_COMPLETE
      - FAILED\_TO\_TRANSFER\_FROM\_DURACLOUD
      - ERROR
      - CANCELLED
- Response Body: JSON:

```
{
  "totalCount": 1
}
```

### Get Total Size (bytes) of Snapshots

- Purpose: Retrieves the total size (bytes) of snapshots. Several optional filters (see query parameters) limit the snapshots used to compute the total.
- Request: **GET** `https://host:port/bridge/snapshot/total/size ? host=(host) & storeId=(storeID) & status=(status)`
  - host - (optional) DuraCloud host from which the snapshot(s) originated. This is generally in the form (account).[duracloud.org](https://duracloud.org)
  - storeId - (optional) Identifier for DuraCloud storage provider from which the snapshot(s) originated.
  - status - (optional) Current status of the snapshot(s).
    - Possible status values:
      - INITIALIZED
      - TRANSFERRING\_FROM\_DURACLOUD
      - REPLICATING\_TO\_STORAGE
      - CLEANING\_UP
      - SNAPSHOT\_COMPLETE
      - FAILED\_TO\_TRANSFER\_FROM\_DURACLOUD
      - ERROR
      - CANCELLED
- Response Body: JSON:

```
{
  "totalSize": 1000
}
```

### Get Total Files of Snapshots

- Purpose: Retrieves the total files of snapshots. Several optional filters (see query parameters) limit the snapshots used to compute the total.
- Request: **GET** `https://host:port/bridge/snapshot/total/files ? host=(host) & storeId=(storeId) & status=(status)`
  - host - (optional) DuraCloud host from which the snapshot(s) originated. This is generally in the form (account).[duracloud.org](https://duracloud.org)
  - storeId - (optional) Identifier for DuraCloud storage provider from which the snapshot(s) originated.
  - status - (optional) Current status of the snapshot(s).
    - Possible status values:
      - INITIALIZED
      - TRANSFERRING\_FROM\_DURACLOUD
      - REPLICATING\_TO\_STORAGE
      - CLEANING\_UP
      - SNAPSHOT\_COMPLETE
      - FAILED\_TO\_TRANSFER\_FROM\_DURACLOUD
      - ERROR
      - CANCELLED
- Response Body: JSON:

```
{
  "totalFiles": 100
}
```

### Get All Totals (count, size, files) of Snapshots

- Purpose: Retrieves total count, size and files of snapshots. Several optional filters (see query parameters) limit the snapshots used to compute the totals.
- Request: **GET** `https://host:port/bridge/snapshot/total ? host=(host) & storeId=(storeId) & status=(status)`
  - host - (optional) DuraCloud host from which the snapshot(s) originated. This is generally in the form (account).[duracloud.org](https://duracloud.org)
  - storeId - (optional) Identifier for DuraCloud storage provider from which the snapshot(s) originated.
  - status - (optional) Current status of the snapshot(s).
    - Possible status values:
      - INITIALIZED
      - TRANSFERRING\_FROM\_DURACLOUD
      - REPLICATING\_TO\_STORAGE
      - CLEANING\_UP
      - SNAPSHOT\_COMPLETE
      - FAILED\_TO\_TRANSFER\_FROM\_DURACLOUD
      - ERROR
      - CANCELLED
- Response Body: JSON:

```
{
  "totalCount": 1,
  "totalSize": 1000,
  "totalFiles": 100
}
```

## Ingest Operations

### Create Snapshot

- Purpose: Performs a snapshot action
- Request: **PUT** `https://host:port/bridge/snapshot/(snapshotId)`
  - snapshotId - Identifier of the snapshot
- Request Body: JSON:

```
{
  "host" : "",
  "port" : "",
  "storeId" : "",
  "spaceId" : "",
  "description" : "",
  "userEmail" : ""
}
```

- host - DNS host of DuraCloud instance from which snapshot can be taken
- port - Port on which DuraCloud applications are available
- storeId - Identifier of Chronopolis staging storage provider on DuraCloud instance
- spaceId - Identifier of space in which snapshot content resides
- description - User-supplied description of the snapshot
- userEmail - User's email address, for notifications
- Response Code: 200 or 201 on success (201 if snapshot request did not already exist)
- Response Body: JSON:

```
{
  "snapshotId" : "",
  "status": ""
}
```

## List Snapshots

- Purpose: Retrieves a list of snapshots. Several optional filters (see query parameters) limit the returned list of snapshots.
- Request: **GET** `https://host:port/bridge/snapshot ? host=(host) & storeId=(storeId) & status=(status)`
  - host - (optional) DuraCloud host from which the snapshot originated. This is generally in the form (account).duracloud.org
  - storeId - (optional) Identifier for DuraCloud storage provider from which the snapshot originated.
  - status - (optional) Current status of the snapshot.
    - Possible status values:
      - INITIALIZED
      - TRANSFERRING\_FROM\_DURACLOUD
      - REPLICATING\_TO\_STORAGE
      - CLEANING\_UP
      - SNAPSHOT\_COMPLETE
      - FAILED\_TO\_TRANSFER\_FROM\_DURACLOUD
      - ERROR
      - CANCELLED
- Response Body: JSON:

```
{
  "snapshots" : [
    {
      "snapshotId" : "",
      "description" : "",
      "status" : ""
    },
    ...,
    ...
  ]
}
```

## List Snapshot Contents

- Purpose: Retrieves a list of content items which were included in a snapshot
- Request: **GET** `https://host:port/bridge/snapshot/(snapshotId)/content ? page=(pageNumber) & pageSize=(pageSize) & prefix=(prefix)`
  - snapshotId - Identifier of the snapshot
  - pageNumber - Page number of content listing
  - pageSize - Number of content items to return in a single response
  - prefix - Limit content list to items which begin with this value
- Response Body: JSON:

```
{
  "contentItems" : [
    { "contentId" : "",
      "contentProperties" : {"" : ""}
    }
  ]
}
```

## List Snapshot History

- Purpose: Retrieves a list of content items which were included in a snapshot
- Request: **GET** `https://host:port/bridge/snapshot/(snapshotId)/history ? page=(pageNumber) & pageSize=(pageSize)`
  - snapshotId - Identifier of the snapshot
  - pageNumber - Page number of history set
  - pageSize - Number of history items to return in a single response
- Response Body: JSON:

```
{
  "totalCount" : (Long) # of historyItems
  "historyItems" : [
    { "historyDate" : (Long) epoch time,
      "history" : "${history item string}"
    },
  ]
}
```

## Get Snapshot Details

- Purpose: Provides the status of a snapshot action
- Request: **GET** `https://host:port/bridge/snapshot/(snapshotId)`
  - snapshotId - Identifier of the snapshot
- Response Code: 200 (on success)
- Response Body: JSON:

```
{
  "snapshotId" : "",
  "snapshotDate" : "",
  "status" : "",
  "sourceHost" : "",
  "sourceSpaceId" : "",
  "sourceStoreId" : "",
  "description" : "",
  "contentItemCount" : "",
  "totalSizeInBytes" : ""
}
```

Possible values for status:

- INITIALIZED
- TRANSFERRING\_FROM\_DURACLOUD
- REPLICATING\_TO\_STORAGE
- CLEANING\_UP
- SNAPSHOT\_COMPLETE
- FAILED\_TO\_TRANSFER\_FROM\_DURACLOUD
- ERROR
- CANCELLED

## Snapshot Complete

- Purpose: Enables storage provider (Chronopolis) to notify bridge app that snapshot content has been successfully transferred to preservation storage and can now be removed from the bridge storage area (and DuraCloud)
- Request: **POST** `https://host:port/bridge/snapshot/(snapshotId)/complete`
  - snapshotId - Identifier of the snapshot
- Request Body: JSON:

```
{
  "alternateIds": ["alternate-id-1", "alternate-id-2"]
}
```

- A Snapshot can be mapped to zero or more alternate identifiers (e.g. IDs for bags which contain the content in this snapshot).
- Response Code: 200 (on success)
- Response Body: JSON:

```
{
  "status" : "SNAPSHOT_COMPLETE",
  "details" : ""
}
```

## Snapshot Error

- Purpose: Enables storage provider (Chronopolis) to notify bridge app that processing of the snapshot has resulted in an error
- Request: **POST** <https://host:port/bridge/snapshot/{snapshotId}/error>
  - snapshotId - Identifier of the snapshot
- Request Body: JSON:

```
{
  "error": ""
}
```

◦

- Response Code: 200 (on success)
- Response Body: JSON:

```
{
  "status" : "SNAPSHOT_ERROR",
  "details" : ""
}
```

## Restart Snapshot

- Purpose: Enables restart of snapshots that failed to transfer successfully from DuraCloud.
- Request: **POST** <https://host:port/bridge/snapshot/{snapshotId}/restart>
  - snapshotId - Identifier of the snapshot
- Request Body: JSON:

```
{}
```

◦

- Response Code: 202 (on success)
- Response Body: JSON:

```
{
  "status" : "INITIALIZED",
  "description" : ""
}
```

## Cancel Snapshot

- Purpose: Enables cancellation of a snapshot that is underway. Calls to this method will fail if the snapshot is in the CLEANING\_UP or COMPLETE states.
- Request: **POST** <https://host:port/bridge/snapshot/{snapshotId}/cancel>
  - snapshotId - Identifier of the snapshot
- Request Body: JSON:

```
{}
```

◦

- Response Code: 200 (on success)
- Response Body: JSON:

```
{
  "status" : "CANCELLED",
  "description" : ""
}
```

## Snapshot History Update



- Purpose: Enables storage provider (Chronopolis) to notify bridge app that a snapshot has an "update" to its history. Whether a snapshot was replicated, successfully stored, checksummed, etc... this is the REST call to handle any and all updates to the history of a particular Snapshot.
- Request: **POST** `https://host:port/bridge/snapshot/(identifier)/history`
  - identifier - Either the snapshot ID or an alternate ID (such as a bag ID) which was associated with the snapshot in the Snapshot Complete call
- Request Body: JSON:
  - Parameters
    - **'history'** - single escaped JSON string that can contain a JSON array of objects or strings - the history event we're trying to record
    - **'alternate'** - whether the snapshot ID in the URL is the alternate ID or the original snapshot ID.
  - Preferred format (using name/value pairs)

```
{"history": "[ {'key1' : 'value1'},{'key2' : 'value2'} ]", "alternate": "false"}
```

- Alternative formats (also supported, but UI display may not be ideal)

```
{"history": "[ 'value1', 'value2' ]", "alternate": "false"}
OR
{"history": "[ {'key1': 'value1'}, 'value2' ]", "alternate": "false"}
OR
{"history": "value1", "alternate": "false"}
```

- Response Code: 200 (on success)
- Response Body: JSON:

```
{
  "snapshot" : {SnapshotSummary},
  "history" : "${the history string that was just inserted}"
}
```

## Restore Operations

### Request Snapshot Restore

- Purpose: Enables user to request a restoration of a snapshot
- Request: **PUT** `https://host:port/bridge/restore/request`

```
{
  "host" : "",
  "port" : "",
  "storeId" : "",
  "spaceId" : "",
  "snapshotId" : "",
  "userEmail" : ""
}
```

The email address is the address of the requester. This address will be forwarded along with the details of the restore request to the duracloud admins.

- Response Code: 200 (on success)
- Response Body: JSON:

```
{
  "description" : ""
}
```

### Restore Snapshot

- Purpose: Enables user to initiate the restoration of a snapshot
- Request: **PUT** <https://host:port/bridge/restore>

```
{
  "host" : "",
  "port" : "",
  "storeId" : "",
  "spaceId" : "",
  "snapshotId" : "",
  "userEmail" : ""
}
```

- Response Code: 200 (on success)
- Response Body: JSON:

```
{
  "restoreId" : ""
  "status" : ""
}
```

Possible value for status (see Get Restore Details)

## Restore Complete

- Purpose: Enables storage provider (Chronopolis) to notify bridge app that a snapshot has been restored to bridge storage.
- Request: **POST** [https://host:port/bridge/restore/\(restoreId\)/complete](https://host:port/bridge/restore/(restoreId)/complete)
  - restoreId - Identifier of the restoration
- Response Code: 200 (on success)
- Response Body: JSON:

```
{
  "status" : ""
  "details" : ""
}
```

## Get Restore Details

- Purpose: Provides the status of a restoration action
- Request: **GET** <https://host:port/bridge/restore/{restoreId}>
  - restoreId - Identifier of the restoration
- Response Code: 200 (on success)
- Response Body: JSON:

```
{
  "restoreId" : "",
  "snapshotId" : "",
  "status" : "",
  "startDate" : "",
  "endDate" : "",
  "statusText" : "",
  "destinationHost" : "",
  "destinationPort" : "",
  "destinationStoreId" : "",
  "destinationSpaceId" : ""
}
```

Possible values for status:

- INITIALIZED
- RETRIEVING\_FROM\_STORAGE
- STORAGE\_RETRIEVAL\_COMPLETE
- VERIFYING\_RETRIEVED\_CONTENT
- VERIFYING\_SNAPSHOT\_REPO\_AGAINST\_MANIFEST
- TRANSFERRING\_TO\_DURACLOUD
- TRANSFER\_TO\_DURACLOUD\_COMPLETE
- VERIFYING\_TRANSFERRED\_CONTENT
- CLEANING\_UP
- ERROR
- RESTORATION\_COMPLETE
- RESTORATION\_EXPIRED
- CANCELLED

## Restart Restore

- Purpose: Enables restart of restores that failed to transfer successfully to DuraCloud.
- Request: **POST** <https://host:port/bridge/restore/{restoreId}/restart>
  - restoreId - Identifier of the restore
- Request Body: JSON:

```
{}
```

◦

- Response Code: 202 (on success)
- Response Body: JSON:

```
{
  "status" : "STORAGE_RETRIEVAL_COMPLETE",
  "description" : ""
}
```

## Cancel Restore

- Purpose: Enables cancellation of a restore that is underway. Calls to this method will fail if the restore is in the CLEANING\_UP or COMPLETE states.
- Request: **POST** <https://host:port/bridge/restore/{restoreId}/cancel>
  - restoreId - Identifier of the restoreId
- Request Body: JSON:

```
{}
```

- 
- Response Code: 200 (on success)
- Response Body: JSON:

```
{  
  "status" : "CANCELLED",  
  "description" : ""  
}
```