



Cloud Storage Platform API v2 Reference Guide

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Overview

This specification describes the behavior of Cloud Storage Platform API. The Cloud Storage Platform API attempts to conform as much as possible to REST-style architecture and, therefore, it relies heavily on the HTTP/1.1 standard.

The design of the API is centered around three main concepts: Resources, Representations, and Methods. Resources are identified by a URI and represent data objects within the Cloud Storage system. Each Resource supports one or more Representations, which are a physical data format (such as XML or JSON) used to represent the Resource. Representations are identified by Cloud Storage-specific Content Types (a.k.a. MIME Types) defined in this document. Methods are a standardized set of operations, which behave in a uniform manner over all supporting resources. Each Resource supports one or more Methods, which are used to retrieve or update the state of the Resource. The reference sections below specify which Resources support which Methods.

- Resources:

Resources are system objects (such as Files, Containers, Contacts, etc.), which live in the Cloud Storage system. Each resource is referenced via a unique URI.

- Discoverability:

Resources in the API adhere to the principal of discoverability. This means that the URI for all resources in the system (save the “root” resource) can be discovered by traversing other (i.e., parent) Resources. The URI for the root Resource is dependant on the particular API instance, but usually has the form “https://api.example.com/v2.” The root Resource will contain links from which all other Resources in the system can be discovered.

- URI Format:

Although URIs for Resources in the system are generated using a standard convention, clients are advised not to rely on this convention for any semantic meaning. Instead, clients should rely on the principal of discoverability and all URIs should be treated as opaque strings which have no meaning outside of identifying a Resource.

- Representations:

Each Resource in the system represents an abstract data type, such as a Contact or File Metadata. Actually retrieving or updating the Resource requires that it be represented as some real data that gets transferred across the wire.

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The Cloud Storage API defines a set of custom Content Types (a.k.a. MIME types) which are used to represent the various Resources. The Cloud Storage-defined Content Types fall into two basic categories: XML-based and JSON-based.

Each Resource may support multiple Content Types which are different ways of representing the same information. For example, File resources support `application/vnd.csp.file-info+xml` and `application/vnd.csp.file-info+json`.

The convention used for naming the various Cloud Storage-defined Content Types is: `application/vnd.csp.<entity-type>+<format>`. Where “entity-type” is the type of entity returned (i.e., File Metadata, File Listing, Contact information, etc.), and “format” is the basic format of the data (i.e., XML or JSON).

The API adheres to the HTTP/1.1 standard with regard to determining which Content Type to use. In other words, to request a particular Content Type, use the “Accept:” HTTP request header. To inform the API that the client is sending a particular Content Type, use the “Content-Type:” HTTP request header.

- Methods:

Methods are a standardized set of operations, which are used to retrieve or update the state of Resources. The HTTP/1.1 standard defines several methods, particularly GET, PUT, POST, and DELETE. These methods operate according to the HTTP/1.1 standard. Additionally, other methods are defined by this specification, which allow different types of actions to be performed on Resources. See the Methods section for further detail.

Non-Standard Headers

X-Cloud-Depth

This request header is provided as a performance optimization. When retrieving resources, setting this header value to a positive integer will cause linked resources to be retrieved in place. The exception is that this header will never cause file data to be returned.

Note that this header is only applicable to GET requests. You cannot update subordinate resources by posting the full tree. To update a subordinate resource, you must use the URI specified in the xlink:href value.

[Example]

Where anormal call, would return this:

```
<?xml version="1.0"?>
<contacts xmlns:xlink="http://www.w3.org/1999/xlink">
  <contact xlink:href="https://api.example.com/v2/contacts/9B7FBCB2-56CB-11DE-B3E7-27A5AE9E09D1" xlink:type="simple"/>
  <contact xlink:href="https://api.example.com/v2/contacts/62BC0000-5F74-11DE-BEE0-D7745B20EC5D" xlink:type="simple"/>
</contacts>
```

A call with “X-Cloud-Depth: 1” would return:

```
<?xml version="1.0"?>
<contacts xmlns:xlink="http://www.w3.org/1999/xlink">
  <contact xlink:href="https://api.example.com/v2/contacts/9B7FBCB2-56CB-11DE-B3E7-27A5AE9E09D1" xlink:type="simple">
<firstname>John</firstname>
<lastname>Doe</lastname>
<email>user1@example.com</email>
  </contact>
  <contact xlink:href="https://api.example.com/v2/contacts/62BC0000-5F74-11DE-BEE0-D7745B20EC5D" xlink:type="simple">
<firstname>Jim</firstname>
<lastname>Croce</lastname>
<email>user2@example.com</email>
  </contact>
</contacts>
```

X-Cloud-Lock-Type

This request header is used to describe the type of lock desired for a LOCK request. Values can be “I,” “R,” and “W” for “Intent to Write,” “Read,” and “Write,” respectively.

X-Cloud-Lock

When used as a response header, this header is used to report the system-generated lock-id, which is provided in response to a LOCK request.

When used as a request header this header is used to specify the lock-id, which was provided in response to a LOCK request.

X-Cloud-Key

This request header is used to identify the client implementation.

X-Cloud-Name

This request header is used by COPY and MOVE methods to specify the name of the new entity.

Methods

GET

Request:

Headers:

X-Cloud-Lock: Optional. Specify the lock-id used to lock the resource.

Accept: Optional. Lists the desired content-types the client is willing to receive. This should be one or more of the Supported Representations defined on the resource. If this header is missing, then the default representation will be selected which, in general, will be the XML based representation of the entity.

Entity:

No request entity should be provided.

Success Response:

Status: 200

Headers:

Content-Type: The actual content type returned.

Entity:

The resource, represented as media type specified in the Content-Type header.

Error Responses:

404 Not Found: The resource is not found.

406 Not Acceptable: the resource does not support the desired representation.

409 Conflict: The resource could not be retrieve because of a locking violation.

Side Effects:

None

PUT

Request:

Headers:

X-Cloud-Lock: Optional. Specify the lock-id used to lock the resource.

Content-Type: The content type of the request entity. This should be one of the values listed as acceptable in the Resource specification.

Entity:

The updated resource.

Response:

Status: 204

Headers:

No special headers are returned.

Entity:

No response entity is returned.

Error Responses:

- 404 Not Found: The resource is not found.
- 415 Unsupported Media Type: The Content-Type is unsupported or the entity itself does not match the content type (e.g., malformed XML).
- 409 Conflict: The resource could not be updated because of a locking violation, or the desired update is somehow disallowed due to the current state of the system (e.g., creating a project assignment for a file that does not exist).

Side Effects:

- The resource will be updated to reflect the entity provided in the PUT request.

POST

Request:

- Headers:
 - X-Cloud-Lock: Optional. Specify the lock-id used to lock the resource.
 - Content-Type: The content type of the request entity. This should be one of the values listed as acceptable in the Resource specification.
- Entity:
 - An entity representing the resource, which should be created.

Response:

- Status: 201
- Headers:
 - Location: The Location header will specify the definitive URI of the newly created resource.
- Entity:
 - An entity of type text/uri-list will be provided, specifying all URIs from which the newly created resource is accessible.

Error Responses:

- 415 Unsupported Media Type: The Content-Type is unsupported or the entity itself does not match the content type (e.g. malformed XML).
- 409 Conflict: The resource could not be created because of a locking violation, or the desired update is somehow disallowed due to the current state of the system (e.g., creating a project assignment for a file that does not exist).

Side Effects:

- A new resource will be created and this resource will be updated to reference the newly created resource.

DELETE

Request:

- Headers:
 - X-Cloud-Lock: Optional. Specify the lock-id used to lock the resource.
- Entity:

No request entity should be provided.

Response:

Status: 204

Entity:

No response entity is provided.

Error Responses:

404 Not Found: The resource is not found.

409 Conflict: The resource could not be updated because of a locking violation, or the desired update is somehow disallowed due to the current state of the system (e.g., creating a project assignment for a file that does not exist).

Side Effects:

The resource is deleted.

LOCK

Request:

Headers:

X-Cloud-Lock-Type: The type of lock desired. Values can be "I," "R," and "W" for "Intent to Write," "Read," and "Write," respectively.

Entity:

No request entity should be provided.

Response:

Status: 204

Headers:

X-Cloud-Lock: Specifies the value of the system-generated lock-id.

Entity:

No response entity will be provided.

Error Responses:

400 Bad Request: The request is not valid (e.g., the lock type is invalid).

404 Not Found: The resource is not found.

409 Conflict: The resource could not be locked because of a locking violation (e.g., it is already locked).

Side Effect:

Locks the resource according to the definition of the lock type.

UNLOCK

Request:

Headers:

X-Cloud-Lock: Specify the lock-id used to lock the resource.

Entity:

No request entity should be provided.

Response:

Status: 204

Headers:

No special response headers are returned.

Entity:

No response entity is returned.

Error Responses:

400 Bad Request: The request is not valid. (e.g., the lock id is invalid)

404 Not Found: The resource is not found.

Side Effects:

The lock on the resource is removed.

RESTORE

Request:

Headers:

No special request headers.

Entity:

No request entity should be provided.

Response:

Status: 204

Headers:

No special response headers are returned.

Entity:

No response entity is returned.

Error Responses:

400 Bad Request: The request is not valid (e.g., the lock id is invalid).

404 Not Found: The resource is not found.

409 Conflict: The file could not be restored because it would conflict with the existing state of the system.

Side Effects:

The deleted file will be restored.

Resources

Resource Type: Cloud

Description

The base URI for the cloud storage API describes a listing of the services available to the client.

Supported Representations

application/vnd.csp.cloud+xml

References

- rootContainer: A link to a resource of type Container, which is the user's root Container.
- Contacts: A link to a resource of type Contacts, which represents the user's contact list.
- Shares: A link to a resource of type Shares, which lists the items shared to and by the user.
- Projects: A link to a resource of type Projects, which lists the projects available to the user.
- Metacontainers: A link to a resource of type MetaContainers, which lists the metacontainers available to the user.
- Recyclebin: A link to a resource of type RecycleBin, which contains the user's deleted files.
- Tags: A link to a resource of type Tags, which lists all the tags applied to the user's files.

Allowed Methods

GET

Resource Type: Contacts

Description

This resource provides access the list of user contacts.

Supported Representations

application/vnd.csp.contact-list+xml

References

- Contact: A link to an individual Contact resource contained within this list.

Allowed Methods

GET
POST

Accepted Entity Types: application/vnd.csp.contact+xml

Resource Type: Contact

Description

This resource represents an individual user contact.

Supported Representations

application/vnd.csp.contact+xml

References

None

Allowed Methods

GET
PUT

Accepted Entity Types: application/vnd.csp.contact+xml
DELETE

Resource Type: Container

Description

This resource represents information about a container.

Supported Representations

application/vnd.csp.container-info+xml

References

- Contents: A link to a resource of type ContainerContents, which lists the contents of the container.

Allowed Methods

GET
PUT

Accepted Entity Types: application/vnd.csp.contact+xml
DELETE
LOCK
UNLOCK

Resource Type: ContainerContents

Description

This resource represents the list of items contained within a container.

Supported Representations

application/vnd.csp.file-list+xml

References

- File: A link to a resource of type File, which is contained within this container. This item can appear zero or more times.
- Container: A link to a resource of type Container, which is contained within this container. This item can appear zero or more times.

Allowed Methods

GET
POST

Accepted Entity Types
application/vnd.csp.file-info+xml
application/vnd.csp.container-info+xml

Resource Type: File

Description

This resource represents meta-information about a file, such as name and size.

Supported Representations

application/vnd.csp.file-info+xml

References

- Content: A link to a resource of type FileContent, which represents the binary file data.
- Permissions: A link to a resource of type Permissions, which lists the sharing permissions associated with this file.

Allowed Methods

GET
PUT

Accepted Entity Types: application/vnd.csp.file-info+xml

DELETE
LOCK
UNLOCK

Resource Type: FileContent

Description

This resource represents binary file content.

Supported Representations

/. The content type of the file is the content type, which was used to store the file, or that which was updated in the associated File resource.

References

N/A

Allowed Methods

GET
PUT

Accepted Entity Types: */*

Resource Type: Projects

Description

This resource represents a list of projects available to the user.

Supported Representations

application/vnd.csp.project-list+xml

References

- Project: A link to a resource of type Project, which references an individual project in the list. This item may appear zero or more times.

Allowed Methods

GET
POST

Accepted Entity Types: application/vnd.csp.project+xml

Resource Type: Project

Description

This resource represents a project available to the user.

Supported Representations

application/vnd.csp.project+xml

References

- **Assignments:** A link to a resource of type ProjectAssignments, which lists the assignments that have been made to this project.
- **Permissions:** A link to a resource of type Permissions, which lists the permissions associated with this project.

Allowed Methods

GET
PUT

Accepted Entity Types: application/vnd.csp.project+xml
DELETE

Resource Type: ProjectAssignments

Description

This resource represents a list of assignments, which have been made to a project.

Supported Representations

application/vnd.csp.project-assignment-list+xml

References

- **Assignment:** A link to a resource of type ProjectAssignment, which references an individual assignment within the list. This item may appear zero or more times.

Allowed Methods

GET
POST

Accepted Entity Types: application/vnd.csp.project-assignment-list+xml

Resource Type: ProjectAssignment

Description

This resource represents an individual item assignment for a project.

Supported Representations

application/vnd.csp.project-assignment+xml

References

A ProjectAssignment will contain exactly one of these references.

- File: A link to a resource of type File, which represents a file that has been assigned to this project.
- Container: A link to a resource of type Container, which represents a container that has been assigned to this project.

Allowed Methods

GET
DELETE

Resource Type: Shares

Description

This resource represents a list of shares to or from the user.

Supported Representations

application/vnd.csp.file-list+xml

References

- File: A link to a resource of type File, which has been shared by or to the user. This item can appear zero or more times.
- Container: A link to a resource of type Container, which has been shared by or to the user. This item can appear zero or more times.

Allowed Methods

GET

Resource Type: MetaContainers

Description

This resource represents a list of metacontainers available to the user.

Supported Representations

application/vnd.csp.metacontainer-list+xml

References

- Documents: A link to a resource of type MetaContainer, which lists the user's documents.
- Videos: A link to a resource of type MetaContainer, which lists the user's videos.
- Images: A link to a resource of type MetaContainer, which lists the user's images.
- Music: A link to a resource of type MetaContainer, which lists the user's music.

Allowed Methods

GET

Resource Type: MetaContainer

Description

This resource represents a list of files which have been tagged as belonging to a particular metacontainer. A metacontainer is a system-defined search, which groups files together based on their media type.

Supported Representations

application/vnd.csp.file-list+xml

References

- File: A link to a resource of type File, which is contained within this metacontainer. This item can appear zero or more times.

Allowed Methods

GET

Resource Type: Permissions

Description

This resource represents a list of permissions, which are applied to some object.

Supported Representations

application/vnd.csp.permission-list+xml

References

Permission: A link to a resource of type Permission, which belongs to this permission list.

Allowed Methods

GET
POST

Accepted Entity Types: application/vnd.csp.permission+xml

Resource Type: Permission

Description

This resource represents a permission, which is applied to some object

Supported Representations

application/vnd.csp.permission+xml

References

None

Allowed Methods

GET
DELETE

Resource Type: Tags

Description

This resource represents a tag, which is applied to one or more objects

Supported Representations

application/vnd.csp.tag+xml

References

- Name: The name of the tag. Multi word tag names are not supported at this time.
- Objects: A link to a resource of type ContainerContents, which is a list of items that bear the tag Name.

Allowed Methods

GET
DELETE
POST

Resource Type: RecycleBin

Description

This resource represents a list of files, which the user has deleted.

Supported Representations

application/vnd.csp.file-list+xml

References

- File: A link to a resource of type DeletedFile. This item can appear zero or more times.
- Container: A link to a resource of type DeletedContainer. This item can appear zero or more times.

Allowed Methods

GET

Resource Type: DeletedFile

Description

This resource represents a file, which has been deleted by the user.

Supported Representations

application/vnd.csp.file-info+xml

References

None

Allowed Methods

RESTORE
DELETE

Resource Type: DeletedContainer

Description

This resource represents a container, which has been deleted by the user.

Supported Representations

application/vnd.csp.container-info+xml

References

None

Allowed Methods

RESTORE

DELETE

Content Types

XML-based Content Types

Notes on Linking

Most resources in the system are defined so that they provide links to other discoverable “sub resources” in the system. By convention, the XML-based content types use the XLink standard to accomplish this linking and provide for discoverable resources.

The XLink standard can be found at <http://www.w3.org/TR/xlink/>.

Content Type: *application/vnd.csp.cloud+xml*

[Example]

```
<?xml version="1.0"?>
<cloud xmlns:xlink="http://www.w3.org/1999/xlink">
  <rootContainer xlink:href="https://api.example.com/v2/containers/76EC967A-4FA7-11DE-8ADA-F7FAF1ADE304" xlink:type="simple"/>
  <contacts xlink:href="https://api.example.com/v2/contacts"
xlink:type="simple"/>
  <shares xlink:href="https://api.example.com/v2/shares"
xlink:type="simple"/>
  <projects xlink:href="https://api.example.com/v2/projects"
xlink:type="simple"/>
  <metacontainers xlink:href="https://api.example.com/v2/metacontainers"
xlink:type="simple"/>
  <tags xlink:href="https://api.example.com/v2/tags" xlink:type="simple"/>
  <recyclebin xlink:href="https://api.example.com/v2/recyclebin"
xlink:type="simple"/>
</cloud>
```

[Schema]

```
<?xml version="1.0"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="cloud">
    <xs:complexType>
      <xs:all>
        <xs:element name="rootContainer"/>
        <xs:element name="contacts"/>
        <xs:element name="shares"/>
        <xs:element name="projects"/>
        <xs:element name="metacontainers"/>
        <xs:element name="tags"/>
        <xs:element name="recyclebin"/>
      </xs:all>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

Content Type: *application/vnd.csp.contact+xml*

[Example]

```
<?xml version="1.0"?>
<contact>
  <firstname>John</firstname>
  <lastname>Doe</lastname>
  <email>user@example.com</email>
</contact>
```

[Schema]

```
<?xml version="1.0" encoding="ISO-8859-1" ?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="contact">
    <xs:complexType>
      <xs:all>
        <xs:element name="firstname" type="xs:string"/>
        <xs:element name="lastname" type="xs:string"/>
        <xs:element name="email" type="xs:string"/>
      </xs:all>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

Content Type: *application/vnd.csp.contact-list+xml*

[Example]

```
<?xml version="1.0"?>
<contacts xmlns:xlink="http://www.w3.org/1999/xlink">
  <contact xlink:href="https://api.example.com/v2/contacts/9B7FBCB2-56CB-11DE-B3E7-27A5AE9E09D1" xlink:type="simple"/>
  <contact xlink:href="https://api.example.com/v2/contacts/62BC0000-5F74-11DE-BEE0-D7745B20EC5D" xlink:type="simple"/>
  <contact xlink:href="https://api.example.com/v2/contacts/6975DA6A-5F74-11DE-B3BC-B3991E5DD6B5" xlink:type="simple"/>
  <contact xlink:href="https://api.example.com/v2/contacts/4724D304-5F8C-11DE-A985-C3073BE973D0" xlink:type="simple"/>
  <contact xlink:href="https://api.example.com/v2/contacts/71C6490C-5F74-11DE-91B6-DB9902A6B222" xlink:type="simple"/>
  <contact xlink:href="https://api.example.com/v2/contacts/766478B2-5F74-11DE-B474-DFE775D9C6DA" xlink:type="simple"/>
</contacts>
```

[Schema]

```
<?xml version="1.0"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="contacts">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="contact" minOccurs="0" maxOccurs="unbounded"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

```
</xs:element>
</xs:schema>
```

Content Type: application/vnd.csp.+xml

[Example]

```
<?xml version="1.0"?>
<file xmlns:xlink="http://www.w3.org/1999/xlink">
  <name>wwrod.gif</name>
  <created>1245190089</created>
  <inproject>False</inproject>
  <modified>1245190089</modified>
  <owner>user@example.com</owner>
  <version>2</version>
  <shared>False</shared>
  <public>False</public>
  <accessed>1245190089</accessed>
  <mime_type>image/gif</mime_type>
  <bytes>1184522</bytes>
  <content xlink:href="https://api.example.com/v2/files/2C5B0580-5AC2-11DE-
A08E-F7F6F669CED3/content" xlink:type="simple"/>
  <permissions xlink:href="https://api.example.com/v2/files/2C5B0580-5AC2-
11DE-A08E-F7F6F669CED3/permissions" xlink:type="simple"/>
  <parent xlink:href="https://api.example.com/v2/containers/9EC89EB0-6A4F-
11DE-929E-17F279290723" xlink:type="simple"/>
  <tags xlink:href="https://api.example.com/v2/files/2C5B0580-5AC2-11DE-A08E-
F7F6F669CED3/tags" xlink:type="simple"/>
  <thumbnail xlink:href="https://api.example.com/v2/files/52C5B0580-5AC2-
11DE-A08E-F7F6F669CED3/thumbnail" xlink:type="simple"/>
</file>
```

[Schema]

```
<?xml version="1.0"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="file">
<xs:complexType>
  <xs:all>
<xs:element name="name" type="xs:string"/>
<xs:element name="mime_type" type="xs:string"/>
<xs:element name="public" type="xs:string" minOccurs="0"/>
<!-- the following elements are ignored by PUT and POST -->
<xs:element name="created" type="xs:string" minOccurs="0"/>
<xs:element name="inproject" type="xs:string" minOccurs="0"/>
<xs:element name="modified" type="xs:string" minOccurs="0"/>
<xs:element name="owner" type="xs:string" minOccurs="0"/>
<xs:element name="version" type="xs:string" minOccurs="0"/>
<xs:element name="shared" type="xs:string" minOccurs="0"/>
<xs:element name="accessed" type="xs:string" minOccurs="0"/>
<xs:element name="bytes" type="xs:string" minOccurs="0"/>
<xs:element name="content" minOccurs="0"/>
<xs:element name="parent" minOccurs="0"/>
<xs:element name="permissions" minOccurs="0"/>
<xs:element name="tags" minOccurs="0"/>
```

```
</xs:all>
</xs:complexType>
</xs:element>
</xs:schema>
```

Content Type: application/vnd.csp.file-list+xml

[Example]

```
<?xml version="1.0"?>
<file-list xmlns:xlink="http://www.w3.org/1999/xlink">
  <container xlink:href="https://api.example.com/v2/containers/EFBC876C-5AC0-11DE-BF57-A3BB795AB41F" xlink:type="simple"/>
  <file xlink:href="https://api.example.com/v2/files/71BAC242-5AA8-11DE-BEA3-A33ED0E50CD6" xlink:type="simple"/>
  <file xlink:href="https://api.example.com/v2/files/D8EA4258-55FD-11DE-8261-6FFC4A6E97B4" xlink:type="simple"/>
  <file xlink:href="https://api.example.com/v2/files/73DADC7C-56B3-11DE-AD81-EF1DF138AEB7" xlink:type="simple"/>
  <file xlink:href="https://api.example.com/v2/files/85BD0F78-56B3-11DE-81C9-D3AF5C0B6A31" xlink:type="simple"/>
  <file xlink:href="https://api.example.com/v2/files/A2E0597A-56B3-11DE-BBFC-43E774ED4417" xlink:type="simple"/>
  <file xlink:href="https://api.example.com/v2/files/89180582-55FB-11DE-9D44-A75BADDADD86" xlink:type="simple"/>
  <file xlink:href="https://api.example.com/v2/files/1E094B04-5928-11DE-A30D-03114EC804D3" xlink:type="simple"/>
</file-list>
```

[Schema]

```
<?xml version="1.0"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="file-list">
<xs:complexType>
  <xs:choice minOccurs="0" maxOccurs="unbounded">
<xs:element name="container"/>
<xs:element name="file"/>
  </xs:choice>
</xs:complexType>
  </xs:element>
</xs:schema>
```

Content Type: application/vnd.csp.container-info+xml

[Example]

```
<?xml version="1.0"?>
<container xmlns:xlink="http://www.w3.org/1999/xlink">
  <name>container2</name>
  <created>1245189556</created>
  <inproject>True</inproject>
  <modified>1245189578</modified>
  <owner>user@example.com</owner>
  <version>0</version>
  <shared>False</shared>
```

```
<accessed>1245189578</accessed>
<bytes>1184562</bytes>
<contents xlink:href="https://api.example.com/v2/containers/EFBC876C-5AC0-11DE-BF57-A3BB795AB41F/contents" xlink:type="simple"/>
<tags xlink:href="https://api.example.com/v2/containers/EFBC876C-5AC0-11DE-BF57-A3BB795AB41F/tags" xlink:type="simple"/>
<parent xlink:href="https://api.example.com/v2/containers/9EC89EB0-6A4F-11DE-929E-17F279290723" xlink:type="simple"/>
</container>
```

[Schema]

```
<?xml version="1.0"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="container">
    <xs:complexType>
      <xs:all>
        <xs:element name="name" type="xs:string"/>
        <!-- the following elements are ignored by PUT and POST -->
        <xs:element name="created" type="xs:string" minOccurs="0"/>
        <xs:element name="inproject" type="xs:string" minOccurs="0"/>
        <xs:element name="modified" type="xs:string" minOccurs="0"/>
        <xs:element name="owner" type="xs:string" minOccurs="0"/>
        <xs:element name="version" type="xs:string" minOccurs="0"/>
        <xs:element name="shared" type="xs:string" minOccurs="0"/>
        <xs:element name="accessed" type="xs:string" minOccurs="0"/>
        <xs:element name="bytes" type="xs:string" minOccurs="0"/>
        <xs:element name="contents" minOccurs="0"/>
        <xs:element name="tags" type="xs:string" minOccurs="0"/>
        <xs:element name="parent" type="xs:string" minOccurs="0"/>
      </xs:all>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

Content Type: application/vnd.csp.metacontainer-list+xml

[Example]

```
<?xml version="1.0"?>
<metacontainers xmlns:xlink="http://www.w3.org/1999/xlink">
  <documents xlink:href="https://api.example.com/v2/metacontainers/documents"
  xlink:type="simple"/>
  <videos xlink:href="https://api.example.com/v2/metacontainers/videos"
  xlink:type="simple"/>
  <images xlink:href="https://api.example.com/v2/metacontainers/images"
  xlink:type="simple"/>
  <music xlink:href="https://api.example.com/v2/metacontainers/music"
  xlink:type="simple"/>
</metacontainers>
```

[Schema]

```
<?xml version="1.0"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="metacontainers">
```

```
<xs:complexType>
  <xs:all>
    <xs:element name="documents"/>
    <xs:element name="videos"/>
    <xs:element name="images"/>
    <xs:element name="music"/>
  </xs:all>
</xs:complexType>
</xs:element>
</xs:schema>
```

Content Type: *application/vnd.csp.permission+xml*

[Example]

```
<?xml version="1.0"?>
<permission>
  <grantee>user@example.com</grantee>
  <expiration/>
  <permissions>rw</permissions>
</permission>
```

[Schema]

```
<?xml version="1.0"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="permission">
    <xs:complexType>
      <xs:all>
        <xs:element name="grantee" type="xs:string"/>
        <xs:element name="expiration" type="xs:string"/>
        <xs:element name="permissions" type="xs:string"/>
      </xs:all>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

Content Type: *application/vnd.csp.permission-list+xml*

[Example]

```
<?xml version="1.0"?>
<permissions xmlns:xlink="http://www.w3.org/1999/xlink">
  <permission xlink:href="https://api.example.com/v2/files/D8EA4258-55FD-11DE-8261-6FFC4A6E97B4/permissions/9B7EC49C-56CB-11DE-9C5E-B790732BE549"
  xlink:type="simple"/>
  <permission xlink:href="https://api.example.com/v2/files/D8EA4258-55FD-11DE-8261-6FFC4A6E97B4/permissions/8AB048CD-AB30-3050-DAE0-EFD357FA30D5"
  xlink:type="simple"/>
</permissions>
```

[Schema]

```
<?xml version="1.0"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="permissions">
    <xs:complexType>
```

```

<xs:sequence>
  <xs:element name="permission" minOccurs="0" maxOccurs="unbounded"/>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:schema>

```

Content Type: *application/vnd.csp.project+xml*

[Example]

```

<?xml version="1.0"?>
<project xmlns:xlink="http://www.w3.org/1999/xlink">
  <name>project1</name>
  <owner>user@example.com</owner>
  <startdate>1244654355</startdate>
  <enddate/>
  <assignments xlink:href="https://api.example.com/v2/projects/9CE9340A-55E2-11DE-BA50-7B27E840ACE5/assignments" xlink:type="simple"/>
  <permissions xlink:href="https://api.example.com/v2/projects/9CE9340A-55E2-11DE-BA50-7B27E840ACE5/permissions" xlink:type="simple"/>
</project>

```

[Schema]

```

<?xml version="1.0"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="project">
    <xs:complexType>
      <xs:all>
        <xs:element name="name" type="xs:string"/>
        <xs:element name="startdate" type="xs:string"/>
        <xs:element name="enddate" type="xs:string"/>
        <!-- the following elements are ignored by PUT and POST -->
        <xs:element name="owner" type="xs:string" minOccurs="0"/>
        <xs:element name="assignments" minOccurs="0"/>
        <xs:element name="permissions" minOccurs="0"/>
      </xs:all>
    </xs:complexType>
  </xs:element>
</xs:schema>

```

Content Type: *application/vnd.csp.project-assignment+xml*

[Example]

```

<?xml version="1.0"?>
<assignment xmlns:xlink="http://www.w3.org/1999/xlink">
  <file xlink:href="https://api.example.com/v2/files/71BAC242-5AA8-11DE-BEA3-A33ED0E50CD6" xlink:type="simple"/>
</assignment>

```

[Schema]

```

<?xml version="1.0"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="assignment">

```

```
<xs:complexType>
  <xs:all>
    <xs:element name="file"/>
  </xs:all>
</xs:complexType>
</xs:element>
</xs:schema>
```

Content Type: application/vnd.csp.project-assignment-list+xml

[Example]

```
<?xml version="1.0"?>
<assignments xmlns:xlink="http://www.w3.org/1999/xlink">
  <assignment xlink:href="https://api.example.com/v2/projects/9CE9340A-55E2-11DE-BA50-7B27E840ACE5/assignments/71BAC242-5AA8-11DE-BEA3-A33ED0E50CD6"
  xlink:type="simple"/>
  <assignment xlink:href="https://api.example.com/v2/projects/9CE9340A-55E2-11DE-BA50-7B27E840ACE5/assignments/73DADC7C-56B3-11DE-AD81-EF1DF138AEB7"
  xlink:type="simple"/>
  <assignment xlink:href="https://api.example.com/v2/projects/9CE9340A-55E2-11DE-BA50-7B27E840ACE5/assignments/85BD0F78-56B3-11DE-81C9-D3AF5C0B6A31"
  xlink:type="simple"/>
  <assignment xlink:href="https://api.example.com/v2/projects/9CE9340A-55E2-11DE-BA50-7B27E840ACE5/assignments/89180582-55FB-11DE-9D44-A75BADDADD86"
  xlink:type="simple"/>
  <assignment xlink:href="https://api.example.com/v2/projects/9CE9340A-55E2-11DE-BA50-7B27E840ACE5/assignments/A2E0597A-56B3-11DE-BBFC-43E774ED4417"
  xlink:type="simple"/>
  <assignment xlink:href="https://api.example.com/v2/projects/9CE9340A-55E2-11DE-BA50-7B27E840ACE5/assignments/D8EA4258-55FD-11DE-8261-6FFC4A6E97B4"
  xlink:type="simple"/>
  <assignment xlink:href="https://api.example.com/v2/projects/9CE9340A-55E2-11DE-BA50-7B27E840ACE5/assignments/EFBC876C-5AC0-11DE-BF57-A3BB795AB41F"
  xlink:type="simple"/>
</assignments>
```

[Schema]

```
<?xml version="1.0"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="assignments">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="assignment" minOccurs="0" maxOccurs="unbounded"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

Content Type: application/vnd.csp.project-list+xml

[Example]

```
<?xml version="1.0"?>
<projects xmlns:xlink="http://www.w3.org/1999/xlink">
```

```
<project xlink:href="https://api.example.com/v2/projects/9CE9340A-55E2-11DE-BA50-7B27E840ACE5" xlink:type="simple"/>
<project xlink:href="https://api.example.com/v2/projects/3B518902-61A6-11DE-A95D-9F4E0143F256" xlink:type="simple"/>
</projects>
```

[Schema]

```
<?xml version="1.0"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="projects">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="project" minOccurs="0" maxOccurs="unbounded"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

Content Type: application/vnd.csp.tag-list+xml

[Example]

```
<?xml version="1.0" encoding="ASCII"?>
<tags xmlns:xlink="http://www.w3.org/1999/xlink">
  <tag xlink:href="https://api.example.com/v2/tags/Example"
  xlink:type="simple"/>
</tags>
```

[Schema]

```
<?xml version="1.0"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="tag-list">
    <xs:complexType>
      <xs:choice minOccurs="0" maxOccurs="unbounded">
        <xs:element name="tag"/>
      </xs:choice>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

Content Type: application/vnd.csp.tag+xml

[Example]

```
<?xml version="1.0" encoding="ASCII"?>
<tag xmlns:xlink="http://www.w3.org/1999/xlink">
  <name>Example</name>
  <objects xlink:href="https://api.example.com/v2/tags/Example/objects"
  xlink:type="simple"/>
</tag>
```

[Schema]

```
<?xml version="1.0" encoding="ISO-8859-1" ?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="tag">
```

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```
<xs:complexType>
  <xs:all>
    <xs:element name="name" type="xs:string"/>
    <xs:element name="objects" type="xs:string" minOccurs="0"/>
  </xs:all>
</xs:complexType>
</xs:element>
</xs:schema>
```