## Act-On Bulk

Last Modified on 12/20/2019 2:41 pm EST

SAP Cloud Platform Open Connectors Bulk API calls provide an option to upload a large number of resources, such as contacts, into a Cloud Service all at once. The Bulk APIs require the name of the object identified within the cloud service and a .csv file with populated data included in each request. SAP Cloud Platform Open Connectors provides discovery services to get a list of available objects.

## If you configured the Callback Notification Signature Key (

event.notification.signature.key ) when you authenticated a connector instance, the bulk APIs will use the signature key to provide hash verification in the header of bulk jobs. For more information, see Hash Verification.

First we will make the GET /objects call to retrieve a list of available objects

```
curl -X GET
-H 'Authorization: Element , User '
'https://api.openconnectors.us2.ext.hana.ondemand.com/elements/api-v2/hubs/m
arketing/objects'
```

Example of Successful Response:

```
[
  "activities",
  "contact",
  "campaign",
  "list",
  "account"
]
```

The "contact" object is available. We will use contact in our bulk upload. It will be placed in our request URL.

A csv file with populated data is required in our request, like the one seen below.

Example data will be used in this demonstration.

C_EmailAddress	C_FirstName	C_LastName	C_Title	C_BusPhone	C_Company	C_Website1
norm.smith@acme.com	Norm	Smith	Design Engineer	(333) 333-1234	Acme	http://www.acme.com
john@acmepublishing.com	John	Doe			Acme Publishing	https://www.acmepublishing.com
ann@acmedata.com	Ann	Smith	Director	444) 444-1234	Acme Data	http://www.acmedata.com
doug.smith@acmemarketing.com	Doug	Smith	Director of Marketing	(555) 555-1234	Acme Marketing	http://www.acmemarketing.com
chuck@acmefinance.com	Chuck	Taylor	Chief Financial Officer	(656) 656-1234	Acme Finance	http://www.acmebilling.com
frank@acmebilling.com	Frank	Ricard			Acme Billing	http://www.acmeresources.com
melissa@acmeresources.com	Melissa	Jones	Human Resources Manager	(202) 222-1234	Acme Resources	
shooter@acmetechnology.com	Shooter	McGavin	IT Technology Professional	(303) 928-2134	Acme Technology	http://acmetechnology.com
penny@acmeeducation.com	Penny	Smith	Director of Curriculum	(868) 888-1234	Acme Education	http://www.acmeeducation.com
ron.bergandy@acmecommunications.com	Ron	Burgandy	New Anchor	(227) 299-1234	Acme Communications	http://www.acmecommunications.com

An Example request can be seen below.:

```
curl -X POST
-H 'Authorization: Element , User '
-F file=@sample.csv
'https://api.openconnectors.us2.ext.hana.ondemand.com/elements/api-v2/hubs/m
arketing/bulk/contact?path=/sample.csv'
```

Example of Successful Response:

```
{
    "id": "1234",
    "status": "CREATED"
}
```

An id is assigned to job. This can be used to check the status of a bulk job.

The id "1234" will be used in the request URL in the next example.

```
curl -X GET
-H 'Authorization: Element , User '
'https://api.openconnectors.us2.ext.hana.ondemand.com/elements/api-v2/hubs/m
arketing/bulk/1234/status'
```

Example of Successful Response:

```
{
   "id": "1234",
   "status": "COMPLETE"
}
```

Once the job is completed, login to the cloud service an find your newly created contacts.