

# PostgreSQL Bulk

Last Modified on 02/12/2019 4:12 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/marketing/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/marketing/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/marketing/bulk/1234/status'
```

Example of Successful Response:

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

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