

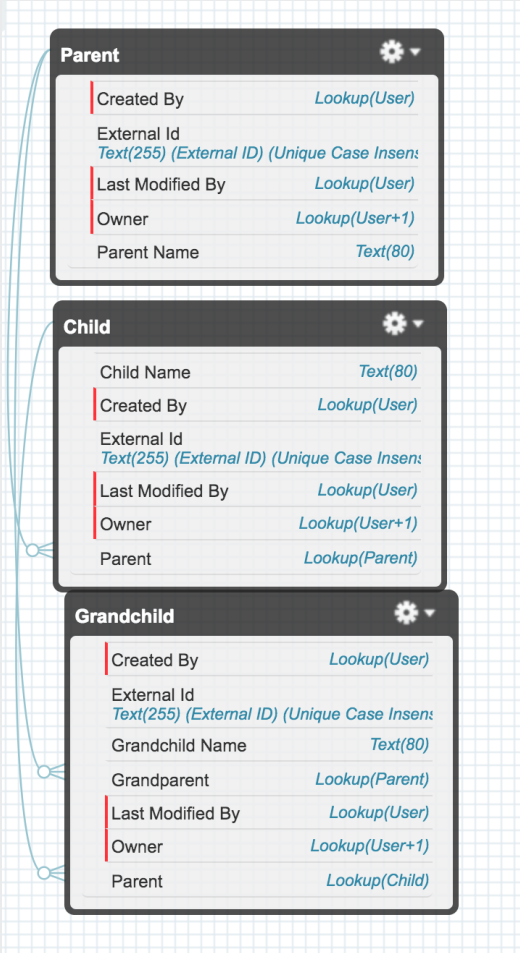
# Upserting Parent and Child Records in Single API Call

I love [upsert operations](#). It saves from having to query to see if the record exists already / storing the Salesforce ID in external systems. When I went to look for upsert examples of the Composite API, I couldn't find one, so I decided I'd write something up on it.

With the [Composite API](#), you can create parent and child records and establish their relationships in a single API call. This is awesome. This means I can create a Parent, Child and Grandchildren records all at once without having to run a sequence of API calls.

Below is a quick example of how to upsert a parent, two children, and two grandchildren records in a single API call.

Quick overview of the setup. Three objects -> Parent\_\_c, Child\_\_c, Grandchild\_\_c. All have an External Id field named "External\_Id\_\_c". All objects look up the hierarchy.



## Request

We send the POST request to the endpoint: `instance.salesforce.com/services/data/v42.0/composite/`

```
"compositeRequest" : [
  {
    "method" : "PATCH",
    "url" : "/services/data/v42.0/subjects/Parent__c/External_Id__c/ParentId",
    "referenceId" : "newParent",
    "body" : {
      "Name" : "New Parent"
    }
  }, {
    "method" : "PATCH",
    "url" : "/services/data/v42.0/subjects/Child__c/External_Id__c/childOne",
    "referenceId" : "parentRecord",
    "body" : {
      "Parent__r" : {
        "External_Id__c" : "ParentId"
      },
      "Name" : "child one name"
    }
  }, {
    "method" : "PATCH",
    "url" : "/services/data/v42.0/subjects/Child__c/External_Id__c/childTwo",
    "referenceId" : "childTwo",
    "body" : {
      "Parent__r" : {
        "External_Id__c" : "ParentId"
      },
      "Name" : "child two name"
    }
  }, {
    "method" : "PATCH",
    "url" : "/services/data/v42.0/subjects/Grandchild__c/External_Id__c/grandChildOne",
    "referenceId" : "grandChildOne",
    "body" : {
      "Parent__r" : {
        "External_Id__c" : "childOne"
      },
      "Grandparent__r" : {
        "External_Id__c" : "ParentId"
      },
      "Name" : "grandchild one name"
    }
  }
]
```

Patch method throughout for upserts

External ID value

Child One

Set the parent relationship

Child Two

Set the parent relationship

Grandchild One

Set the parent relationships

## Response

One thing to note about the response is that when the upsert is invoked and the record does not exist already, the response includes the Salesforce ID. When the record already exists, the ID is not returned.

```
{
  "-compositeResponse": [Array[5]]
  -0: {
    "body": null,
    "httpHeaders": {},
    "httpStatusCode": 204,
    "referenceId": "newParent"
  },
  -1: {
    "body": null,
    "httpHeaders": {},
    "httpStatusCode": 204,
    "referenceId": "parentRecord"
  },
}
```

No IDs are returned when it is updated

```
{
  "-compositeResponse": [Array[5]]
  -0: {
    "-body": {
      "id": "a006100000MrTYbAAN",
      "success": true,
      "errors": [Array[0]]
    },
    "-httpHeaders": {
      "Location": "/services/data/v42.0/subjects/Parent__c/a006100000MrTYbAAN"
    },
    "httpStatusCode": 201,
    "referenceId": "newParent"
  },
  -1: {
    "-body": {
      "id": "a016100000KOVH0AAL",
      "success": true
    }
  }
}
```

When new records are created, we get IDs back in the response

## Result

5 new records created. Parent child relationships established.

Parent

New Parent

Customize Page | Edit Layout | Printable View | Help for this Page

« Back to List: Parents

Children [2] | Grandchildren [2]

Parent Detail

EditDeleteClone

Parent Name

New Parent

Owner

Timothy Barsotti

[Change]

External Id

ParentId

Created By

Timothy Barsotti, 5/25/2018 1:42 PM

Last Modified By

Timothy Barsotti, 5/25/2018 1:42 PM

EditDeleteClone

Children

New Child

Children Help

Action	Child Name	External Id
<a href="#">Edit</a>   <a href="#">Del</a>	<a href="#">child one name</a>	childOne
<a href="#">Edit</a>   <a href="#">Del</a>	<a href="#">child two name</a>	childTwo

Grandchildren

New Grandchild

Grandchildren Help

Action	Grandchild Name	Parent	External Id
<a href="#">Edit</a>   <a href="#">Del</a>	<a href="#">grandchild one name</a>	<a href="#">child one name</a>	grandChildOne
<a href="#">Edit</a>   <a href="#">Del</a>	<a href="#">grandchild two name</a>	<a href="#">child two name</a>	grandChildTwo

## Implications / Limits

You can only have 25 records in a single call. Each record gets its own API call, and its own execution context and subsequently has its own governor limits. This is a huge plus.

Thanks for reading!

## Full Text of POST Body

```
{
  "compositeRequest" : [
    {
      "method" : "PATCH",
      "url" : "/services/data/v42.0/subjects/Parent__c/External_Id__c/ParentId",
      "referenceId" : "newParent",
      "body" : {
        "Name" : "New Parent"
      }
    }, {
      "method" : "PATCH",
      "url" : "/services/data/v42.0/subjects/Child__c/External_Id__c/childOne",
      "referenceId" : "parentRecord",
      "body" : {
        "Parent__r" : {
          "External_Id__c" : "ParentId"
        },
        "Name" : "child one name"
      }
    }, {
      "method" : "PATCH",
      "url" : "/services/data/v42.0/subjects/Child__c/External_Id__c/childTwo",
      "referenceId" : "childTwo",
      "body" : {
        "Parent__r" : {
          "External_Id__c" : "ParentId"
        },
        "Name" : "child two name"
      }
    }, {
      "method" : "PATCH",
      "url" : "/services/data/v42.0/subjects/Grandchild__c/External_Id__c/grandChildOne",
      "referenceId" : "grandChildOne",
      "body" : {
        "Parent__r" : {
          "External_Id__c" : "childOne"
        },
        "Grandparent__r" : {
          "External_Id__c" : "ParentId"
        },
        "Name" : "grandchild one name"
      }
    }, {
      "method" : "PATCH",
      "url" : "/services/data/v42.0/subjects/Grandchild__c/External_Id__c/grandChildTwo",
      "referenceId" : "grandChildTwo",
      "body" : {
        "Parent__r" : {
          "External_Id__c" : "childTwo"
        },
        "Grandparent__r" : {
          "External_Id__c" : "ParentId"
        },
        "Name" : "grandchild two name"
      }
    }
  ]
}
```