Before You Begin

Did you sign up for a special OmniStudio Developer Edition org already? You'll need one to do the steps in this guide. Here's how to request one if this is your first time completing an OmniStudio module:

1. Sign up for a [free Developer Edition org with OmniStudio](#).
2. Fill out the form.
    a. For Email, enter an active email address.
    b. For Username, enter a username that looks like an email address and is unique, but it doesn't need to be a valid email account (for example, [yourname@omnistudiotrails.com](#)).
    c. After you fill out the form, click **Sign me up**. A confirmation message appears.
3. When you receive the activation email (this might take about 10 minutes), open it and click **Verify Account**.
4. Complete your registration by setting your password and security challenge question. **Tip:** Write down your username, password, and login URL for easy access later.

You are logged in to your Developer Edition and you can begin practicing.

Build a DataRaptor Turbo Extract and a DataRaptor Load

Requirements

"As a user, I'd like the OmniScript that allows me to update basic account details to be able to extract the data from Salesforce and save any updated data back into Salesforce."

A DataRaptor Turbo Extract retrieves data from the Salesforce Account object, and a DataRaptor Load saves the updated data back to the Account object.

Prerequisites

- None

We've designed our exercises for each OmniStudio module on the **Build Guided Experiences with OmniStudio** trail to work regardless of whichever module a student takes first on the trail. We've done the same for students who use more than one special org to complete the trail.

If you've taken all the modules on the trail in order and if you've used the same org to build "Team" FlexCards and OmniScripts, you can use them instead of the samples we provide. However, the steps in these exercises are for the samples.

Tasks

1. Build a DataRaptor Turbo Extract to get Account data
2. Use an OmniScript JSON to Build a DataRaptor Load

Time

- 30 mins

Task 1: Build a DataRaptor Turbo Extract to Get Account Data

1. Create a DataRaptor to pull Account data from your org.

    a. Open the **App Launcher**, and select the **OmniStudio** app.

    b. Select **OmniStudio DataRaptors** from the dropdown.

    c. Click **New**, then enter the following information to create the DataRaptor:

Property	Value	Notes
DataRaptor Interface Name	`teamGetAccountDetails`	Best practice naming conventions for DataRaptors follow **prefixVerbObjectDetail**, use camelCase to facilitate reading, and begin with a lowercase letter for Lightning Web Component compatibility.
Interface Type	Turbo Extract	There are four types of DataRaptors: **Extract** (to get data from Salesforce), **Turbo Extract** (retrieves data from a single Salesforce object type)**,** **Load** (to write data back into the database) and **Transform** (transform or convert data from one structure to another).

Input Type	JSON	Click to review the different output types but leave as JSON.
Output Type	JSON	Click to review the different output types but leave as JSON.

    d. Click **Save**.

2. Define the objects you are extracting data from.

    a. Confirm you are on the **EXTRACT** sub-tab.

    b. In the top field, select **Account**.

    c. In the **Extract Output Path**, enter `Account`. This is the name of the incoming JSON node the DataRaptor needs to find.

    d. In the **Filter** field, select **Id**. This is the field used to filter the results, which in this case is an AccountId.

    e. In the final field, enter `AccountId`. This is the name of the key in the incoming JSON.

3. Select the fields you want to extract data from.

    a. At the bottom of the Extract tab, notice the list of all the fields you can extract data from. Select the fields to extract by moving them from the left list to the right list. The Id field is always included in the output.

    b. For the Edit Account OmniScript, select **Name**, **Phone**, and **Website**. (Enter a search value in the **SEARCH FIELDS** text box to filter the left list.)

4. Preview the JSON for your DataRaptor.

    a. Select the **PREVIEW** tab.

    b. If needed, click **Edit as Params**.

    c. Click **+ Add New Key/Value Pair**.

    d. Enter the following:

Property	Value	Notes
Key	AccountId	The Key is the parameter you are passing to the JSON - which was defined in the Extract sub-tab.
value	[Acme's AccountId]	

NOTE:
If you don't already have it, locate Acme's Record Id as follows:
1. Duplicate the browser tab, then use the App Launcher to open the **OmniStudio Console**.

> 2. Select **Accounts** from the Object dropdown.
> 3. If needed, switch the view to **All Accounts**.
> 4. Click **Acme** to view Acme's detail page.
> 5. Copy the RecordId from the URL (Account Ids always begin with 001, Contact Ids with a 003) and paste it somewhere to use it again.
> 6. Return to the DataRaptor and paste the RecordId into the **Value** field.

   e. Click **Execute**. (You may have to scroll down to view the button).

   f. Confirm the Account details for Acme display in the response.

Response   **Performance Metrics - Browser:** 905ms   **Server:** 274ms   **Apex CPU:** 107ms ⓘ

```
{
  "Account": [
    {
      "RecordTypeId": "0125g000001VIG8AAO",
      "Website": "www.acme.com",
      "Phone": "(212) 154-6450",
      "Name": "Acme",
      "Id": "0015g00000EfZbXAAV"
    }
  ]
}
```

Task 2: Use an OmniScript JSON to Build a DataRaptor Load

1. Access a JSON node that you will use to build a DataRaptor Load.

    a. Select **OmniScripts** from the dropdown menu, and open the **sample/editAccount>Sample Edit Account (Version 1)** OmniScript.

    b. In the Header, click **Preview**.

    c. Enter Acme's RecordId in the **Context ID** field. Click **Refresh** if it does not automatically do so.

    d. On the right side of the screen, click **Action Debugger**.

    e. On the preview screen, click the **Next** button to execute the **Integration Procedure Action** that saves data.

    f. In the **Action Debugger**, expand the **IPSaveAccountDetails** entry.

    g. Expand the **Request Data** section.

       Select and copy the data there and paste it to save for use in step 3d. below. This is what you will use to build your DataRaptor. There is a clipboard icon next to **Request Data**. You may use this, use keyboard shortcuts, or right-click and select copy.

```
Data JSON    Action Debugger                                    ×

🔍 Search                                        Clear Logs

⊟  ▶  IPGetAccountDetails (2021-06-02T06:26:13.138Z)

⊟  ▼  IPSaveAccountDetails (2021-06-02T06:26:16.178Z)
         ▶  Remote Class:  vlocity_ins.IntegrationProcedureService
         ▶  Remote Method:  team_saveAccountDetails
         ▶  Remote Options:  📋
         ▼  Request Data:  📋
            {
              "ContextId": "0015Y00002cwuJNQAY",
              "timeStamp": "2021-06-02T06:26:12.417Z",
              "userProfile": "System Administrator",
              "userTimeZone": "-420",
              "userCurrencyCode": "USD",
              "userName": "p.priyadarshini-
            76936188477@industryapps.edu",
              "userId": "0055Y00000FAELRQA5",
              "vlcTimeTracking": {
                "OmniScriptSessionToken": "aa3bd11f-0af9-435a-b3c7-
            bd0e9f5308ad",
                "IPGetAccountDetails": 469
              },
              "Id": "0015Y00002cwuJNQAY",
              "StepAccount": {
                "Website": "www.acme1435.com",
                "Phone": "(212) 154-6450",
                "Name": "Acme"
              },
              "": null
            }

         ▶  Response:  📋
```

2. Create your DataRaptor.

   a. Select **OmniStudio DataRaptors**, and click **New**.

   b. Enter the following information to create the DataRaptor:

Property	Value
DataRaptor Bundle Name	teamSaveAccountDetails
Interface Type	Load

   c. Click **Save**. The DataRaptor designer opens.

3. Build the teamSaveAccountDetails DataRaptor using the text you copied from your OmniScript in Step 1.

    a. On the **OBJECTS** sub-tab, select **+ Add Object**.

    b. Type `Acc` and select **Account** from the filtered list of options.

    c. Click the **FIELDS** sub-tab.

    d. Delete any text in the **Input JSON** text box, then paste in the text you copied from the OmniScript Action Debugger (in Step 1).
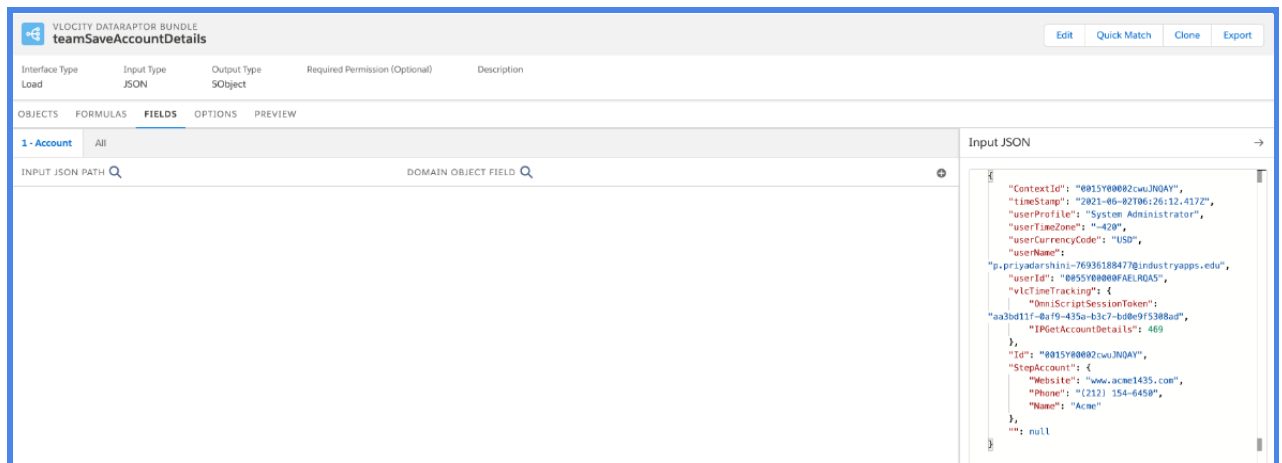
    e. Click **Quick Match**.

    f. Drag the **INPUT MAPPINGS** over to match with the **OUTPUT MAPPINGS** as follows:

Input Mappings	Output Mappings
StepAccount:Name	1-Account:Name
Id	1-Account:Id
StepAccount:Phone	1-Account:Phone
StepAccount:Website	1-Account:Website

> **NOTE:**
> Use the search fields at the top of the columns to filter the lists. For example, under **OUTPUT MAPPINGS**, type `web` to quickly locate **Account:Website**.

g. Review the mappings, comparing them to the image above. If they're not correct, click the **X** on the match, and try again. If they're correct, click **Save**.

h. Click on the mapping for **Id** and select the **Upsert Key** and **Is Required For Upsert** checkboxes.

> **NOTE:**
> Before a DataRaptor Load updates or inserts a new record, it checks for two conditions: (1) does the new record have data in all of the **Required for Upsert** fields, and (2) do all of the **Upsert Key** fields for the new record match a unique record in Salesforce.
>
> Each field in the DataRaptor Fields Mapping can be designated as Required for Upsert (data must be present in the field for an upsert to take place) and/or as an Upsert Key (required to match a unique record in Salesforce).
>
> If a DataRaptor Load finds that one of the fields in a record is marked as **Required for Upsert** but contains no data, it skips that record. Otherwise, the DataRaptor compares all of the **Upsert Key** fields of the load record to fields in existing records in Salesforce. If it finds a unique match between the Upsert Keys and a record in Salesforce, it overwrites the existing record and updates it with the new data. If the DataRaptor finds no match between the Upsert keys and Salesforce, it creates a new record.

4. Click the **PREVIEW** sub-tab.

    a. At the bottom of the **Input** text box, click **Clear Data** to refresh the data to what you pasted before.

    b. Make a small change to the data such as editing the website to be `www.acme4.com`.

    c. Click **Execute**.

Input

```
{
  "ContextId": "0015Y00002cwuJNQAY",
  "timeStamp": "2021-06-02T06:26:12.417Z",
  "userProfile": "System Administrator",
  "userTimeZone": "-420",
  "userCurrencyCode": "USD",
  "userName":
"p.priyadarshini-76936188477@industryapps.edu",
  "userId": "0055Y00000FAELRQA5",
  "vlcTimeTracking": {
    "OmniScriptSessionToken":
"aa3bd11f-0af9-435a-b3c7-bd0e9f5308ad",
    "IPGetAccountDetails": 469
  },
  "Id": "0015Y00002cwuJNQAY",
  "StepAccount": {
    "Website": "www.acme4.com",
    "Phone": "(212) 154-6450",
    "Name": "Acme"
  },
  "": null
}
```

Clear Data   Execute

d. In the **Objects Created** text box, click the link to the **Account** record.

e. In the new tab, confirm the data you changed was updated. Keep this tab open to return to later.

Phone
(212) 154-6450

Fax
(212) 154-6452

Website
www.acme4.com

Contact
Leanne Tomlin

Parent Account

Review

Confirm your understanding by answering these questions.

1. What are naming conventions for DataRaptors?

2. What did you copy from the OmniScript to create your DataRaptor?

3. How do you ensure you do not create duplicate records in Salesforce when you create your DataRaptor Load?

Build Additional DataRaptors

Create more DataRaptor Turbo Extracts and DataRaptor Loads to solidify what you learned. We've summarized the requirements; refer to the step-by-step instructions above if you get stuck.

Build a DataRaptor Turbo Extract to extract data from the Contact object, and build a DataRaptor Load to save the updated Contact data back into Salesforce.

1. Build a DataRaptor Turbo Extract that extracts the following fields from a Contact record with exactly these names in the JSON output: **Id**, **Name**, **Email**, and **Phone**.

    ○ To preview, locate the recordId for Leanne Tomlin's contact record.

2. Use the JSON output from the **sample/editContact** OmniScript to build your DataRaptor Load.

    ○ Don't forget to select the **Upsert Key** and **Is Required For Upsert** checkboxes for the Id mapping.

Build a DataRaptor Turbo Extract to extract data from the Case object, and build a DataRaptor Load to save the updated Case data back into Salesforce.

1. Build a DataRaptor that extracts the following fields from a Case record with exactly these names in the JSON output: **CaseNumber**, **Subject**, **Status**, **Id**, and **CreatedDate**.

    ○ To preview, locate the recordId for case number 00001026.

2. Use the JSON output from the **sample/editCase** OmniScript to build your DataRaptor Load.

    ○ Don't forget to select the **Upsert Key** and **Is Required For Upsert** checkboxes for the Id mapping.