



# Moover Salesforce FSL Reference Data Deployment Guide

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# CHAPTER 1. Salesforce FSL Data Migration

## Overview

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Prodly provides specially-designed, pre-built Moover templates to assist with Salesforce FSL data migration. The templates give you a great start towards deploying your Field Service Lightning (FSL) reference data for Salesforce FSL. Templates are available for most versions of Salesforce FSL. Prodly delivers each version of the templates in a .zip file available on the Prodly website and from Github.

Each .zip file contains one or more JSON-formatted template files necessary for a complete Salesforce FSL data migration. Each .json template file contains migration instructions, stored as data sets and deployment plans, specific to a logical subset of related objects in the FSL schema. Importing these pre-built data sets and deployment plans from the template files creates a series of data set and deployment plan records in Prodly Moover. Importing does not alter the Prodly Moover app in any way.

The pre-built data sets speed up your configuration effort for migration of the reference data in a typical Salesforce FSL implementation. Because every Salesforce FSL implementation is unique, you need to modify these data sets to accurately reflect your implementation. While Prodly created these data sets and this document for use with Salesforce FSL, you are welcome to use them as a conceptual reference for any field service implementation. This document describes how to import and customize the data sets to meet your specific needs.

Prodly has created and tested these templates using Moover and actual Salesforce FSL data. The following versions of the templates are available for composite external ID (CEID) and virtual external ID (VEID):

- VEID for Salesforce FSL Winter '19 version 6
- VEID for Salesforce FSL Summer '18 version 5

Prodly intends to validate future versions as they become available.

## Deployment Considerations

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Because of the interrelational nature of FSL data, there are many factors to consider and, in certain cases, you need to deploy data sets in a specific order. For example, temporarily disabling Salesforce features such as triggers might be necessary to avoid problems during migration. Carefully analyze your data to determine the best approach and sequence of migration events.

The following list contains factors to consider before migrating your data:

- Proper Salesforce FSL configuration in all source and destination organizations
- Triggers
- Validation rules
- Salesforce version
- Salesforce FSL managed package version
- Prodlly Moover managed package version
- Moover Salesforce FSL template version
- Duplicate records in your data
- Salesforce FSL objects not included in the templates. Refer to [the topic on Salesforce FSL object considerations](#) for more information.

## Deployment Sequence Checklist

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The order in which you prepare your environment and deploy the data sets impacts the success of your migration. For example, you need to deploy the FSL Permission Set data set first because you need to assign permissions before you can create service resources for users.

The exact sequence of events depends on your specific data. The following sequence works well to migrate the data from a Salesforce FSL organization using the current release versions of Salesforce, the Moover managed package, and the Salesforce FSL managed package.

### Pre-Deployment

- 1. In Salesforce, ensure you have the same major version of the Salesforce FSL managed package installed in your source and destination organizations, and that you've correctly configured each managed package. Be sure to configure the following items:
  - Enable Field Service Lightning.
  - Install the managed package.
  - Assign yourself the Field Service Standard permission set license.
  - In Field Service Settings, create the rest of the permission sets.
  - Assign yourself the FSL Admin Permissions and FSL Admin License permission sets.
 Refer to the [Complete Guide To Field Service](#) for more information.
- 2. In Salesforce, assign the FSL Admin License and FSL Admin Permissions permission sets to the user who will create the Moover connections to the FSL data migration source and destination organizations.
- 3. In Salesforce, ensure that the schemas for all objects you are migrating exactly match in the source and destination organizations.
- 4. In Salesforce, ensure that all technician and dispatcher users in the source organization also exist in the destination organization(s).
 

*Note: Moover can update existing user records but cannot insert new ones.*
- 5. In Salesforce, to the best of your ability, clean the data in your source and destination organizations to eliminate duplicate records.

- 6. Determine the upsert method appropriate for your use case. Prodlly recommends using VEID unless there is existing data in your destination organization that was entered by a method other than a sandbox refresh or sandbox cloning (such as a data loader or manual entry), in which case you must use CEID or formal Salesforce external IDs (FEID). Refer to the [chapter on data set customization](#) for more information.
- 7. In Moover on the **Connections** tab, ensure you have created connections using your connection user to your schema, source, and destination organizations.
  - Note: Prodlly recommends that admins with a full system administrator profile create your connections to avoid permission and access issues. For connections to data destination organizations, the user you use to create the connections needs to have write access for all of the objects in the data set. For connections to data source organizations, the user needs to have write access for all of the objects in the data set.*
- 8. In Moover, import the desired deployment plan and data sets from the Moover Salesforce FSL template version that matches your version of Salesforce FSL and the upsert method you determined in the previous step.
- 9. In Moover, when using CEID templates, ensure that the default composite external IDs are truly unique for your specific data.

## Deployment

- 10. In Moover, open the Salesforce FSL VEID 5 Deployment Plan or Salesforce FSL CEID 5 Deployment Plan and verify that the steps are arranged to deploy the data sets in the following order:
  - FSL Permission Set
  - FSL Service Resource
  - FSL Service Territory
  - FSL Work Type
  - FSL Skill
  - FSL Service Crew (if needed)
  - FSL Location (if needed)
- 11. If service crews or locations are not in your use case, delete the FSL Service Crew and/or FSL Location steps from the deployment plan, or skip using the deployment plan altogether.
- 12.. In Moover, deploy the deployment plan or sequentially deploy the individual data sets pertinent to your use case in the order listed in the deployment plan.
- 13. In Moover, validate your deployment results.
  - Note: If you see errors using CEID, check the uniqueness of your composite external IDs.*

## Post-Deployment

- 14. Because scheduling policy records are created by the Salesforce FSL managed package, reconfigure the scheduling policies manually in the destination organization. To do so, use **Field Service Admin** app > **Field Service Settings** > **Guided Setup**.
- 15. Enjoy all the free time Moover gives you!

## Salesforce FSL Objects and Data Types

Salesforce FSL consists of objects containing reference data (for example, skills and service territories), objects containing transaction data (for example, service reports and work orders), and internal use objects. Transaction and internal use objects are not part of a typical FSL data migration, and thus not part of the Moover Salesforce FSL templates. The following table lists the FSL objects along with their object types, data types, and the Salesforce FSL managed package versions in which they appear. The Moover template files consider only objects with checkmarks in the reference data column.

Object	Object Provider	Reference Data	Transaction Data	Internal Use Only	Version 6 Winter '19	Version 5 Summer '18
Account	Salesforce		✓		✓	✓
Address	Salesforce	✓	✓		✓	✓
Asset	Salesforce		✓		✓	✓
Assigned Resource	Salesforce		✓		✓	✓
Assigned Location	Salesforce		✓		✓	✓
Contract Line Item	Salesforce		✓		✓	✓
Entitlement	Salesforce		✓		✓	✓
Knowledge Article	Salesforce	✓			✓	
Location	Salesforce	✓			✓	✓
Map Polygon	Salesforce	✓			✓	✓
Maintenance Asset	Salesforce		✓		✓	✓
Maintenance Plan	Salesforce		✓		✓	✓
Operating Hours	Salesforce	✓			✓	✓
Permission Set	Salesforce	✓			✓	✓
Permission Set Assignment	Salesforce	✓			✓	✓
Pricebook2	Salesforce		✓		✓	✓
Product2	Salesforce	✓	✓		✓	✓

Product Consumed	Salesforce		✓		✓	✓
Product Item	Salesforce		✓		✓	✓
Product Item Transaction	Salesforce		✓		✓	✓
Product Request	Salesforce		✓		✓	✓
Product Request Line Item	Salesforce		✓		✓	✓
Product Required	Salesforce	✓	✓		✓	✓
Product Transfer	Salesforce		✓		✓	✓
Resource Absence	Salesforce		✓		✓	✓
Resource Preference	Salesforce		✓		✓	✓
Scheduling Policy	Salesforce FSL	✓			✓	✓
Scheduling Policy Objective	Salesforce FSL	✓			✓	✓
Scheduling Policy Work Rule	Salesforce FSL	✓			✓	✓
Return Order	Salesforce		✓		✓	✓
Return Order Line Item	Salesforce		✓		✓	✓
Service Appointment	Salesforce		✓		✓	✓
Service Contract	Salesforce		✓		✓	✓
Service Crew	Salesforce	✓			✓	✓
Service Crew Member	Salesforce	✓			✓	✓
Service Objective	Salesforce FSL	✓			✓	✓



Service Report	Salesforce		✓		✓	✓
Service Resource	Salesforce	✓			✓	✓
Service Resource Capacity	Salesforce		✓		✓	✓
Service Resource Skill	Salesforce	✓			✓	✓
Service Territory	Salesforce	✓			✓	✓
Service Territory Location	Salesforce	✓			✓	✓
Service Territory Member	Salesforce	✓			✓	✓
Shipment	Salesforce		✓		✓	✓
Skill	Salesforce	✓			✓	✓
Skill Requirement	Salesforce	✓			✓	✓
Time Sheet	Salesforce		✓		✓	✓
Time Sheet Entry	Salesforce		✓		✓	✓
Time Slot	Salesforce	✓			✓	✓
User	Salesforce	✓			✓	✓
User Territory	Salesforce FSL	✓			✓	✓
Work Order	Salesforce		✓		✓	✓
Work Order Line Item	Salesforce		✓		✓	✓
Work Rule	Salesforce FSL	✓			✓	✓
Work Type	Salesforce	✓			✓	✓

## Template Access

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Each version of the Moover Salesforce FSL templates resides in a .zip file on the Prodlly website at <https://www.prodly.co/resources> and GitHub at <https://github.com/prodly/salesforce-fsl-templates>.

To access the templates from the Prodlly website, perform the following steps:

1. In a web browser, navigate to the [resources page](#) of the Prodlly website.
2. In the **Moover Templates** section, click the link for the template version you desire and download the .zip file to your computer.
3. Extract the template JSON file into a directory of your choosing.
4. In the Moover app, click the **Moover Admin** tab. The **Moover Admin** page appears.
5. Click **Import**. A standard file browse dialog box appears.
6. Navigate to the extracted JSON file and select the file to upload. Moover imports the deployment plan and all its data sets from the template file and displays a message indicating successful import of the deployment plan.

## Schema Organization Selection

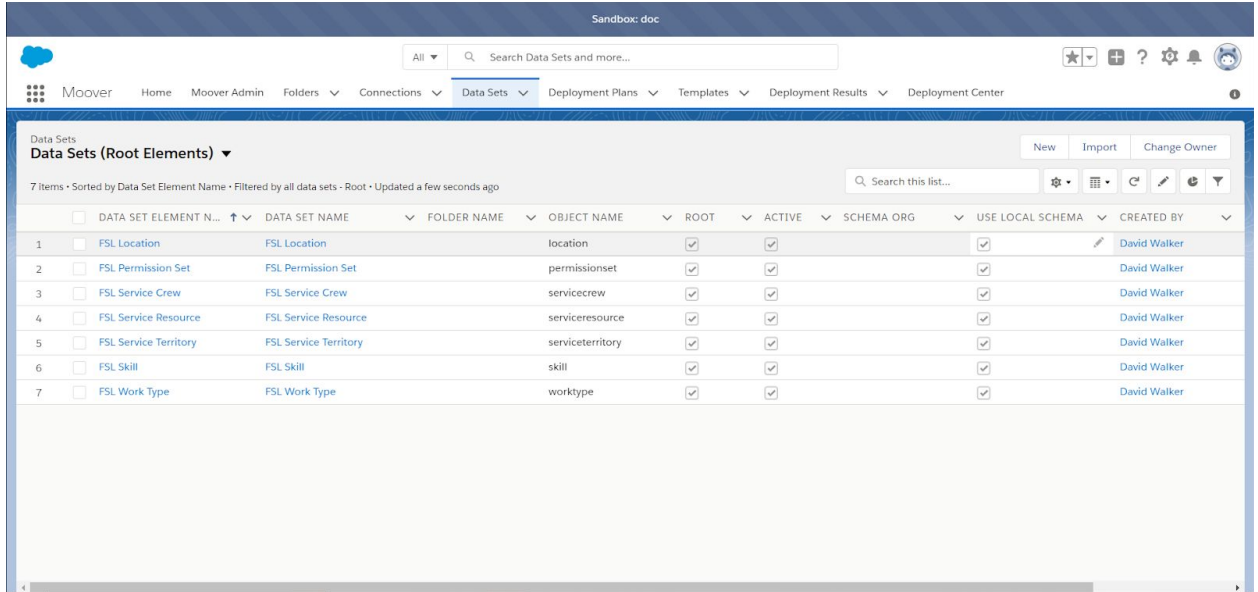
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A data set uses a subset of the data model (schema) of a Salesforce organization. Each data set contains a field identifying the Salesforce organization that contains the schema for the data set. For obvious security reasons, Moover template files do not include the schema field values.

During import, Moover defaults to using your control organization as the schema organization for the data set. Depending on your use case, the schema in your Moover control organization might not contain all the objects necessary for FSL data deployment. Moover allows you to use any Salesforce organization you have access to as your schema organization on a per-data-set basis.

If you are using an organization other than your control organization as your FSL schema organization, perform the following steps to assign a FSL schema organization to each data set you just imported:

1. In Moover, click the **Data Sets** tab. The data sets list page appears, displaying the **Recently Viewed** list view.
2. Click the down arrow to the right of **Recently Viewed** and select **Data Sets (Root Elements)**. All your data sets, including the ones you just imported, appear in the list.

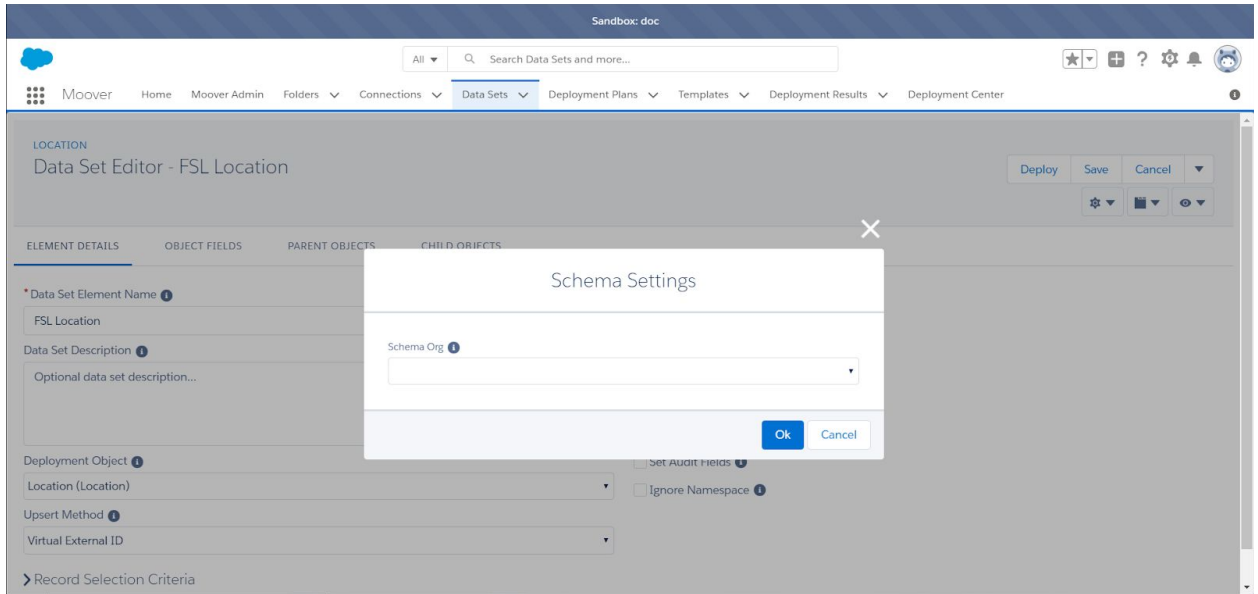


3. For each data set you just imported, deselect **Use Local Schema**.
4. For each data set you just imported, enter the **Schema Org** you desire to use.
5. Click **Save**.

Alternatively, to individually edit the schema organizations for all your data sets from the data set editor, perform the following steps:

1. In Moover, right click the **Data Sets** tab and select **Data Sets (Root Elements)**. All your data sets, including the ones you just imported, appear in the list.
 

*Note: Prodlly recommends creating a **FSL Data Sets** list view identical to the **Data Sets (Root Elements)** list view plus a **Data Set Element Name starts with FSL** filter for easier access to the FSL template data sets.*
2. Click the link to a data set in the **Data Set Element Name** column. The data set editor appears.
3. Click the **Data Set Controls** dropdown list (gear icon, upper right) and select **Schema Settings**. The **Schema Settings** dialog box appears.



4. In the **Schema Org** list, select one of the existing connections to tell the data set editor which organization contains the FSL schema.
5. Click **OK**. The dialog box closes.
6. Click **Save**.
7. Repeat all steps for each data set you just imported.

## CHAPTER 2. Data Set Customization

Because every Salesforce CPQ implementation is unique, you need to modify the data sets to accurately reflect your implementation. This topic provides guidelines for successful use of the Moover Salesforce CPQ templates.

Your first and most important decision is to determine and select the upsert method appropriate for your use case. Prody highly recommends using VEID unless there is existing data in your destination organization that was entered by a method other than a sandbox refresh or sandbox cloning (such as a data loader or manual entry), in which case you must use CEID or FEID.

When using VEID, the Moover VEID manager tracks and manages the IDs for you. Moover VEID provides upsert capability without having to know or define any formal Salesforce external ID fields. FEIDs can exist; Moover simply does not use them. New users have a much quicker time to deployment, less ramp up effort, less frustration, and reduced learning curve. Experienced users can simplify their data set model and streamline their deployment performance. Refer to the section on expanded upsert capabilities in the [Prody Moover for Salesforce User Guide](#) for more information.

### Salesforce FSL Object Considerations

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The purpose of the Moover Salesforce FSL templates is to move reference data. Obvious transaction data objects such as Work Orders and Service Reports are not a part of the templates. Whether or not to include some objects in the data sets, however, is not so obvious. The following list describes potential objects you might consider in your data sets:

- **Scheduling Policy** – When you have a large volume of scheduling policy records, consider adding a FSL Scheduling Policy data set (that includes Scheduling Policy, Scheduling Policy Objective, Scheduling Policy Work Rule, Service Objective, and Work Rule) as the last step in the deployment plan. Because scheduling policy records are created by the Salesforce FSL managed package, when using VEID, delete the automatically-created records from the destination organization prior to deployment.
- **Service Crew and Location** – Data sets exist in the Moover templates for these and their related objects. Delete the deployment plan steps for these data sets from the deployment plan if they are not relevant to your use case.
- **Resource Preference** – This object is technically reference data but is only tied to accounts, which the Moover templates do not include. You might consider moving resource preferences as a separate data set with or without accounts depending on your use case.

- **Account, Product, and Price Book** – The only account, product or price book records the Moover Salesforce FSL templates earmark for migration are the products that are required by work types. The templates do not earmark all account, product, and price book records because history shows, if you are migrating those records at all, you are likely migrating them through other means, such as the Moover Salesforce CPQ templates or an extract, transform, load (ETL) tool. If your use case dictates, create additional data sets to migrate more of this data for a more complete solution. Contact [support@prodly.co](mailto:support@prodly.co) for more information or assistance.

## Composite External ID Considerations

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When using CEID, understanding and carefully choosing the unique identifier for every deployment object in each data set is essential for successful data migration. Moover allows you to combine fields to create unique composite external IDs (CEID). These templates make some assumptions about the optimal composite external ID for each data set deployment object. Carefully review the composite external ID of each deployment object to ensure each works for your use case.

For example, when a name field is part of a composite external ID, implementing the templates assumes that the names will not change over time. If a name changes in your source organization, the upsert operation will perform an insert instead of an update, which might lead to unnecessary records and incorrect migration in the destination organization.

For some objects, the record name is normally an autonumber field. Because there is no way to guarantee that a destination organization will have the same autonumbering as the source organization, Moover does not allow autonumber fields to be part of a composite external ID. Thus, some objects require using almost every field in the object to create a unique composite external ID.

Using long text area fields, rich text fields, and formula expression fields as part of a CEID might result in errors during migration. Moover prohibits you from using fields with these field types in your CEIDs.

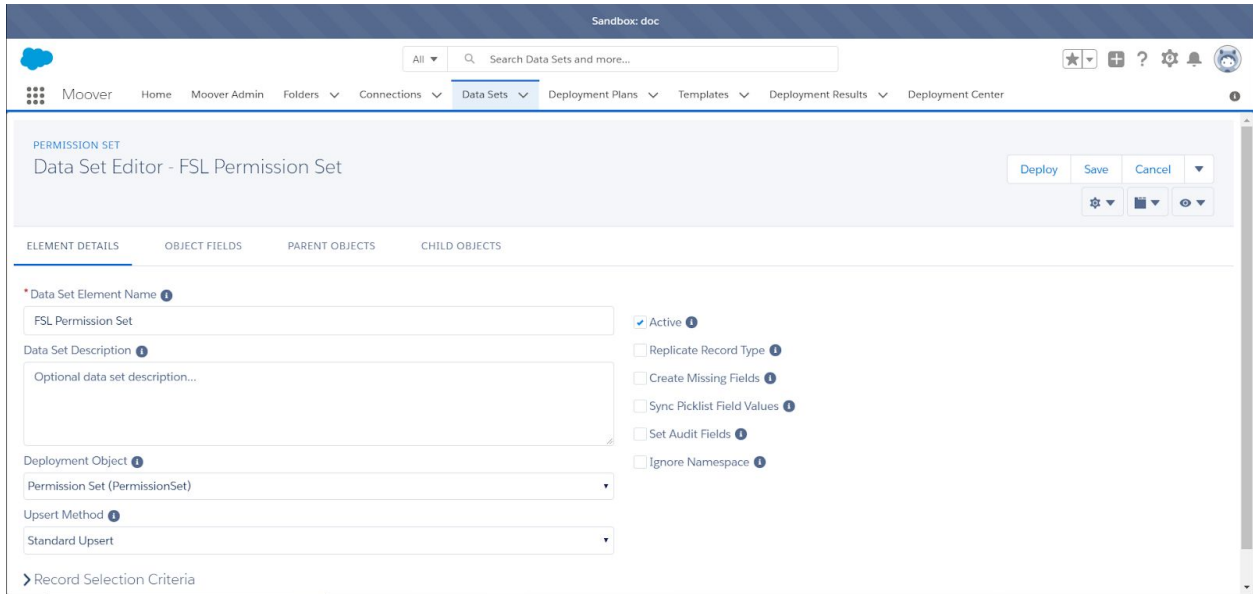
In some cases, you might need to create a Salesforce external ID field to represent a unique identifier, depending on the specific data in your source and destination organizations.

## Data Set Details

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This topic describes the default values for the data set elements and CEIDs for each deployment object in the Moover Salesforce FSL template data sets, and also offers recommendations for which CEIDs to carefully verify as unique identifiers for your data. Use the tables in this topic in conjunction with the data set editor in Moover to analyze the CEID for each deployment object.

The following screenshot shows the default values for the root element in a data set.



## Default Data Set Element Values

The following table shows default values for the data set element attributes. For descriptions of each data set element attribute, refer to the [Prodly Moover for Salesforce User Guide](#).

Data Set Element Attribute	Default Value	Comments
<b>Active</b>	Set	Always select this checkbox. Moover only migrates data residing in active deployment objects.
<b>Replicate Owner</b>	Unset	The default value is unset because the data is reference data, not transaction data.  <i>Note: If your security model requires restricting resources by territory, consider using <b>Replicate Owner</b> to restrict access to Service Resource and Service Territory records.</i>
<b>Replicate Record Type</b>	Unset	Salesforce FSL does not use record types by default.
<b>Create Missing Fields</b>	Unset	The default value is unset because typically there are no field additions to FSL reference data objects.
<b>Sync Picklist Field Values</b>	Unset	The default value is unset because typically there are no changes to picklist field values in FSL reference data.
<b>Set Audit Fields</b>	Unset	Because the Moover Salesforce FSL template data sets

		migrate reference data, not transaction data, this field is unset by default.
<b>Ignore Namespace</b>	Unset	The default value is unset so Moover considers the namespace.
<b>Ignore Relationship Constraint</b>	Unset	The default value is unset so Moover migrates only the related records, except in the following data set elements: <ul style="list-style-type: none"> <li>Operating Hours has <b>Ignore Relationship Constraint</b> set to ensure all records migrate because not all operating hours records are referenced by service territories.</li> </ul>
<b>Deployment Object</b>	Varies	Refer to the next table for a list of deployment objects in the data sets.
<b>Upsert Method</b>	Varies	In the VEID templates, the data set elements use <b>Virtual External ID</b> , except in the following data set elements: <ul style="list-style-type: none"> <li>FSL Permission Set uses <b>Standard Upsert</b> because you create the permission sets through the managed package.</li> <li>User uses <b>Standard Upsert</b> because Moover does not create users. Moover only references and updates users.</li> </ul> <p>In the CEID templates, the data set elements use <b>Standard Upsert</b> to prevent creating duplicate records in your destination organization and to help identify errors in your data.</p>
<b>Query Filter</b>	None*	Add query filters to migrate subsets of your data. <p>*Objects in the following data set elements contain both reference and transaction data. To migrate only the reference data, the data set elements include the following query filters:</p> <ul style="list-style-type: none"> <li>FSL Permission Set specifies (Name like 'FSL%' OR Name like 'Field Service%')</li> </ul>

## Object-Specific Settings and Composite External IDs

The following table contains the following information for each deployment object:



- **Deployment Object** – Lists the names of all the deployment objects referenced in the Moover Salesforce FSL template data sets.
- **Root element** – A checkmark in this column indicates the object is the deployment object in a root element of exactly one data set.
- **Non-root element** – A checkmark in this column indicates the object is the deployment object in a non-root element of at least one data set.
- **Composite External ID Fields** – Lists the fields that comprise the default CEID.
- **Verify composite ID** – A checkmark in this column indicates that Prodlly strongly recommends very carefully double checking to verify that the corresponding CEID produces unique data matches for your data. These IDs in particular are known to result in duplicate data for some users. You might need to adjust these CEIDs for your use case.

Deployment Object	R	N	Composite External ID Fields	V
Address		✓	Address Parent ID	
Knowledge Article		✓	KnowledgeArticleID	
Location	✓		Location Name ParentLocationId	
Map Polygon		✓	FSL__ServiceTerritory__c Name	
Operating Hours		✓	Name	✓
Permission Set	✓		Permission Set Label	✓
Permission Set Assignment		✓	AssigneeId Id PermissionSetId	
Product		✓	Name ProductCode IsActive	✓
Product Required		✓	ProductRequiredNumber Product2Id	
Scheduling Policy	✓		Name	✓
Scheduling Policy Objective		✓	FSL__Scheduling_Policy__c FSL__Service_Goal__c	

Scheduling Policy Work Rule		✓	FSL__Scheduling_Policy__c FSL__Work_Rule__c	
Service Crew	✓		Name	✓
Service Crew Member		✓	ServiceCrewId ServiceCrewMemberNumber ServiceResourceId	
Service Objective		✓	Name	✓
Service Resource	✓	✓	Name RelatedRecordId	
Service Resource Skill		✓	ServiceResourceId SkillId	
Service Territory	✓	✓	Name	✓
Service Territory Location		✓	LocationId ServiceTerritoryId	
Service Territory Member		✓	ServiceResourceId ServiceTerritoryId	
Skill	✓		Name	✓
Skill Requirement		✓	SkillId SkillLevel SkillNumber	
Time Slot		✓	DayOfWeek OperatingHoursId	
User		✓	UserName	
User Territory		✓	FSL__ServiceTerritory__c FSL__User__c Name	
Work Rule		✓	Name	✓
Work Type	✓		Name	✓

## APPENDIX A. Template File Contents

Each JSON-formatted Moover Salesforce FSL template file contains one deployment plan and all data sets necessary to successfully migrate your Salesforce FSL reference data. The deployment plan contains ordered steps to ensure successful deployment. Refer to the [deployment sequence checklist](#) for more information.

The following list describes the steps in the deployment plan. Whether using the deployment plan or deploying the data sets individually, for successful deployment, deploy the data sets in the listed order.

- FSL Permission Set
- FSL Service Resource
- FSL Service Territory
- FSL Work Type
- FSL Skill
- FSL Service Crew (if needed)
- FSL Location (if needed)

The following table lists the data sets in the Moover Salesforce FSL template file and the data set elements contained in each. Bold text in the **Data Set Elements** column indicates the root deployment object of the each data set.

Data Set	Data Set Elements (bold indicates the root element)
FSL Location	Address <b>Location</b> Service Resource Service Territory Service Territory Location
FSL Permission Set	<b>Permission Set</b> Permission Set Assignment User
FSL Service Crew	<b>Service Crew</b> Service Crew Member Service Resource
FSL Service Resource	<b>Service Resource</b>

	User
FSL Service Territory	Map Polygon Operating Hours Service Resource <b>Service Territory</b> Service Territory Member Time Slot User User Territory
FSL Skill	Service Resource Service Resource Skill <b>Skill</b>
FSL Work Type	Product Product Required Skill Skill Requirement <b>Work Type</b>