PRODLY Moover

Moover Field Service Lightning Reference Data Deployment Guide

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CHAPTER 1. Field Service Lightning Data Deployment

Overview

Prodly provides specially-designed, pre-built Moover templates to assist with Field Service Lightning reference data deployment. The templates give you a great start towards deploying your Field Service Lightning (FSL) reference data. Templates are available for pertinent versions of Field Service Lightning. 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 complete Field Service Lightning reference data deployment. Each .json template file contains deployment 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 deployment of the reference data in a typical Field Service Lightning implementation. Because every Field Service Lightning implementation is unique, you might need to modify these data sets to accurately reflect your implementation. While Prodly created these data sets and this document for use with Field Service Lightning, 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 Field Service Lightning data. The following versions of the templates are available for virtual external ID (VEID):
- VEID for Field Service Lightning Winter '19 version 6
- VEID for Field Service Lightning Summer '18 version 5

Prodly intends to create templates for future versions of Field Service Lightning as new versions become available.

Deployment Considerations

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 deployment. Carefully analyze your data to determine the best approach and sequence of deployment events.

The following list contains factors to consider before deploying your data:
- Proper Field Service Lightning configuration in all source and destination organizations
- Triggers
- Validation rules
- Salesforce version
- Field Service Lightning managed package version
- Prodly Moover managed package version
- Moover Field Service Lightning template version
- Duplicate records in your data
- Field Service Lightning objects not included in the templates. Refer to the topic on Field Service Lightning object considerations for more information.

Deployment Sequence Checklist

The order in which you prepare your environment and deploy the data sets impacts the success of your deployment. 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 deploy the data from a Field Service Lightning organization using the current release versions of Salesforce, the Moover managed package, and the Field Service Lightning managed package.

Pre-Deployment

❏ 1. In Salesforce, ensure you have the same major version of the Field Service Lightning managed package installed in your source and destination organizations, and that you've completed the detailed instructions in phases 1–4 of the FSL Deployment Worksheet to correctly configure each managed package. Some of the items the worksheet covers appear in the following list:
- Enable Field Service Lightning.
- Install the managed package.
- Assign yourself the Field Service Standard permission set license.
- Use the Field Service Admin app to adjust settings and create permission sets.
- Assign yourself the FSL Admin Permissions and FSL Admin License permission sets.

The Complete Guide To Field Service contains additional 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 source and destination organizations.
❏ 3. In Salesforce, ensure that the schemas for all objects you are deploying exactly match in the source and destination organizations. This matching likely corresponds to phase 2 of the worksheet.

❏ 4. In Salesforce, ensure that all technician, dispatcher, and agent users in the source organization also exist in the destination organization(s) with the same permission sets. This matching likely corresponds to phase 4 of the worksheet.

> *Note: Moover can update existing user records but cannot insert new ones. If you are including new users, assign the appropriate permission sets to technicians, dispatchers, and agents.*

❏ 5. In Salesforce, to the best of your ability, clean the data in your source and destination organizations to eliminate duplicate records.

❏ 6. In Moover on the **Connections** tab, ensure you have created connections using your connection user to your schema, source, and destination organizations.

> *Note: Prodly 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.*

❏ 7. Determine the approach to avoiding creation of duplicate records appropriate for your use case. Prodly strongly recommends using VEID (over CEID) because records in several of the FSL objects are not guaranteed to have unique IDs.

> *Warning: If there is existing data in your source or destination organization that was entered by a method other than a sandbox refresh or sandbox cloning (such as a data loader or manual entry), you must first consolidate the data. Refer to the VEID manager appendix in the [Prodly Moover for Salesforce User Guide](#) for more information.*

❏ 8. In Moover, import the desired deployment plan and data sets from the Moover Field Service Lightning template version that matches your version of Field Service Lightning and the upsert method you determined in the previous step.

> *Note: If you have too many scheduling policy records to confidently reconfigure manually post-deployment using the guided setup in the Field Service Admin app, consider adding the FSL <version> Scheduling Policy data set to your deployment plan. Refer to the [object considerations section](#) for more information.*

❏ 9. In Moover, if using CEID, ensure that the composite external IDs are truly unique for your specific data.

Deployment

❏ 10. In Moover on the **Deployment Plans** tab, open FSL *<version>* Deployment Plan and verify that the steps are arranged to deploy the data sets in the following order:
- ○ FSL *<version>* Permission Set
- ○ FSL *<version>* Service Resource
- ○ FSL *<version>* Service Territory
- ○ FSL *<version>* Work Type
- ○ FSL *<version>* Skill
- ○ FSL *<version>* Service Crew (if needed)
- ○ FSL *<version>* Location (if needed)

- FSL *<version>* Scheduling Policy (if you added it manually)
  Note: *If deploying anything manually for any reason, refer to the [FSL Deployment Worksheet](#) for the order of operations.*
- ❏ 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 Field Service Lightning managed package, reconfigure the scheduling policies manually in the destination organization. To do so, use the **Field Service Admin** app > **Field Service Settings** > **Guided Setup**.
  Note: *Alternatively, deploy the FSL <version> Scheduling Policy data set now or skip this step altogether if you included and deployed the FSL <version> Scheduling Policy data set as part of your deployment plan.*
- ❏ 15. Enjoy all the free time Moover gives you!

Field Service Lightning Objects and Data Types

Field Service Lightning 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 deployment, and thus not part of the Moover Field Service Lightning templates. The following table lists the FSL objects along with their object types, data types, and the Field Service Lightning managed package versions in which they appear. The Moover templates 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	✔ (Location)	✔ (Account)		✔	✔
Asset	Salesforce		✔		✔	✔
Assigned Resource	Salesforce		✔		✔	✔
Assigned Location	Salesforce		✔		✔	✔

Contract Line Item	Salesforce		✔		✔	✔
Entitlement	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	✔ (Work Type)	✔		✔	✔
Product Consumed	Salesforce		✔		✔	✔
Product Item	Salesforce		✔		✔	✔
Product Item Transaction	Salesforce		✔		✔	✔
Product Request	Salesforce		✔		✔	✔
Product Request Line Item	Salesforce		✔		✔	✔
Product Required	Salesforce	✔ (Work Type)	✔		✔	✔
Product Transfer	Salesforce		✔		✔	✔
Resource Absence	Salesforce		✔		✔	✔
Resource Preference	Salesforce	✔			✔	✔
Return Order	Salesforce		✔		✔	✔

Name	Type					
Return Order Line Item	Salesforce		✔		✔	✔
Scheduling Policy	FSL	✔			✔	✔
Scheduling Policy Objective	FSL	✔			✔	✔
Scheduling Policy Work Rule	FSL	✔			✔	✔
Service Appointment	Salesforce		✔		✔	✔
Service Contract	Salesforce		✔		✔	✔
Service Crew	Salesforce	✔			✔	✔
Service Crew Member	Salesforce	✔			✔	✔
Service Objective	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	FSL	✔			✔	✔
Work Order	Salesforce		✔		✔	✔
Work Order Line Item	Salesforce		✔		✔	✔
Work Rule	FSL	✔			✔	✔
Work Type	Salesforce	✔			✔	✔

Template Access

Each version of the Moover Field Service Lightning templates resides in a .zip file on the Prodly website at https://www.prodly.co/resources and in GitHub at https://github.com/prodly/salesforce-fsl-templates.

To access the templates from the Prodly website, perform the following steps:
1. In a web browser, navigate to the resources page of the Prodly 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.
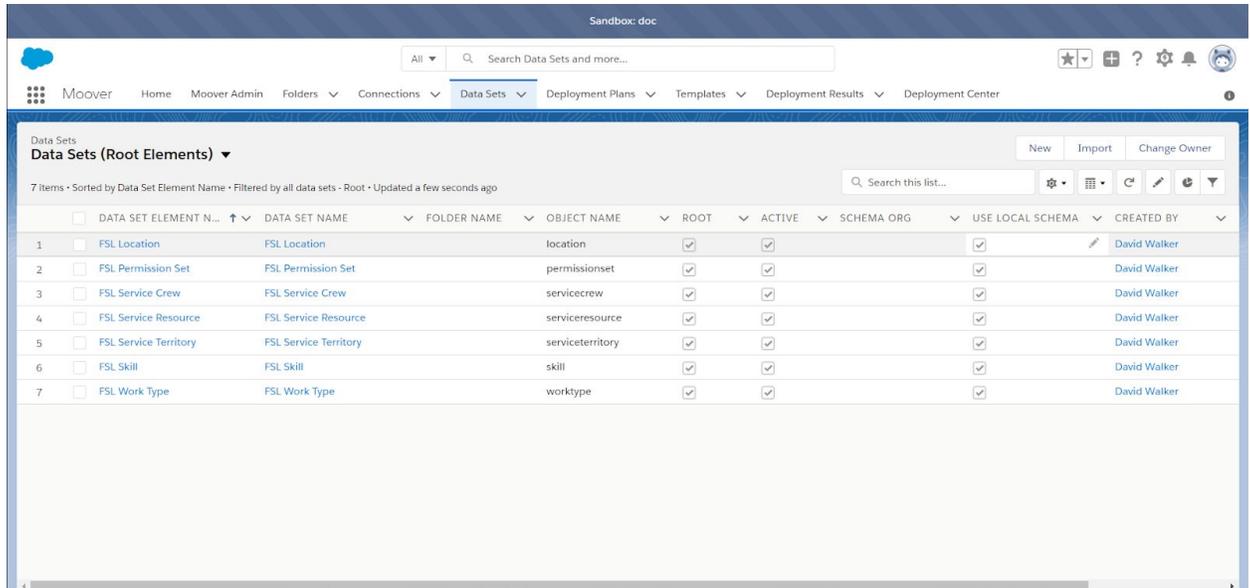
Schema Organization Selection

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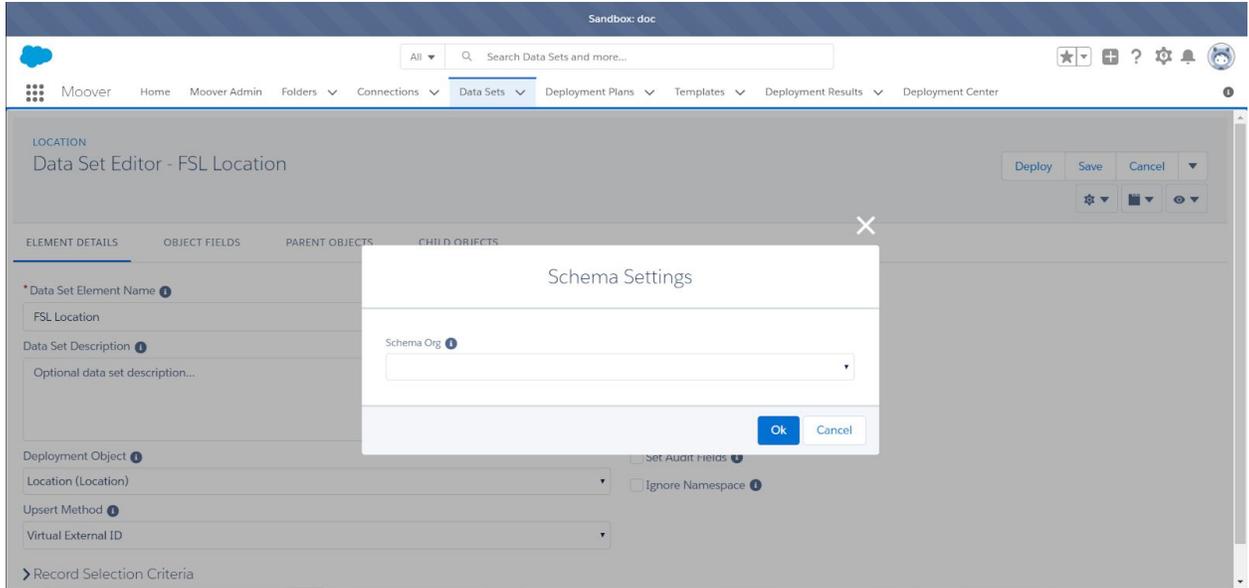
4. In the **Schema Org** list, select one of the existing connections to tell the data set editor which organization contains the FSL schema.
5. Click **OK**. The dialog box closes.
6. Click **Save**.
7. Repeat all steps for each data set you just imported.

CHAPTER 2. Data Set Customization

Because every 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 templates.

Duplicate Record Considerations

Your first and most important decision is to determine the approach to avoiding creation of duplicate records that is most appropriate for your use case. The following approaches are available:
- Prodly's virtual external ID (VEID)
- Prodly's composite external ID (CEID)
- Salesforce's formal external ID (FEID)

Moover allows you to specify the approach for each data set element independently. Refer to the expanded upsert capabilities topic in the [Prodly Moover for Salesforce User Guide](#) for more information.

Prodly highly recommends using VEID unless you start using Moover in the middle of a development cycle and 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). When starting mid-cycle, consult with Prodly to determine whether using CEID, using FEID, or first consolidating your data and using VEID is best for your use case.

About VEID

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 expanded upsert capabilities topic in the [Prodly Moover for Salesforce User Guide](#) for more information.

To use VEID, you must first initialize the VEID manager database. If there is existing data in your source or destination organization that was entered by a method other than a sandbox refresh or sandbox cloning (such as a data loader or manual entry), you must first consolidate the data. Refer to the VEID manager appendix in the [Prodly Moover for Salesforce User Guide](#) for more information and data consolidation instructions.

About CEID

When using CEID, understanding and carefully choosing the unique identifier for every deployment object in each data set is essential for successful data deployment. 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 deployment 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 deployment. 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.

About FEID

Moover treats FEIDs the same as CEIDs. The only differences are Salesforce guarantees FEIDs to be unique (pro) but you must take extra steps outside of Moover to create FEIDs (con). Prodly designed Moover to minimize the need for FEIDs, but in cases where both complicated unconsolidated data makes using VEID difficult and there is not enough uniqueness in your data for CEID, using FEID might be the only viable option for a specific data set element in your use case.

Field Service Lightning Object Considerations

The purpose of the Moover Field Service Lightning 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:
- **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.

- **Scheduling Policy** – When you have a large volume of scheduling policy records, consider importing the FSL *<version>* Scheduling Policy data set (which includes the Scheduling Policy, Scheduling Policy Objective, Scheduling Policy Work Rule, Service Objective, and Work Rule data set elements) from the Moover Field Service Lightning template .zip file and adding the data set as an additional last step in your deployment plan. Because scheduling policy records are created by the Field Service Lightning managed package, when using VEID, delete the automatically-created records from the destination organization prior to deployment.
- **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 Field Service Lightning templates earmark for deployment 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 deploying those records at all, you are likely deploying 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 deploy more of this data for a more complete solution. Contact support@prodly.co for more information or assistance.
- **Service Resource Capacity** and **Resource Absence** – These objects are technically transaction data, however, your use case might call for bulk loading their records on initial deployment.

Data Set Details

This topic describes the default values for the data set elements for each deployment object in the Moover Field Service Lightning template data sets.

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
Active	Set	Always select this checkbox. Moover only deploys data residing in active deployment objects.
Replicate Owner	Unset	The default value is unset because the data is reference data, not transaction data. *Note:* *If your security model requires restricting resources by territory, consider using* **Replicate Owner** *to restrict access to Service Resource and Service Territory records.*
Replicate Record Type	Unset	Field Service Lightning does not use record types by default.
Create Missing Fields	Unset	The default value is unset because typically there are no field additions to FSL reference data objects.
Sync Picklist Field Values	Unset	The default value is unset because typically there are no changes to picklist field values in FSL reference data.
Set Audit Fields	Unset	Because the Moover Field Service Lightning template data sets deploy reference data, not transaction data, this field is unset by default.
Ignore Namespace	Unset	The default value is unset so Moover considers the namespace.
Ignore Relationship Constraint	Unset	The default value is unset so Moover deploys only the related records, except in the following data set elements: ● Operating Hours has **Ignore Relationship Constraint** set to ensure all records deploy because not all operating hours records are referenced by service territories.
Deployment Object	Varies	Refer to the next table for a list of deployment objects in the data sets.
Upsert Method	Varies	The upsert method is **Virtual External ID**, except in the

		following data set elements: • FSL Permission Set uses **Standard Upsert** because you create the permission sets through the managed package. • User uses **Standard Upsert** because Moover does not create users. Moover only references and updates users.

Query Filter	None*	Add query filters to deploy subsets of your data.
		
		*Objects in the following data set elements contain both reference and transaction data. To deploy only the reference data, the data set elements include the following query filters:
		• FSL Permission Set specifies
		    `(Name like 'FSL%' OR Name like`
		    `'Field Service%')`

Object-Specific Settings

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 Field Service Lightning template data sets.
- **R**oot element – A checkmark in this column indicates the object is the deployment object in a root element of exactly one data set.
- **N**on-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.

Deployment Object	R	N	Notes
Address		✔	
Location	✔		
Map Polygon		✔	
Operating Hours		✔	
Permission Set	✔		
Permission Set Assignment		✔	
Product		✔	

Product Required		✔	
Resource Preference			While technically reference data, this object is only tied to accounts, which the Moover templates do not include.
Scheduling Policy	✔		
Scheduling Policy Objective		✔	
Scheduling Policy Work Rule		✔	
Service Crew	✔		
Service Crew Member		✔	
Service Objective		✔	
Service Resource	✔	✔	
Service Resource Skill		✔	
Service Territory	✔	✔	
Service Territory Location		✔	
Service Territory Member		✔	
Skill	✔		
Skill Requirement		✔	
Time Slot		✔	
User		✔	
User Territory		✔	
Work Rule		✔	
Work Type	✔		

APPENDIX A. Template File Contents

Each version of the Moover Field Service Lightning template .zip file contains the following JSON-formatted template files:

- FSL *<version>* Deployment Plan – Contains one deployment plan and all data sets necessary to successfully deploy typical Field Service Lightning reference data. The deployment plan contains ordered steps to ensure successful deployment. Refer to the deployment sequence checklist for more information.
- FSL *<version>* Scheduling Policy Data Set – Contains a data set you can add to your deployment plan when you have too many scheduling policy records to confidently reconfigure manually using the guided setup in the Field Service Admin app.

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.

1. FSL *<version>* Permission Set
2. FSL *<version>* Service Resource
3. FSL *<version>* Service Territory
4. FSL *<version>* Work Type
5. FSL *<version>* Skill
6. FSL *<version>* Service Crew (if needed)
7. FSL *<version>* Location (if needed)
8. FSL *<version>* Scheduling Policy (if you added it manually)

The following table lists the data sets in the Moover Field Service Lightning 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 *<version>* Location	Address **Location** Service Resource Service Territory Service Territory Location
FSL *<version>* Permission Set	**Permission Set** Permission Set Assignment User

FSL *<version>* Scheduling Policy	**Scheduling Policy** Scheduling Policy Objective Scheduling Policy Work Rule Service Objective Work Rule
FSL *<version>* Service Crew	**Service Crew** Service Crew Member Service Resource
FSL *<version>* Service Resource	**Service Resource** User
FSL *<version>* Service Territory	Map Polygon Operating Hours Service Resource **Service Territory** Service Territory Member Time Slot User User Territory
FSL *<version>* Skill	Service Resource Service Resource Skill **Skill**
FSL *<version>* Work Type	Product Product Required Skill Skill Requirement **Work Type**