Lab Guide

Building a No Code App from Scratch

Edwin van den Heuvel & Martijn Kruijt

Default Login / Password: Knowledge17

admin / Knowledge17

itil / Knowledge17

employee / Knowledge17

Lab Sponsored by Amazon Web Services



This
Page
Intentionally
Left
Blank

ServiceNow Powers Enterprise Service Management

Introduction

Every person in the enterprise is a service provider, and successful businesses deliver everything as a service at the speed of their business. The ServiceNow enterprise application Platform-as-a-Service (aPaaS) enables you to focus on automating manual tasks and delivering great, consumerized self-service experiences to users across the enterprise, instead of worrying about lower-level application infrastructure like databases, high availability, security, auditing, and regulatory compliance. You can meet business needs by developing and publishing cloud-native business apps that replace manual tasks and unstructured messaging with streamlined workflows and a consumer service experience.

Context for Application

In the following tutorials, you build a fleet management application for Zoomi, a fictitious logistics firm with operations in several countries. Its mission is to provide cost-effective logistics and transportation outsourcing for its clients.

The logistics coordinators currently manage most fleet management processes with a combination of email, spreadsheets, and phone calls. One of the logistics groups in Europe also uses a spreadsheet stored in a personal Google Docs account. This worries IT with regard to security since that document includes information about clients and their shipments.

This fragmented approach means that coordinators do not always have completely accurate information. It is also common for the company to pay penalties for late delivery. Executives do not have visibility into fleet performance because the reports from each logistics manager have a different format and the numbers shown are sometimes suspect.

Application's Value to the Business

The Chief Operating Officer approaches the IT department to build a new application on the ServiceNow platform by entering a new demand in the Demand Management application.

In the demand record, the COO explains that this application should provide value to all logistics managers and operations executives.

©2016 ServiceNow, Inc. All rights reserved.

Managing the Implementation

The request for the application is taken through the demand management process and approved for implementation. An enhancement request is then created. The Product Owner and the application development team use that enhancement request as the parent for a set of stories that cover the requirements for the new application.

The development team uses the stories within the ServiceNow SDLC module to manage the implementation process. A Visual Task Board is created as a visual way to manage the work for this application.

The instructor explains how Visual Task Boards can make it easy to manage work and collaborate with others.

Context of the Template

During this lab, an application is created from a template. This option is good for applications that need to track the status of requests or task-driven records. This lab will only touch upon a small part of the rich set of functionalities offered by the template. The student is encouraged to take a deeper dive at a later time.

Information About the Lab Instance

This lab is intended for a standard instance of ServiceNow release Istanbul patch 2. Four plugins need to be activated:

Name ▲	Version	Status	ID
CMS User Interface - Service Management Core	1.0.0	Active	com.snc.service_management.core.cms
Collaboration	1.0.0	Active	com.glide.collaboration
Service Management Core	1.0.0	Active	com.snc.service_management.core
Tablet Device Support - iPad with iOS 6+	1.0.0	Active	com.glide.ui.tablet

©2016 ServiceNow, Inc. All rights reserved.

Start the Application

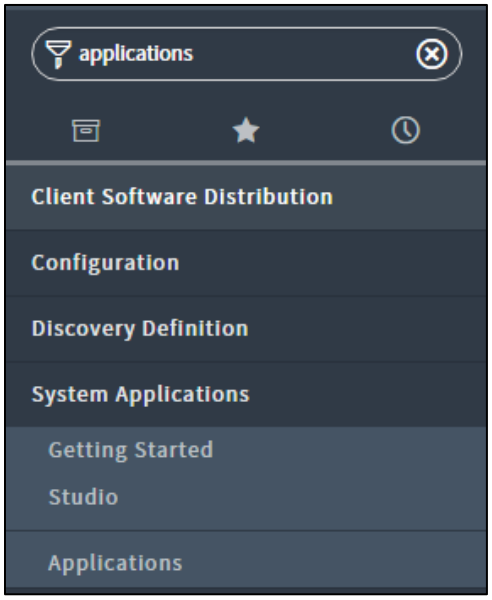
Lab 1.0
Start the Application

This lab explains how to create the initial application. By configuring the template, you establish the baseline functionality for the generated application.

Choose How to Start the Application

This section explains how to start the application and give the application a name.

1. Navigate to **System Applications > Applications** by typing **applications** in the application navigator filter box.

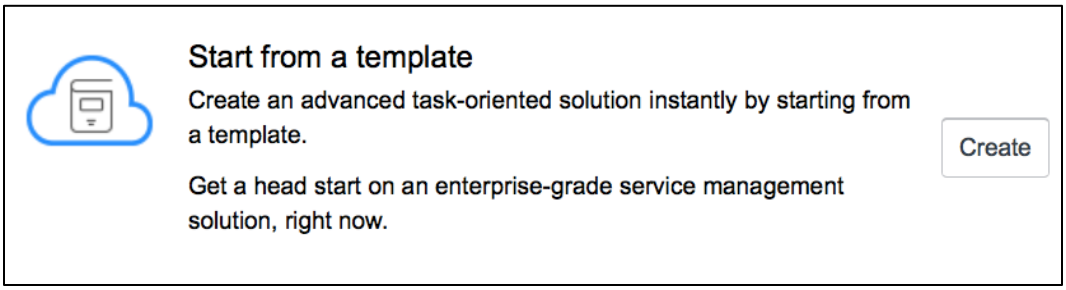


2. Click **New** in the **Develop tab**.



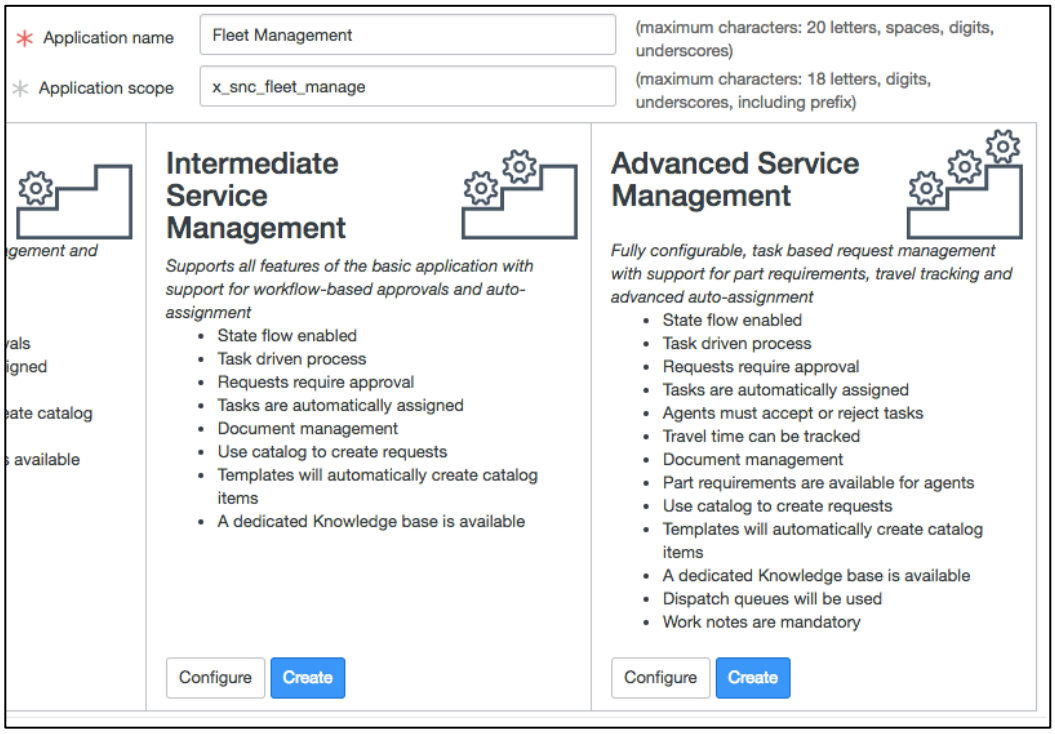
©2016 ServiceNow, Inc. All rights reserved.

3. Click **Create** in the **Get started building application** page, next to **Start from a template**.



4. Type **Fleet Management** in the **Application name** field.

5. **Click Configure** in the **Advanced Service Management** section.

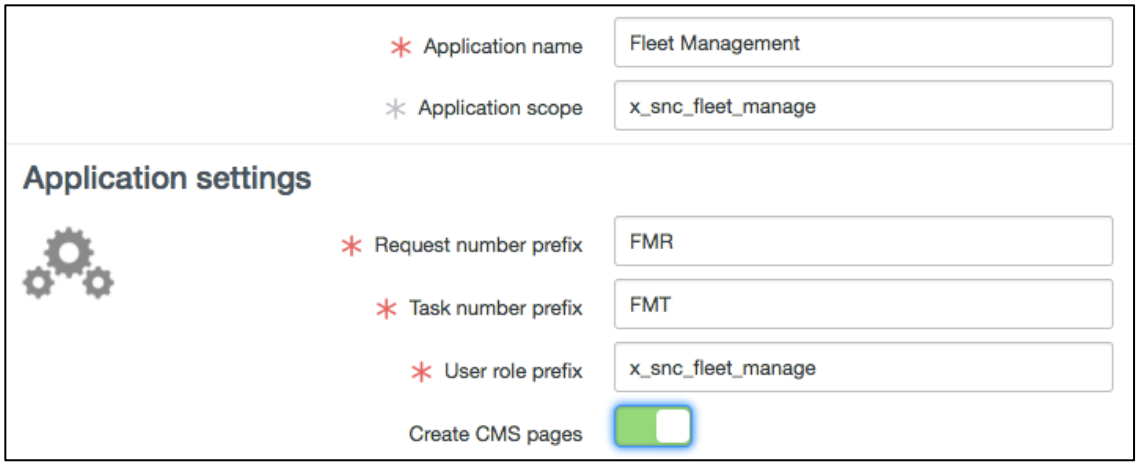


©2016 ServiceNow, Inc. All rights reserved.

Configure the Template

Configure the template options to specify the general behavior and characteristics of the application.

1. In the **Application settings** section, for the **Create CMS pages** field, **click the switch** to turn on the option to generate content management system pages for this application.



2. Deselect **Approval for new requests required** by clicking the switch in the **Business process** section.



3. Switch off **Track agent travel time** in the **Business process** section.



4. Switch off all options in the **Assignment** section. Select **none** for **Auto-selection of agents for tasks requires them to have skills**.

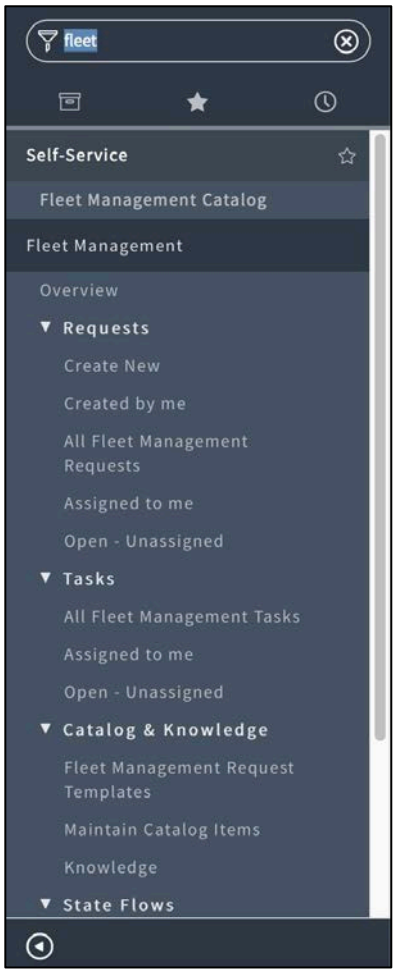
5. Click **Create.** Click **OK** in the **Confirm Application** dialog. ServiceNow generates the application and refreshes the application navigator (this could take several minutes). Click **View app record** in the **Application Creation** dialog. Clear out the text you entered in the **application navigator filter**, by clicking the **X**. The list refreshes.

©2016 ServiceNow, Inc. All rights reserved.

Verify Results

The template generates a comprehensive application designed for service management activities.

1. Type **fleet** to see the Fleet Management application in the **application navigator filter**.



The application includes sections for:

- **Service Reporting**
  Where service managers view an overview of service and process performance with reports about request and task volume, group utilization, and catalog item usage
- **Request Management**
  Where requesters and fulfillers create and manage service requests
- **Task Management**
  Where fulfillers manage their tasks

©2016 ServiceNow, Inc. All rights reserved.

- **Catalog and Knowledge Administration**
  Where service managers create and manage request templates, catalog items, and knowledge articles
- **State Flow Administration**
  Where application administrators modify how requests and tasks move through the various phases of their lifecycles
- **Application Administration**
  Where application administrators configure various properties and settings that impact how the application functions

©2016 ServiceNow, Inc. All rights reserved.

Standardize Process Through Request Templates

Lab 2.0 Request Templates

With just a few clicks you created a robust service management application. But even with some configuration of the template, the application is pretty generic. The application provides several ways to align with the requirements of the service domain. One of those ways is to create request templates that reflect the standard processes fulfillers should use to respond to requests.

Currently, requests are handled inconsistently. How the request is fulfilled is heavily influenced by the experience and location of the fulfiller. The company would like to increase consistency and efficiency across all locations. Specifying the fulfillment process in a request template would help.

This lab explains how to create a request template and use it when making a request.

Create a Request Template

This section explains how to create a request template that specifies the tasks that should be completed to fulfill a request.

1. Navigate to **Fleet Management > Catalog & Knowledge > Fleet Management Request Templates**. The Fleet Management Request Templates list page opens.

2. Click **New**. The Fleet Management Request Template form opens.

3. Click the **+** button in the **Request information** section to the right of the **Name** field. Additional fields appear.

4. Enter the following information in the **Request information** section.

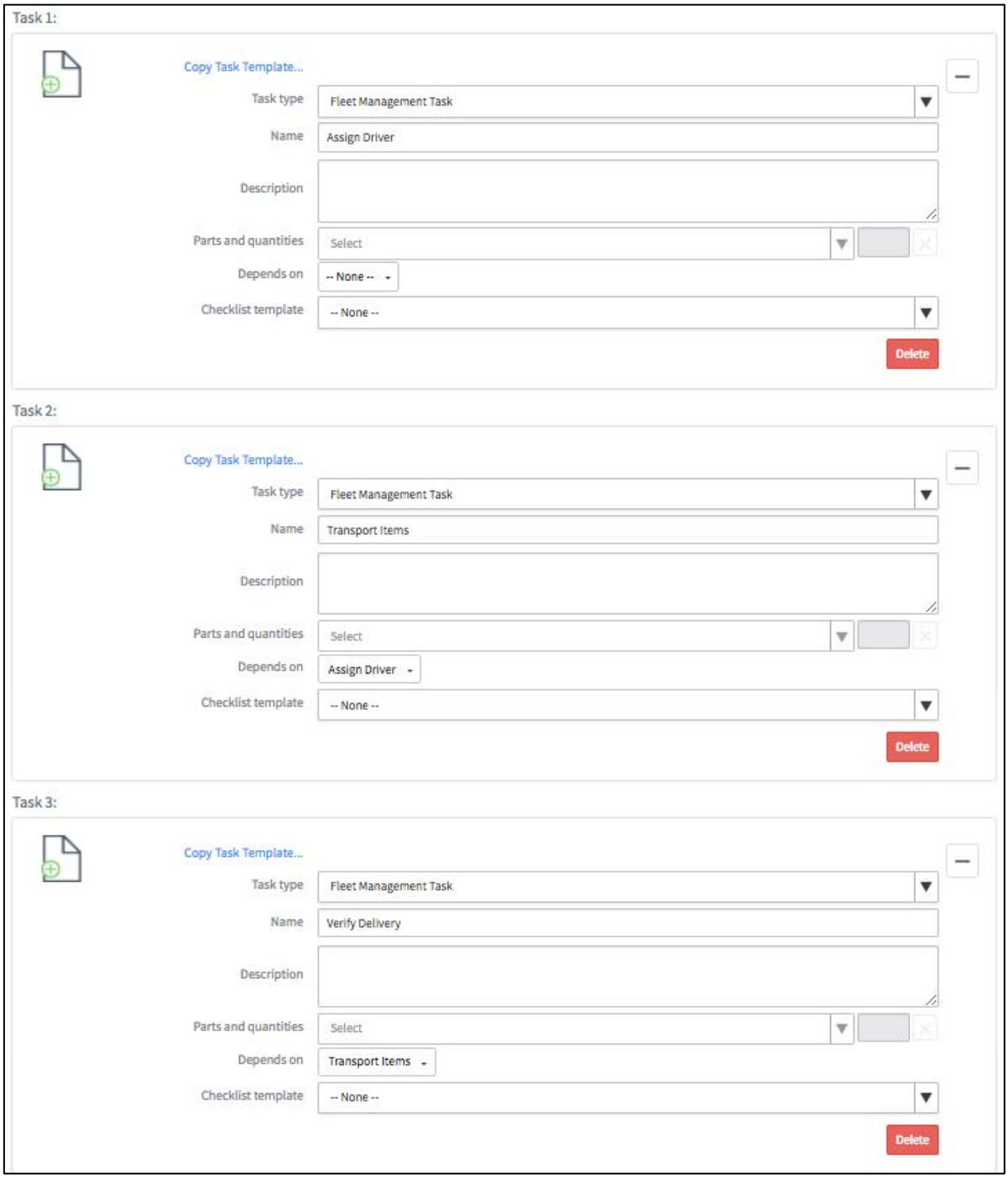


©2016 ServiceNow, Inc. All rights reserved.

5. For **Task 1**, type **Assign Driver** in the **Name** field.
6. For **Task 2**, type **Transport Items** in the **Name** field. Make Task 2 **depend** on Task 1.
7. For **Task 3**, type **Verify Delivery** in the **Name** field. Make Task 3 **depend** on Task 2.

©2016 ServiceNow, Inc. All rights reserved.

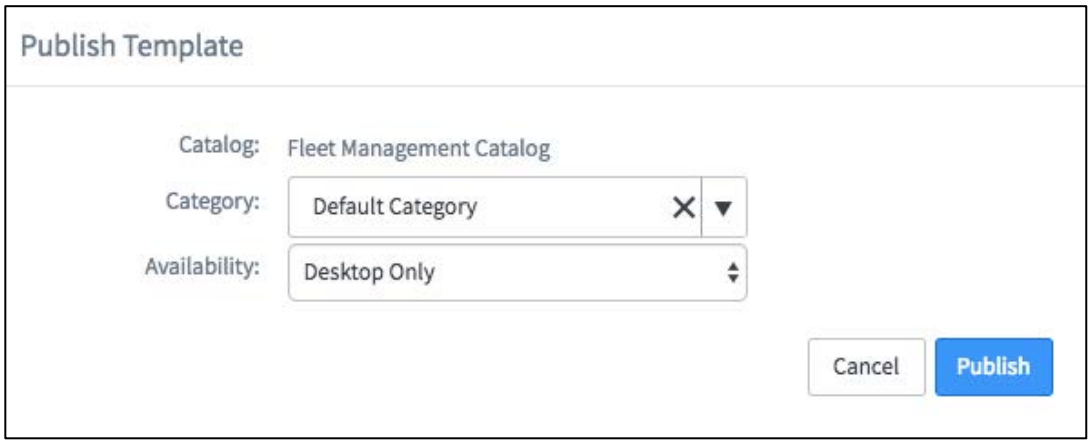
The example shows the completed Tasks 1, 2, and 3.



©2016 ServiceNow, Inc. All rights reserved.

1. Click **Submit**.

2. Select **Default Category**. Click '**Publish**' in the dialog box.

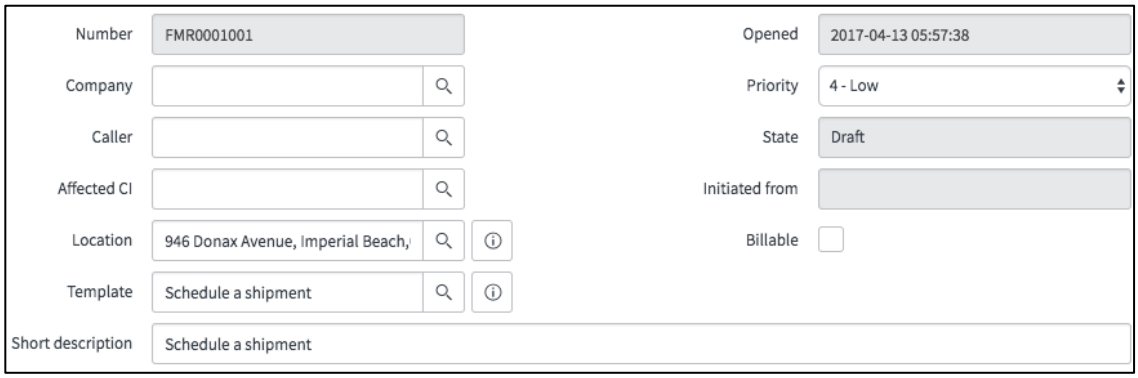


Use the Request Template

Now that the request template is set up, use it to submit a request.

1. Navigate to **Fleet Management > Requests > Create New**.

2. Type **Schedule a Shipment** in the **Template** field, and press **Tab**. Notice how the **Short description** field updates to match the values from the template.



3. Enter the following information to complete the form.

In this field…	Enter…
Caller	Avery Parbol

4. Click **Submit**.

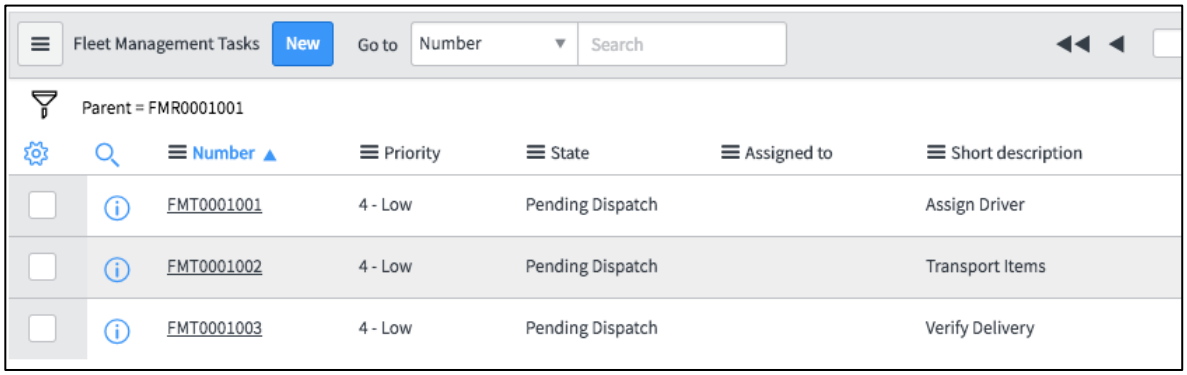
©2016 ServiceNow, Inc. All rights reserved.

Verify Results

Review how the request template impacts the information on the request.

1. Open the **Schedule a Shipment** request just created in the **Fleet Management Requests** list. Click **Ready for Work**. (You may see a notice or three that No Agent is available. Please disregard.)

2. Scroll down to see the **Fleet Management Tasks**. Notice that the tasks in the request were populated from the request template. There is now a standard process for shipment requests that is reflected in every request. These tasks are ready to be assigned and worked.



©2016 ServiceNow, Inc. All rights reserved.

Enable Requests Through the Service Catalog

Lab 3.0 Service Catalog

The application you built is a big hit. Spurred by that initial success, the company wants to expand the application to solve other common issues they face. Often, requests are missing key information.

Logistics would now like requestors to fill out an online form instead of the inconsistent methods they currently use. The department could then receive, review, and track the requests online, and process them more consistently and efficiently.

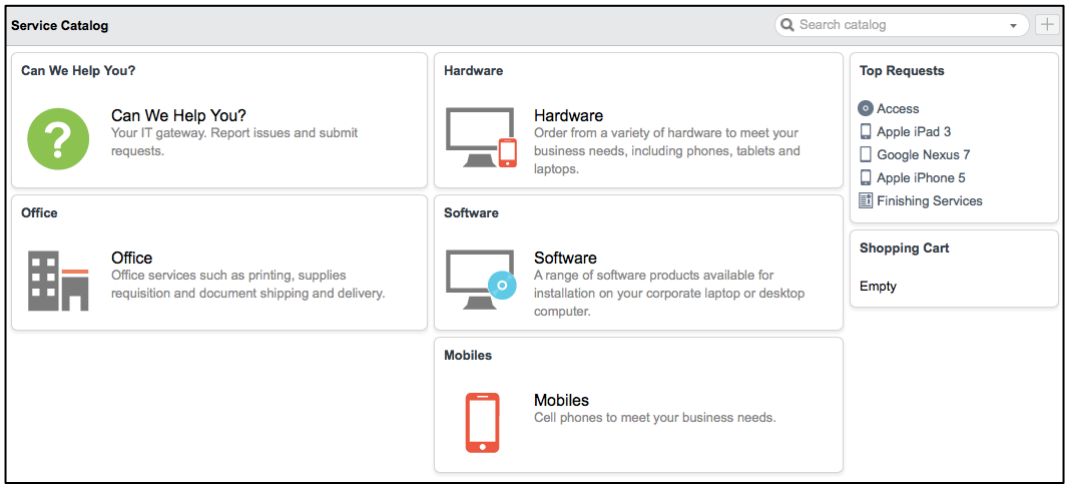
There are two ways to implement these changes:

1. Give access to the existing application to the requesters
2. Expose items in a Service Catalog

Service Catalog is a term that has its origins in IT Service Management. A Service Catalog is a representation of the services offered to an organization by a service provider (IT) to their customers (the Business). Using the ServiceNow Service Catalog ensures that users have a single interface for all their request-based needs without having to navigate multiple applications and interfaces. Multiple, independent catalogs can be managed while still giving requesters a single entry point and interface.

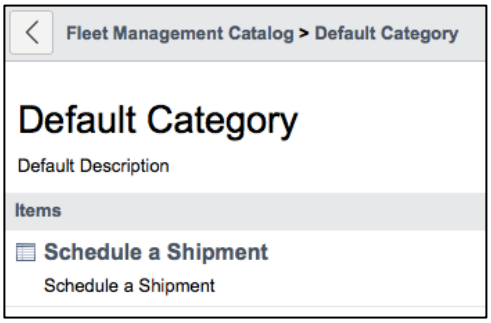
©2016 ServiceNow, Inc. All rights reserved.

The figure below shows a sample Service Catalog.



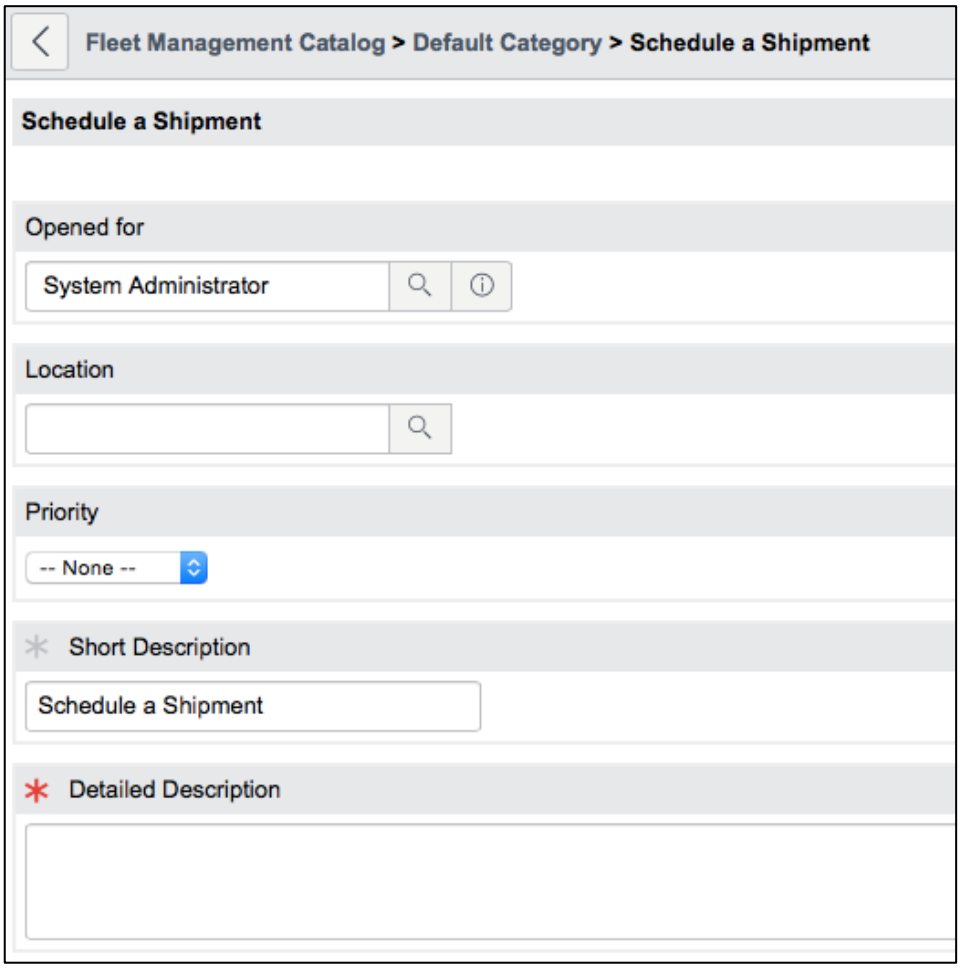
Since requesters do not need to understand the nuances of the shipping process, it makes sense for them to make shipping requests using a service catalog. This lab explains how to create items in the Fleet Management Service Catalog generated by the template.

When you create a request template, the system generates a service catalog item.



©2016 ServiceNow, Inc. All rights reserved.

The generated catalog item provides fields to collect commonly needed information. You add to or modify these fields based on business needs.

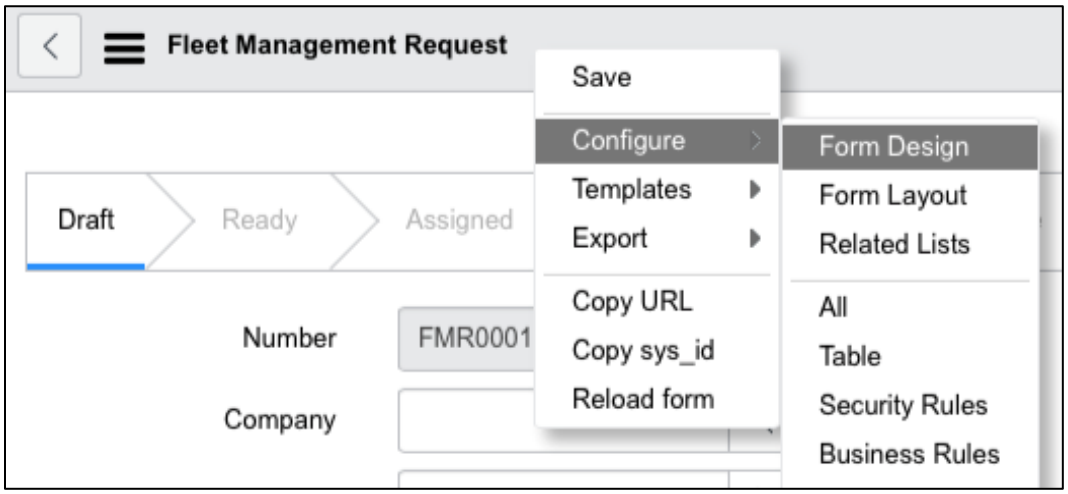


©2016 ServiceNow, Inc. All rights reserved.

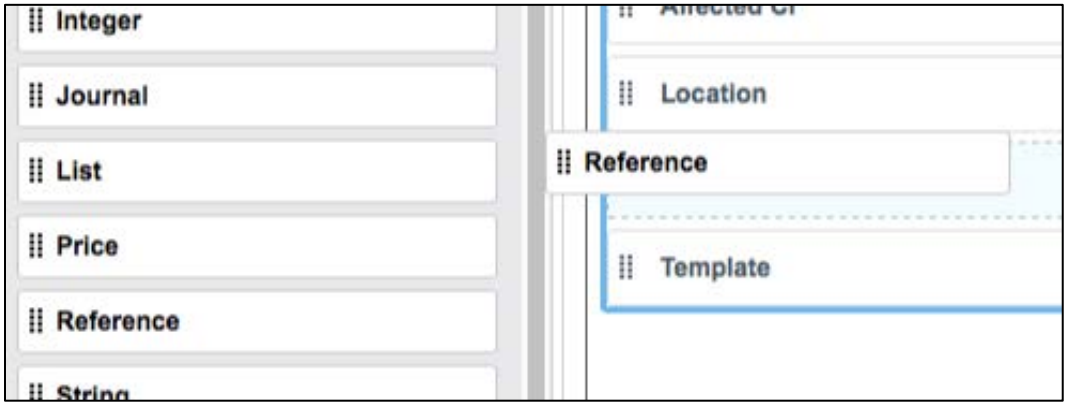
Add Field to Table

This section explains how to add a Destination field to the Fleet Management Request table to make it easier to process shipping requests.

1. Navigate to **Fleet Management > Requests > Create New**.
2. Enter some text into the Description. Click **submit**.
3. Navigate to **Fleet Management > Open – Unassigned** and click the request you just created.
4. Right-click in the header area and select **Configure > Form Design**. The form designer opens in a new browser tab.



5. Click on the 'Field Types' tab on the left navigator and then drag a **Reference** field between the **Location** field and **Template** field in the form design panel.



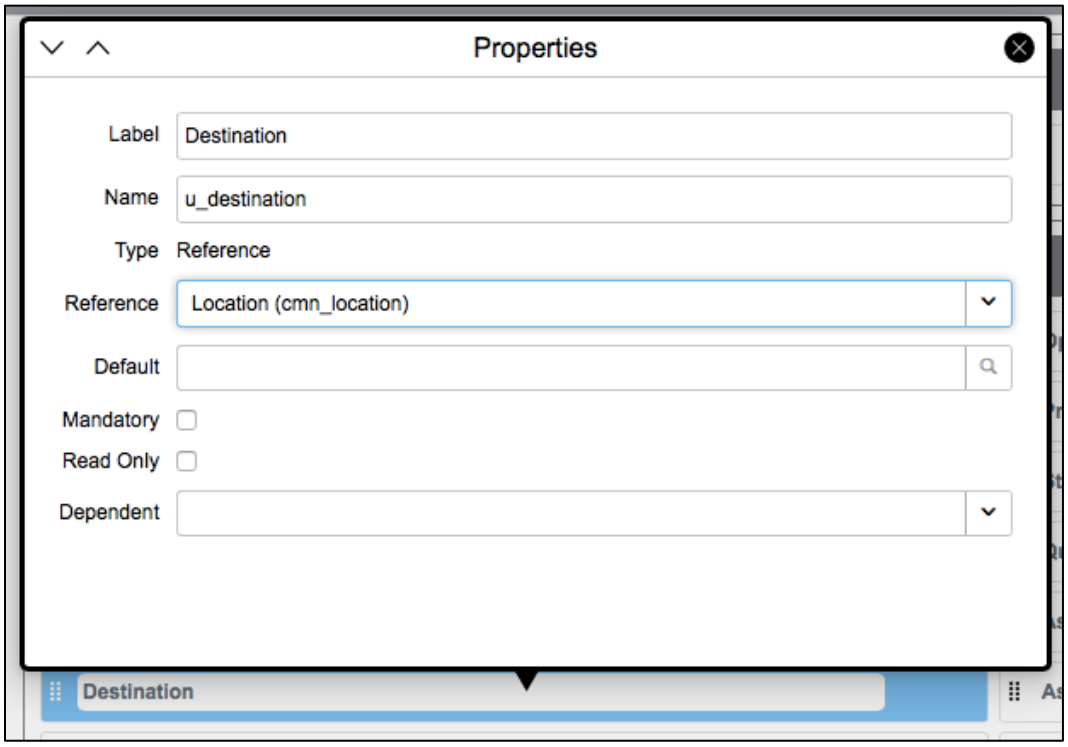
©2016 ServiceNow, Inc. All rights reserved.

6. Click the field label and type **Destination**.

7. Click  on the right of the **Destination** label to change the field properties.

8. Enter the following information into the properties dialog.

In this field…	Enter…
Name	u_destination
Reference	Location (cmn_location)



9. Then we add a field for delivery date. Click on the 'Field Types' tab on the left navigator and then drag a **Date** field onto the form and change the label to **Deliver By**.

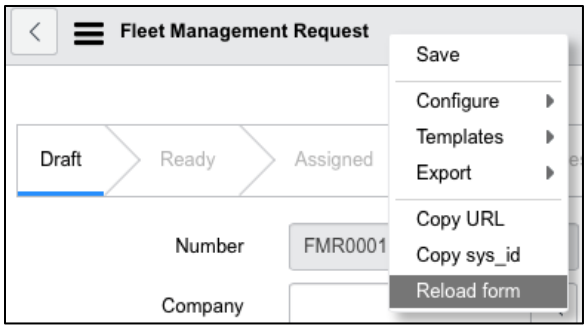
©2016 ServiceNow, Inc. All rights reserved.

10. Enter the following information into the properties dialog.

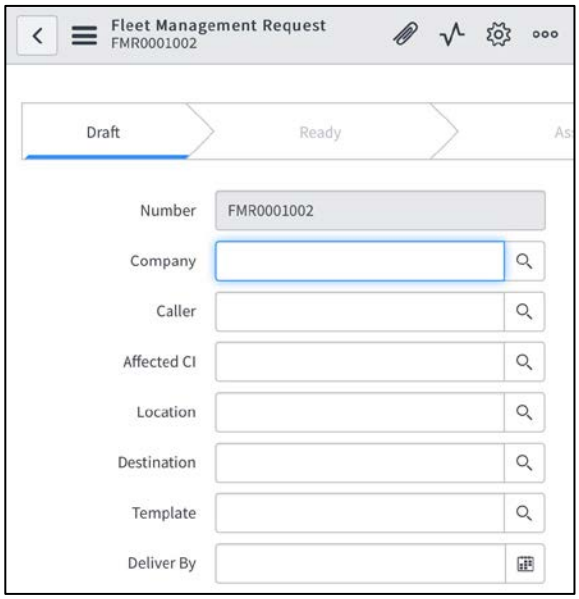
In this field…	Enter…
Name	u_deliver_by

11. Close the dialog and click **Save**, close the **Form Design** browser tab.

12. Right-click in the header area of the **Fleet Management Request** form and select **Reload form**.



13. The **Destination** field appears on the request form.

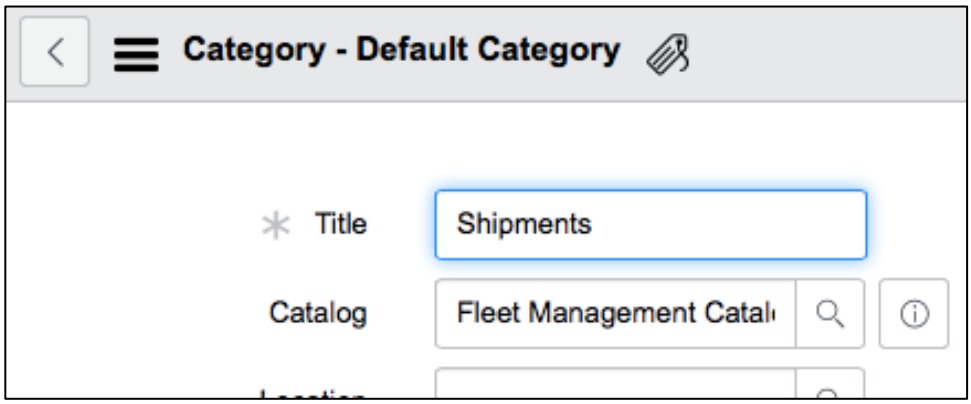


©2016 ServiceNow, Inc. All rights reserved.

Configure Catalog Item

This section explains how to modify the generated catalog item to better align with the needs of the organization.

1. Navigate to **Fleet Management > Catalog & Knowledge > Maintain Catalog Items**.
2. Open the **Schedule a Shipment** catalog item.
3. In the **Category** section, open the **Default Category** by clicking the text label.
4. Change the **Title** to **Shipments**.

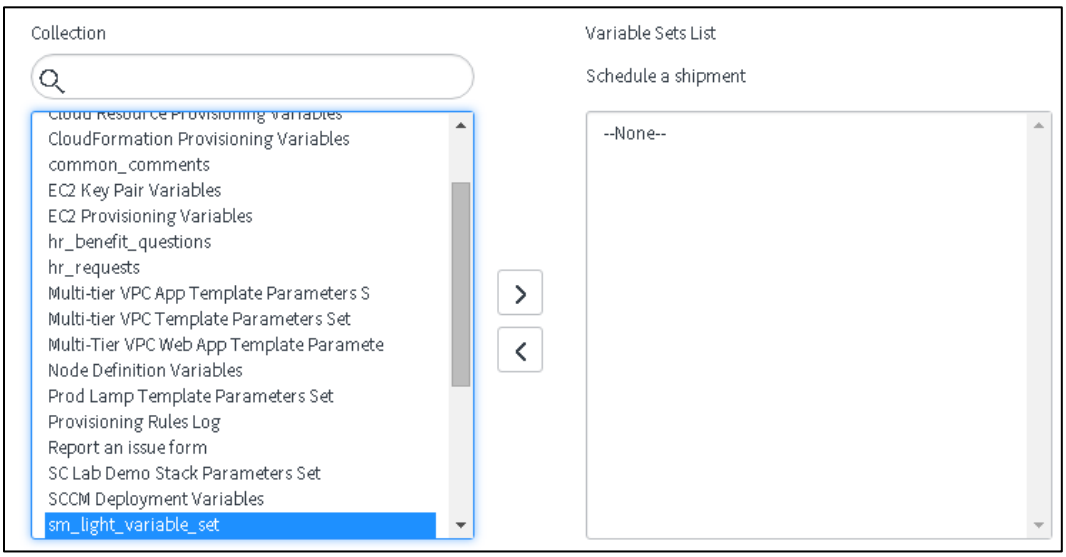


5. Click **Update**.
6. Click **Edit...** in the **Variable Sets** section.



©2016 ServiceNow, Inc. All rights reserved.

7. Remove the **sm_light_variable_set** from the **Variable Sets List** by selecting it and clicking 

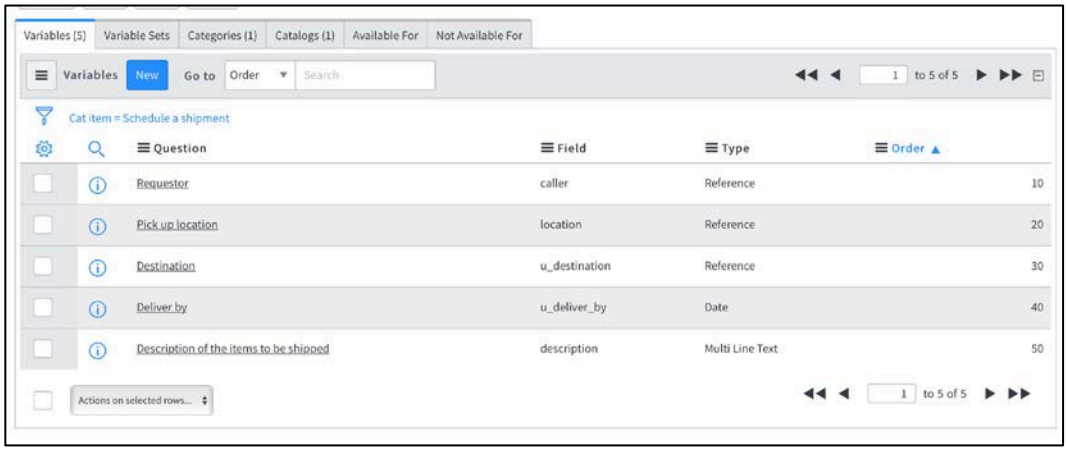


8. Click **Save** to return to the catalog item.

9. Add the following variables into the **Variables** section:

Map to field	Field	Type	Order	Question	Reference
Checked	Caller	Reference	10	Requester	User [sys_user]
Checked	Location	Reference	20	Pick up location	Location (cmn_location)
Checked	Destination	Reference	30	Destination	Location (cmn_location)
Checked	Deliver By	Date	40	Deliver by	
Checked	Description	Multi Line Text	50	Description of items to be shipped	

©2016 ServiceNow, Inc. All rights reserved.



10. (You may get an error for using the Location field twice. Just disregard.) Click **Update** to return to the list of catalog items.

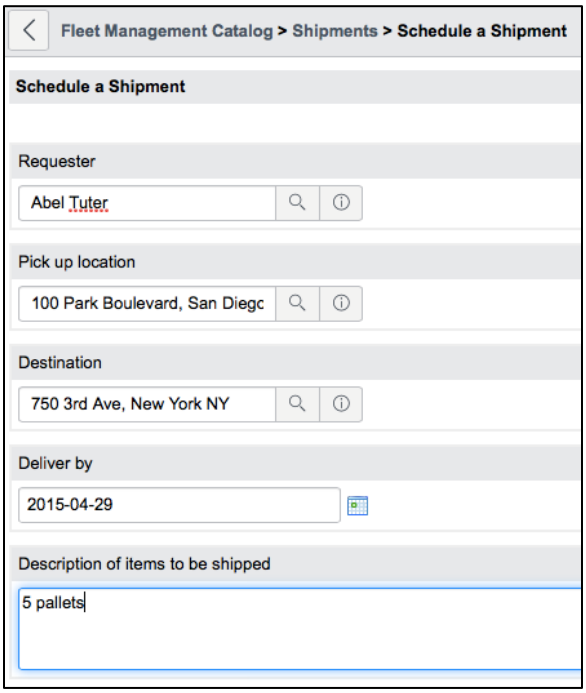
Verify Results

Make a new request to see the variable editor in action.

1. Navigate to **Self-Service > Fleet Management Catalog**.
2. Click **Shipments**.
3. Click **Schedule a Shipment**.
4. Enter the following information into the **Schedule a Shipment** form:

In this field…	Enter…
Requester	Abel Tuter
Pick up location	(select any location)
Destination	(select any location)
Deliver by	(5 days from today)
Description of items to be shipped	5 pallets

©2016 ServiceNow, Inc. All rights reserved.



5. Click **Submit**.

6. Go to **Fleet Management Request > Open – Unassigned** and select the record you just created to review the order you just created.

©2016 ServiceNow, Inc. All rights reserved.

Enable Collaboration

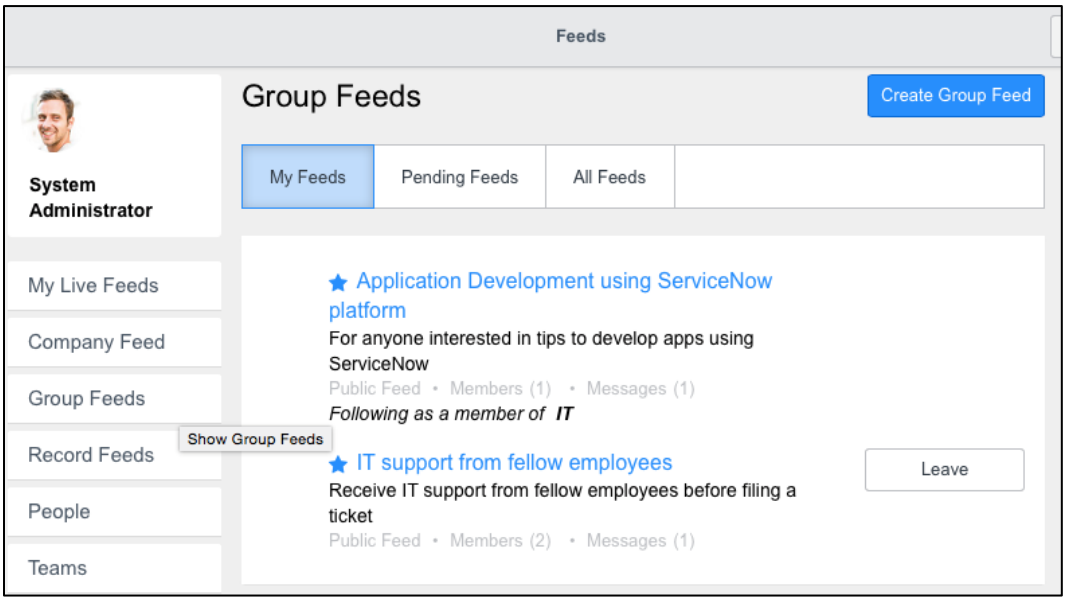
Lab 4.0
Collaboration

The ServiceNow Platform enables collaboration in several ways. This lab explains how to use two of them for the Fleet Management application to understand how they work.

Create a Live Feed Group

Live Feed is a social IT application that provides a place to post and share content in a ServiceNow instance. This content forms a searchable knowledge source for sharing information with an organization. This section explains how to create a Live Feed group for the shipment coordinators.

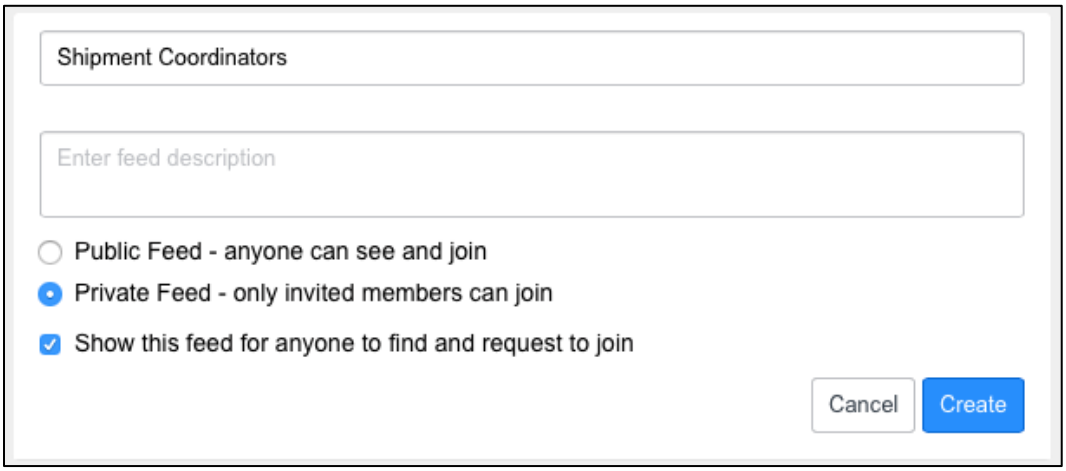
1. Navigate to **Collaborate > Live Feed**.
2. Click **Group Feeds**.



3. Click **Create Group Feed**.
4. Enter feed name **Shipment Coordinators**.

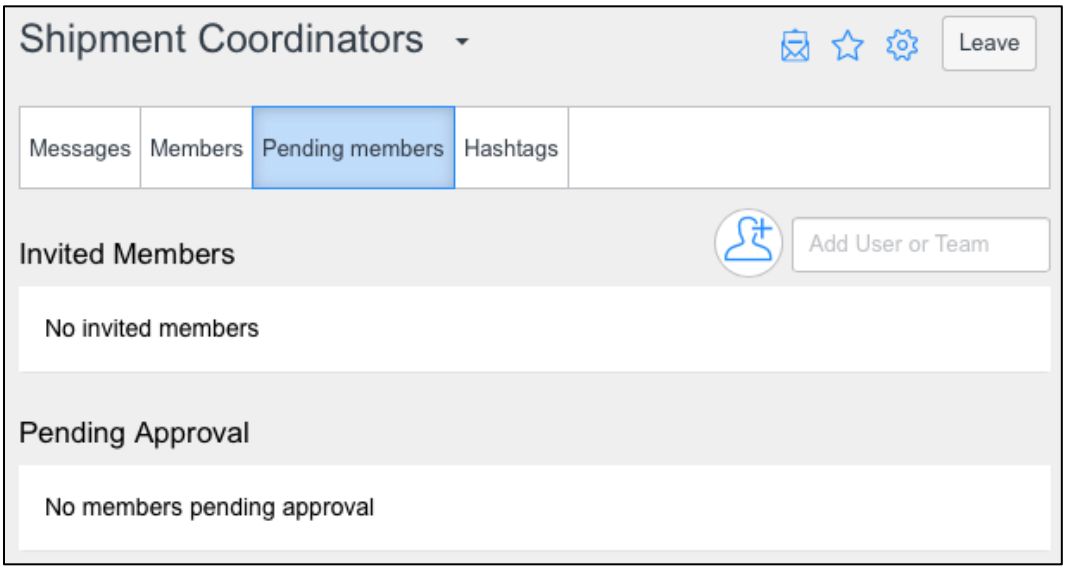
©2016 ServiceNow, Inc. All rights reserved.

5. Click **Private Feed**.



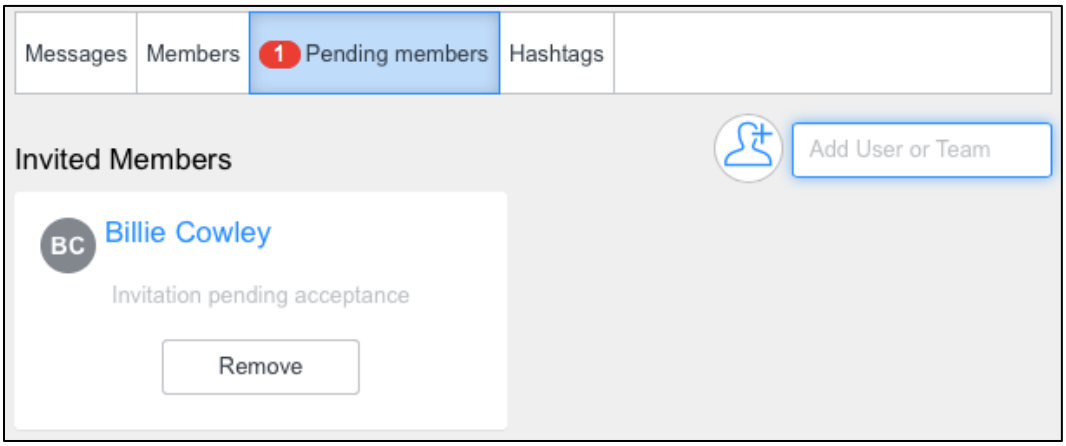
6. Click **Create**. The Shipment Coordinators Live Feed becomes active.

7. Click **Pending** members.



©2016 ServiceNow, Inc. All rights reserved.

8. Type **Billie Cowley** in the **Add User or Team** text box and press **Enter**. This action adds a card for Billie in the **Invited Members** section. Billie, and any other people you invite, can join the group by accepting the invitation in the **Pending Feeds** tab of the **Group Feeds**.



Collaborate on Request

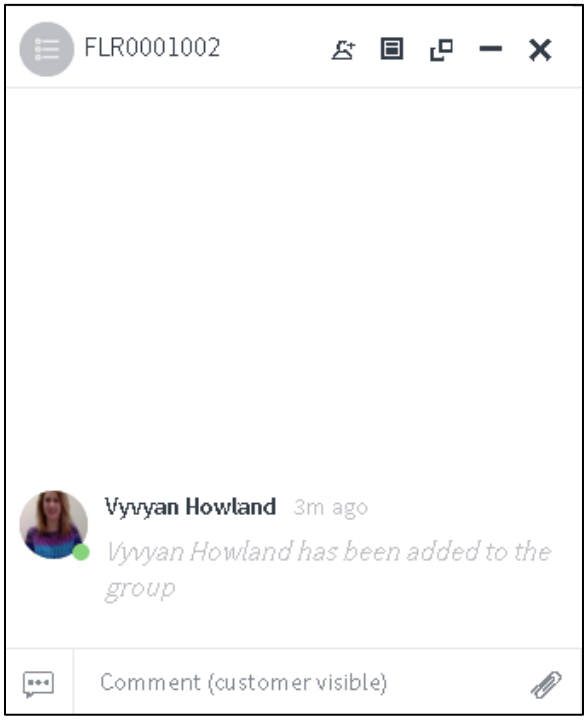
Live Feed is great for general group collaboration and knowledge sharing, but often there is a need to collaborate about a more targeted context, like a request or task. ServiceNow supports this as well. This section explains how to use Connect to collaborate with the requester.

1. Navigate to **Fleet Management > Requests > All Fleet Management Requests**.

2. Open the **last request** in the list.

©2016 ServiceNow, Inc. All rights reserved.

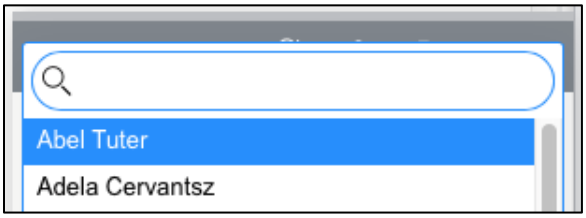
3. Click the dropdown arrow on the **Follow** button in the header bar of the request and select **Open Connect Mini**. A collaboration window specific to the current request opens.



4. Click the **Add User** icon.

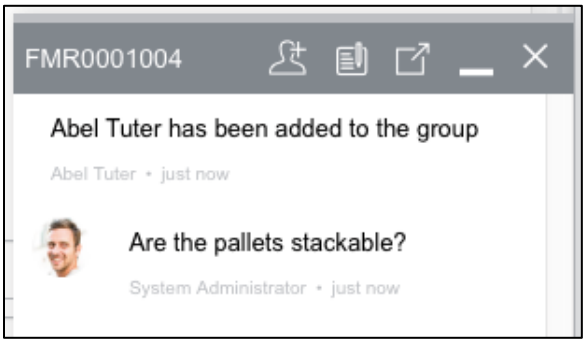


5. Select **Abel Tuter** in the search list.



©2016 ServiceNow, Inc. All rights reserved.

6. Type **Are the pallets stackable?** in the **Comment** field and press **Enter**.



7. Close the collaboration window by clicking the **X**.

   Notice that the comment you entered In the **Activity** section is included in the journal for the field. If Collaboration is started for a record, comments and work notes are captured automatically.

©2016 ServiceNow, Inc. All rights reserved.

Send Notifications

Lab 5.0 Notifications

You can also use the built-in email capabilities of the ServiceNow Platform to keep in touch with your customers. This lab explains how to send out a confirmation email every time someone requests a new shipment.

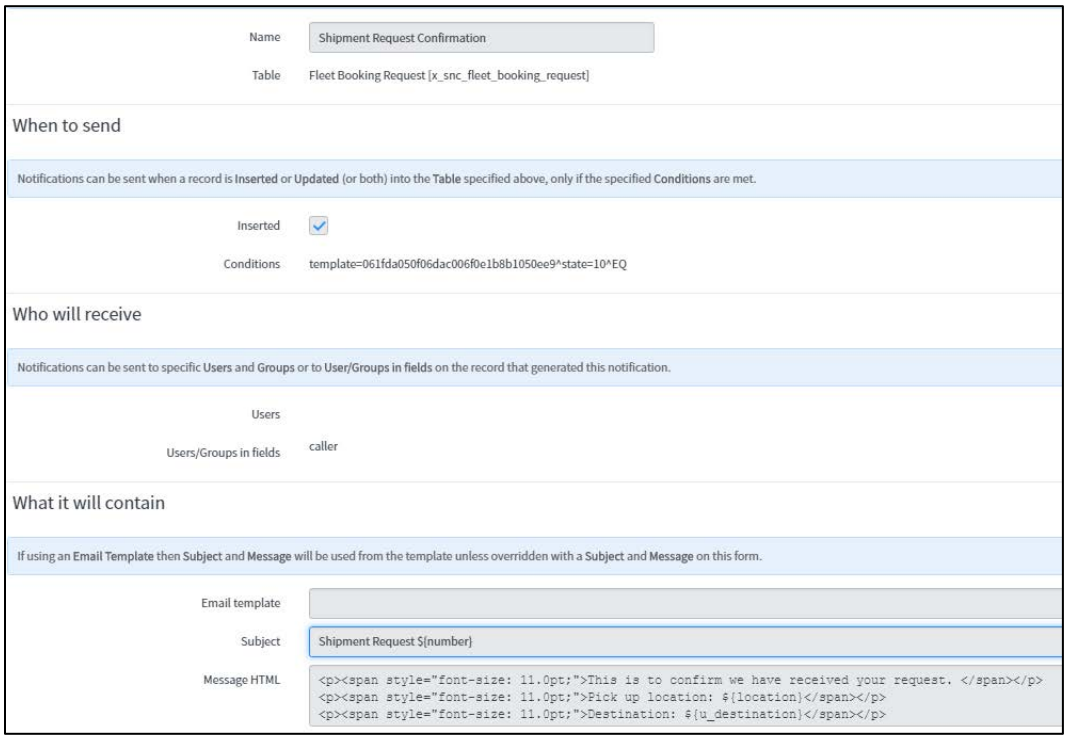
Create an Email Notification

This section explains how to create the notification that will serve as the template for the automated emails.

1. Navigate to **System Notification > Email > Notifications**.
2. Click **New**.
3. Enter the following information into the **Email Notification** form.

In this field…	Enter…
Name	Shipment Request Confirmation
Table	Fleet Management Request [x_snc_fleet_management_request]
When to Send > Inserted	Checked
When to Send > Updated	Checked
When to Send > Conditions	**Template** is **Schedule a Shipment** AND State is **Ready**
Who Will Receive > Users/Groups in Fields	Caller
What it will contain > Subject	Shipment Request ${number}
What it will contain > Message HTML NOTE: Variables use the format ${field_name}. Use **Select variables** list to add fields with clicks.	This confirms we have received your request. Pick up location: ${location} Destination: ${u_destination} To be shipped: ${description} Thank you!

©2016 ServiceNow, Inc. All rights reserved.



4. Click **Submit**.

Verify Results

Now that the notification is set up, trigger it and review the result.

1. Test the capability by adding a couple of requests – remember the conditions of the notification template. You must have a **Caller**, **Template** set as 'Schedule a shipment' and the **State** set as 'Ready' (click 'Ready for Work button').

2. View the email records ServiceNow generates by navigating to **System Mailboxes > Outbound > Outbox** or **Sent**. The SMTP server is not configured on these lab instances, so the email will not actually be sent.

©2016 ServiceNow, Inc. All rights reserved.

Create a Report

Lab 6.0
Reporting

Reports and dashboards give additional insight into your application's data. Reporting and creating dashboards is a built-in capability of the ServiceNow Platform. You can modify the generated reports and dashboard in the application or you can build a variety of reports, charts, and dashboards tailored to the needs of different stakeholders such as executives and managers.

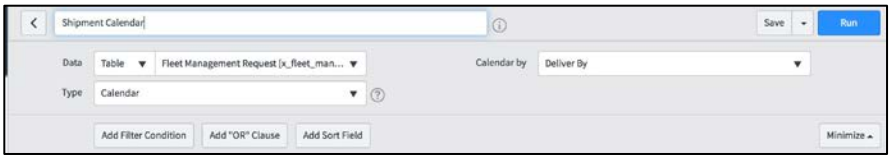
This lab explains how to build a calendar report to display the upcoming shipments in a calendar view.

Create a Report

This section explains how to create the report.

1. Navigate to **Reports > View / Run**. Click the 'Create a report' button.
2. Enter the following information into the **new report** form.

In this field…	Enter…
Enter the report title here…	Shipment Calendar
Data	Fleet Management Request [x_snc_fleet_management_request]
Type	Calendar
Calendar by	Deliver by



3. Click **Run Report**. Notice that the shipping request you entered displays on the calendar.
4. To save the report, click **Save**. Saving a report allows users to simply rerun it without having to recreate it.

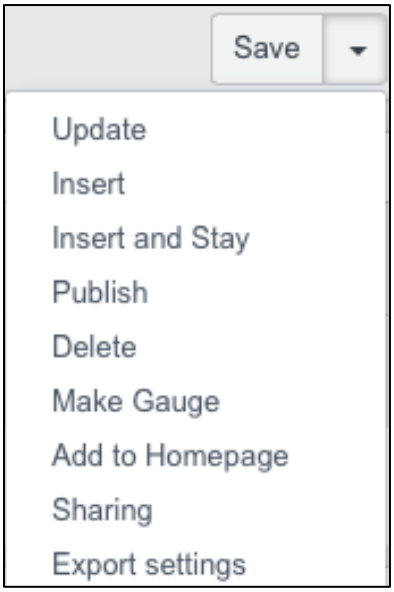
©2016 ServiceNow, Inc. All rights reserved.

Experiment with other report types. There are also some previously built reports to look at to get a sense of the breadth of functionality provided.

Share the Report

Now that the report is ready, share it with others.

1. Click the **drop-down arrow** to the right of **Save**.

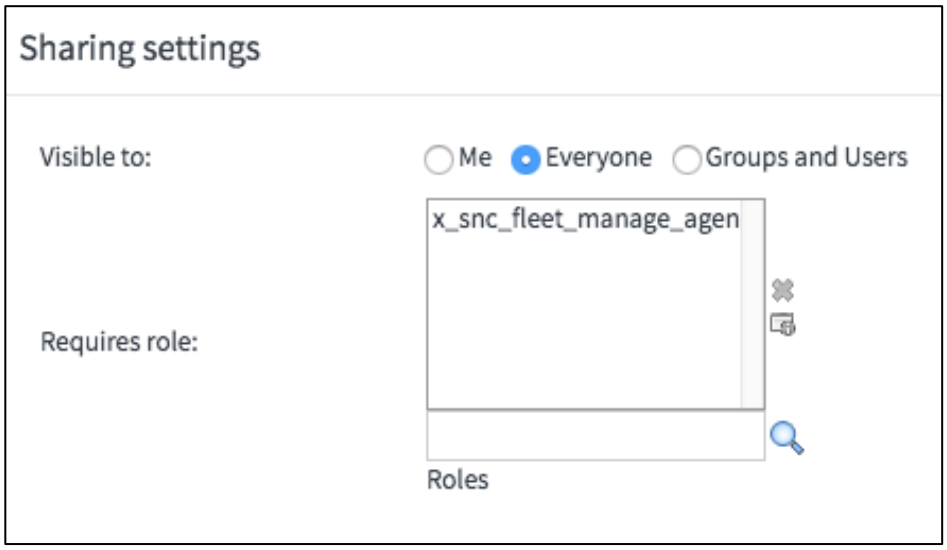


2. Select **Sharing**.

3. Select **Everyone** in the **Sharing settings** dialog. The **Requires role** field appears.

©2016 ServiceNow, Inc. All rights reserved.

4. Type **x_snc_fleet_management_agent** in the **Roles** reference field and press **Enter**. The report is now visible to anyone with that role.

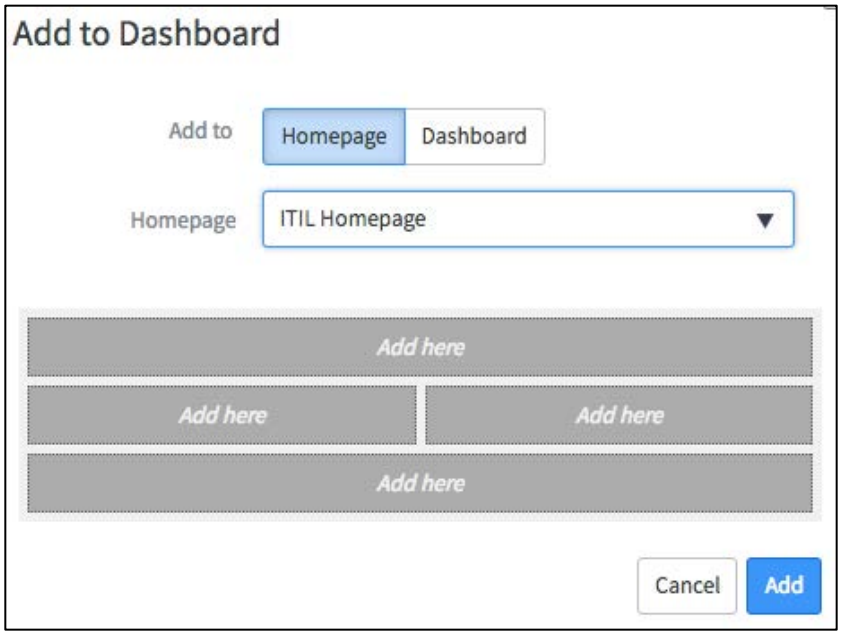


5. Click **Close**.

6. Another way to make the report consumable by others is by adding it to a dashboard. Click the **drop-down arrow** again on the right of **Save**.

©2016 ServiceNow, Inc. All rights reserved.

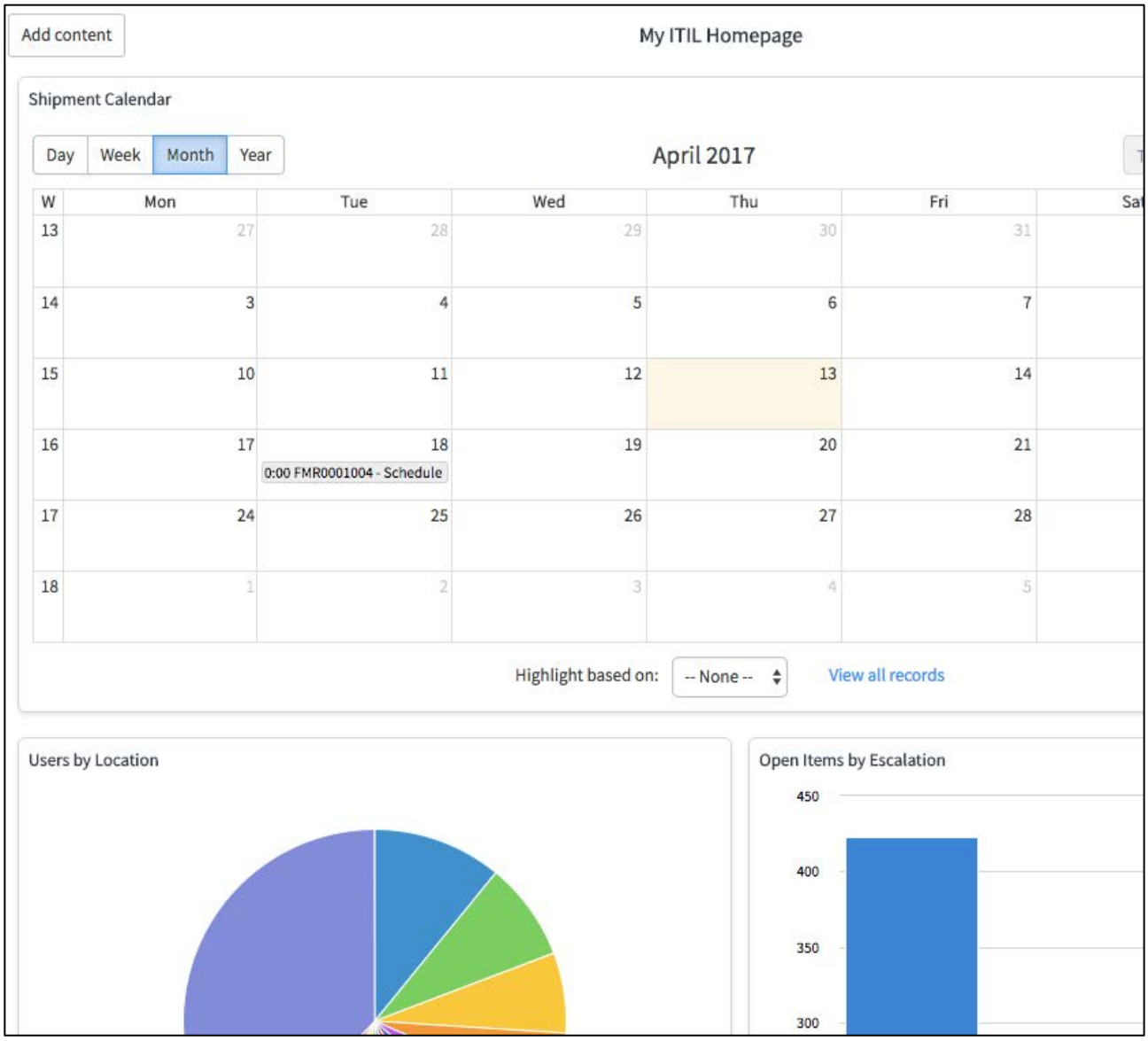
7. Select **Add to Dashboard**.



Choose a homepage (e.g., ITIL Homepage) and click the topmost **Add here** to put the calendar on top of the homepage.

©2016 ServiceNow, Inc. All rights reserved.

8. The system shows the new modified homepage



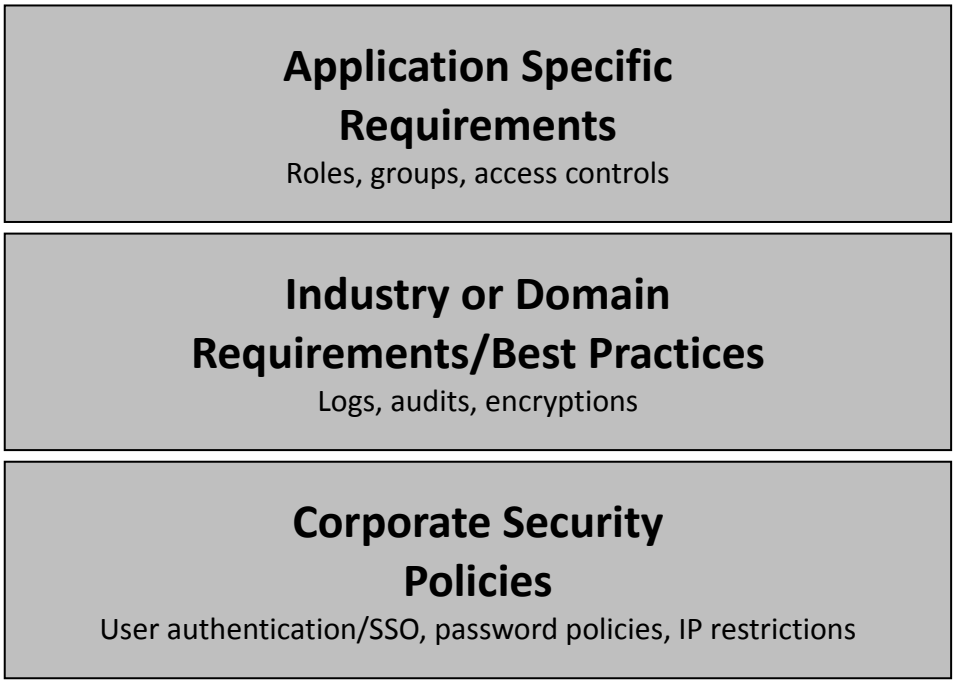
©2016 ServiceNow, Inc. All rights reserved.

Secure the Application

Lab 7.0
Security

Security is an important and multifaceted topic. The ServiceNow Platform provides a variety of administrative controls and a fine-grained application security model to secure your applications.

The diagram below depicts one way to think about the security of the applications and some of the platform capabilities provided to address it. At the bottom are the controls that are mandated by your company's security policies. On top of that may be industry-specific requirements and best practices. These two layers may be common across multiple applications. Finally, application-specific security controls access to an individual application.



The platform security capabilities should not be looked at in isolation, but should be used together to secure the application in an optimal fashion. In this tutorial, we deferred security to a later lab; however, as a best practice you should understand the security requirements for your applications and incorporate them into earlier stages of the implementation cycle. Fortunately, by creating your application from a template, many security best practices are enabled by default.

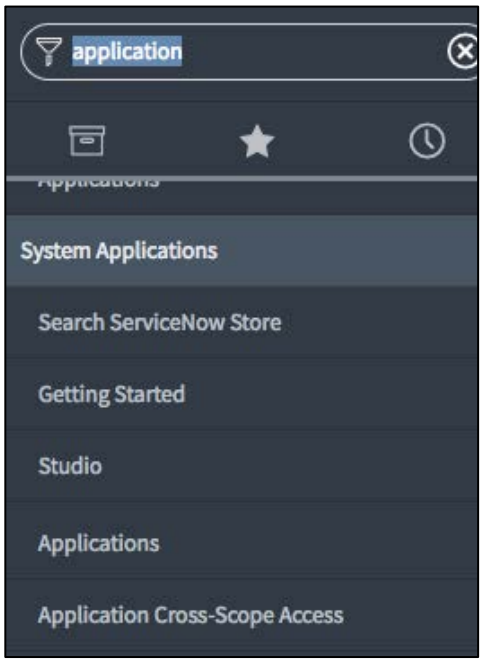
This lab looks at two of the capabilities provided by the ServiceNow Platform to secure the applications—**Roles** and **Access Control Lists**.

©2016 ServiceNow, Inc. All rights reserved.

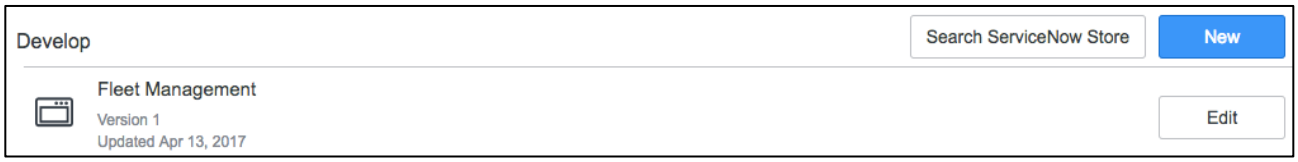
A **role** is a category that can be assigned to a user and can be granted access to certain parts of the system—in your case the **Fleet Management** application. When you used the application template in the first lab, it created new roles that you can assign to users who need access to this application.

This lab reviews the default application roles and explains how to change the role permissions through Access Control Lists.

1. First, look at what roles are created by the template. Navigate to the settings for the application by typing Application in the navigator and clicking on **System Applications > Applications**.



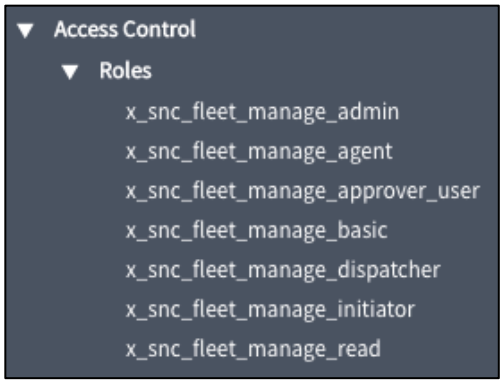
2. Click on the Edit button for the Fleet Management application:



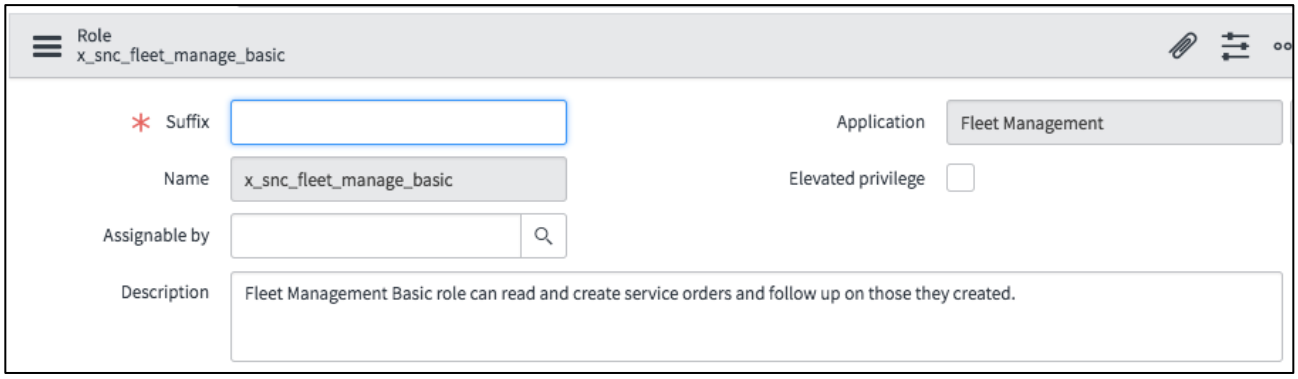
This opens **Studio**, an IDE-like interface for application developers to work on custom applications in one centralized location. It offers a simple way to identify and interact with application files, create files as you develop, and modify existing application files in a tabbed environment. The system opens Studio whenever you edit a scoped application.

©2016 ServiceNow, Inc. All rights reserved.

3. Scroll to the **Access Control > Roles** section. The template created all of these roles.



Take a moment to read the description for each role by clicking on it (Studio opens a tab with detailed information about the role). Without one of these roles, a user cannot see the **Fleet Management** application.



Close the browser tab containing Studio.

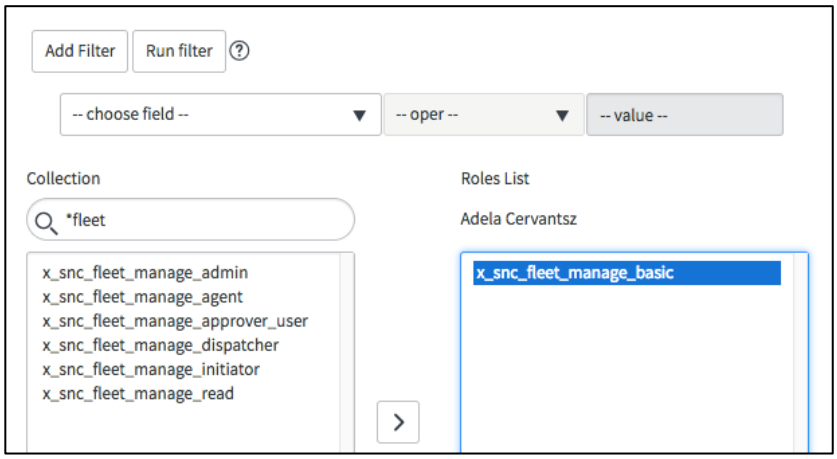
Test a Default Application Role

This section explains how to grant a user permission to the Fleet Management application and impersonate that user to see what their experience will be like with the application.

1. Navigate to **System Security > Users and Groups > Users**.
2. Open the record for **Adela Cervantsz**.
3. Click **Edit** in the **Roles** related list. The **Edit Members** form appears.

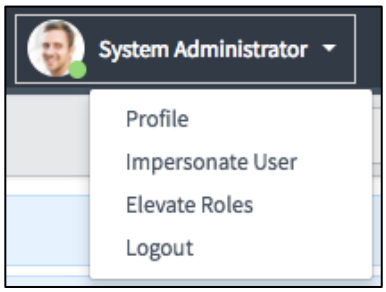
©2016 ServiceNow, Inc. All rights reserved.

4. Move the role **x_snc_fleet_management_basic** from the **Collection** list to the **Roles List**. You can type in the **Collection search** to filter the list quickly (hint: type ***fleet**).

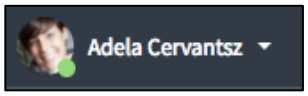


5. Click **Save**.

6. As a System Administrator, you can impersonate other users in the system. Click next to your login in the banner area and select **Impersonate User**.



Search for **Adela Cervantsz** in the **Impersonate User** dialog that appears.
You should now be impersonating Adela.



7. Navigate to **Fleet Management**. Adela can see the application but does not have access to any of the administrative functions of the application.

8. Now return to the role of System Administrator. Click next to Adelena in the browser, select **Impersonate User**, and click **System Administrator**.

©2016 ServiceNow, Inc. All rights reserved.

Understand Access Control Lists (ACLs)

By defining a role, you can give visibility to the application only to users with that role. You may want to restrict further what a particular role or user can do. The Access Control Lists mechanism allows you to restrict access at a fine level of granularity. This lab does not cover ACLs. It is, however, an important concept to know for securing applications.

©2016 ServiceNow, Inc. All rights reserved.

Enable Mobile Access

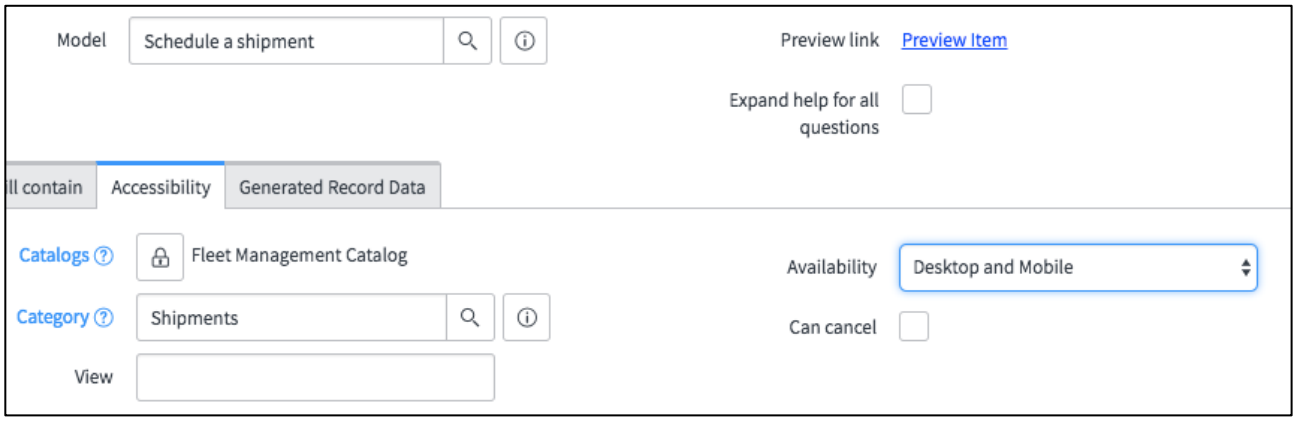
Lab 8.0
Mobile

Given the ubiquity of smartphones and tablets, it is important that your applications are not only accessible from multiple mobile devices, but also provide an optimal experience for each device user. Fortunately, the ServiceNow Platform does the "heavy lifting" for you. When access is through a mobile device, the screen automatically reformats to make your application more mobile-friendly, across multiple device types and operating systems. For Apple iPad users, the ServiceNow Platform delivers an iPad-specific view. The UI on the iPad looks and feels more like a native application. With the Helsinki release, a native ServiceNow application is now available for iPhone, iPad, and Android OS.

Enable Catalog Item for Mobile Devices

Customers may want to schedule a shipment from a mobile device. This section explains how to enable the catalog item for mobile devices.

1. Navigate to **Fleet Management > Catalog & Knowledge > Maintain Catalog Items**.
2. Open the **Schedule a Shipment** catalog item.
3. Select **Desktop** and **Mobile** in the **Availability** field on the **Accessibility** tab.



4. Click **Update**. That is the least you need to do to enable the catalog item on mobile devices. You have the option to have a mobile specific image. By default, the mobile image is the same as the desktop image.

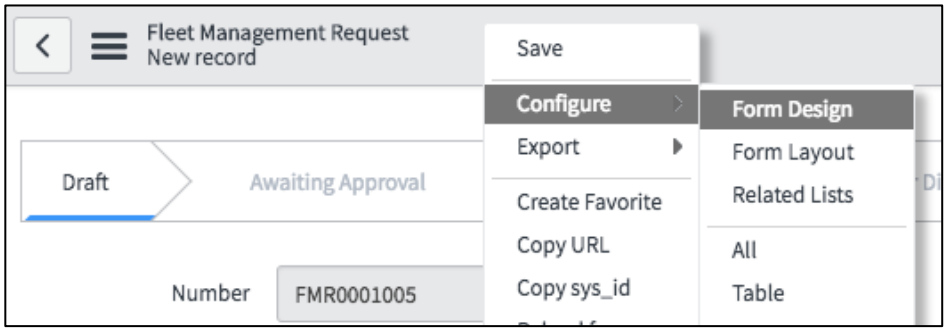
©2016 ServiceNow, Inc. All rights reserved.

Create a Mobile Form View

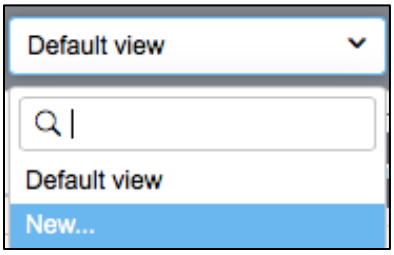
This section explains how to use the Form Designer to create a mobile-specific view of the shipment form. You eliminate a few fields from the mobile view to account for the smaller screen size.

1. Navigate to **Fleet Management > Requests > Create New**.

2. Right-click in the Fleet Management Request header, and select **Configure > Form Design**. The Form Designer opens in a new tab.



3. Select **New…** in the page header in the **Default view** field.

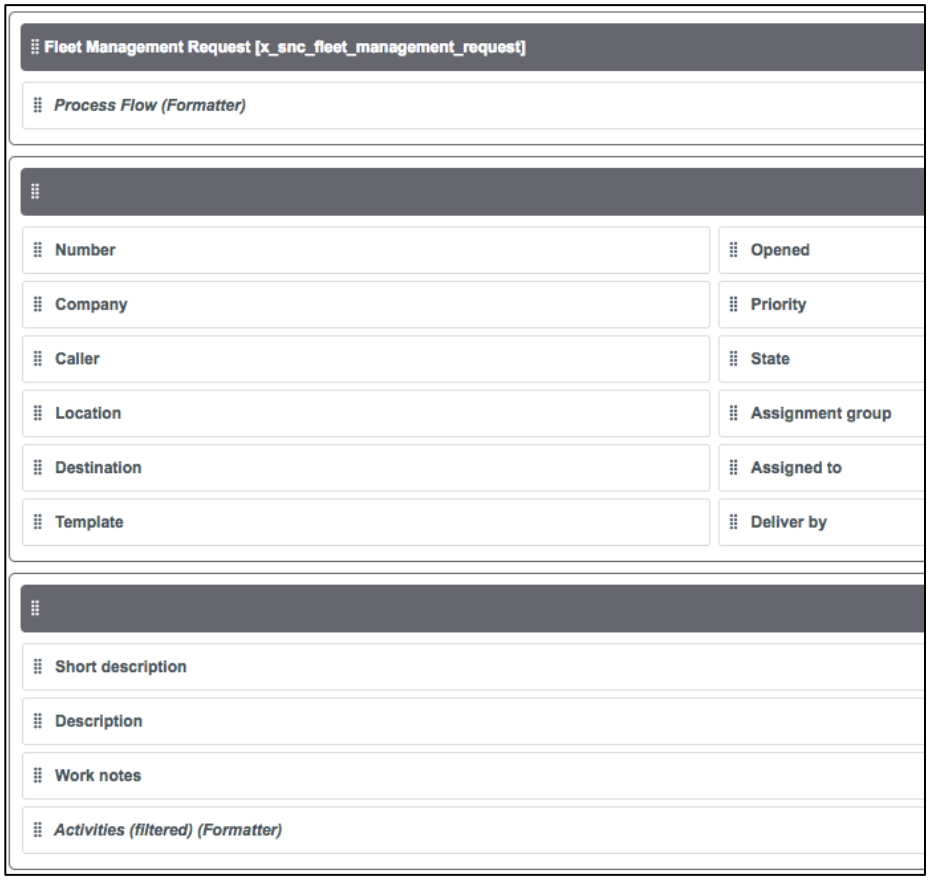


4. Enter **Mobile** in the **View name** field and click **OK**.



©2016 ServiceNow, Inc. All rights reserved.

5. Remove sections and fields until the form looks like the example below.



6. Click **Save** and close the browser tab.

Create a View Rule

View rules help determine which view should be presented to the user. This section explains how to create a rule that presents the new mobile view when the user is on a tablet.

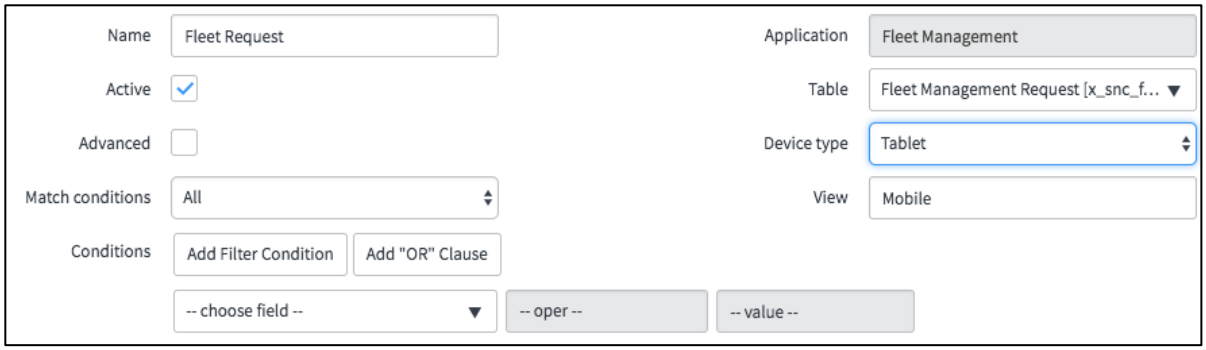
1. Navigate to **System UI > View Rules**.

2. Click **New**.

©2016 ServiceNow, Inc. All rights reserved.

3. Enter the following information into the **View Rule** form.

In this field…	Enter…
Name	Fleet Request
Table	Fleet Management Request [x_snc_fleet_management_request]
View	Mobile
Device type	Tablet



4. Click **Submit**.

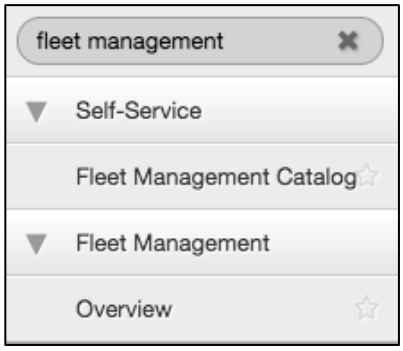
Using the ServiceNow iPad Interface

Now that you have made some optimizations for mobile devices, explore how your application looks on the iPad.

1. Navigate to **Tablet Development > Switch to Tablet Mode**. The page refreshes and presents the tablet version of the interface.

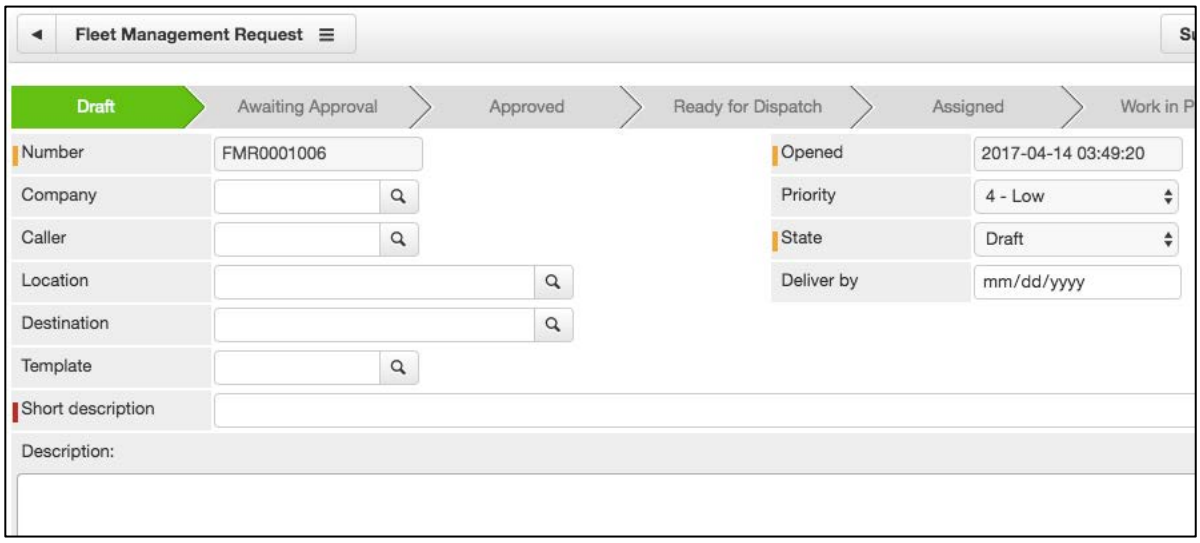
©2016 ServiceNow, Inc. All rights reserved.

2. Navigate to **Self-Service > Fleet Management Catalog** in tablet mode.



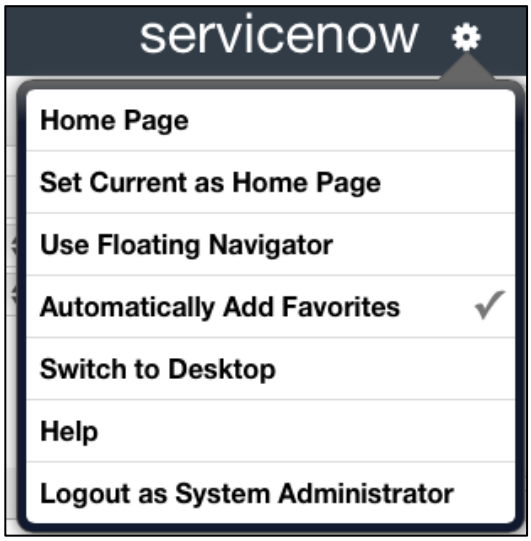
3. Click **Shipments**. Notice that the **Schedule a Shipment** catalog item is available in the tablet interface because you enabled it in a previous section.

4. Navigate to **Fleet Management > Requests > Create New**. Notice how the request form uses the streamlined **Mobile** view instead of the **Default** view.



©2016 ServiceNow, Inc. All rights reserved.

5. Click the **gear icon** in the page header. Select **Switch to Desktop** to exit tablet mode and return to the desktop view of the interface.



Congratulations

Congratulations! You have finished the lab!

©2016 ServiceNow, Inc. All rights reserved.