Appian
Academy

Build an Application: Step-by-Step #9

Exercise to Accompany
Process Modeling 101: Automate Your Business Processes

The Appian Step-by-Step series consists of 12 exercises that accompany the courses in the Appian Developer learning path. Exercises build upon each other. Complete exercises in order and keep the app and all objects until you are done with the project.

This exercise was developed for **Appian 25.3**. If Appian Community Edition is on a later Appian version, functionality might be different. Go to academy.appian.com to download the latest exercise.

Exercise 9: Process Modeling 101, Part 1

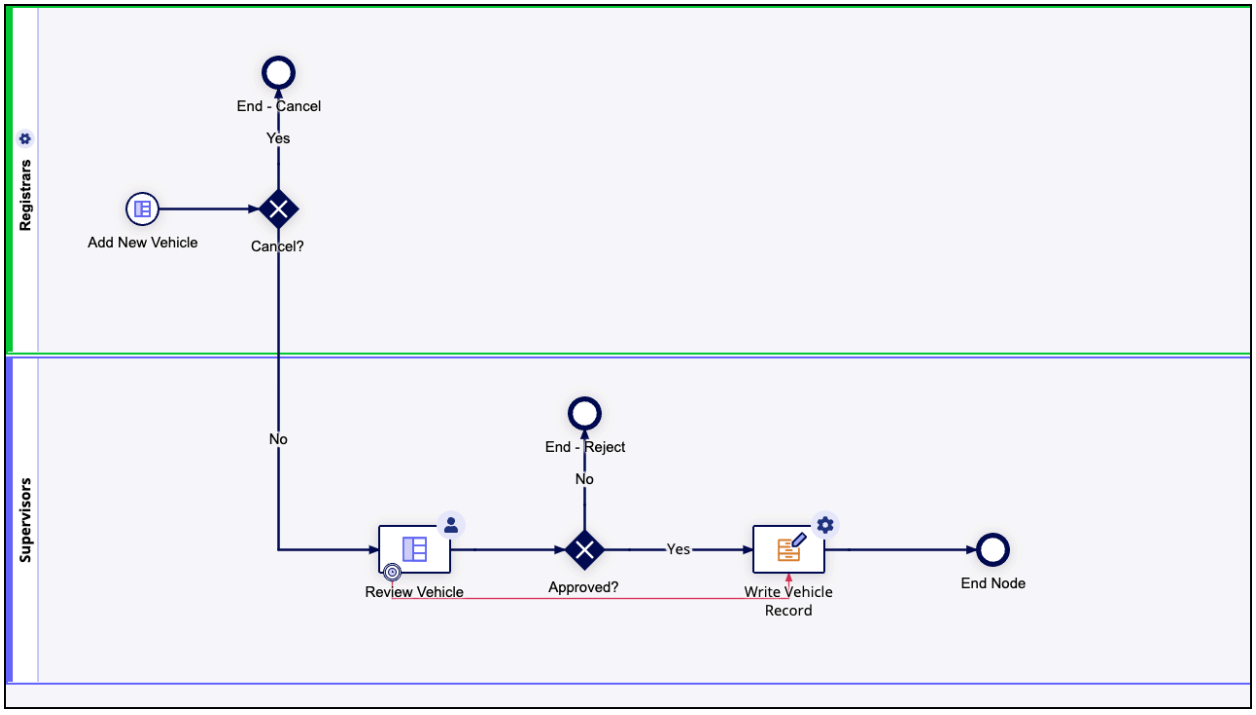
In this exercise, you will update the process model for adding new vehicles. This object was created for you, along with other objects, when you generated the Create Vehicle record action. You will ensure that it functions correctly and meets the following application requirements:

- The process allows registrars to fill out the Create Vehicle form.
- The process allows supervisors to approve or reject the vehicle.
- If the vehicle is approved, the process writes all vehicle data to the database.

Edit the Create Vehicle Process Model

In this exercise, you will update the generated W#SA Create Vehicle process model to include the steps for supervisors reviewing the vehicle addition. Because this process model was generated, security is already set. In other instances, you will need to secure each new process model individually.

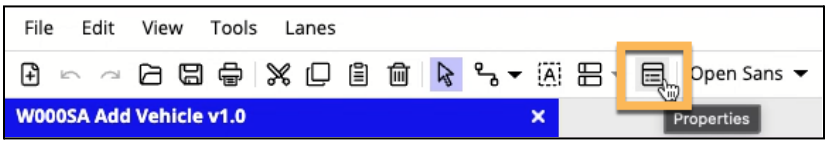
At the end of this exercise, your process model will look like the image below.



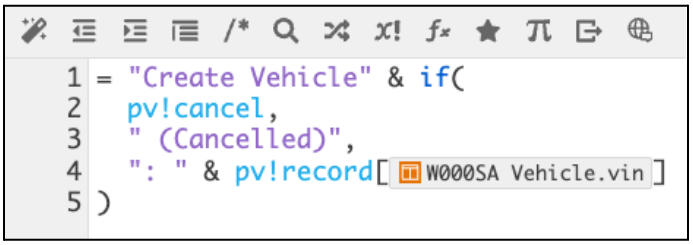
Configure Process Properties

Start by configuring the process model properties, such as variables, alerts, and data management. Because this process model was generated, some of the properties are already configured. Follow the steps below to review and edit process properties.

1. Open the **W#SA Create Vehicle** process model.
2. If you are in Analyst View, click **DESIGNER VIEW** in the upper right corner to go to Designer View.
3. In the toolbar, click **Properties**.

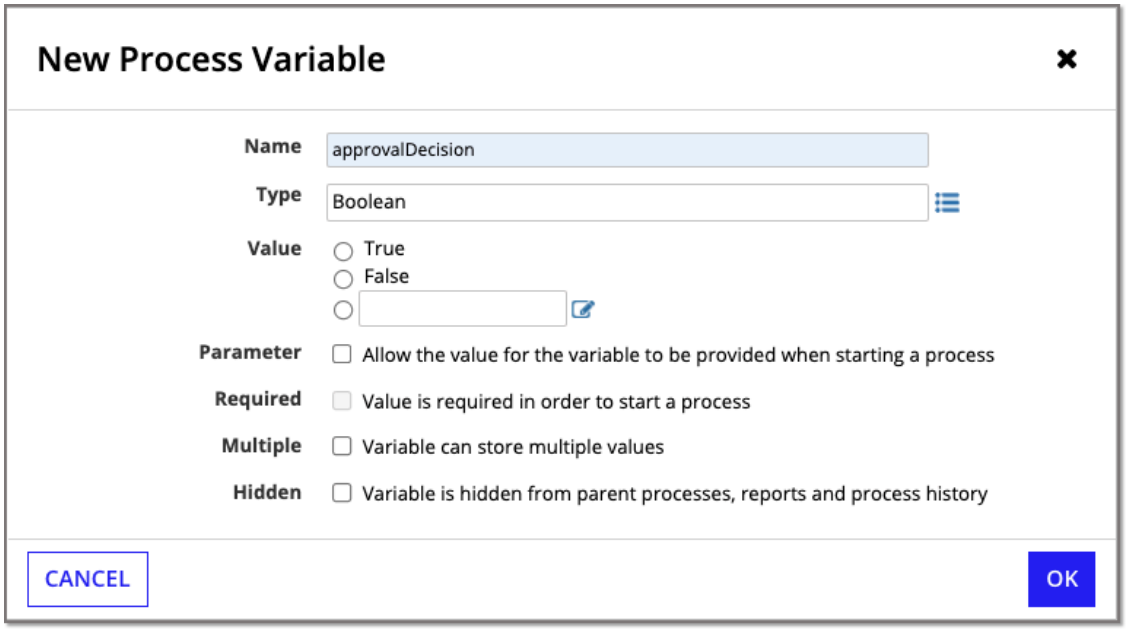


4. In the **General** tab, change **Description** to `Process model for adding a new vehicle to the fleet`.
5. Next to **Process Display Name**, click the **Open the Expression Editor** icon. Update the display name to show the added vehicle's VIN:
    - Replace pv!record[W#SA Vehicle.make] with `pv!record[W#SA Vehicle.vin]`.



    - Click **SAVE AND CLOSE**.
6. Go to the **Variables** tab.

7. You need to add a new process variable, approvalDecision, that you will use to configure the Approved? XOR node later. Click **Add Variable**, and change **Name** to `approvalDecision`. In the **Type** field, enter and select **Boolean**. Click **OK**.



8. Go to the **Alerts** tab to review the alert settings. Under **Use custom error alert settings**, select the checkbox for **Send alerts to the recipients defined by this expression**. Click the **Open the Expression Editor** icon. In the Expression Editor,

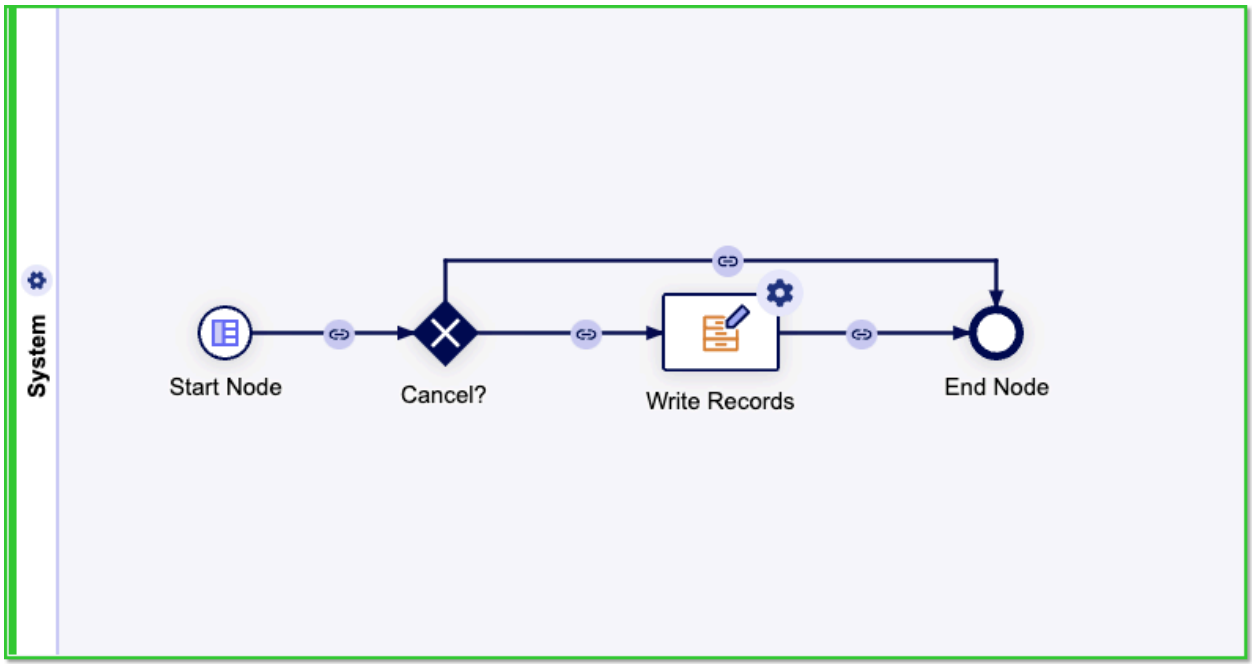
    - Enter `cons!W#SA_ADMINISTRATORS_GROUP_POINTER`.
    - Click **SAVE AND CLOSE**.

9. Go to the **Data Management** tab to update the timeline for process archiving. Change this setting to **Archive processes** `3` **days after completion or cancellation**. This setting will archive process history, metrics, and variables from memory after three days.

10. Click **OK**, then **File** > **Save & Publish**.

Configure the Cancel XOR Gateway

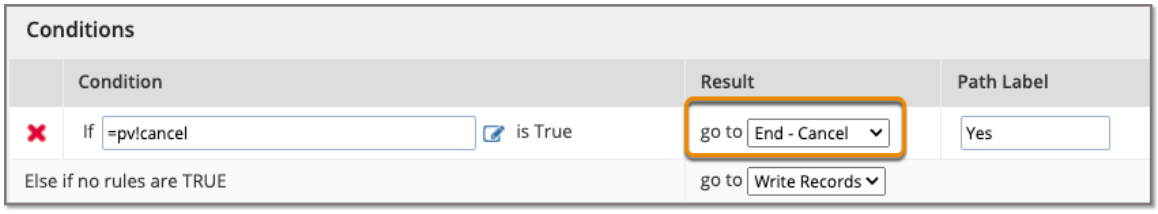
Use gateways in a process model when you need to branch the workflow. In this process, if the registrar cancels the start form, the process will end. If the registrar submits the form, the process will continue to the next node.



Follow the steps below to configure the Cancel? XOR Gateway.

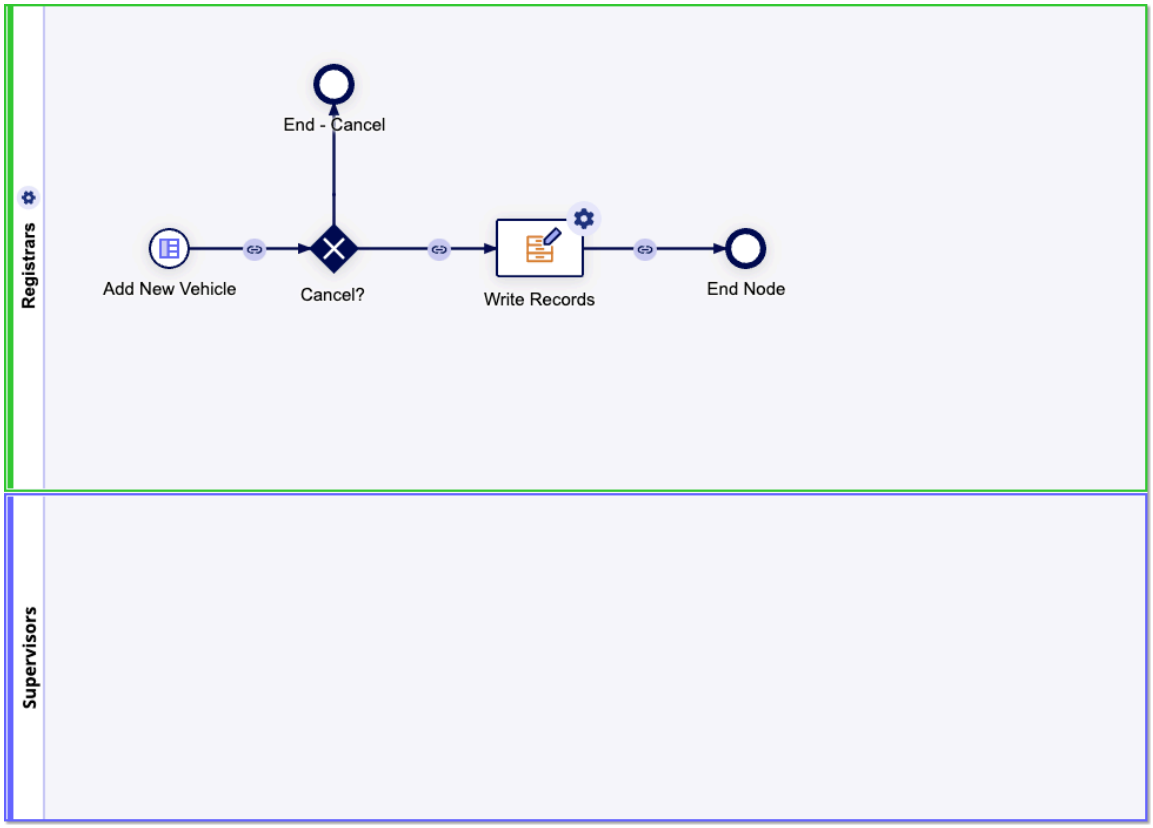
1. In the first swim lane, click **System**. Rename it to `Registrars`.
2. Add a swimlane for **Supervisors**. In the toolbar, click **Add Horizontal Lane**  . Rename the new swimlane to `Supervisors`.
3. Rename the **Start Node** to `Add New Vehicle`.
4. In the palette, use the folders or search bar to find the **End Event** node. Drag and drop it above the Cancel? XOR gateway in the Registrars swimlane. Rename it to `End - Cancel`.
5. Click the **line** connecting the **Cancel? XOR gateway** and the **End Node**. Delete it.
6. Connect the **Cancel? XOR gateway** and **End - Cancel** nodes. To toggle your pointer to the connector tool, hold down **SHIFT** on your keyboard. Then, click from one node to another. You can also click **Connect**  in the toolbar.
7. Double-click the **Cancel? XOR gateway**, and go to the **Decision** tab.

8. For **pv!cancel**, select **End - Cancel** in the **Result** column.



9. For the **Else if none are TRUE** condition, leave **Write Records** in the **Result** column.

10. Click **OK**, then **File** > **Save & Publish**.

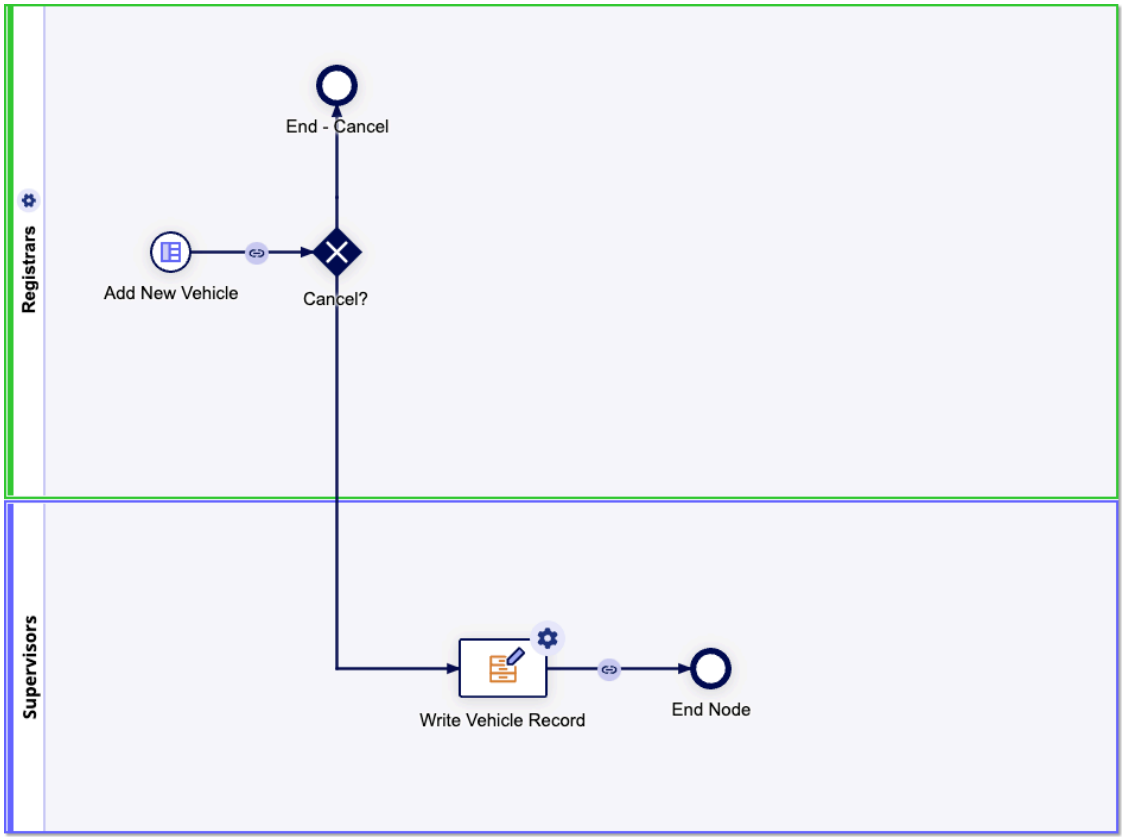


Configure Write Records

Next, configure the Write Records smart service to ensure that all vehicle data associated with the W#SA Vehicle record type is written to the database table. Follow the steps below to configure this node.

1. Rename the **Write Records** node to `Write Vehicle Record`.

2. Move the **Write Vehicle Record** and **End Node** nodes to the Supervisors lane.



3. Double-click **Write Vehicle Record**. Go to the **Setup** tab, and then to the **Records Input** dropdown. Check to see that **record** is selected, and confirm that the **W#SA Vehicle** record type will be updated.

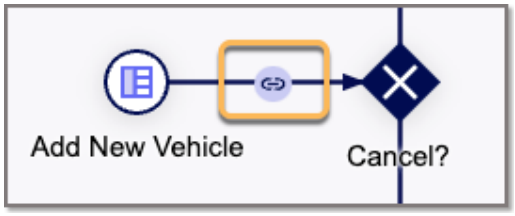
4. In the **Write Events** section, leave the **Always** radio button selected. Update or confirm the remaining values:

    - **Event Type**: `Created Vehicle`
    - **User**: `Process Initiator`
    - **Automation Type**: `None (User)`
    - **Timestamp**: `Now`
    - **Comment**: You should see **Edit as Expression**.

5. Click **OK**.

6. Remove activity-chaining. Notice that Appian enabled activity-chaining in the generated process model. You can activity-chain tasks together if the completion of a task requires the same user to complete a subsequent task. For this process model, activity-chaining is not recommended because the process will have an approval task. However, for processes without approval tasks, activity-chaining is a best practice.

- Double-click both **flow connectors** that have activity-chaining enabled.



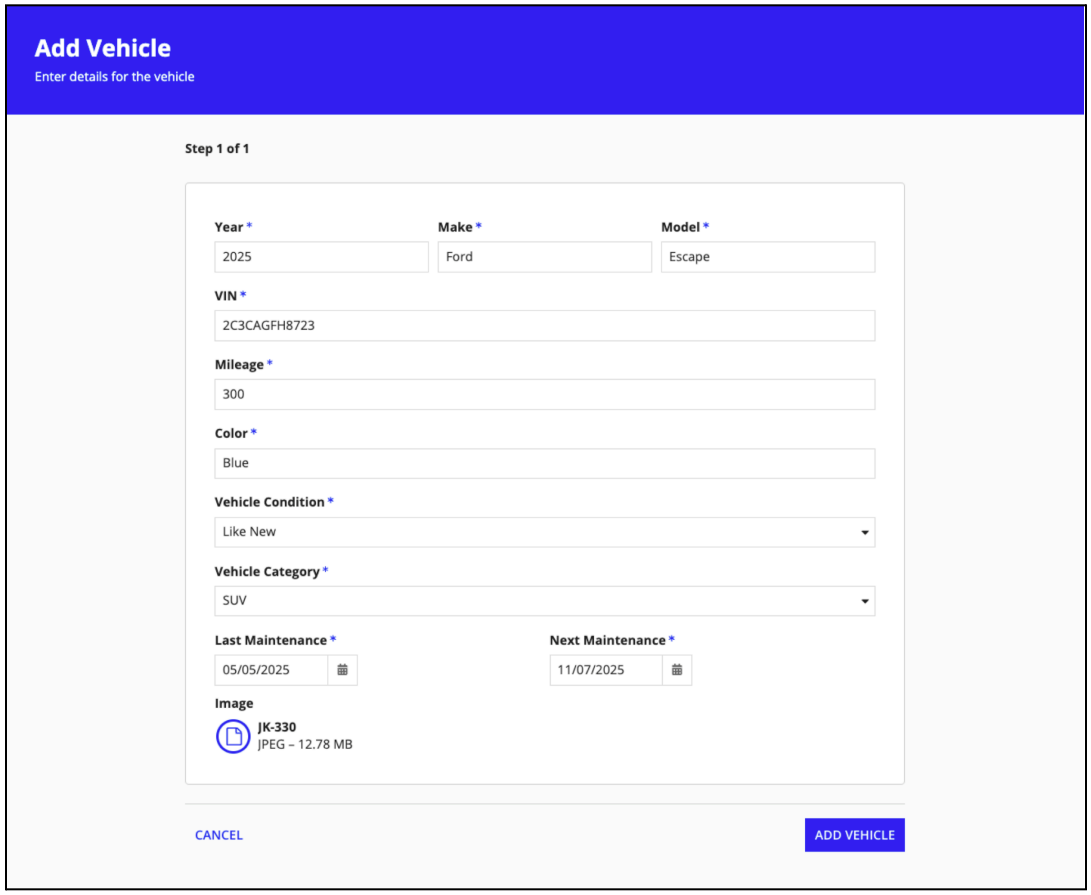
- For **Enable activity chaining**, select **No**. Click **OK**.

7. Click **File** > **Save and Publish**.

Test the Process

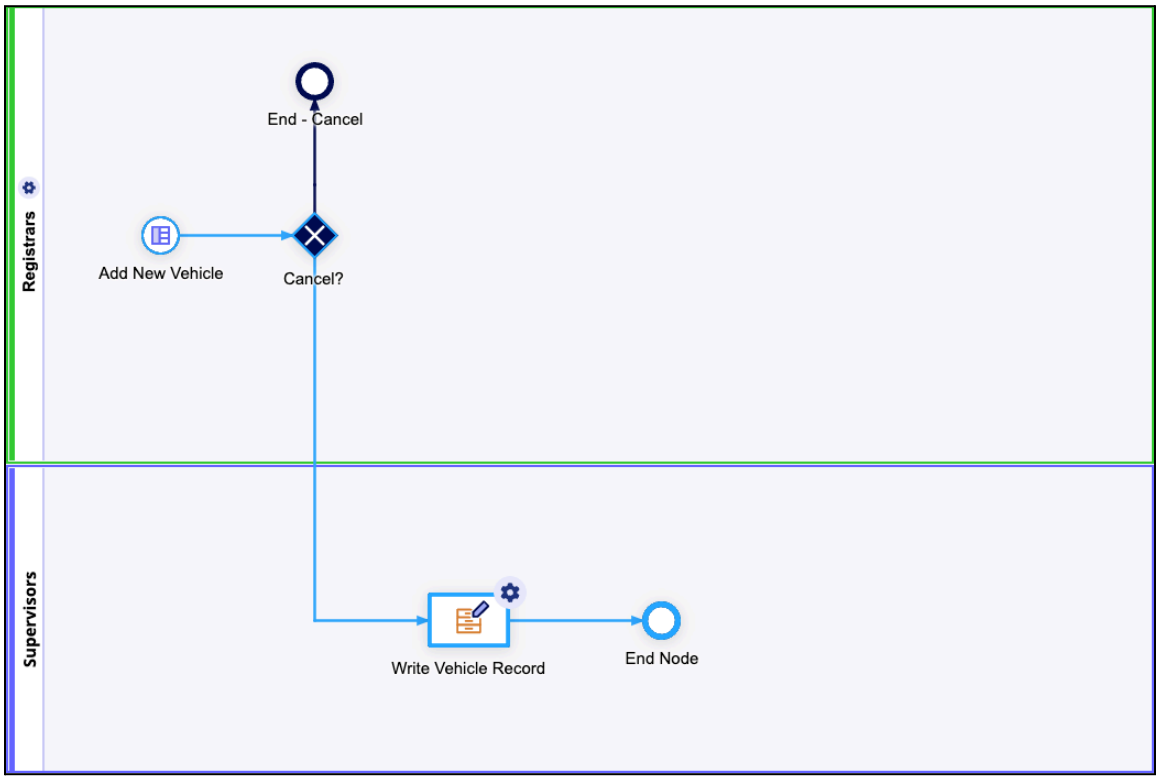
You should test your process model each time you add a new functionality. Test frequently to ensure your process model works as expected. Follow the steps below to test the process model.

1. Click **File** > **Start Process for Debugging**.
2. Complete the Create Vehicle form, and click **ADD VEHICLE**. Because these are test values, you can make up vehicle details to enter into the form.

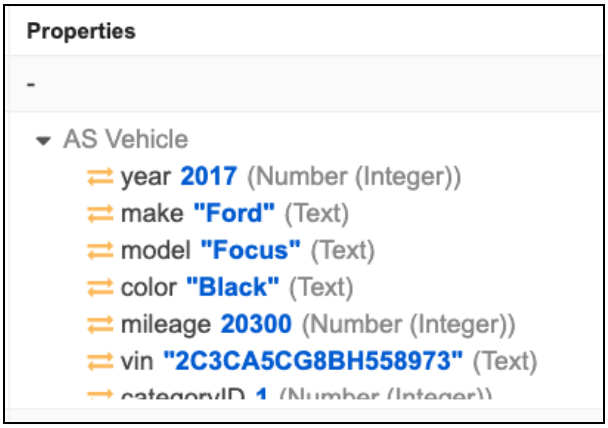


3. When you submit, a new process instance starts on a new tab in the Process Modeler and in the **Monitor View** of your application.

4. In the toolbar, click **Refresh** to update the process flow. Click **Refresh** until the process advances to the **End Node** node:



5. In the toolbar, click **Process Details** Process Details. In the **History** tab, you can see what changes were made to the data throughout the process. Verify that the data you entered into the form was captured by the process model. As you build process models, you can use this tab to help troubleshoot.

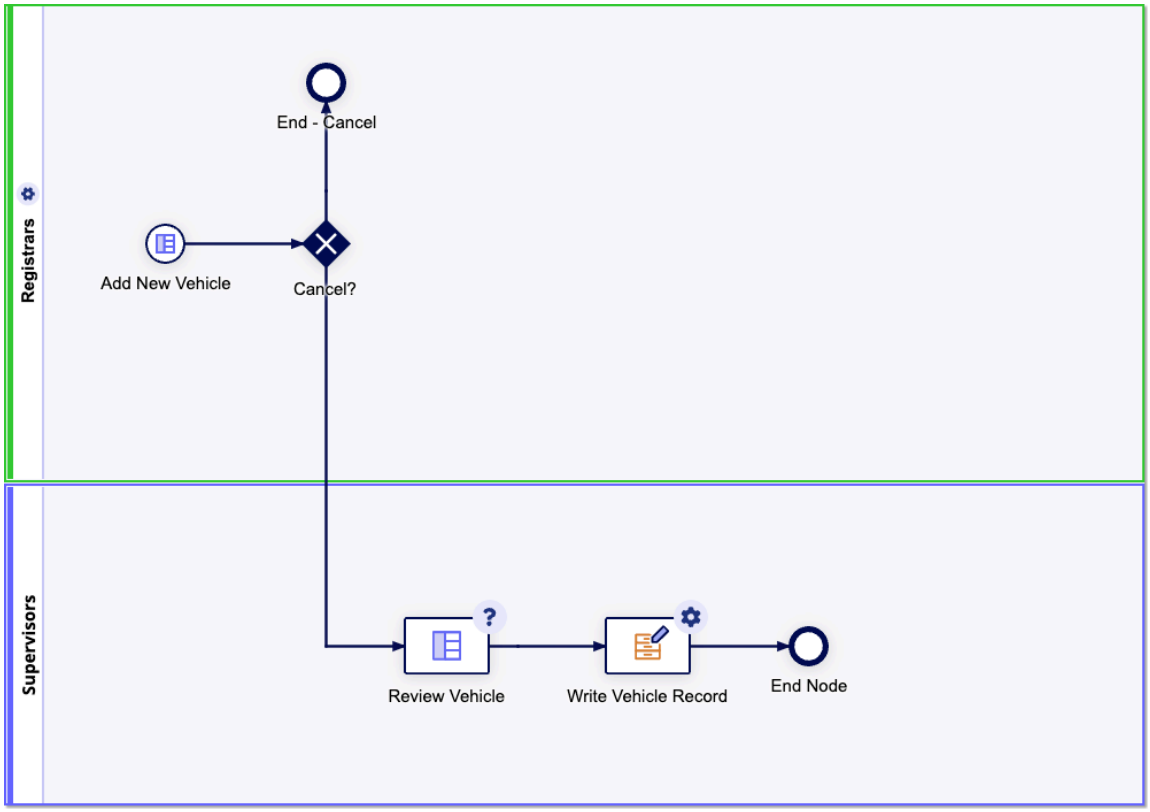


6. Close the process monitoring tab to return to your process model. Keep the process model open.

Configure the User Input Task

Next, configure the Review Vehicle node. You will use this node to add the supervisor approval form to this process. Complete the steps below to add and configure a user input task.

1. Drag a new **User Input Task** node to the Supervisor swimlane, to the left of Write Vehicle Record. Rename it `Review Vehicle`.



2. Double-click **Cancel?**, and go to the **Decision** tab. For the **Else if no rules are TRUE** condition, ensure that **Review Vehicle** is now selected in the **Result** column. Click **OK**.

3. Double-click **Review Vehicle**. Edit the **Task Display Name** to make it dynamic:

    - Click the **Expression Editor icon**, delete all text, and enter the expression below. You can also use the **Data** tab to select the process variables.

      ```
      "Review Vehicle: " & pv!record.vin
      ```

    - Click **SAVE AND CLOSE**.

4. Go to the **Forms** tab. Under **Interface**, select the **W#SA_SupervisorForm**. In the dialog, click **YES** to allow the process model to automatically create node inputs to match your interface's inputs.

5. Go to the **Data** tab. You will configure the inputs to ensure that all existing vehicle data flows into the form, and the new data, entered by the supervisor, is also captured.

    - Select the **approvalDecision** node input.
        - Next to **Save into**, click the dropdown menu, and select the **approvalDecision** process variable. If the supervisor clicks Reject on the form, this will save the approvalDecision value as false in the process.
    - Select the **vehicle** node input.
        - Next to **Value**, click the dropdown menu, and select **record**. This will pass vehicle data from the process into the form.
        - Next to **Save into**, click the dropdown menu, and select **record**. This will pass vehicle information captured on the form back into the process.

6. Go to the **Assignment** tab. Click the **From Expression** icon. In the Expression Editor:

    - Enter: Enter `cons!W#SA_SUPERVISORS_GROUP_POINTER`.
    - Click **SAVE AND CLOSE**.

    NOTE: To receive this task, confirm you are a member of the **W#SA Supervisors group**.

7. Click **OK**, then **File** > **Save & Publish**.

Test the Process

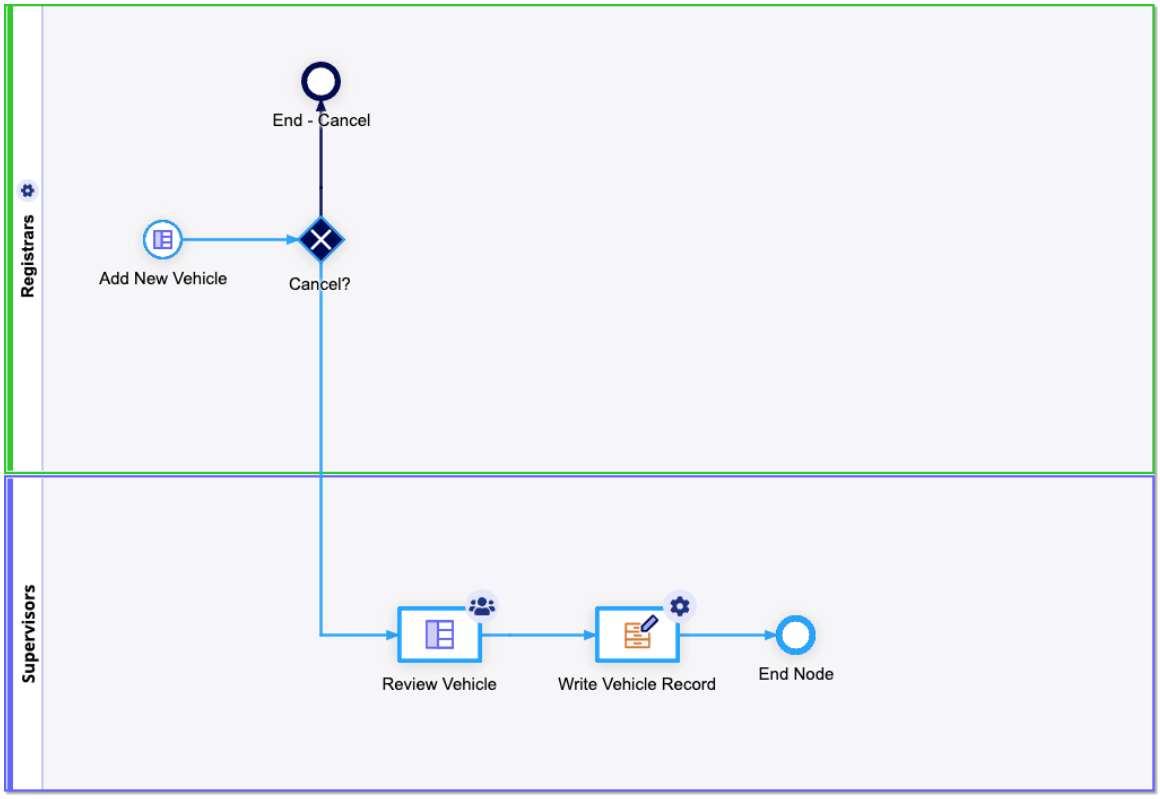
1. Click **File** > **Start Process for Debugging**.

2. Complete the Create Vehicle form, and click **ADD VEHICLE**.

3. In the toolbar, click **Refresh**  to update the process flow. The process will advance to the **Review Vehicle** node.

4. Right-click the **Review Vehicle** node, and select **View Form**. Click **Accept** to accept the task, and then click **APPROVE**.

5. Click **Refresh** again to update the process flow until it advances to the **End Node** node:



6. In the toolbar, click **Process Details**. Verify that the data you entered into the form was captured by the process model.

7. Close the process monitoring tab.

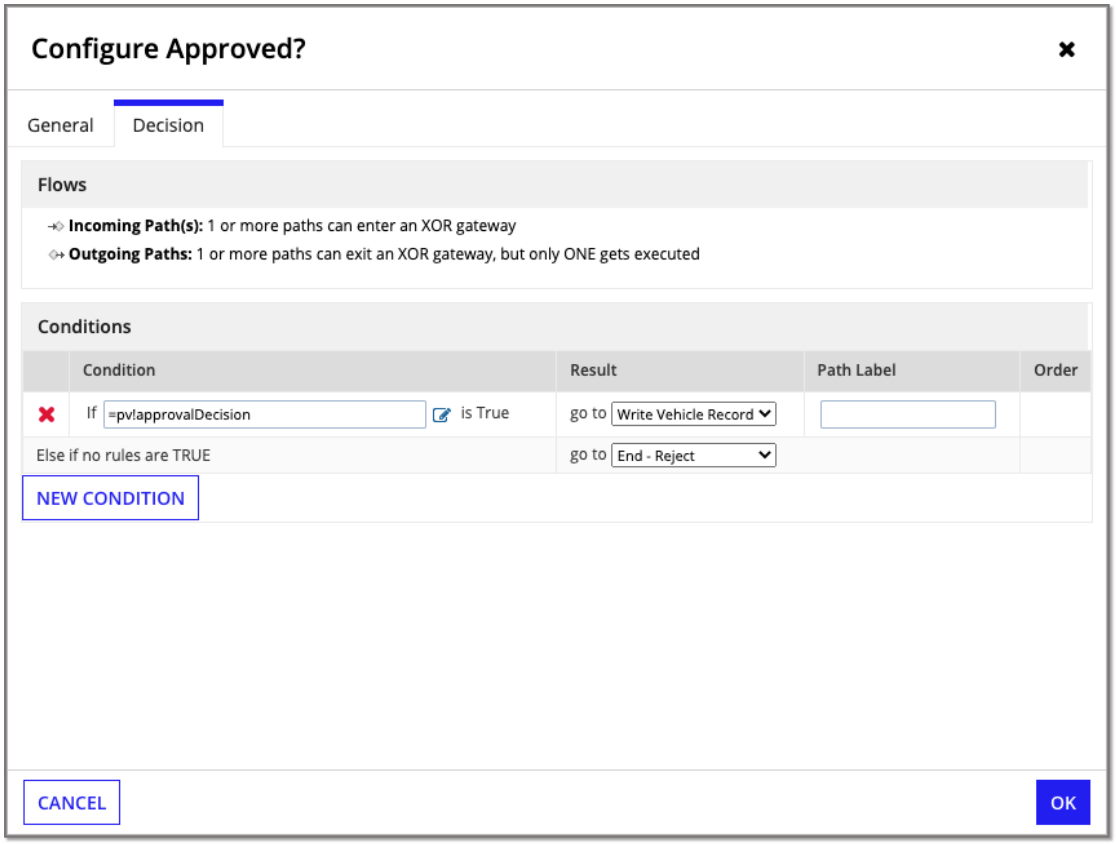
Configure the Approved? XOR Gateway

Next, you will add and configure an XOR gateway. If the supervisor rejects the vehicle on the W#SA_SupervisorForm form, the process will end. If the supervisor approves the form, the process will continue to the next node. Follow the steps below to configure the Approved? XOR node.

1. Drag and drop a **XOR** node to the right of **Review Vehicle**. Rename it `Approved?`.

2. Drag and drop an **End Event** node above Approved? Rename it `End - Reject`.

3. Connect the **Approved?** and **End - Reject** nodes.
4. Double-click **Approved?**, and go to the **Decision** tab.
5. Click **New Condition**. Next to the first condition, click the **Open the Expression Editor** icon. In the Expression Editor, enter `pv!approvalDecision`. Alternatively, use the **Data** tab to select the **approvalDecision** process variable. Click **SAVE AND CLOSE**.
6. In the **Results** column, for the first condition, select **Write Vehicle Record**.
7. For the **Else if no rules are TRUE** condition, in the **Results** column, select **End - Reject**.



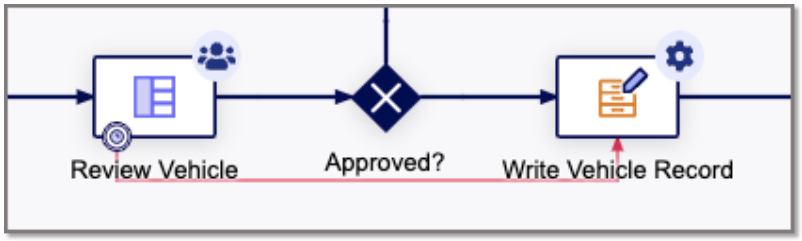
8. Click **OK**, then **File** > **Save & Publish**.

Add an Exception Flow

Next, configure an exception flow to skip the Review Vehicle step if the Supervisor does not respond within 48 hours.

1. Double click **Review Vehicle**, and go to the **Exceptions** tab.
2. Click **Timer**, and under **Name**, rename it `Review Vehicle Timer`.

3. Under **Setup**, click **Configure**.
4. Go to the **Setup** tab.
5. In the box after **Skip this node**, enter 48. Change Minutes to **Hours**. Click **OK**, then **OK**.
6. Connect the **Timer** icon to the **Write Vehicle Record** node. The exception flow should be red.

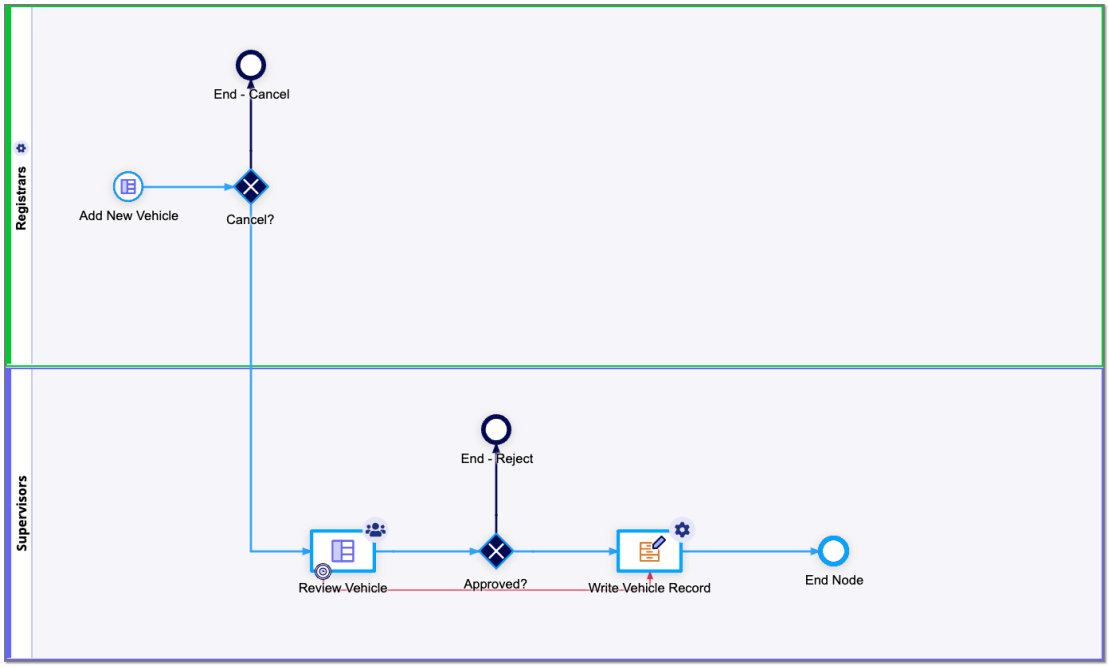


7. Click **File** > **Save & Publish**.

Test the Process

1. Click **File** > **Start Process for Debugging**.
2. Complete the Create Vehicle form, and click **ADD VEHICLE**.
3. In the toolbar, click **Refresh** to update the process flow. The process will advance to the **Review Vehicle** node.
4. Right-click the **Review Vehicle** node, and select **View Form**. Click **Accept** to accept the task, and then click **APPROVE**.

5. Click **Refresh** again to update the process flow. The process will advance to the **End Node** node:



6. In the toolbar, click **Process Details**. Go to the **Variables** tab to verify that the data you entered into the form was captured by the process model.

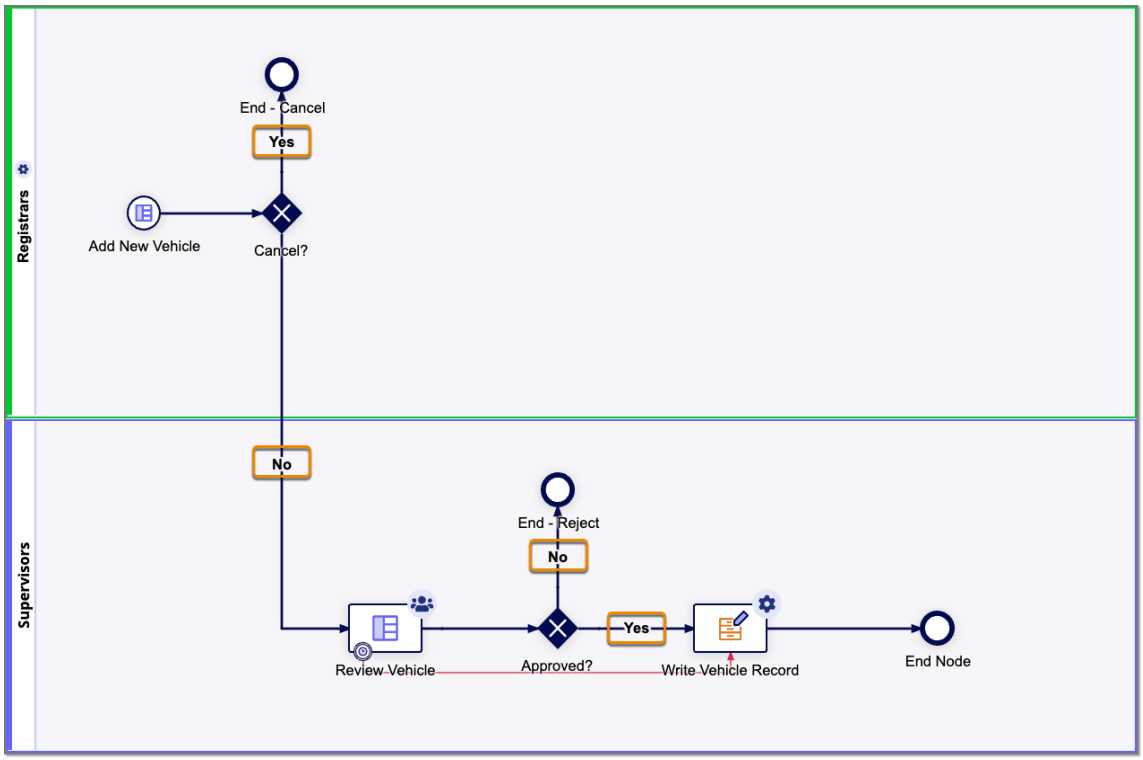
7. Close the process monitoring tab.

8. Debug the process model again, but this time for the **Reject** flow. Verify that the process arrives at the **End - Reject** node.

Add Flow Labels

Flow labels help keep your process models clear and organized. Follow the steps to add flow labels.

1. To the connectors leading from **Cancel?**, add the labels **Yes** and **No**. To add labels, right-click each connector, and select **Add Label**. Rename the labels to `Yes` and `No`.



2. To the connectors leading from **Approved?**, add the labels `Yes` and `No`. Refer to the image above to see the labels.

3. Click **File** > **Save & Publish**.

Troubleshooting Resources

Stuck on a step, or need help troubleshooting? Appian provides several support resources that you can use as you build:

1. **Acme Auto Solution Application** - The Acme Auto Solution Application (AS) is the solution to the exercises you are following in the Step-by-Steps. You can use the AS application as a reference tool. Review it to see how specific objects are configured, or test the application to see how the features work from a business user's perspective. This application is preloaded into your workspace. If you do not see it in the list of applications in your workspace, you can deploy it from the App Catalog. Refer to **Build an Application: Step-by-Step #1** for more information on how to use the App Catalog.

2. **Community Discussions for New Users** - Check out the **New to Appian** thread in Community. Join our community of experts to ask questions and find answers from past discussions.

3. **Appian Documentation** - Appian's product documentation will provide you with an overview of key Appian features, newest release information, additional tutorials, and helpful patterns and recipes to implement in your app.