

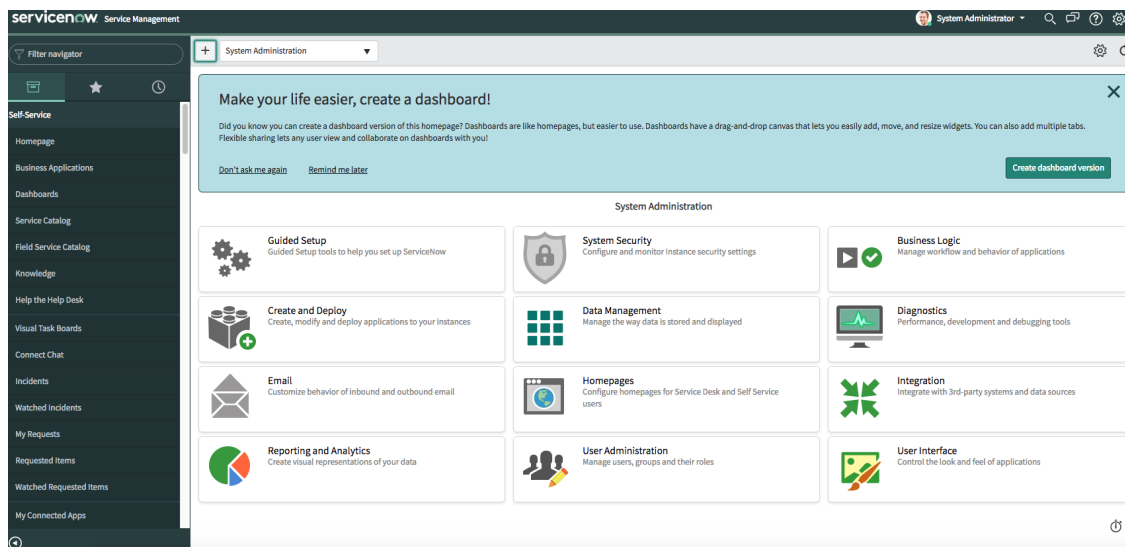
Empower agents to solve customer issues faster with machine learning

Exercise 3: Configure Agent Intelligence for Case Classification

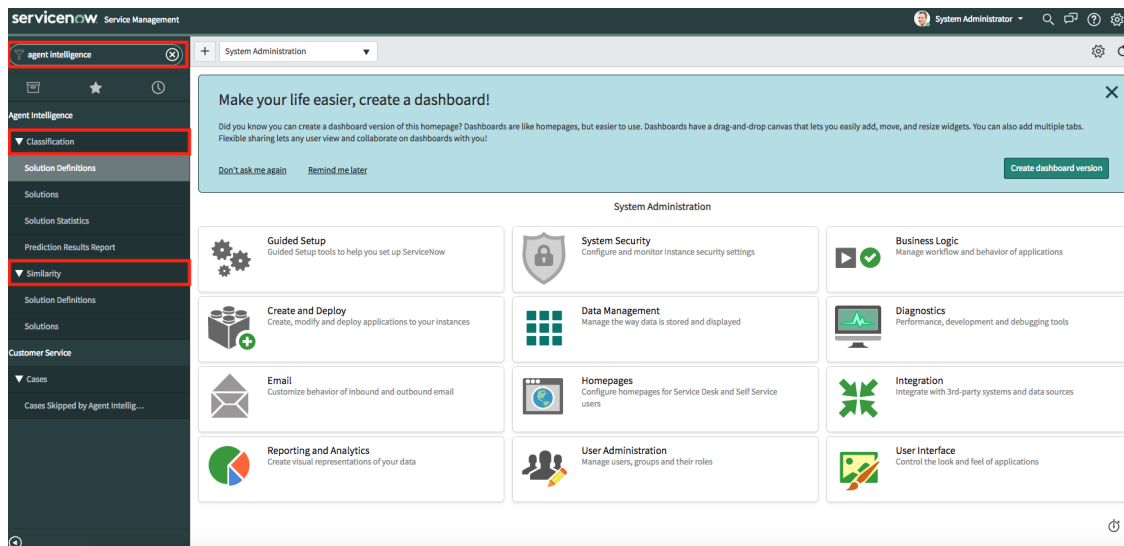
Exercise Goal

Learn how to view the ML solution definition and interpret results.

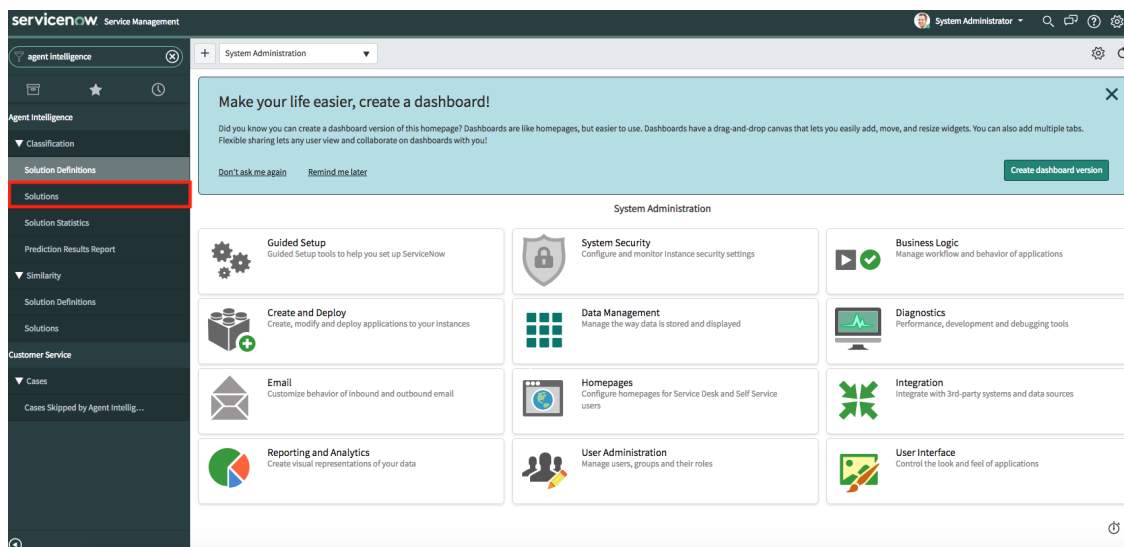
1. **Get Ready** Login to your lab instance as admin.



2. **Search for Agent Intelligence:** In the filter navigator, search for *Agent Intelligence*. You will see the two out of the box solutions – Classification and Similarity. Each provides you the ability to create new solution definitions, view existing solutions, and analyze prediction results.



3. **View Classification Solutions:** Under Classification, click on *Solutions*.



4. **Review available ML Solutions:** Ungroup the Output field to view the 3 out of the box ML Classification solutions that are based on Case table -- one each for case categorization, prioritization, and assignment.

The screenshot shows the ServiceNow ML Solutions interface. The left sidebar has 'Agent Intelligence' selected, with 'Classification' and 'Solutions' sub-items highlighted. The main table lists three ML Classification solutions based on the 'Case' table. The table has columns for Solution Name, Table, Input Fields, State, Progress, and Row Count.

Solution Name	Table	Input Fields	State	Progress	Row Count
ml_x_snc_csm_case_assignment	Case [sn_customerservice_case]	short_description	Solution Complete	100%	101,616
ml_x_snc_csm_case_categorization	Case [sn_customerservice_case]	short_description	Solution Complete	100%	101,616
ml_x_snc_csm_case_prioritization	Case [sn_customerservice_case]	short_description	Solution Complete	100%	101,676

5. **Review Solution Summary:** The ML Solutions Classification Solution View displays the Estimated Solution Coverage, Estimated Solution Precision, table used, input fields, output fields, progress and more.

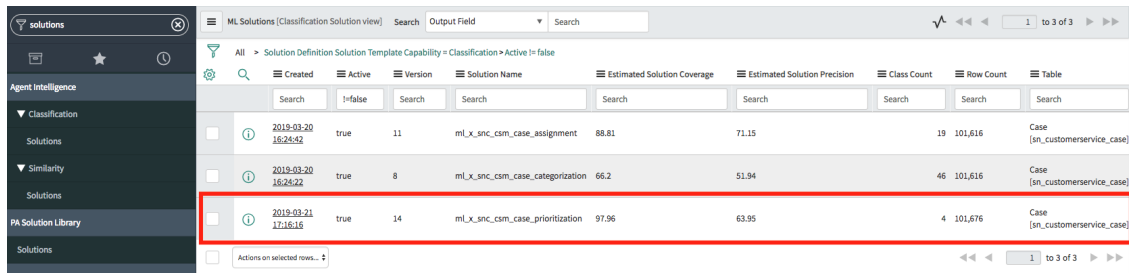
The **Solution Coverage** is the aggregate percentage of records that receive a prediction. For example, a coverage of 50 means half of all eligible records actually receive a prediction.

The **Solution Precision** is the aggregate percentage of correct predictions. For example, a precision of 50 means that out of 100 predictions, half of them should have the correct value.

The screenshot shows the 'ML Solutions (Classification Solution view)' in ServiceNow. The table displays detailed metrics for three ML Classification solutions. The table has columns for Solution Name, Estimated Solution Coverage, Estimated Solution Precision, Class Count, Row Count, Table, Input Fields, Output Field, State, and Progress.

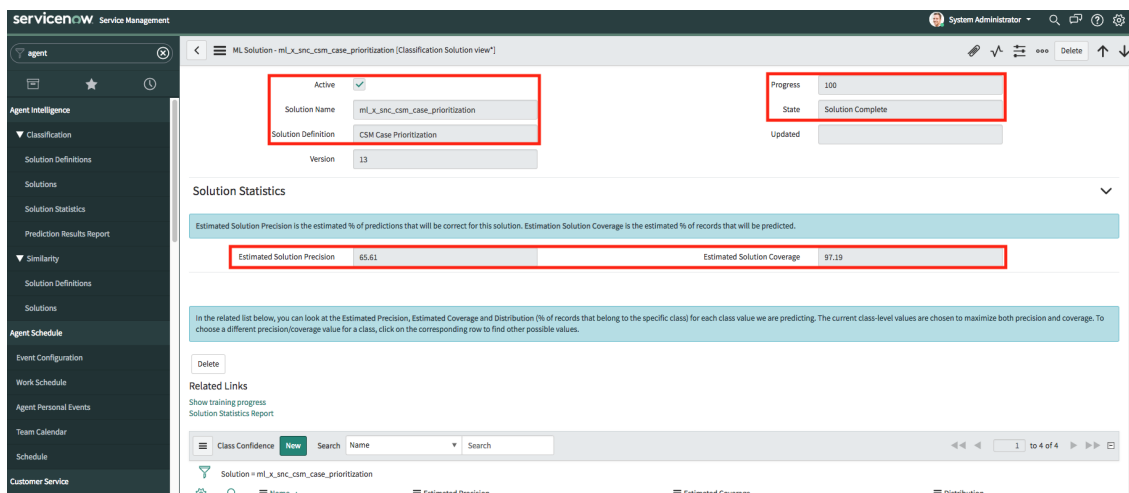
Solution Name	Estimated Solution Coverage	Estimated Solution Precision	Class Count	Row Count	Table	Input Fields	Output Field	State	Progress
ml_x_snc_csm_case_assignment	88.81	71.15	19	101,616	Case [sn_customerservice_case]	short_description	assignment_group	Solution Complete	100%
ml_x_snc_csm_case_categorization	66.2	51.94	46	101,616	Case [sn_customerservice_case]	short_description	category	Solution Complete	100%
ml_x_snc_csm_case_prioritization	97.96	63.95	4	101,676	Case [sn_customerservice_case]	short_description	priority	Solution Complete	100%

6. **Review ML Solution:** Click on the solution for case prioritization.



	Created	Active	Version	Solution Name	Estimated Solution Coverage	Estimated Solution Precision	Class Count	Row Count	Table
<input type="checkbox"/>	2019-03-20 16:26:42	true	11	ml_x_snc_csm_case_assignment	88.81	71.15	19	101,616	Case [sn_customerservice_case]
<input type="checkbox"/>	2019-03-20 16:26:22	true	8	ml_x_snc_csm_case_categorization	66.2	51.94	46	101,616	Case [sn_customerservice_case]
<input type="checkbox"/>	2019-03-21 17:16:16	true	14	ml_x_snc_csm_case_prioritization	97.96	63.95	4	101,616	Case [sn_customerservice_case]

7. **Review ML Solution details:** Review details of the prioritization ML solution. Out of the box, the case prioritization model predicts the Priority field from the Short Description.



ML Solution - ml_x_snc_csm_case_prioritization (Classification Solution view)

Active: ☒ Solution Name: ml_x_snc_csm_case_prioritization Solution Definition: CSM Case Prioritization Version: 13

Progress: 100 State: Solution Complete Updated:

Solution Statistics

Estimated Solution Precision is the estimated % of predictions that will be correct for this solution. Estimated Solution Coverage is the estimated % of records that will be predicted.

Estimated Solution Precision: 65.61 Estimated Solution Coverage: 97.19

In the related list below, you can look at the Estimated Precision, Estimated Coverage and Distribution (% of records that belong to the specific class) for each class value we are predicting. The current class-level values are chosen to maximize both precision and coverage. To choose a different precision/coverage value for a class, click on the corresponding row to find other possible values.

Related Links: Show training progress, Solution Statistics Report

Class Confidence: **Now** Search: Name Search

Solution: ml_x_snc_csm_case_prioritization

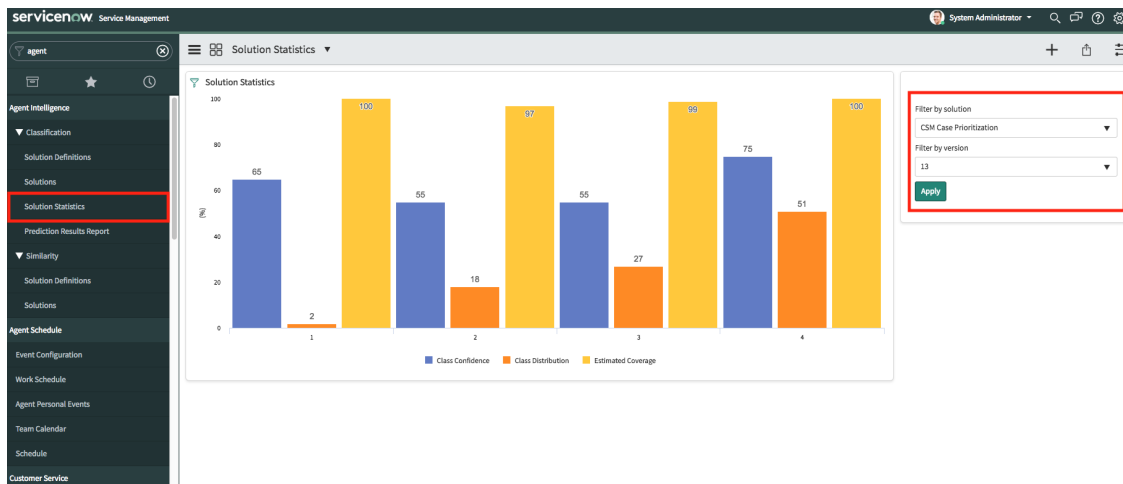
Estimated Precision Estimated Coverage Distribution

8. **Show Solution Statistics Report:** Navigate to Related Records and click on Solution Statistics Report

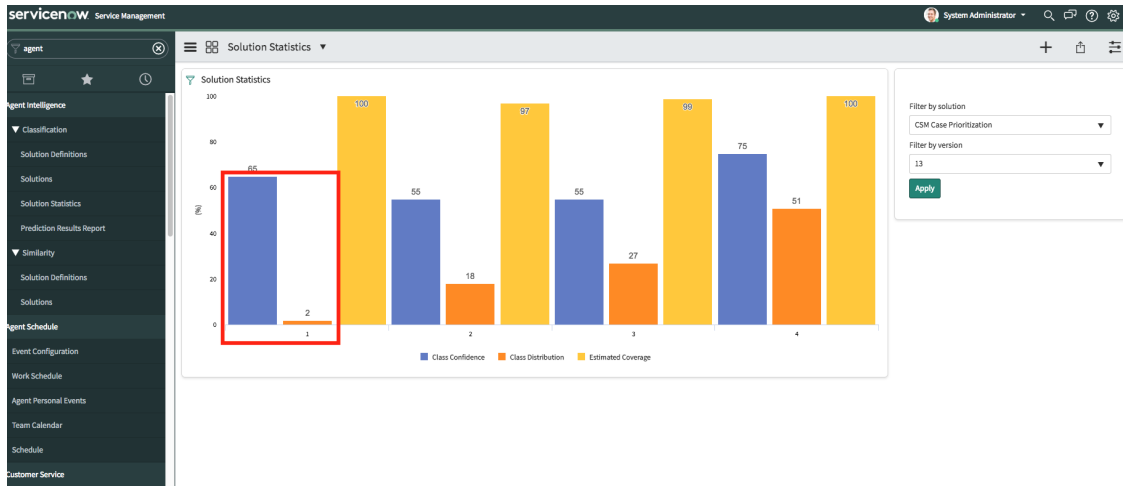
The screenshot shows the ServiceNow interface for a solution named 'ml_x_snc_csm_case_prioritization'. The left sidebar contains navigation links for Agent Intelligence, Classification, Similarity, and Agent Schedule. The main content area displays the solution's details, including its name, definition, version, and progress. Below this, the 'Solution Statistics' section shows the estimated solution precision (65.61) and estimated solution coverage (97.19). A 'Related Links' section is visible, with a red box highlighting the 'Solution Statistics Report' link. The bottom of the page shows a table with columns for Class Confidence, Name, Estimated Precision, Estimated Coverage, and Distribution.

9. **Review Solution Statistics Report:** From *Filter by Solution*, select the CSM Case Prioritization to review statistics for the prioritization solution. From **Filter by Version**, select the latest version. Click on Apply. The system will update the dashboard based on the filters selected.

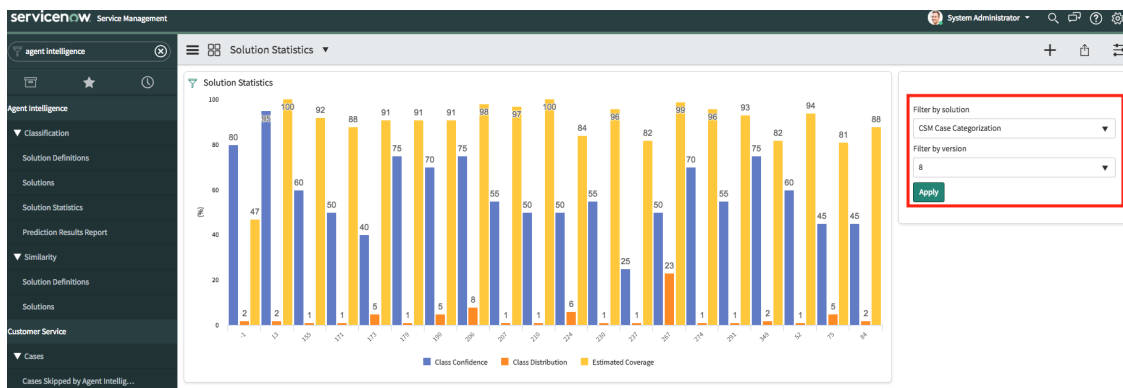
Note: The horizontal axis shows the Priority values.



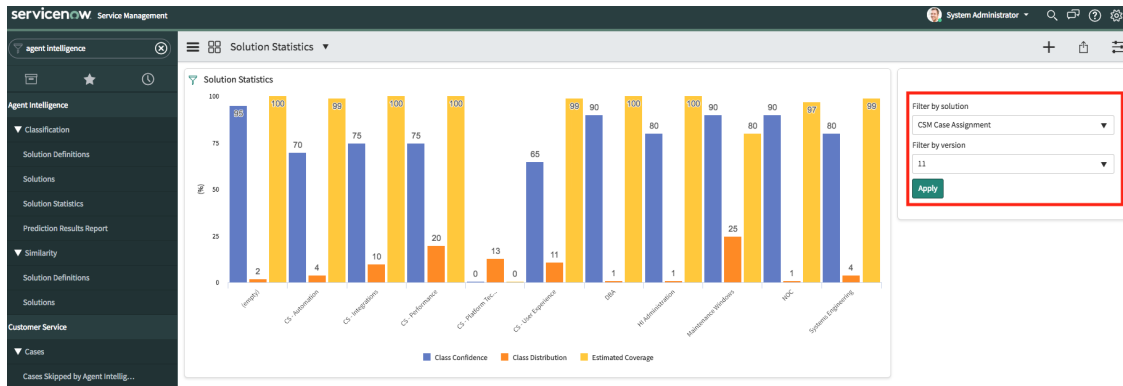
10. **Identify next actions:** In a real world scenario, you would use these insights to identify classes with unwanted combinations of precision, coverage, and distribution values. For example, you can identify classes (Case Priority) that have low precision or coverage but a high distribution. You can also identify any missing classes (case categories) you want the model to include.



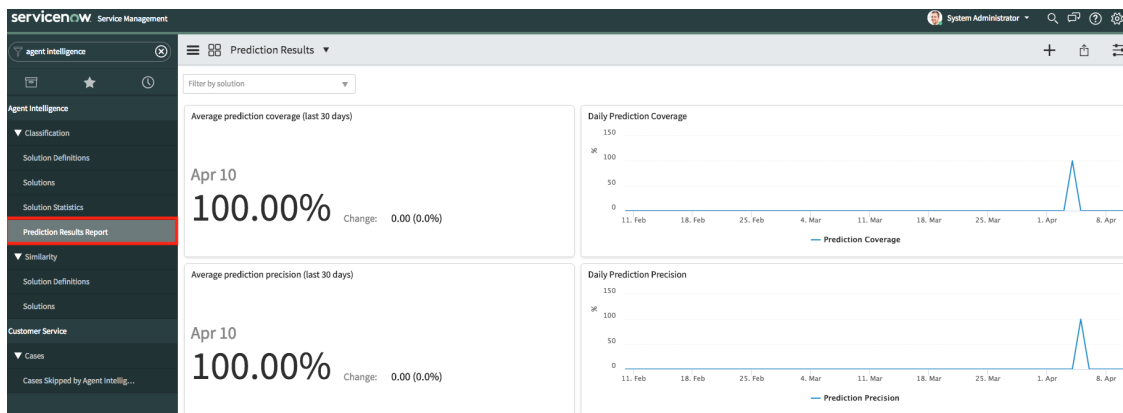
11. **Modify Solution Statistics Filters:** From *Filter by solution*, select the CSM Case Categorization to review statistics for the categorization solution. From **Filter by version**, select the latest version. Click on Apply. The system will update the dashboard based on the filters selected. Note: the horizontal axis shows the categories.



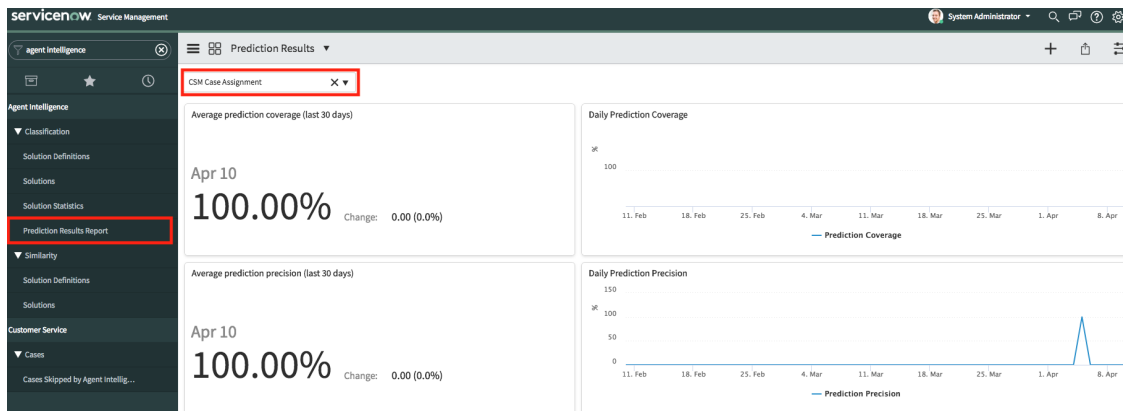
12. **Modify Solution Statistics Filters:** From *Filter by solution*, select the CSM Case Assignment to review statistics for the assignment solution. From **Filter by version**, select the latest version. Click on Apply. The system will update the dashboard based on the filters selected. Note: the horizontal axis shows the assignment groups.



13. **Navigate to Prediction Results Dashboard:** Navigate to Prediction Results dashboard to determine if solution predictions are improving over time and to identify solutions that require filter changes or retraining.



14. **Navigate to Prediction Results Dashboard.** Filter by *CSM Case Assignment* and review how the prediction results have changed over time. Modify this filter to *CSM Case Prediction* and *CSM Case Categorization* to review the prediction results of those solutions.



15. **Interpret the Prediction Results:**

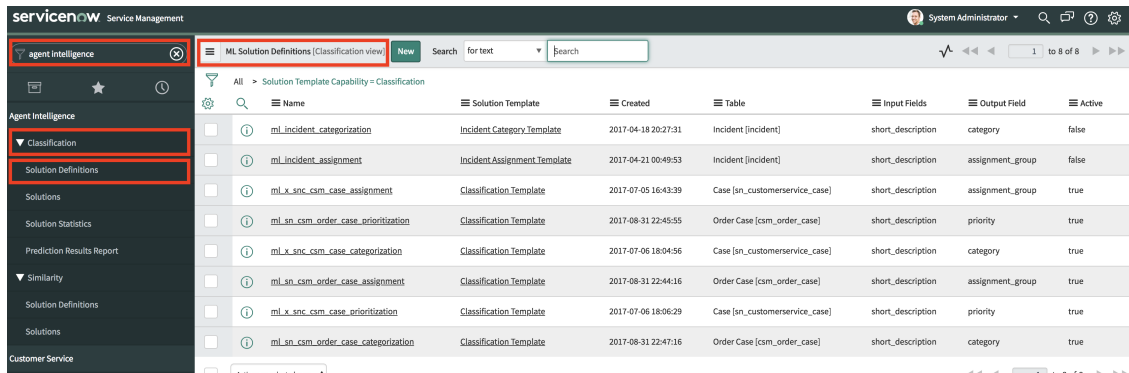
Average Prediction Coverage (last 30 days): Shows the average prediction coverage of a solution for the last 30 days. The value represents the percentage of predictions that yielded an outcome out of the total number of predictions attempted. Click the coverage score to see a breakdown by class.

Daily Prediction Coverage: Shows the daily prediction coverage of a solution. The value represents the percentage of records created on a given day where the solution was able to predict an outcome.

Average Prediction Precision (last 30 days): Shows the average prediction precision of a solution for the last 30 days. The value represents the percentage of predictions where the predicted value was the same as the final value of the field when the record closed. Click the precision score to see a breakdown by class.

Daily Prediction Precision: Shows the daily prediction precision of a solution. The value represents the percentage of records closed on a given day where the predicted field value was the same as the final value.

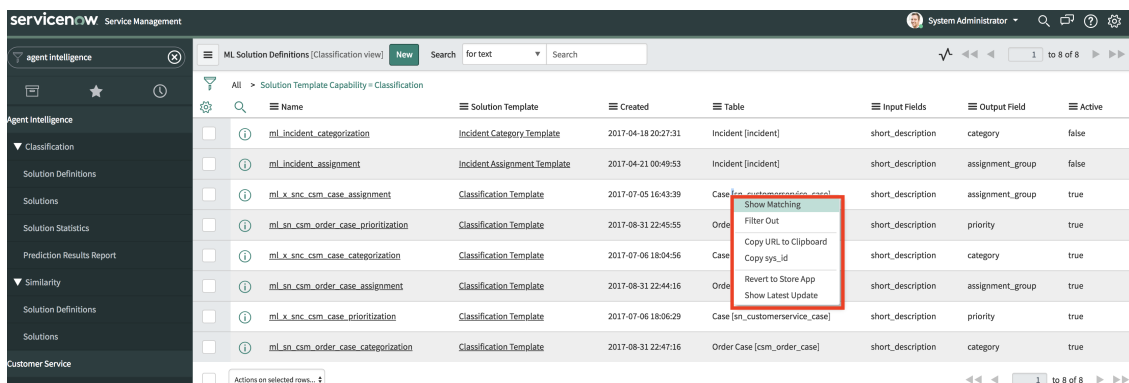
16. **Review Solution Definitions:** Lets review the out of the box solution definitions for the case classification models. Click on *Solution Definitions* under *Classification*.



The screenshot shows the ServiceNow interface for ML Solution Definitions in the Classification view. The left sidebar has 'Agent Intelligence' expanded, with 'Classification' and 'Solution Definitions' highlighted. The main table lists various solution definitions with columns for Name, Solution Template, Created, Table, Input Fields, Output Field, and Active.

Name	Solution Template	Created	Table	Input Fields	Output Field	Active
ml_incident_categorization	Incident Category Template	2017-04-18 20:27:31	Incident [incident]	short_description	category	false
ml_incident_assignment	Incident Assignment Template	2017-04-21 00:49:53	Incident [incident]	short_description	assignment_group	false
ml_x_snc_csm_case_assignment	Classification Template	2017-07-05 16:43:39	Case [sn_customerservice_case]	short_description	assignment_group	true
ml_x_snc_csm_order_case_prioritization	Classification Template	2017-08-31 22:45:55	Order Case [csm_order_case]	short_description	priority	true
ml_x_snc_csm_case_categorization	Classification Template	2017-07-06 18:04:56	Case [sn_customerservice_case]	short_description	category	true
ml_sn_csm_order_case_assignment	Classification Template	2017-08-31 22:44:16	Order Case [csm_order_case]	short_description	assignment_group	true
ml_x_snc_csm_case_prioritization	Classification Template	2017-07-06 18:06:29	Case [sn_customerservice_case]	short_description	priority	true
ml_sn_csm_order_case_categorization	Classification Template	2017-08-31 22:47:16	Order Case [csm_order_case]	short_description	category	true

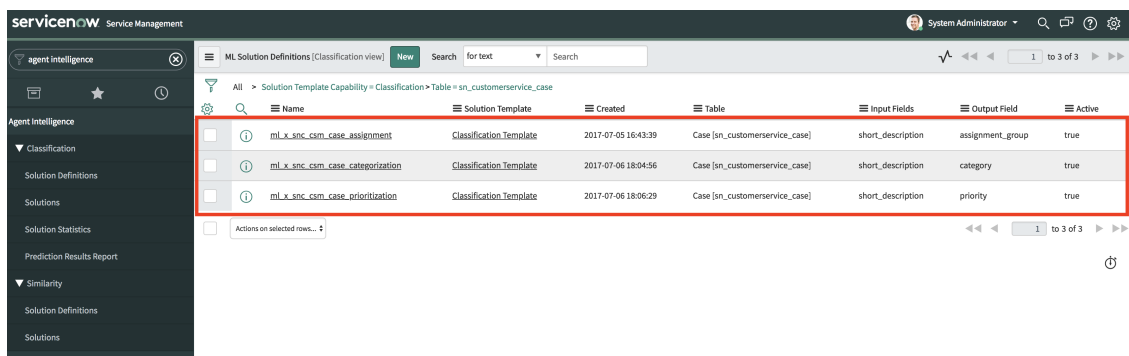
17. **Focus on Case Classification Models:** Right click on Case to only show Case related Classification models.



The screenshot shows the same table as in the previous image, but with a right-click context menu open over the 'Case [sn_customerservice_case]' entry. The menu options are: Show Matching, Filter Out, Copy URL to Clipboard, Copy sys_id, Revert to Store App, and Show Latest Update.

Name	Solution Template	Created	Table	Input Fields	Output Field	Active
ml_incident_categorization	Incident Category Template	2017-04-18 20:27:31	Incident [incident]	short_description	category	false
ml_incident_assignment	Incident Assignment Template	2017-04-21 00:49:53	Incident [incident]	short_description	assignment_group	false
ml_x_snc_csm_case_assignment	Classification Template	2017-07-05 16:43:39	Case [sn_customerservice_case]	short_description	assignment_group	true
ml_x_snc_csm_order_case_prioritization	Classification Template	2017-08-31 22:45:55	Order Case [csm_order_case]	short_description	priority	true
ml_x_snc_csm_case_categorization	Classification Template	2017-07-06 18:04:56	Case [sn_customerservice_case]	short_description	category	true
ml_sn_csm_order_case_assignment	Classification Template	2017-08-31 22:44:16	Order Case [csm_order_case]	short_description	assignment_group	true
ml_x_snc_csm_case_prioritization	Classification Template	2017-07-06 18:06:29	Case [sn_customerservice_case]	short_description	priority	true
ml_sn_csm_order_case_categorization	Classification Template	2017-08-31 22:47:16	Order Case [csm_order_case]	short_description	category	true

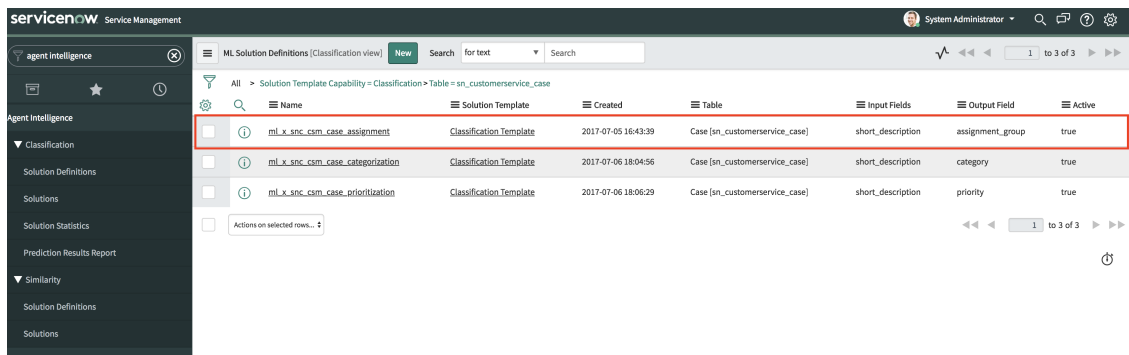
18. **View Case Classification Solution Definitions:** You will see 3 out of the box machine learning solution definitions for case categorization, prioritization, and assignment.



The screenshot shows the table filtered to display only the three Case related models. The left sidebar has 'Classification' expanded, and 'Solution Definitions' is highlighted. The table shows three rows, all with 'true' in the Active column.

Name	Solution Template	Created	Table	Input Fields	Output Field	Active
ml_x_snc_csm_case_assignment	Classification Template	2017-07-05 16:43:39	Case [sn_customerservice_case]	short_description	assignment_group	true
ml_x_snc_csm_case_categorization	Classification Template	2017-07-06 18:04:56	Case [sn_customerservice_case]	short_description	category	true
ml_x_snc_csm_case_prioritization	Classification Template	2017-07-06 18:06:29	Case [sn_customerservice_case]	short_description	priority	true

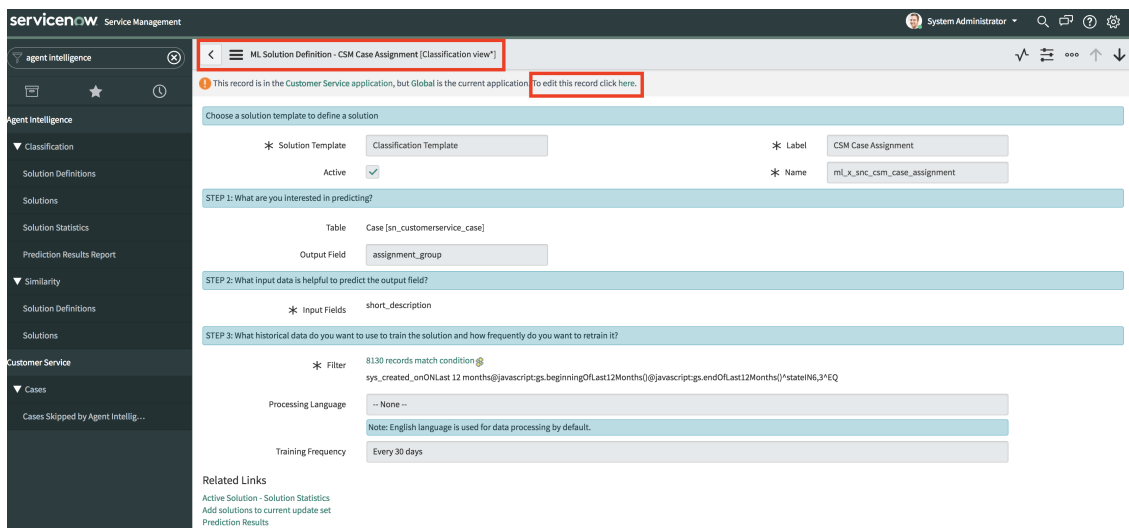
19. **Case Assignment Solution Definition:** Click on the Case Assignment solution definition.



The screenshot shows the 'ML Solution Definitions (Classification view)' page in ServiceNow. A table lists three solution templates. The first row is highlighted with a red box.

	Name	Solution Template	Created	Table	Input Fields	Output Field	Active
<input checked="" type="checkbox"/>	ml_x_snc_csm_case_assignment	Classification Template	2017-07-05 16:43:39	Case [sn_customerservice_case]	short_description	assignment_group	true
<input type="checkbox"/>	ml_x_snc_csm_case_categorization	Classification Template	2017-07-06 18:04:56	Case [sn_customerservice_case]	short_description	category	true
<input type="checkbox"/>	ml_x_snc_csm_case_prioritization	Classification Template	2017-07-06 18:06:29	Case [sn_customerservice_case]	short_description	priority	true

20. **Edit Case Assignment Solution Definition:** Click on *to edit this record*, click *here* to edit this record.



The screenshot shows the 'ML Solution Definition - CSM Case Assignment [Classification view]' page. The breadcrumb 'ML Solution Definition - CSM Case Assignment [Classification view]' and the link 'to edit this record click here.' are highlighted with red boxes.

Choose a solution template to define a solution

* Solution Template: Classification Template

* Label: CSM Case Assignment

Active: ☒

* Name: ml_x_snc_csm_case_assignment

STEP 1: What are you interested in predicting?

Table: Case [sn_customerservice_case]

Output Field: assignment_group

STEP 2: What input data is helpful to predict the output field?

* Input Fields: short_description

STEP 3: What historical data do you want to use to train the solution and how frequently do you want to retrain it?

* Filter: 8130 records match condition @
sys_created_on >= 12 months @ (javascript:gs.beginningOfLast12Months()) @ (javascript:gs.endOfLast12Months()) * state IN 6,3 * EQ

Processing Language: -- None --

Note: English language is used for data processing by default.

Training Frequency: Every 30 days

Related Links

- Active Solution - Solution Statistics
- Add solutions to current update set
- Prediction Results

21. **Review Case Assignment Solution Definition:** Lets review the different fields and what they mean. Click on Solution Template, Table, Output Field, Processing Language, and Training Frequency. **Note:** We will not update any values in this lab. If you had made updates, you can save the solution definition and click *Update and Train* to retrain the model using the new definition.

servicenow Service Management

System Administrator

ML Solution Definition - CSM Case Assignment (Classification view)

You are editing a record in the Customer Service application (cancel)

Update Update & Retrain Delete

Choose a solution template to define a solution

* Solution Template Classification Template

* Label CSM Case Assignment

* Name ML_A_RHC_CSM_Case_Assignment

Active

STEP 1: What are you interested in predicting?

Table Case [sn_customerservice_case]

Output Field Assignment group

STEP 2: What input data is helpful to predict the output field?

* Input Fields Short description

STEP 3: What historical data do you want to use to train the solution and how frequently do you want to retrain it?

* Filter 8130 records match condition

Add Filter Condition Add "OR" Clause

All of these conditions must be met

Created on Last 12 months

State is one of New Open Awaiting info Resolved

Processing Language -- None --

Note: English language is used for data processing by default.

Training Frequency Every 30 days

Update Update & Retrain Delete

Related Links

Active Solution - Solution Statistics

Add solutions to current update set

Prediction Results

ML Solutions (1) Training Request Schedules

ML Solutions New Search Active Search

Solution Definition - CSM Case Assignment

	Active	Version	Solution Name	Table	Input Fields	State	Progress	Row Count
<input type="checkbox"/>	<input checked="" type="checkbox"/>	11	ML_A_RHC_CSM_Case_Assignment	Case [sn_customerservice_case]	short_description	Solution Complete	100%	101,632

Actions on selected rows... 1

22. **Go Back to Solution Definition:** Click on < to go back to the Solution Definitions.

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System Administrator

ML Solution Definition - CSM Case Assignment (Classification view)

You are editing a record in the Customer Service application (cancel)

Update Update & Retrain Delete

Choose a solution template to define a solution

* Solution Template Classification Template

* Label CSM Case Assignment

* Name ML_A_RHC_CSM_Case_Assignment

Active

STEP 1: What are you interested in predicting?

Table Case [sn_customerservice_case]

Output Field Assignment group

STEP 2: What input data is helpful to predict the output field?

* Input Fields Short description

STEP 3: What historical data do you want to use to train the solution and how frequently do you want to retrain it?

* Filter 8130 records match condition

Add Filter Condition Add "OR" Clause

All of these conditions must be met

Created on Last 12 months

State is one of New Open Awaiting info Resolved

Processing Language -- None --

Note: English language is used for data processing by default.

Training Frequency Every 30 days

23. **Create New Solution Definition:** Click on *New* to create a new solution definition. Use the existing solution definition as a guide to create your own. Click Save to save the solution definition.

Note: We won't use this solution definition in the lab so feel free to experiment.

The screenshot shows the ServiceNow interface for creating a new ML Solution Definition. The left sidebar contains navigation links for Agent Intelligence, Classification, Solution Definitions, Solutions, Solution Statistics, Prediction Results Report, Similarity, and Customer Service. The main content area is titled "ML Solution Definition" and "New record [Classification view]". It features a "Choose a solution template to define a solution" section with a "Solution Template" dropdown set to "Classification Template". Below this are fields for "Label" and "Name". The form is divided into three steps: "STEP 1: What are you interested in predicting?" with "Table" and "Output Field" dropdowns; "STEP 2: What input data is helpful to predict the output field?" with an "Input Fields" section; and "STEP 3: What historical data do you want to use to train the solution and how frequently do you want to retrain it?" with a "Filter" section, "Processing Language" dropdown (set to "-- None --"), and "Training Frequency" dropdown (set to "Run Once"). A note states "Note: English language is used for data processing by default." At the bottom are "Save" and "Submit & Train" buttons.

24. **Summary:** In this exercise, we learnt how to configure Agent Intelligence for Classification.