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Lab Guide

Reporting 301:
It's All About the Data
'bout the Data

Dave D'Agostino & Elliot Monifi

Default Login / Password:

admin / Knowledge15

itil / Knowledge15

employee / Knowledge15

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Warm-up Lab Goal

The IT manager has come to you to for some headline numbers. "How many incidents do we have today? How many incidents did we close last month. How are we doing today?"

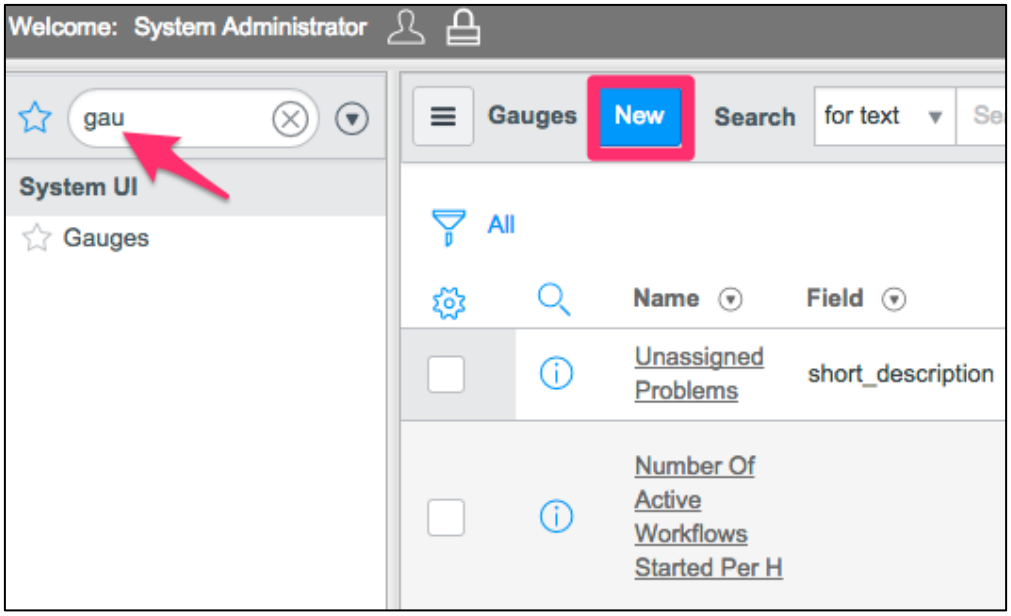
Although you know how to get those numbers quickly using lists, you decide to make things better and put the answers on a homepage for future reference.

Note: We use this technique during the final Lab.

Lab 0.1 Doing the Numbers with Count Gauges

Steps

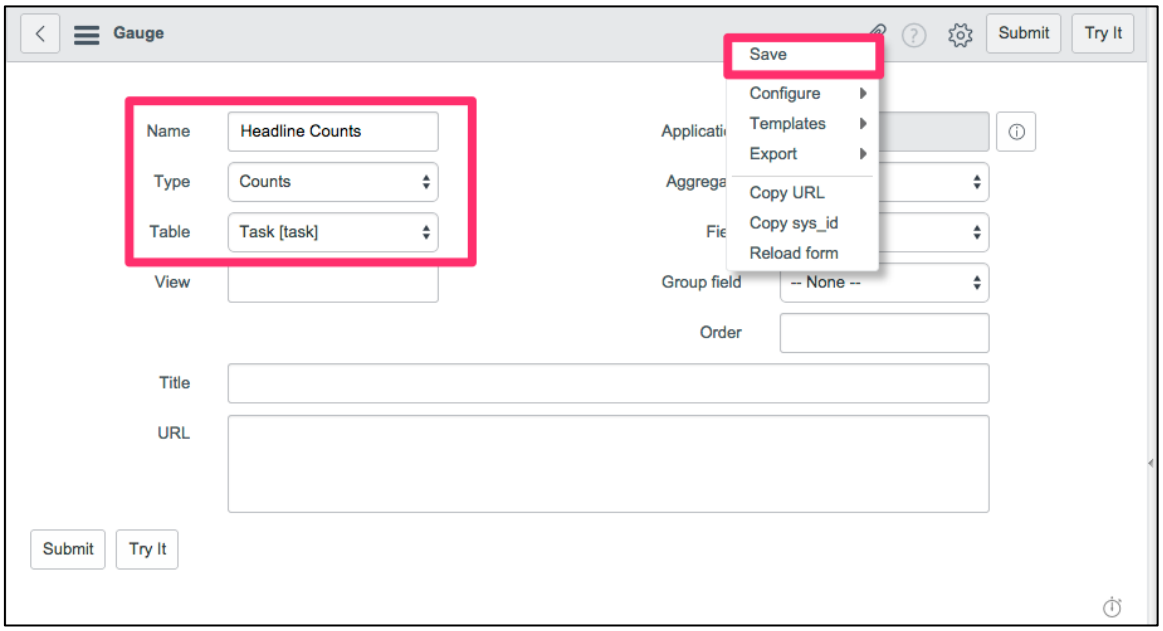
1. Navigate to **System UI > Gauges** (or start typing **gauge** into the navigation filter). Click **New**:



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2. Fill in the following information:

   Name: **Headline counts**
   Type: **Counts**
   Table: **Task** (Make sure to select the right table)

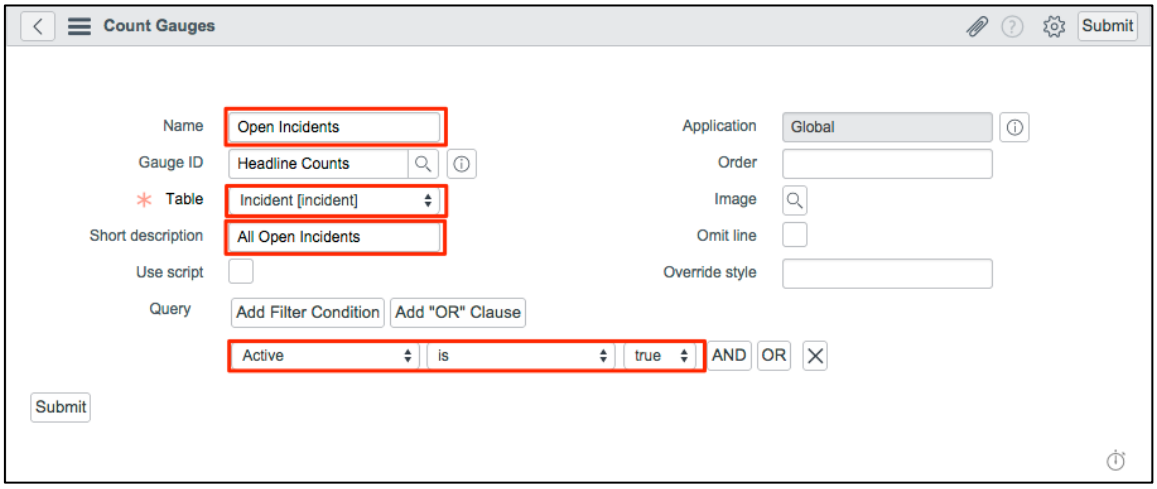


3. Right-click the context bar and choose **Save**.

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4. Click **New** under Count Gauges, and fill in the following information on the new form:

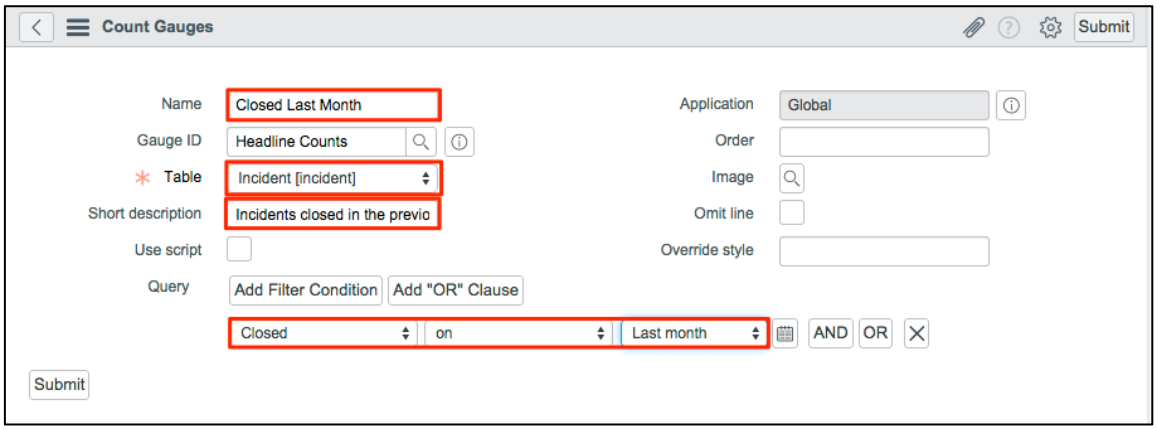
   Name: **Open incidents**
   Table: **Incident**
   Query: **active is true**
   Short description: **All open incidents**



5. Click **Submit**.

6. Click **New** under Count Gauges, and fill in the following information:

   Name: **Closed last month**
   Table: **Incident**
   Query: **closed on last month**
   Short description: **Incidents closed in the previous month**

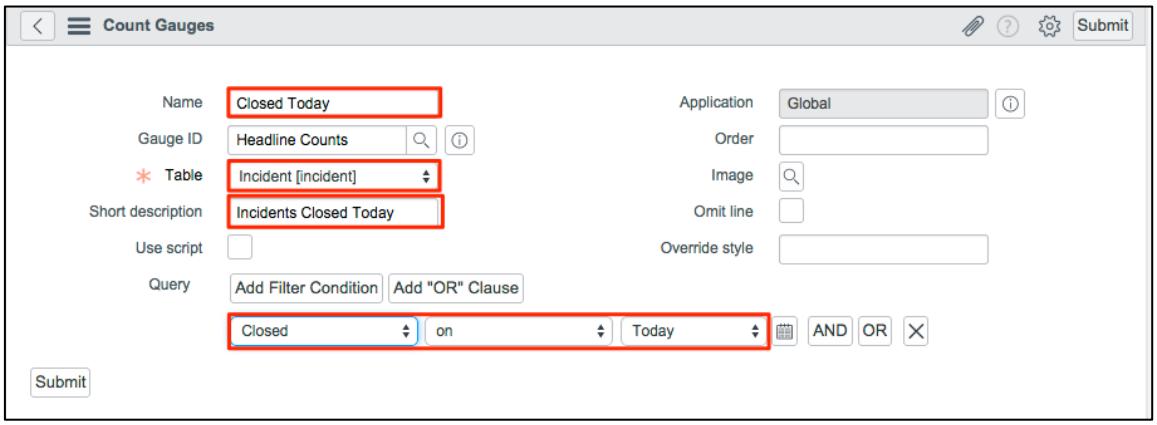


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7. Click **Submit**.

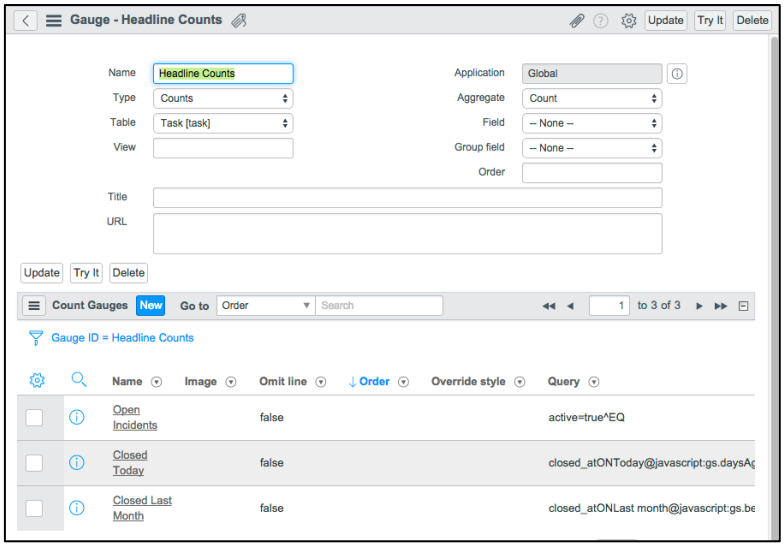
8. Click **New** under Count Gauges, and fill in the following information:

   Name: **Closed today**
   Table: **Incident**
   Query: **Closed on today**
   Short description: **Incidents closed today**



9. Click **Submit**.

   The Gauge definition page should look like the example.

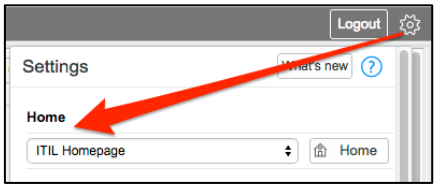


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10. Go to the **ITIL Homepage**

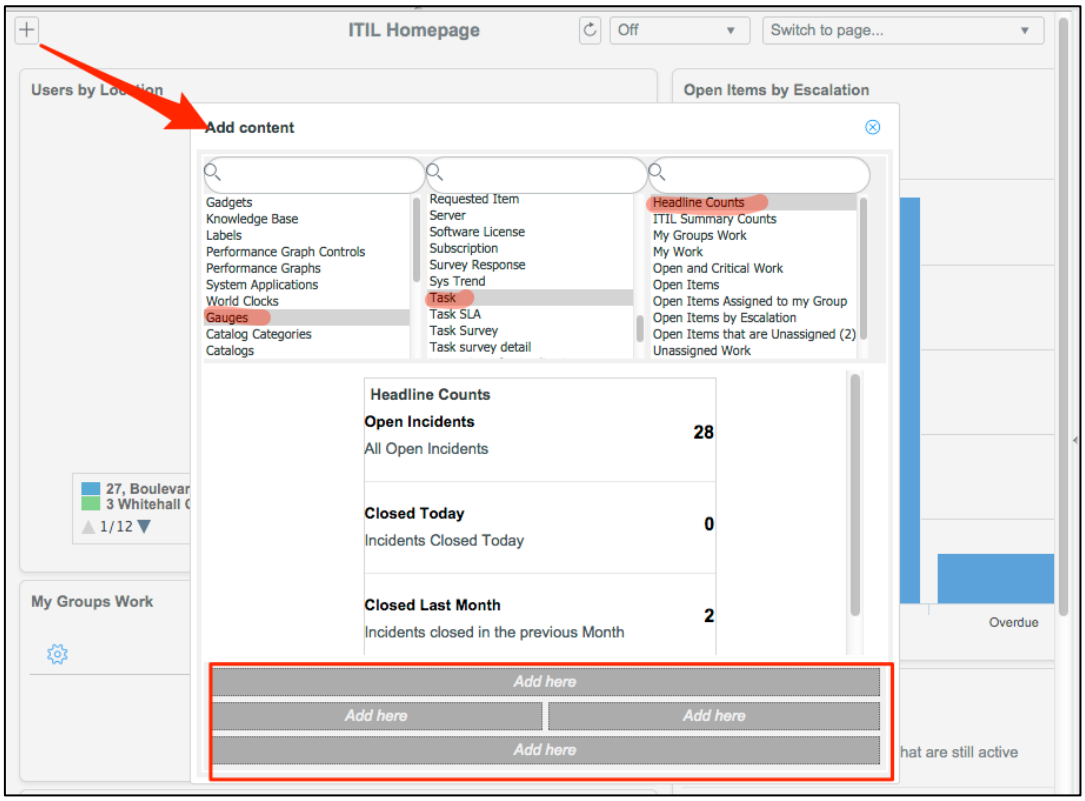
    Click the **cog** icon next to the logout button (right side) to go to **Settings**.

11. Select **ITIL Homepage** from the **Home** drop-down list.



12. Add the gauge:

- Add content ("**+**" sign at top left of homepage **> Gauges > Task > Headline counts**
- Choose a dropzone, which positions the graph on the homepage



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Lab Goal

The IT manager has come to you to streamline the process of making reports. At the moment, when you go to make a report, there is a large list of tables to choose from. This is complicated and confusing the team, so he has asked you to limit them to the task table list.

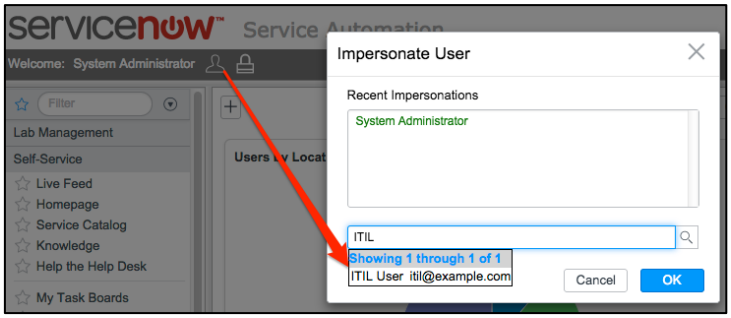
Lab 1
Reporting Security

How to Test *(Do this at the start of the lab and then repeat as instructed)*

1. Start the impersonation feature by clicking the symbolic head next to your name.



2. Type **ITIL User** in the lookup box, or click on **ITIL User** in **Recent Impersonations**.

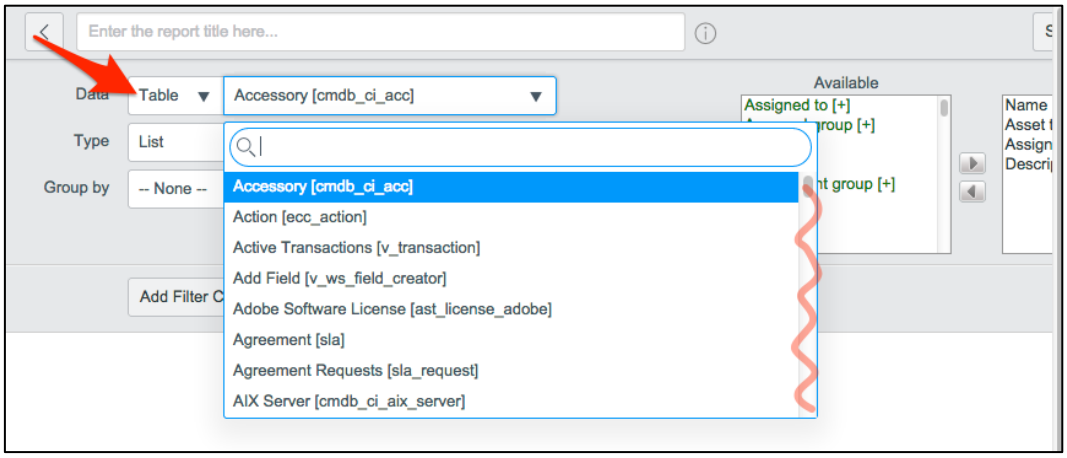


3. Click **OK**.

4. Navigate to **Reports > Create New**.

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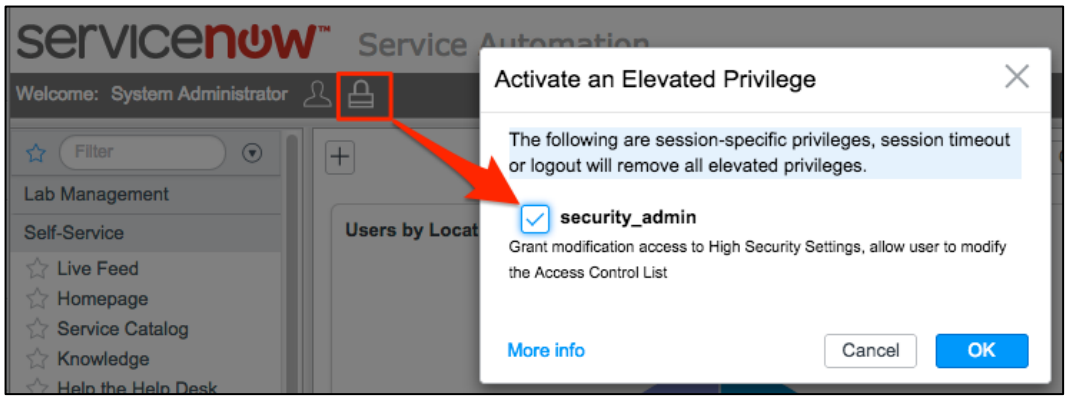
5. Note what options are available in the **Table** selection field.



6. Once completed, return to being the System Administrator by choosing the option in the impersonation dialog.

Steps

1. Ensure that you have **Elevated** Security Privileges by clicking the symbolic padlock next to your name and selecting the **security_admin** check box.



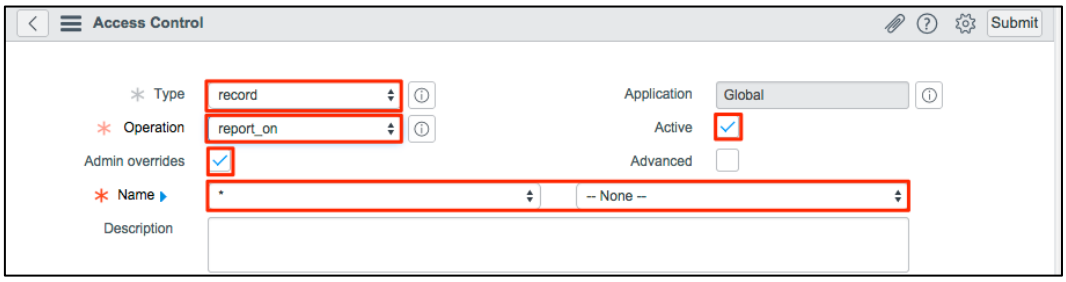
2. Navigate to **System Security > Access Control**.

3. Click **New**.

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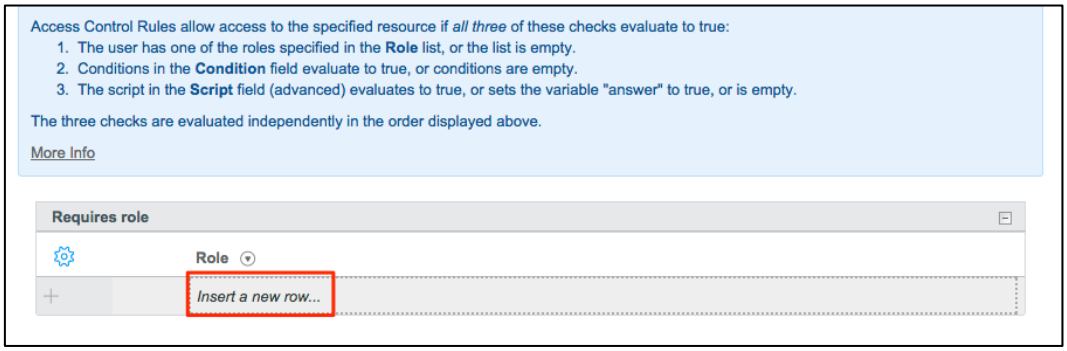
4. To restrict report creation fill in the following information:

   Type: **record**
   Operation: **report_on**
   Name: *** | None**
   Active: **Checked**
   Admin Overrides: **Checked**



5. Right-click the context bar and choose **Save**.

6. At the bottom of the form, locate **Requires role.** Double-click **Insert a new row…**



7. Enter and select **admin** in the **Requires role** list.

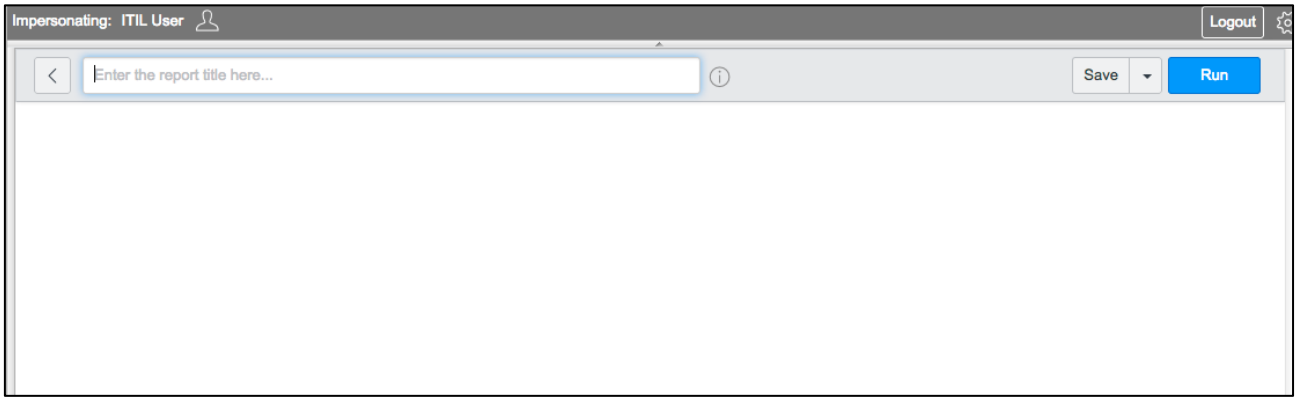


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8. Click **Update**.

   ** This will creates a default rule, blanking out the available tables completely.

9. Run the **How to test** steps (Steps 1 to 6 above). You should see something like this example.



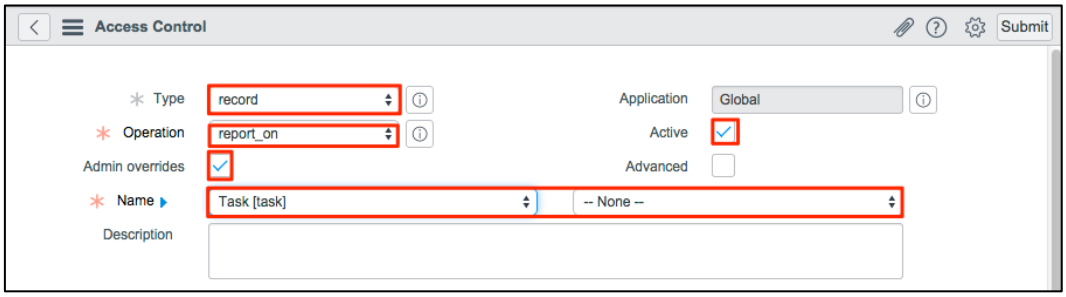
   Note: *The user (ITIL User in this case) can still run existing reports (see* ***Reports > View/Run****)*

10. Navigate to **System Security > Access Control**.

11. Click **New**. (Check your elevated privileges!)

12. To allow report creation, fill in the following information:

    Type: **record**
    Operation: **report_on**
    Name: **task | None**
    Active: **Checked**
    Admin Overrides: **Checked**

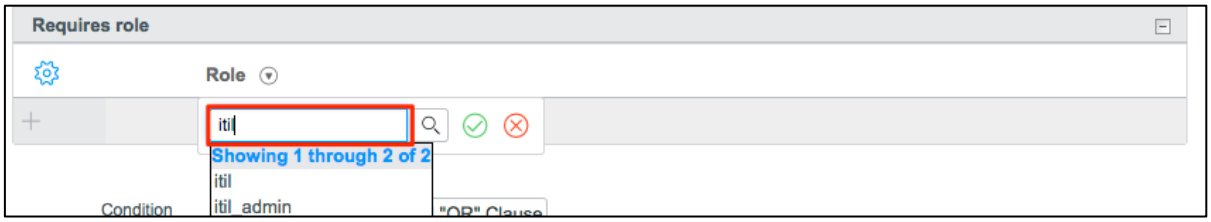


13. Right-click the context bar and choose **Save.**

14. At the bottom of the form, locate **Requires role**. Double-click on **Insert a new row…**

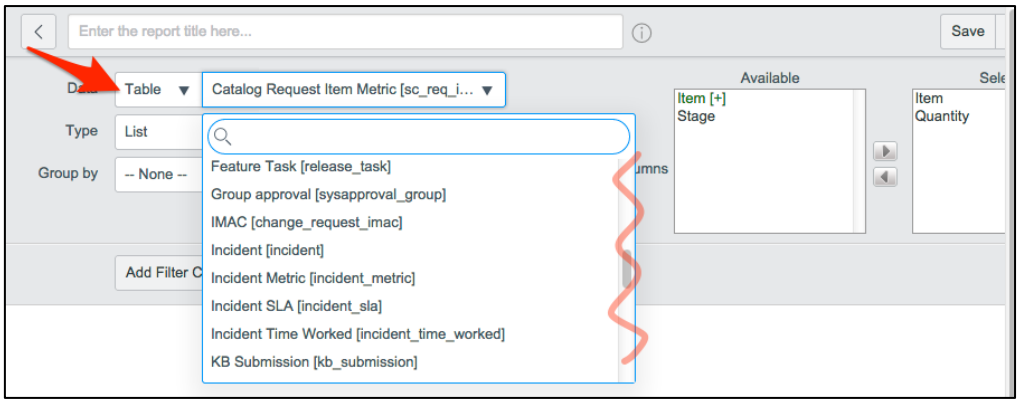
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15. Enter and select **itil** into the **Requires role** list.



16. Click **Save.** This overrides the access control rule, giving access to all the task table in the selection box.

17. Follow "**How to test**" steps 1 – 6 again. You should see something like the example.



Bonus feature

How you do allow the selection of the report table (**sys_report**)? (Hint: look in **UI properties**.)

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Lab Goal

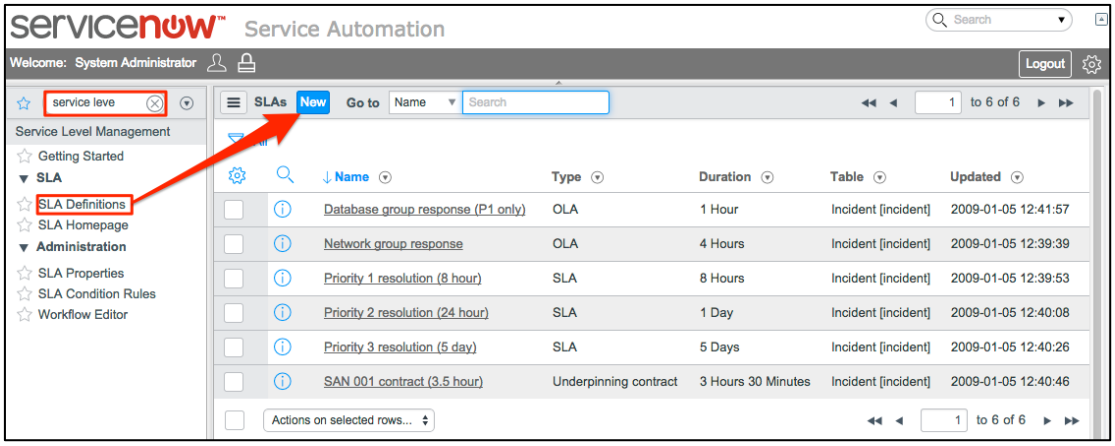
The business is still not happy that tasks are being closed quickly enough. They want to see which groups are meeting their performance targets.

To measure this, they wish to introduce an SLA to monitor performance, especially around problems. You need to set up a basic SLA on the problem task table, then create a database view to enable easy reporting.

Lab 2
Database Views

Steps to Create the SLA

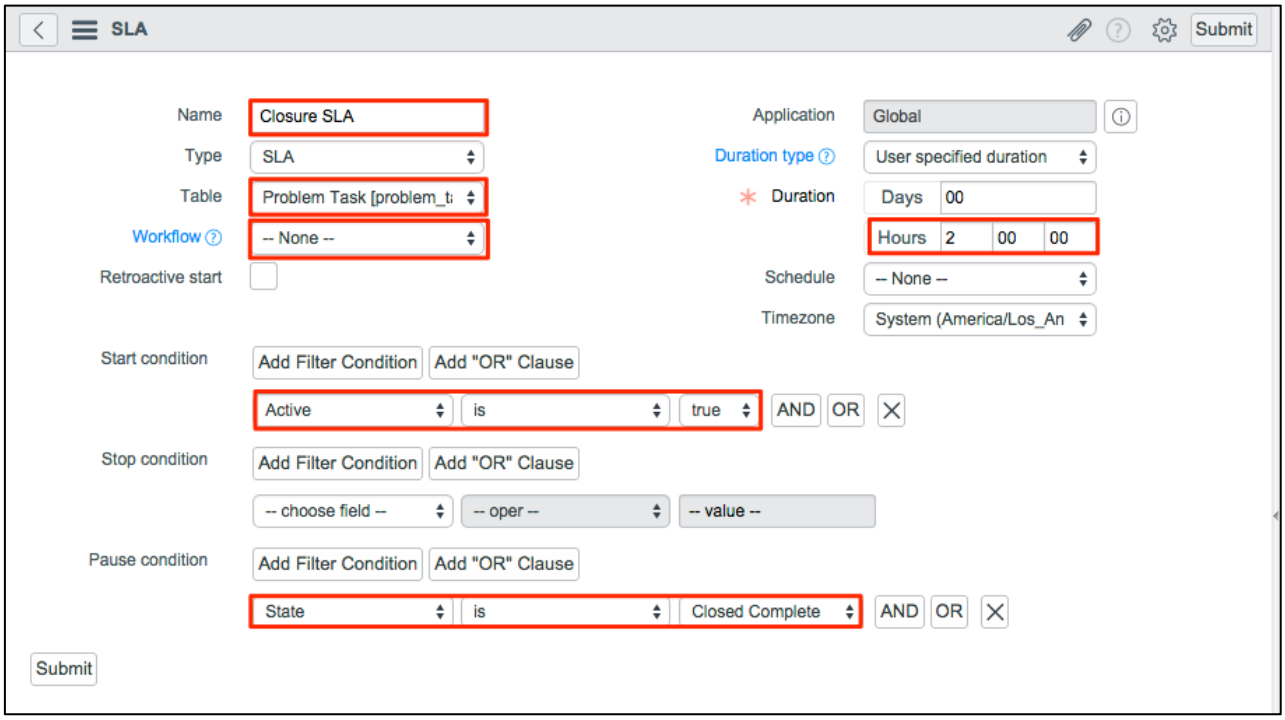
1. Navigate to **Service Level Management > SLA Definitions**.



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2. Click **New** and fill in the following information:

   Name: **Closure SLA**
   Table: **Problem Task**
   Workflow: **-- None --**
   Duration: **2 hours**
   Start condition: **Active is true**
   Stop condition: **State is Closed Complete**

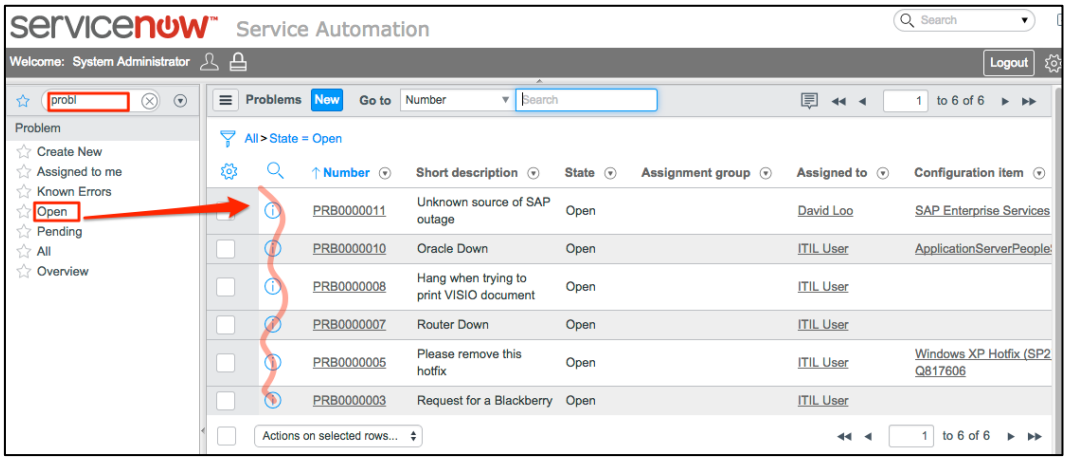


3. Click **Submit**.

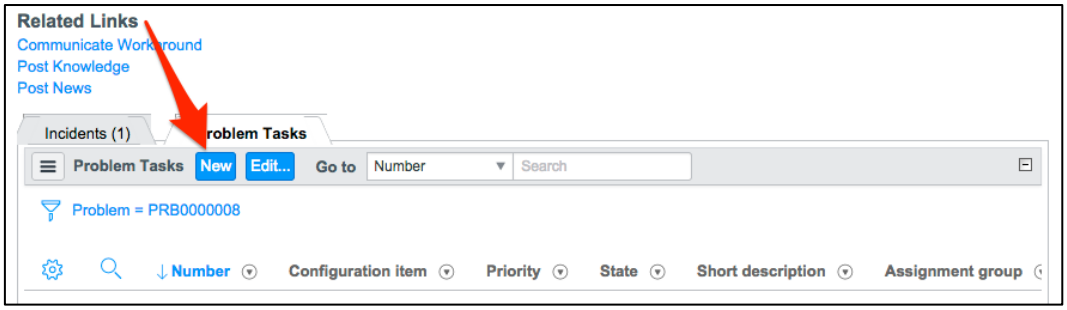
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Steps to Create Test Data

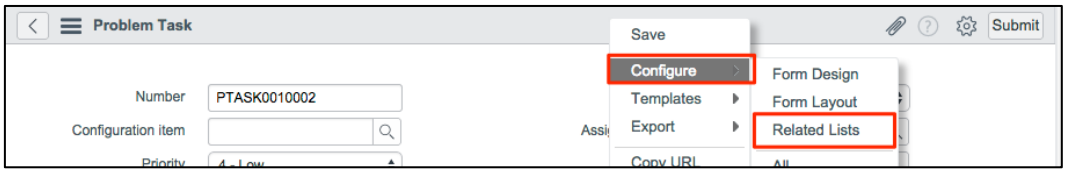
1. Navigate to **Problem > Open**, and choose a problem.



2. Click **New** under the **Problem Task** tab in Related Links at the bottom of the form.



3. In the Problem Task form, right-click the context bar and choose **Personalize > Related Lists.**



4. Add the **Task SLA ->Task** option to the Selected list. Click **Save**.

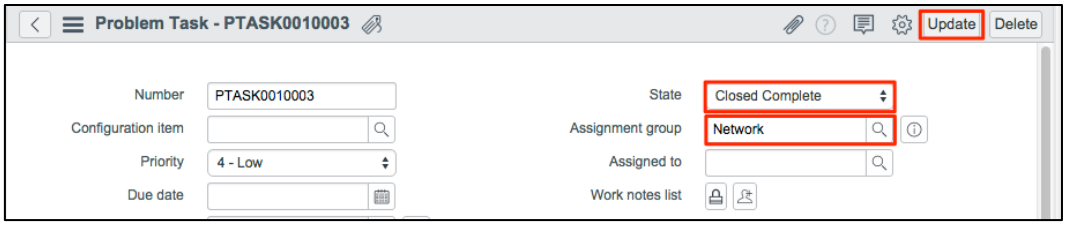


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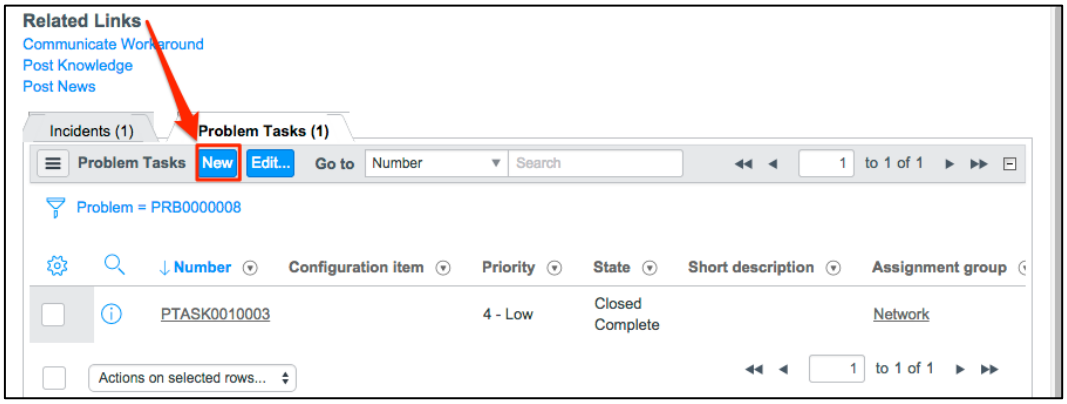
5. Right-click the Problem Task header bar. Choose **Save**.



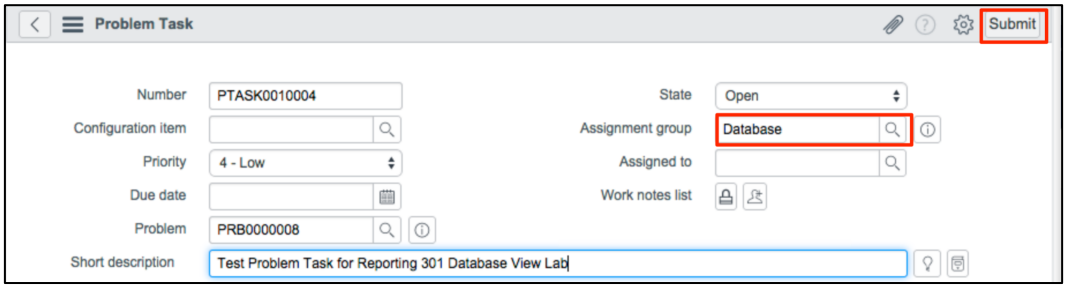
6. Assign the task to the **Network** team, and change the **State** drop-down list to **Closed Complete**. Click **Update**.



7. Once again, click **New** under Problem Task.

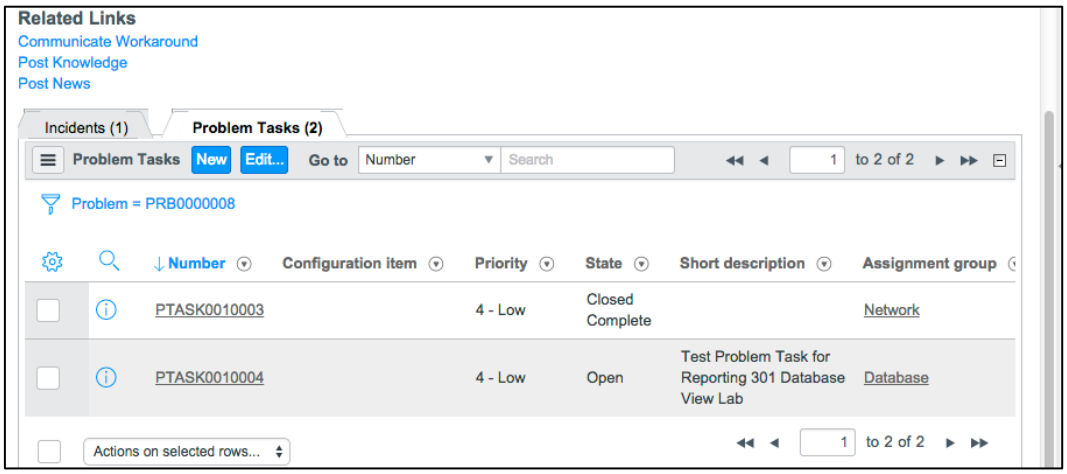


8. Assign the task to the **Database** team. Click **Submit**.



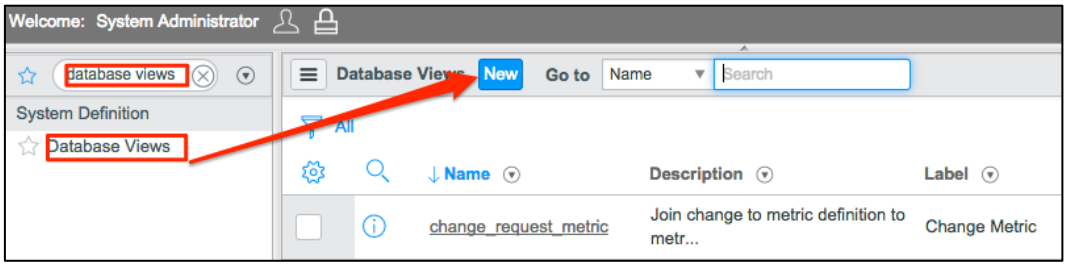
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9. You should now see the following two Problem Tasks in the tab on the Problem form:



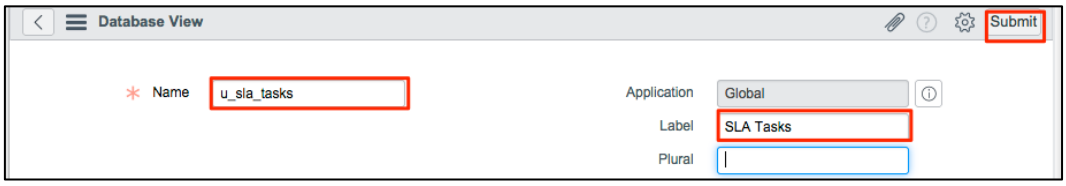
Steps to create the database view

1. Navigate to **System Definition > Database Views**.



2. Click **New** and fill in the following information:

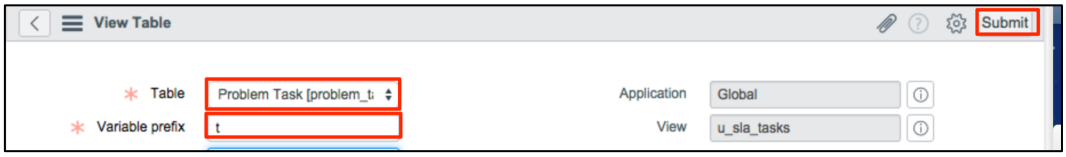
   Name: **SLA Tasks** (note how it changes the text)
   Label: **SLA Tasks**
   Right click the context bar, and choose **Save**.



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3. Click **New** under **View Tables**, and fill out the following information:

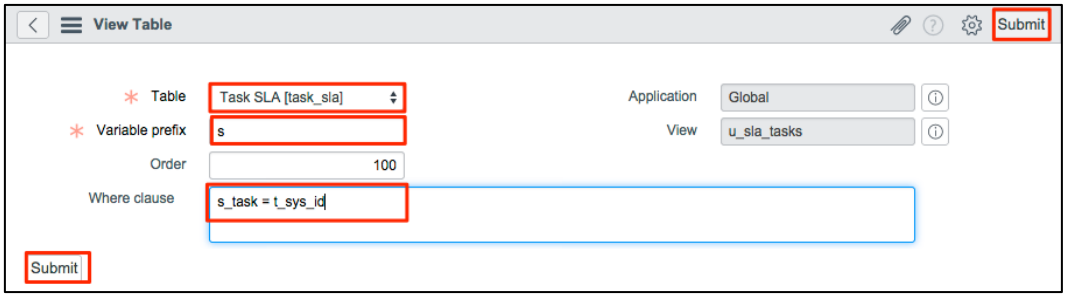
   Table: **Problem Task**
   Variable Prefix: **t**



   Click **Submit**.

4. Click **New** under View Tables, and fill out the following information:

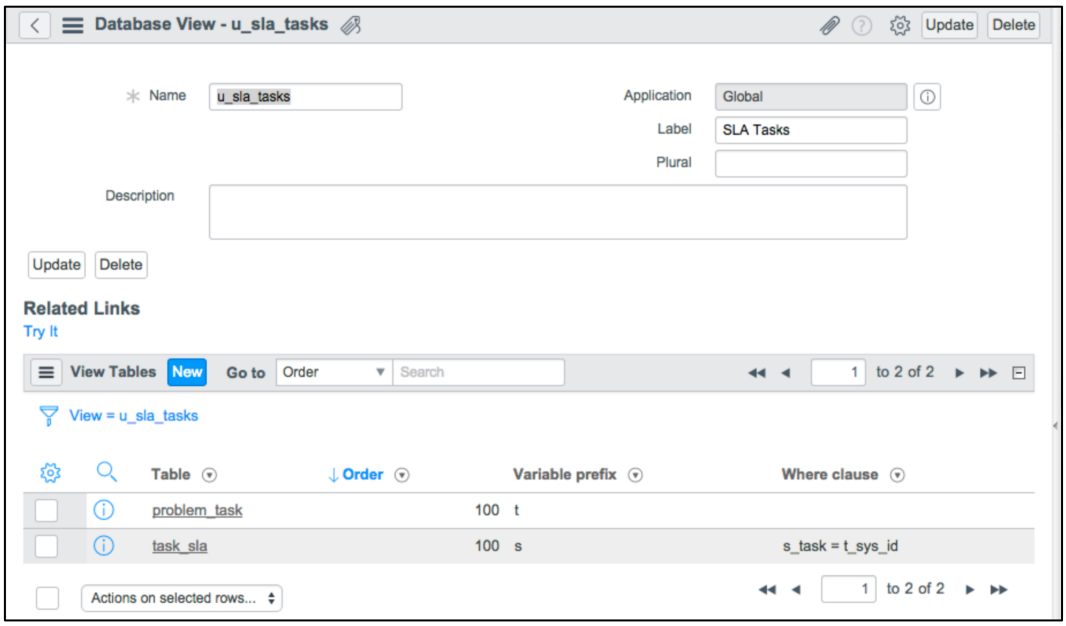
   Table: **Task SLA**
   Variable Prefix: **s**
   Where clause: **s_task = t_sys_id**



   Click **Submit**.

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5. The Database View form should now look like the example.

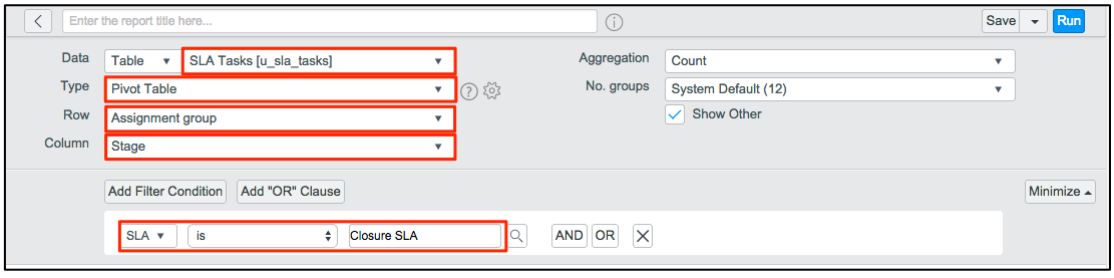


Steps to Create the Report

1. Navigate to **Reports > Create New**.

2. Create a report with the following details:

   Type: **Pivot table**
   Table: **SLA Tasks**
   Row: **Assignment Group**
   Column: **Stage**
   Condition: **SLA is Closure SLA**



3. **Run** the report.

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Why Did We Join?

The table join flattens the structure that already exists on the Task SLA table, but it is not possible to use reference fields in the row and column of the pivot table.

Bonus Reports

What other reports can you run to see how SLAs are being met?

Try a chart with the following options:

- Type: **Trend chart**
- Table: **SLA Tasks**
- Group by: **Stage**
- Trend by: **SLA Due** per **Date**

This report shows highlight if there are any bad days when many SLAs where breached, or good days when things when well! Try changing **End time per Day** to see if there are bad days of the week.

Another option could be a line chart:

- Type: **Line chart**
- Table: **SLA Tasks**
- Group by: **Assignment Group**
- Trend by: **Sla Due per Date**
- Filter: **Stage is Breached**

A line chart shows the relationship between dates, with this highlighting a spike in breaches.

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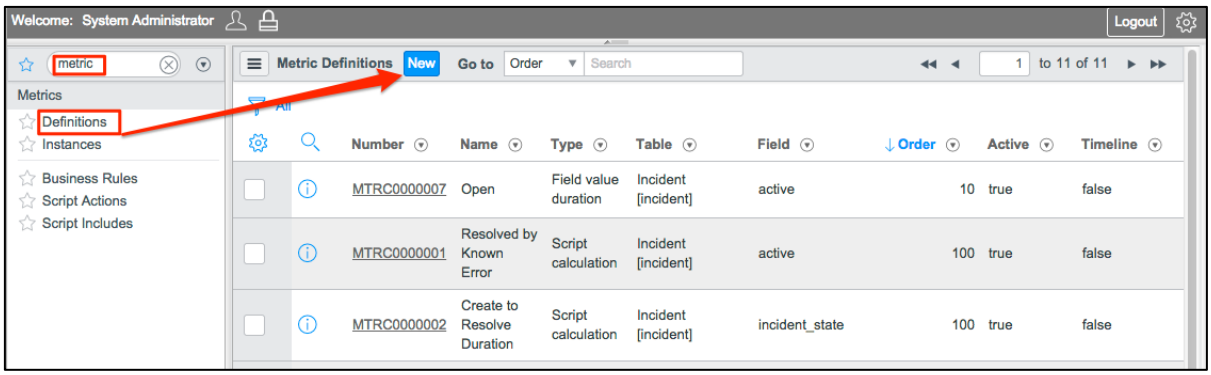
Lab Goal

A lot of effort is being misdirected because Inquiries coming into the service desk are often being set to priority 1 unnecessarily. Instead of setting a blanket rule in place to prevent this, management wants to collect data to evaluate the conditions when this happens to see if there are any persistent offenders.

Lab 3
Metrics

Steps to Create the Metric

1. Navigate to **Metrics > Definitions**.



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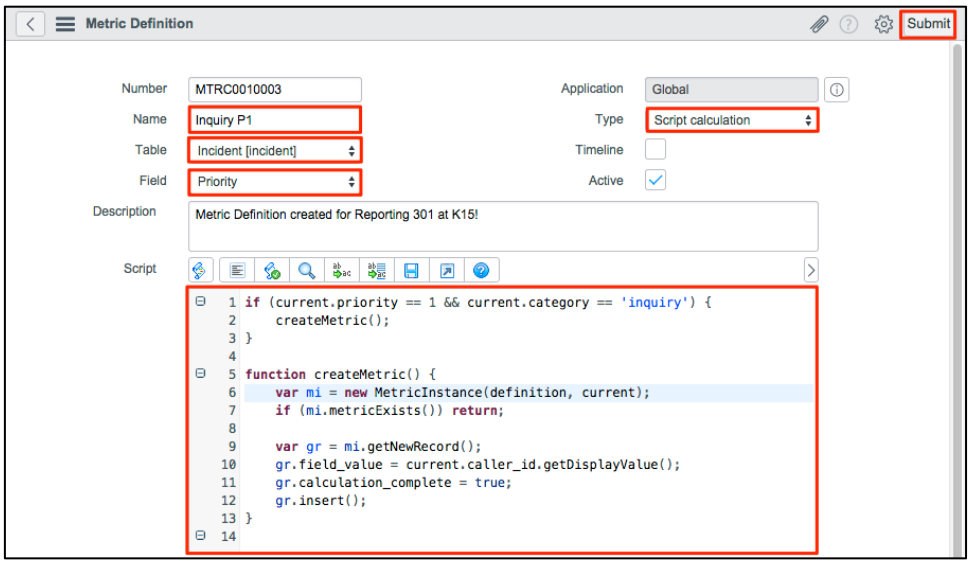
2. Click **New** and fill in the following information:

   Name: **Inquiry P1**
   Table: **Incident**
   Field: **Priority**
   Type: **Script calculation**
   Script: (You can copy/edit the **createMetric** function from the **Resolved by Known Error Metric**). Or if this is in soft copy, copy and paste from below.

```
if (current.priority == 1 && current.category == 'inquiry') {
    createMetric();
}

function createMetric() {
    var mi = new MetricInstance(definition, current);
    if (mi.metricExists()) return;

    var gr = mi.getNewRecord();
    gr.field_value = current.caller_id.getDisplayValue();
    gr.calculation_complete = true;
    gr.insert();
}
```



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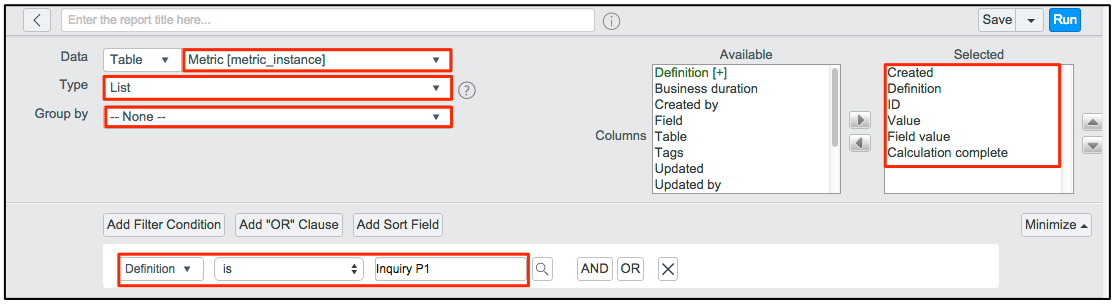
3. Test the metric.
   - Create a new incident with a category of **Inquiry / Help** (should be default).
   - **Assign** the ticket to an individual (also ensure that the **Caller** field is populated).
   - Change the priority to **1** by setting the impact and urgency both to **1**.
   - Return to the metric definition - incident will be counted in the related list.
   - You may want to add the **Field Value** column to the **Metrics Instances** related list. What do you see in there?
   - Do this several times to get some data.
   - **Note**: You can also see the metrics data for a specific incident by switching in **Metrics view** on the Incident form.

Steps to Create the Report

1. Navigate to Reports > **Create New**.

2. Create and run a report with the following details:

   Type: **List**
   Table: **Metric [metric_instance]**
   Group by: **None**
   Columns: **Created, Definition, ID, Value, Field value, Calculation Complete**
   Condition: **Definition is Inquiry P1**



3. ***This one is for when you get home:*** Create and run a report with the following details (definitely works better with several days' data!):

   Type: **Line**
   Table: **Metric [metric_instance]**
   Trend Field: **Created per Date**
   Group by: **None**
   Condition: **Definition is Inquiry P1**

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Bonus Reports and Table Joins *(something to enjoy back at home)*

To really drill into the detail, you could combine the metric instance table with the incident table using a database view. You could then see if the badly prioritized incidents correspond to a particular Service or Location, for example.

Alternatively, try joining the metric instance table with the incident and task SLA tables. This shows the incident manager how many P1 Inquiry incidents end up with a breached SLA.

To do this, follow these steps:

1. Upgrade the priority of **INC0000047** by changing the impact and urgency both to **1**.
2. Navigate to **System Definition > Database Views**.
3. Click **New** and fill in the following information. **Save** the form.

   Name: **Incident SLA Metric**
   Label: **Incident SLA Metric**
4. Click **New** from the View Tables section, and fill out the following information:

   Table: **Metric Instance**
   Variable Prefix: **m**

   Click **Submit**.
5. Click **New** under View Tables, and fill out the following information:

   Table: **Metric Instance**
   Variable Prefix: **m**
   Order: **100**

   Click **Submit**.
6. Click **New** under View Tables, and fill out the following information:

   Table: **Task SLA**
   Variable Prefix: **s**
   Where: **s_task = m_id**
   Order: **200**

   Click **Submit.**

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7. Click **New** under View Tables, and fill out the following information:

   Table: **Incident**
   Variable Prefix: **i**
   Where: **i_sys_id = s_task**
   Order: **300**

   Click **Submit**.

8. Navigate to **Reports > View/Run**

9. Create a report with the following details:

   Type: **List**
   Table: **Incident SLA Metric**
   Group by: **-- None --**
   Filter:**Definition is Downgraded P1 (and)**
   SLA is Priority 1 resolution (and)
   Stage is Breached
   Columns: (include at least the number field)

10. **Run** the report
    Any incidents that show up are marked as breached, but actually end up as another priority.
    INC0000047 will show.

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Lab Goal

Lab 4 Custom Charts

IT management like (love!) the functionality that ServiceNow provides, but want a better overview of what is going on, focused especially on SLAs, the priority of tasks, and how the Service Desk is performing.

You are given less information on how to complete this exercise. Instead, you need to use the skills you have learned to build several new reports, pull in existing ones, and modify an existing custom report to give dashboard of information.

Items to Include

- Pie chart showing the current active incidents, grouped by priority
- Update the **ITIL summary counts** gauge to include a count of all open problems
- Bar chart showing the active tasks that are within 30 minutes of breaching the Closure SLA (hint: try the actual time left field)
- Trend chart that looks at which day of the week is most productive in closing problems (hint: try modifying the existing trend chart)

Advanced Items to Include

- Chart that shows the number of active incidents, and the number of active problems for each month, on the same graph (hint: this is a custom chart – help below!)

Steps to Build the Homepage

1. Click the **cog** icon next to the logout button (right side), and select **ITIL Homepage**.
2. Personalize by clicking the top-right **X** of any unwanted gauges. **Page** is renamed to **My ITIL Homepage**.
3. Title the page: click in the **My ITIL Homepage** text and edit.
4. Click the **Add content** link and choose reports as appropriate.

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Custom Chart for Incidents and Problems

The various code sections for the custom chart are available at the end of this document in **Appendix: JavaScript to build a custom chart.**

Unless you want to practice typing code, just copy and paste the appropriate code sections where indicated in the instructions below.

Make sure that you have switched on the **Custom Charts** plugin, as referred to at the start of the session.

1. Navigate to **Reports > Custom Charts**.
2. Click **New**, and fill out the following information:
   Name: **Open Incidents & Problems**
   Type: **Script Generated**
   Render script: Copy from the ***first section*** of the Appendix below
3. Right-click the context bar and click **Save**.
4. Click **New** under the **Uses Generator** related list and fill out the following information:
   Name: **Trend of Open Problems**
   Run this script: Copy from the ***second section*** of the Appendix.
5. Right-click the context bar and click **Save**.
6. Click **Execute Now**.
7. Click **New** under the **Uses Generator** related list and fill out the following information:
   Name: **Trend of Open Incidents**
   Run this script: Copy from the ***third section*** of the Appendix.
8. Right-click the context bar and click **Save**.
9. Click **Execute Now**.
   Wait until the two scheduled data collection jobs complete before you run the report. When the scheduled jobs complete, they fill in the **Summary** field. Keep refreshing the form until both the Summary fields are populated. To refresh the form, right-click the context bar and click **Reload form**.
10. After both summaries complete, click **Try it**.
11. To add to your homepage, click the **home** icon, choose **Add content > Custom charts > Open Incidents & Problems**.

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Appendix

Appendix JavaScript to build a custom chart

Section 1: Code for the Custom Chart

```
// Get the sys_id values for the sys_report_summary table
// entries build by our generators

var incID = summary_sets.get("Trend of Open Incidents");
var probID = summary_sets.get("Trend of Open Problems");

// Gets a utility class for dataset manipulation
var cu = new ChartUtil();
cu.setTable('incident');
cu.setColors("#FFFFFF,#7FFF00");

// Get the dataset for the problems
var inc = new ChartGenerator("bar");
inc.setTable('incident');
inc.setSummaryID(incID);
var ds = inc.getDataset();

// Get the dataset for the problems and combine with
// the incidents into a multi series dataset
var prob = new ChartGenerator("bar");
prob.setTable('problem');
prob.setSummaryID(probID);
ds = cu.mergeDatasets(ds, "Incident", prob.getDataset(), "Problem");

// Get the chart for the multi series bar chart of
// open and closed incidents
var chart = prob.getChart(ds);

// Change the spacing
prob.setNoMargins();

// return our chart
answer = chart;
```

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Section 2: Code for the Trend of Open Problems

```
var opened = new SummaryTableWriter('problem', '');

opened.setTitle("Trend of Open Problems");

opened.setTrend('opened_at', 'month');
current.summary = opened.generate();

current.setWorkflow(false);

current.update();
```

Section 3: Code for the Trend of Open Incidents

```
var opened = new SummaryTableWriter('incident', '');

opened.setTitle("Trend of Open Incidents");

opened.setTrend('opened_at', 'month');
current.summary = opened.generate();
current.setWorkflow(false);

current.update();
```

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