ITIL Problem Implementation

Applying ITIL Principles to ServiceNow

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Logging Problems

Creating a Template

Note: *This article applies to Fuji. For more current information, see Create a Problem Template* [1] *at* http://docs.servicenow.com
The ServiceNow Wiki is no longer being updated. Please refer to http://docs.servicenow.com for the latest product documentation.

	Functionality described here requires the **Admin** role.

Overview

Templates store populated versions of form for reuse, and can help save time by reducing the amount of time spent filling in forms. By defining common problems as templates, an administrator can save time for service desk members later, allowing them to focus on solving the incidents at hand.

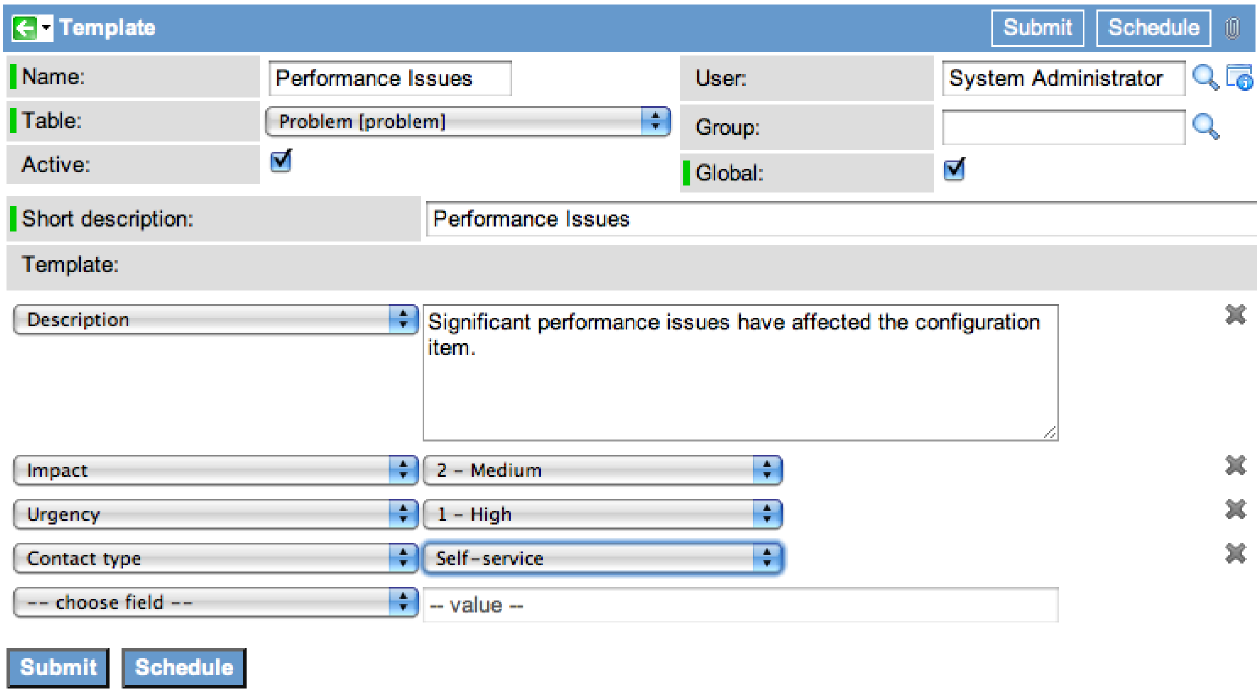
Once a template is defined, it can be used from a record producer or from a module.

The example below creates a template for users who would like to report performance issues.

Creating a Problem Template

To create a problem template:

1. Navigate to **System Definition > Templates** and click **New**.
2. Populate the form as follows:
   - **Name** - Performance Issues
   - **Table** - Problem
   - **Global** - True. This allows any user to deploy the template, rather than simply the template's creator.
   - **Short Description** - Performance Issues
   - **Template** - Description is Significant performance issues have affected the configuration item., Impact is 2 - Medium, Urgency is 1 - High, and Contact Type is Self Service. This defines the fields that will be filled in by the template.
3. Click **Submit**.

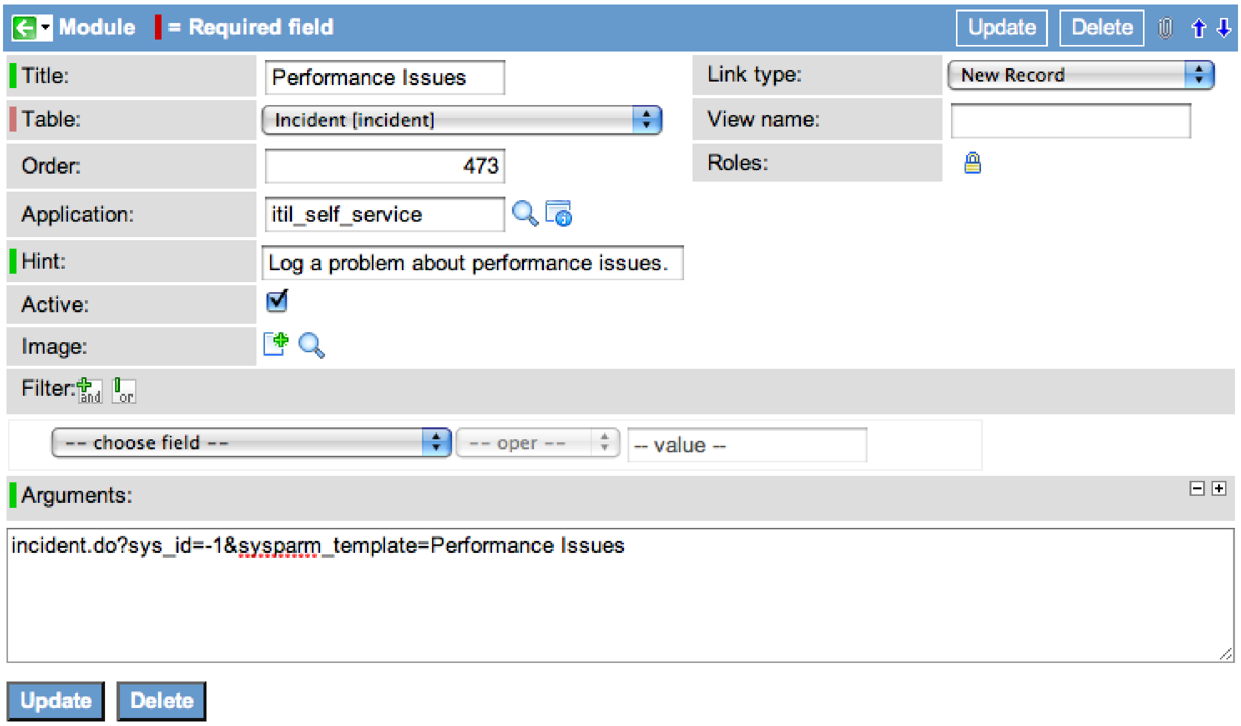


Using the Template from a Module

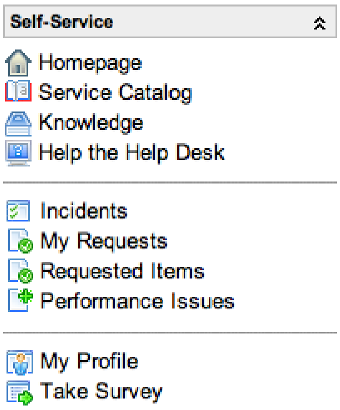
The following example demonstrates how to place the Performance Issues template in a module in the **Self-Service** application, allowing end-users to directly file the incident with the template.

To use a template from a Module:

1. Right click the Application **Self-Service** and click **Edit Application**.
2. Scroll to the **Modules** related list and click **New**.
3. Populate the form as follows:
   - **Title** - Report Performance Issues
   - **Table** - Problem [problem]
   - **Order** - 473. This order places the new module after **Requested Items** in the **Self-Service** application. Order can be found when looking at the Module related list on the Application form.
   - **Link Type** - New Record
   - **Hint** - Log a problem about performance issues.
   - **Image** - /images/newpage.gif
   - **Arguments** - problem.do?sys_id=-1&sysparm_template=Performance Issues . This deploys the template in the new problem record.
4. Submit.



The new Module should appear in the **Self-Service** application:



References

[1] https://docs.servicenow.com/bundle/jakarta-it-service-management/page/product/problem-management/task/t_CreateAProblemTemplate.html

Creating a Record Producer

Functionality described here requires the **Admin** role.

Overview

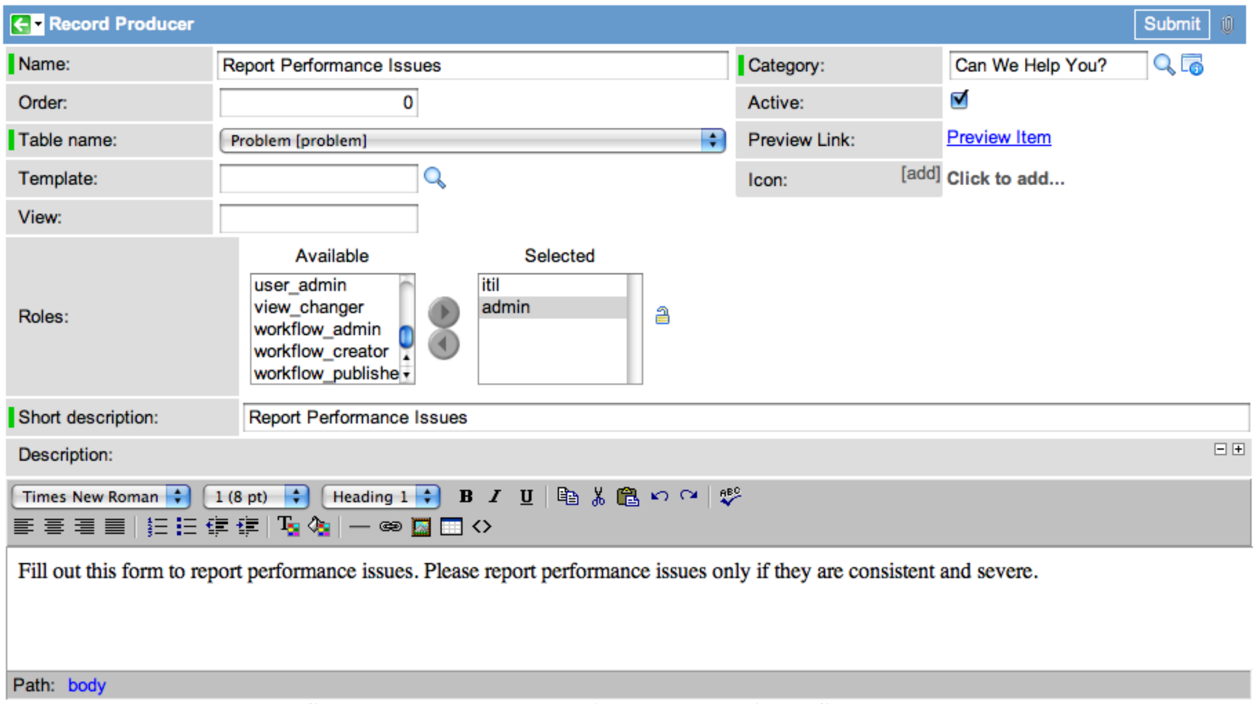
The Service Catalog can be used to log problems using a Record Producer. Record Producers appear in the Service Catalog like Catalog Items, but when they are submitted, they create a record on the specified table with the information provided either by the user, or by a template.

The examples below will demonstrate two methods of creating a Record Producer to log a problem with performance.

Creating a Record Producer

To create a record producer:

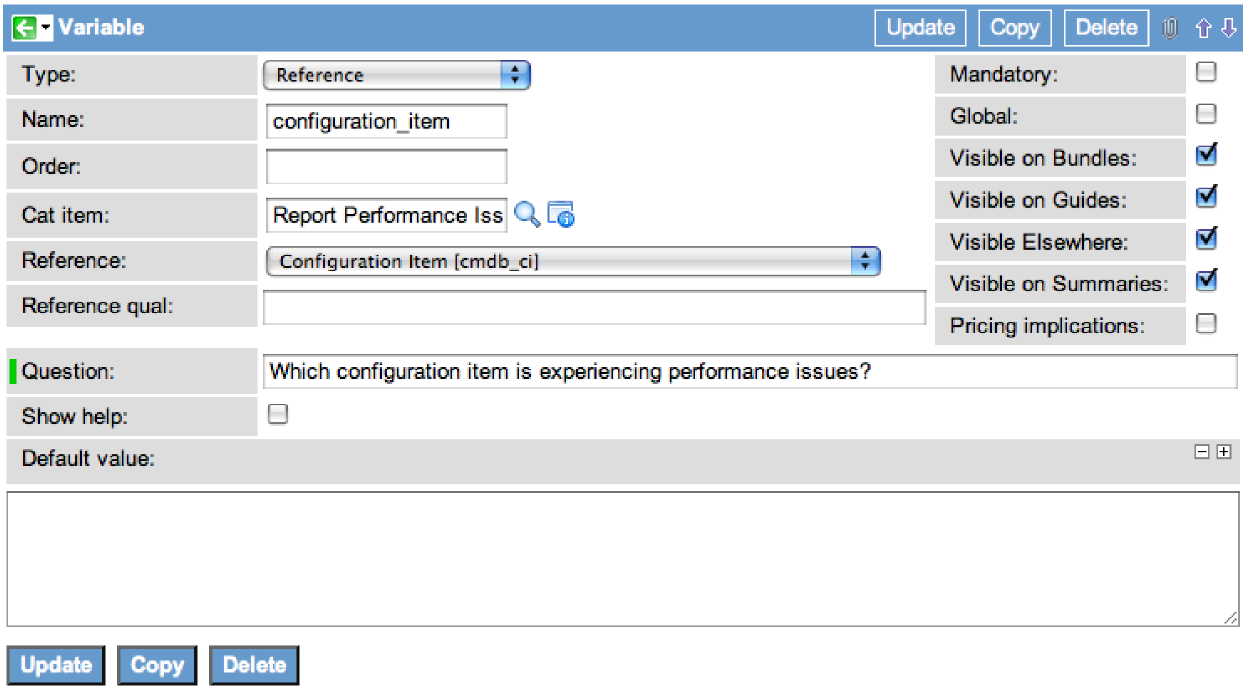
1. Navigate to **Service Catalog > Record Producers**.
2. Populate the form as follows:
   - **Name** - Performance Issues.
   - **Table Name** - Problem [problem].
   - **Category** - Can We Help You?
   - **Roles** - itil, admin. This restricts the record producer to IT employees. Usually, outside users will file an incident rather than directly filing a problem.



3. Right click the form and select **Save**. The related lists **Variables** and **Variable Sets** will now appear at the end of the form.
4. Scroll down to the **Variables** related list and click **New**.

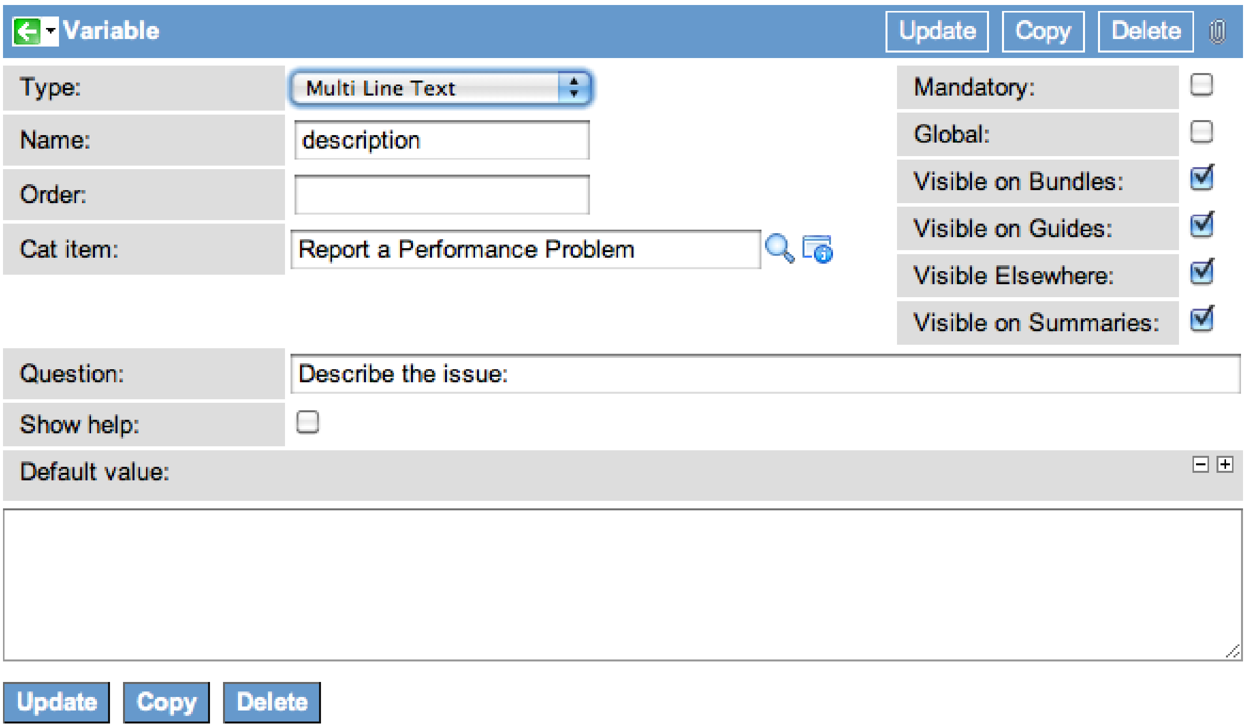
5. Populate the **New Variable** form as follows:

- **Type** - Reference.
- **Name** - configuration_item
- **Reference** - Configuration Item [cmdb_ci]
- **Question:** - Which configuration item is experiencing performance issues?



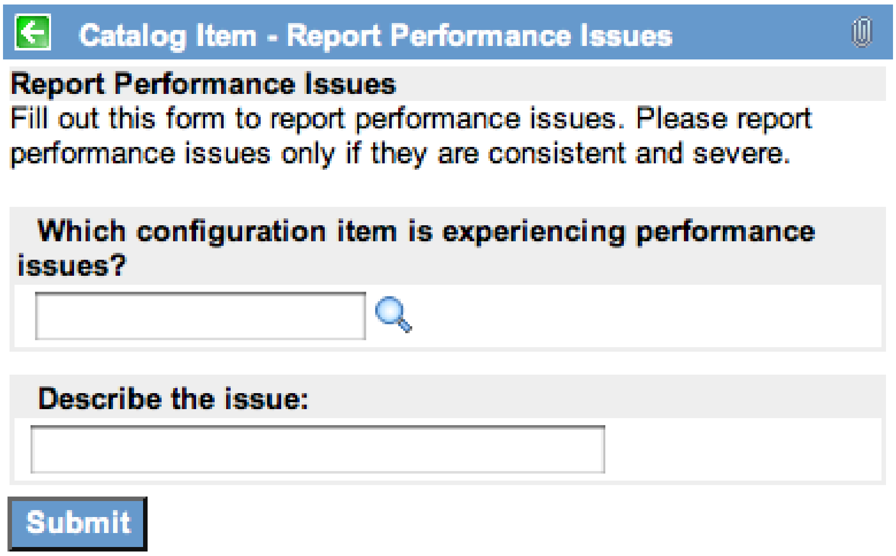
6. Click **Submit**.
7. Scroll down to the **Variables** related list and click **New**.
8. Populate the **New Variable** form as follows:

- **Type** - Multi-Line Text
- **Name** - description
- **Question:** - Describe the issue:



9. Click **Submit**.
10. Click **Save**.

To see how the new record producer appears to the itil users, click the **Preview Item** link:

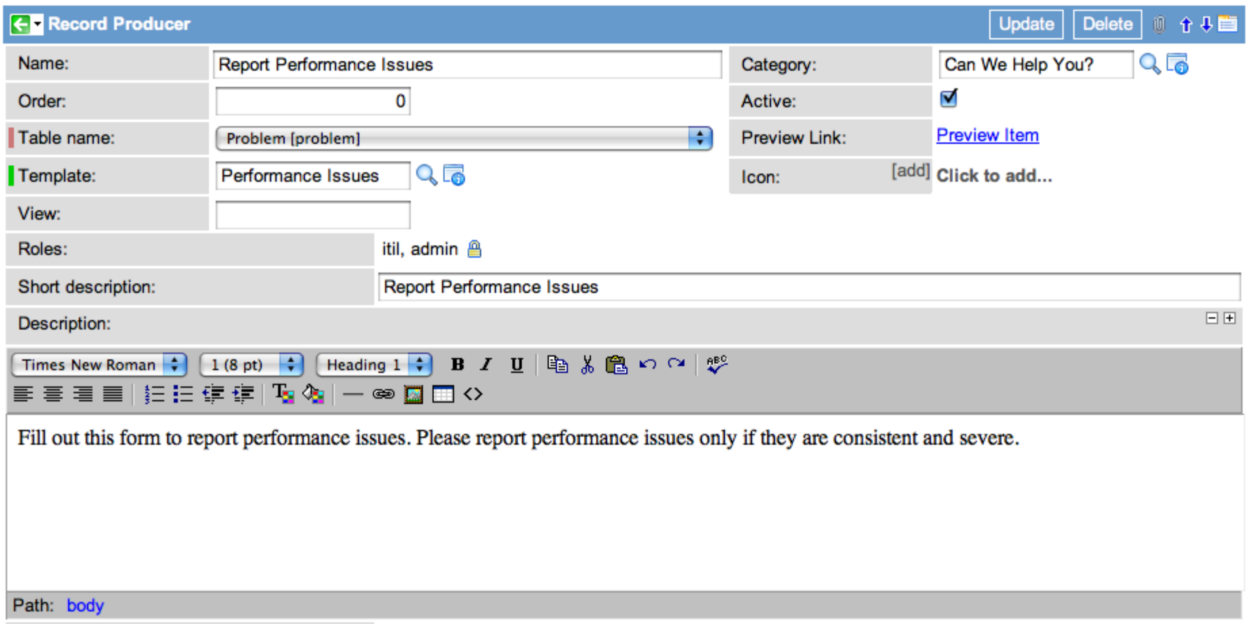


Creating a Record Producer with a Template

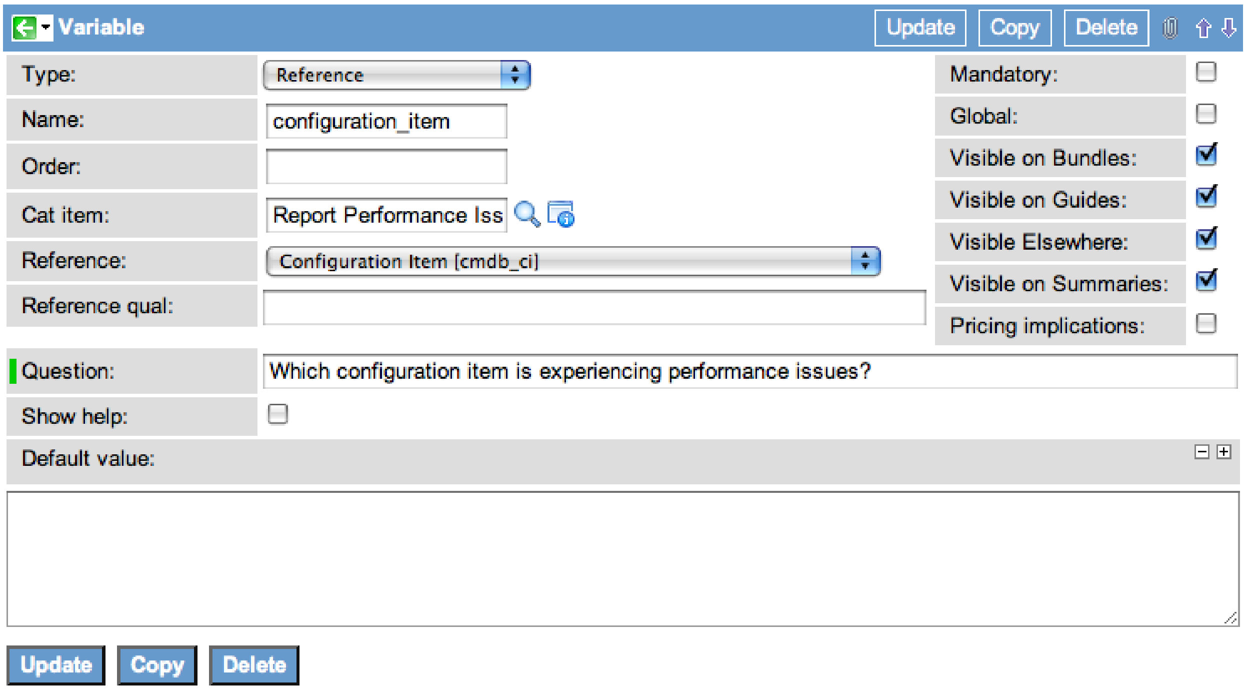
If a pre-defined template for a problem exists, it can be used with the record producer to fill in standard information for the Record Producer. The following example uses the sample template used in Creating a Problem Template.

To define a record producer with a template:

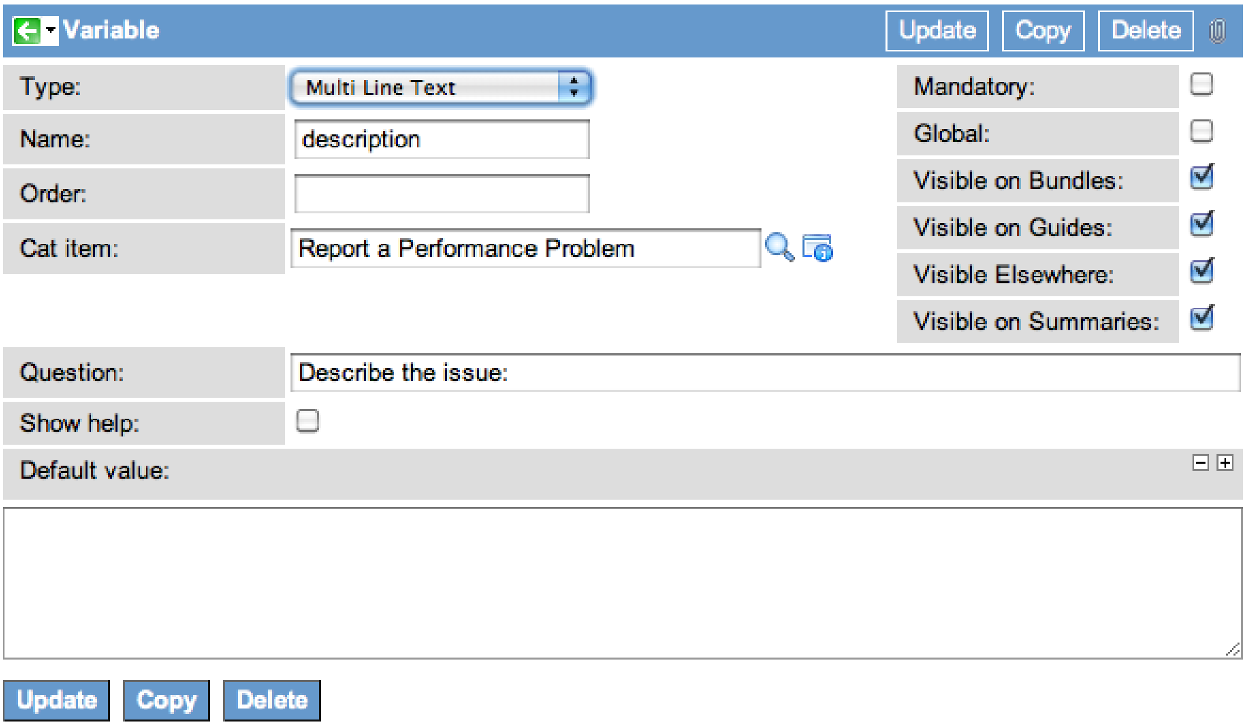
1. Navigate to **Service Catalog > Record Producers**.
2. Populate the form as follows:
   - **Name** - Report Performance Issues
   - **Table Name** - Problem [problem].
   - **Template** - Performance Issues
   - **Category** - Can We Help You?



3. Right click the form and select **Save**. The related lists **Variables** and **Variable Sets** will now appear at the end of the form.
4. Populate the **New Variable** form as follows:
   - **Type** - Reference.
   - **Name** - configuration_item
   - **Reference** - Configuration Item [cmdb_ci]
   - **Question:** - Which configuration item is experiencing performance issues?

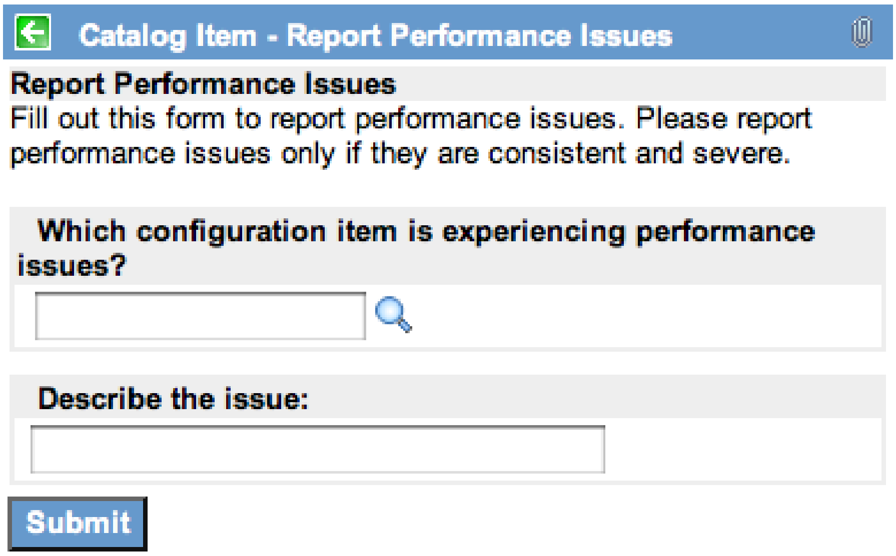


5. Click **Submit**.
6. Scroll down to the **Variables** related list and click **New**.
7. Populate the **New Variable** form as follows:
   - **Type** - Multi-Line Text
   - **Name** - description
   - **Question:** - Describe the issue:



8. Click **Submit**.
9. Click **Save**.

The record producer will appear to the end user as such:



Once filled and submitted, it will create the problem with the information from the template and the information supplied to the record producer.

Defining an Inbound Email Action

Overview

Inbound Email Actions allow users to log or update incidents on an instance via email. The Inbound Email Action parses the email and responds using a script. There are no Problem Management Inbound Email Actions provided out-of-box. Below is an Inbound Email Action for logging a problem.

Defining an Inbound Email Action for Logging a Problem

To define an inbound email action for logging a problem:

1. Navigate to **System Policy > Inbound Actions** and click **New**.
2. Enter values for the form fields as follows:
   - **Name**: *Log Problem*
   - **Type**: *New*
   - **Active**: *True*
   - **Target Table**: *Problem [problem]*
   - **Condition**:

```
\email.subject.indexOf("Problem: ") == 0\
```

   - **Script**: Insert the following:

```
//Note: current.opened_by is already set to the first UserID that
matches the From: email address
  current.description = email.body_text;
  current.short_description = email.subject.toString().substring(9);

  current.assignment_group.setDisplayValue("Development");

  if (email.body.assign != undefined)
    current.assigned_to = email.body.assign;

  current.insert();
```

Defining an Assignment Rule

Functionality described here requires the **Admin** role.

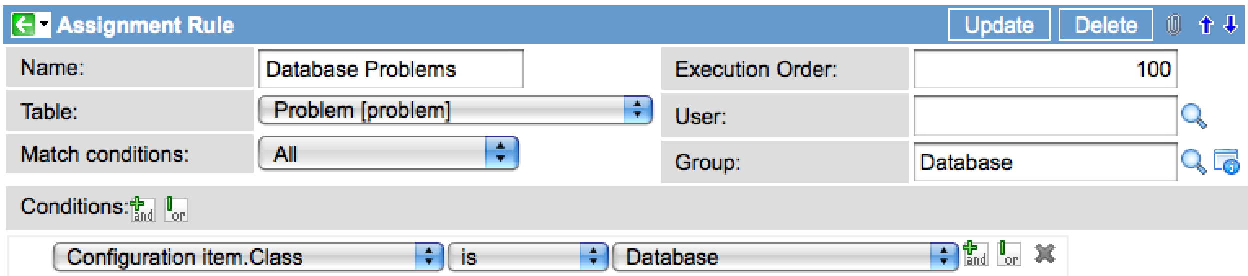
Overview

Once a problem has been logged, it is important that it be assigned to the appropriate group or individual to handle the problem. Administrators can define Assignment Rules to automate the assignment process.

Defining an Assignment Rule for Problems

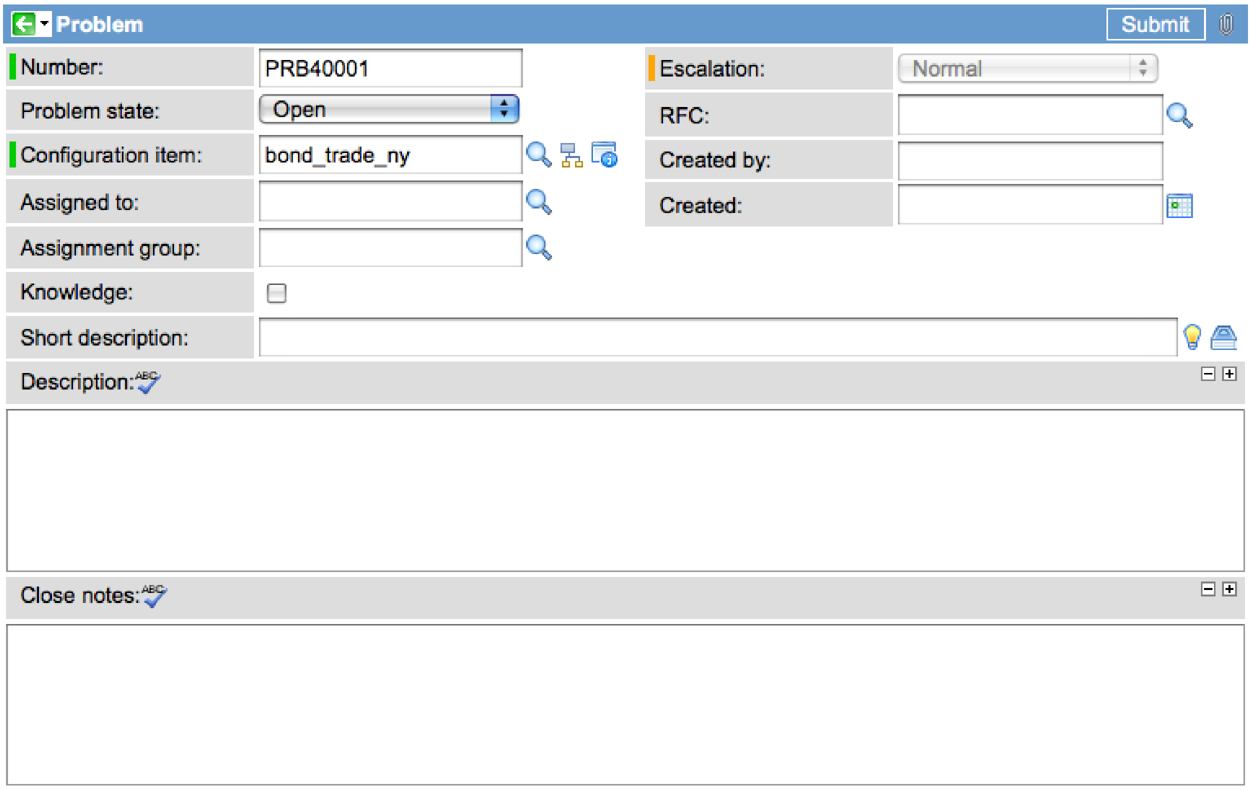
To define an Assignment Rules for Problems:

1. Navigate to **System Policy > Assignment** and click **New**.
2. Populate the field as follows:
   - **Name** - Database Problems
   - **Table** - Problem [problem]
   - **Group** - Database
   - **Conditions** - Dot-walk to "Configuration Item.Class is Database".

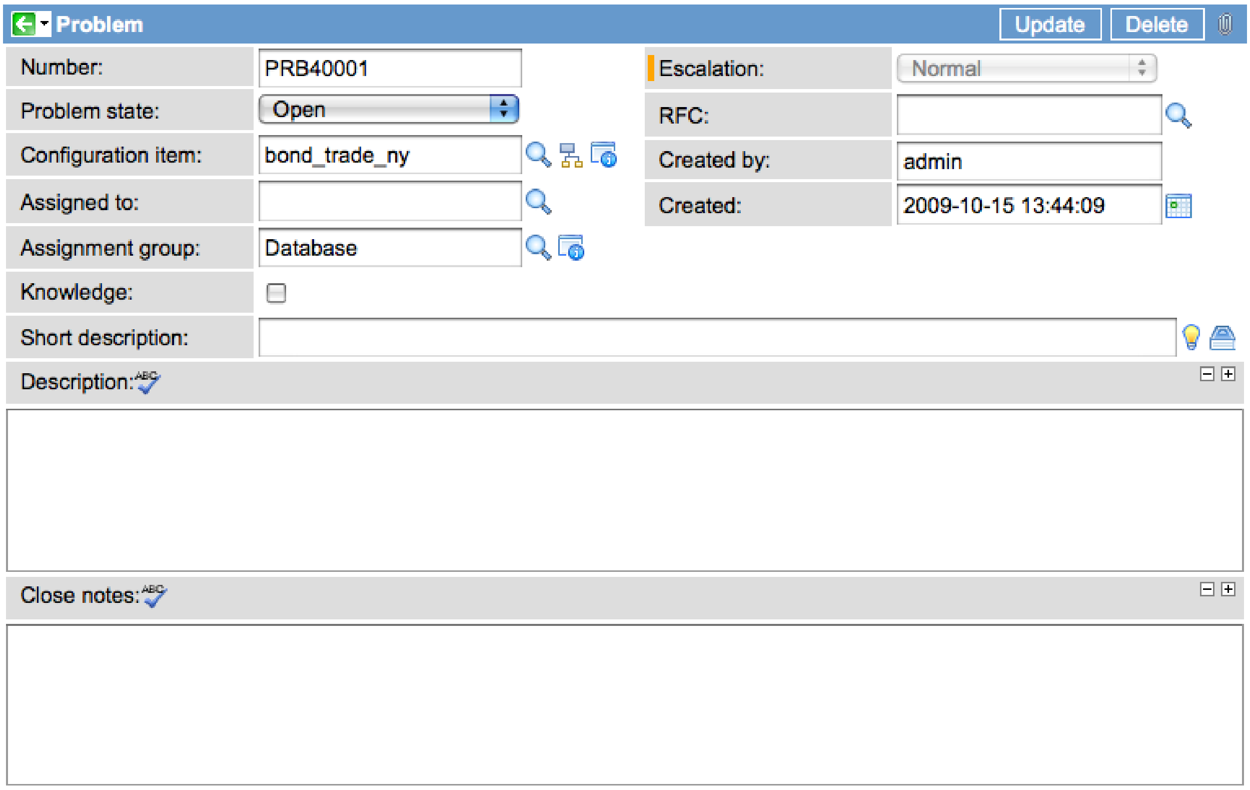


To test the Assignment Rule, navigate to **Problem > Create New** and populate the form with the following:

- **Configuration Item** - bond trade ny (or any other Configuration Item with a class of Database.



When the problem is saved, the proper assignment group will be added:



Investigating

Defining a Workflow

Note: *This article applies to Fuji. For more current information, see Define a Problem Management Workflow* [1] *at* http://docs.servicenow.com The ServiceNow Wiki is no longer being updated. Please refer to http://docs.servicenow.com for the latest product documentation.

Overview

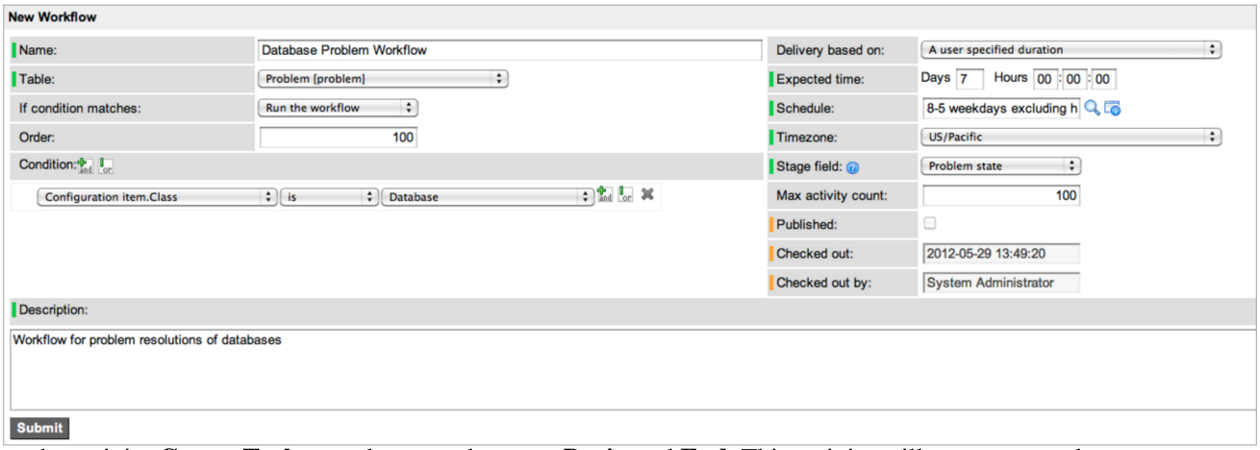
The Graphical Workflow Editor allows administrators to automate common processes. This allows standard Problem Management processes to be defined and automated.

The example workflow below is a workflow for Database problems. If the problem involves a configuration item of class **Database**, this workflow will run, guiding the problem management team through diagnosis and solution, and asks the Problem Manager to verify the solution. It also generates a Request for Change if such a request is required.

If using a Problem Management workflow, add the Related List **Tasks > Parent** to the Problem form in order to see the tasks generated by the workflow.

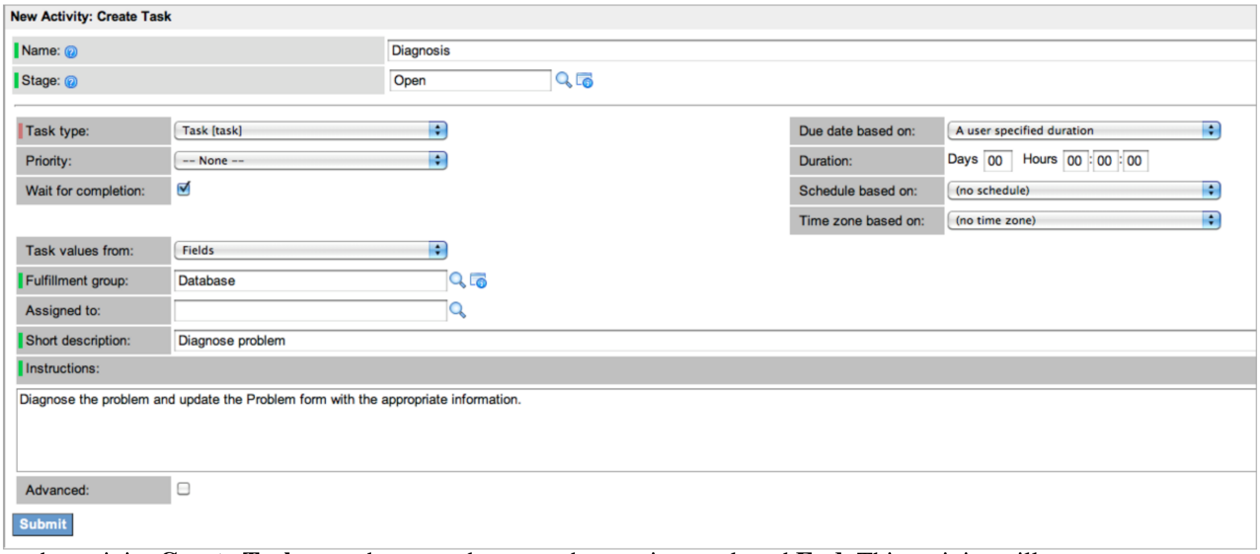
Defining a Problem Management Workflow

1. Navigate to **Workflow > Workflow Editor** and click **New**.
2. Populate the form as follows:
   - **Name** - Database Problem Workflow
   - **Table** - Problem [problem]
   - **If condition matches** - Run the Workflow.
   - **Run after bus. rules run** - True. This field needs to be checked before any workflow that uses approvals, or the business rules will conflict with the workflow and fail to run properly. If this field does not appear on the Workflow Properties form, it will need to be added.
   - **Expected Time** - Days 7 Hours 00:00:00.
   - **Stage Field** - Problem State. As the workflow passes from activity to activity, activites can update the stage field accordingly, so that the requestor can see how far along in the workflow the Problem Management Team is.
   - **Condition** - Dot-walk to **Configuration item.Class** is **Database**.



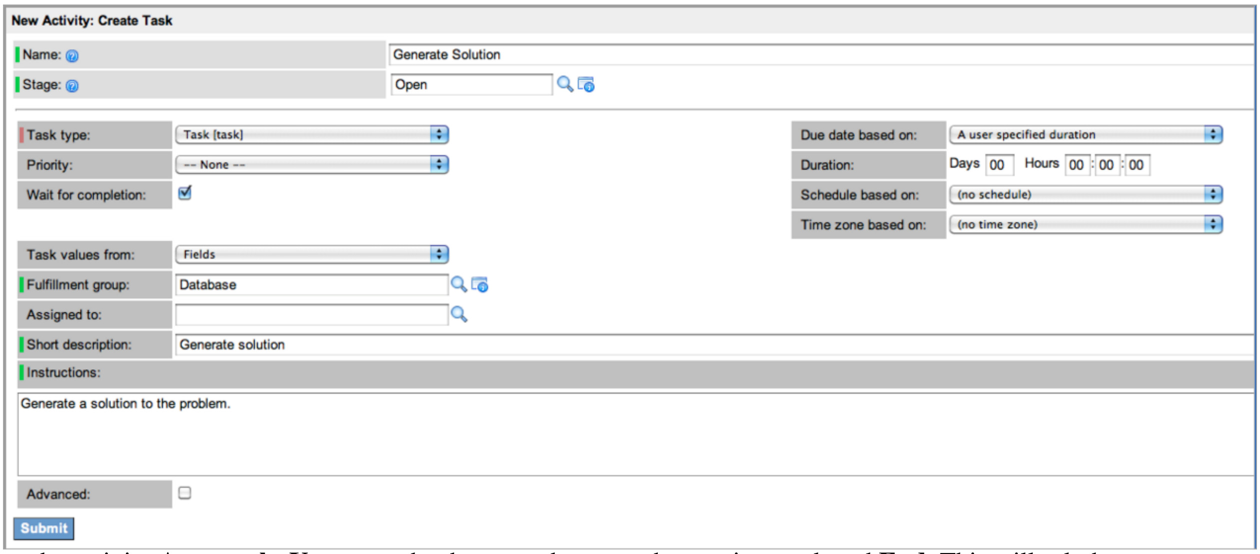
3. Drag the activity **Create Task** onto the arrow between **Begin** and **End**. This activity will generate a task to diagnose the problem. Populate the form that appears as such:

- **Name** - Diagnosis
- **Stage** - Open
- **Fulfillment Group** - Database

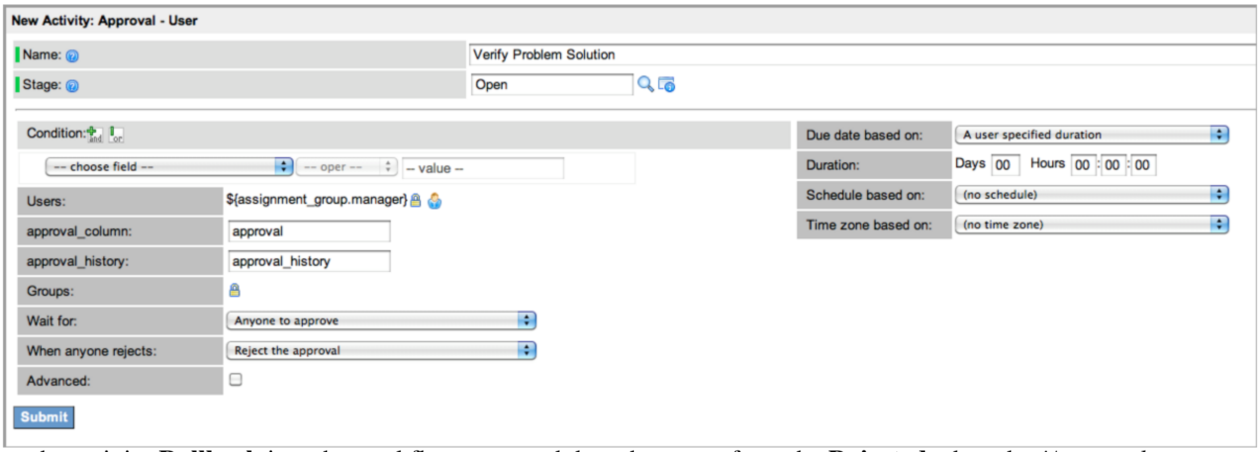


4. Drag the activity **Create Task** onto the arrow between the previous task and **End**. This activity will generate a task to generate a solution to the problem. Populate the form that appears as such:

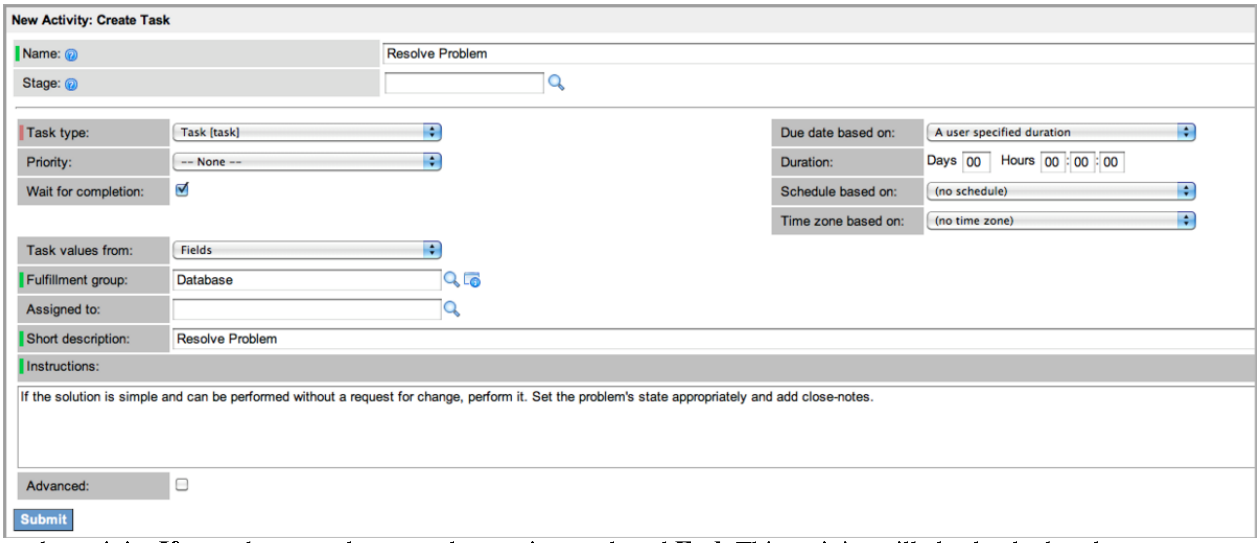
- **Name** - Generate Solution
- **Stage** - Open
- **Fulfillment Group** - Database



5. Drag the activity **Approval - User** onto the the arrow between the previous task and **End**. This will ask the manager of the assignment group to verify the solution to the problem. Populate the form that appears as such:
   - **Name** - Verify Problem Solution
   - **Stage** - Open
   - **User** - Dot-walk to **${assignment_group.manager}**

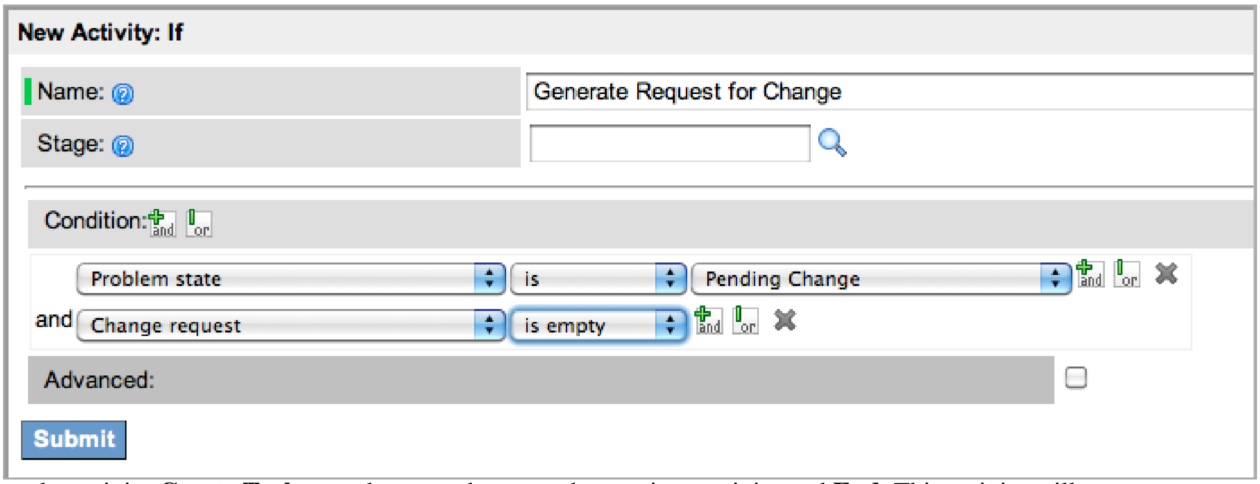


6. Drag the activity **Rollback** into the workflow area, and drag the arrow from the **Rejected** tab under *'Approval - User* to the Rollback activity. Then drag the arrow from the Rollback to the Create Task for generating a solution. This will force the database team to repeat the **Generate Solution** task if the Problem Manager rejects the proposed solution. Populate the form as follows:
   - **Name** - Rejected Solution
   - **Stage** - Open
   - **Comment Field** - Work Notes. This means that whatever is put in the **Comment** field will be added to the **Work Notes** field of the original Problem ticket.
7. Drag the activity **Create Task** onto the arrow between **Verify Problem Solution** and **End**. This activity will generate a task to resolve the problem. Populate the form that appears as such:
   - **Name** - Resolve Problem
   - **Fulfillment Group** - Database



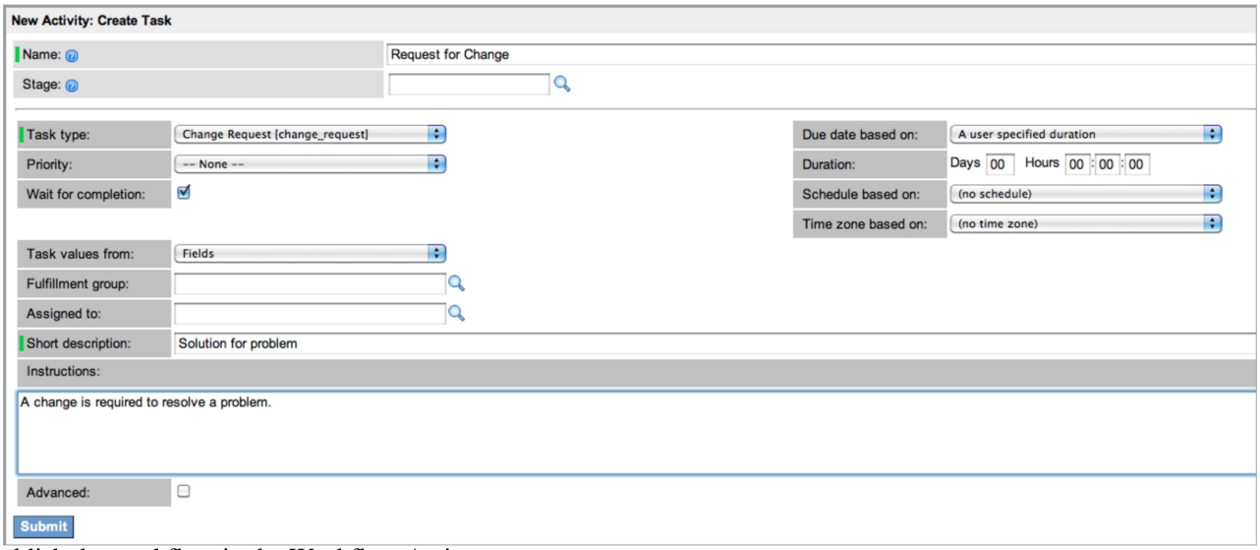
8. Drag the activity **If** onto the arrow between the previous task and **End**. This activity will check whether the Problem Management team set the Problem State field to **Pending Change** without generating a Request for Change. Populate the form as follows:

- **Name** - Generate Request for Change
- **Conditions** - Problem state is Pending Change AND Change request is empty.



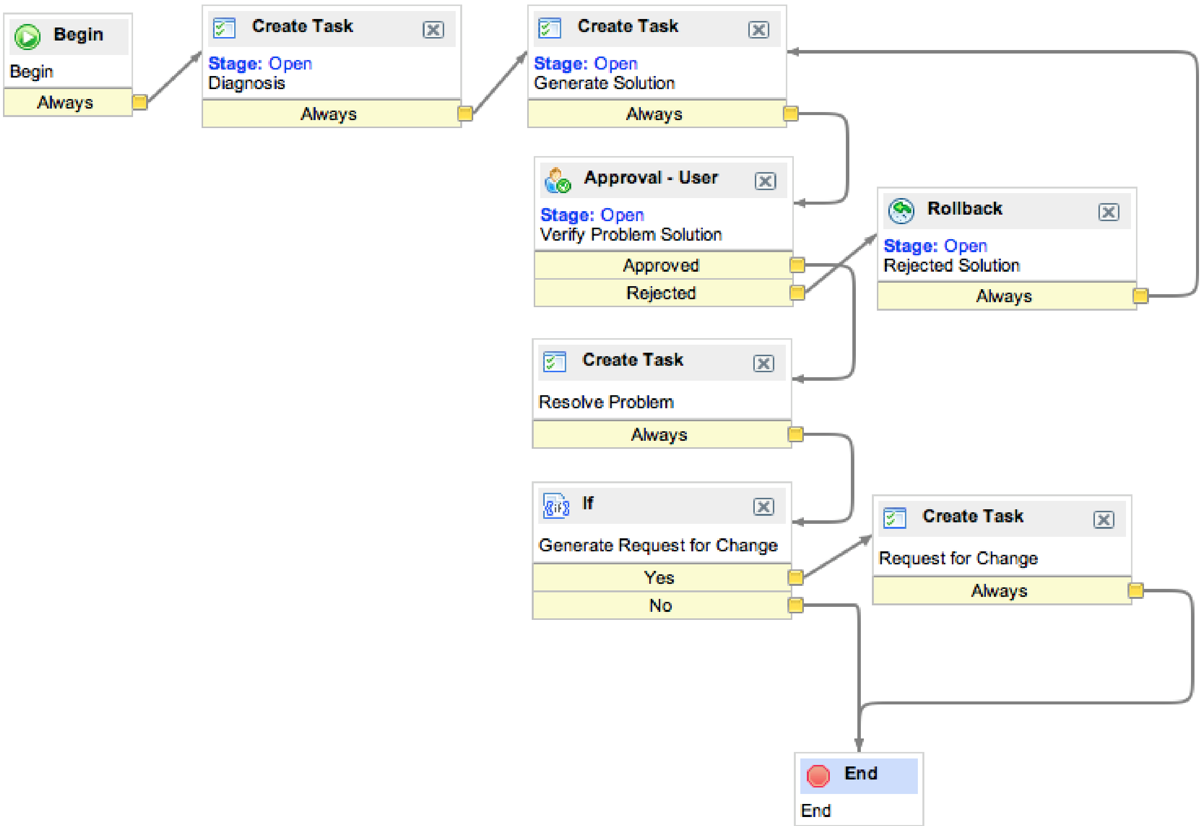
9. Drag the activity **Create Task** onto the arrow between the previous activity and **End**. This activity will generate a Request for Change if the previous activity's conditions are met. Populate the form as follows:

- **Name** - Request for Change
- **Task Type** - Change Request [change_request]
- **Short Description** - Solution for Problem



10. Publish the workflow in the Workflow Actions menu.

The resulting workflow should be as follows:



References

[1] https://docs.servicenow.com/bundle/jakarta-it-service-management/page/product/problem-management/task/t_DefineAProblemManagementWorkflow.html

Gathering Problem Data

Overview

The quick resolution of problems requires gathering as much information about problems as possible. In addition to the information within the problem ticket itself, there is often useful information that can be gathered in other tables.

Checking Related Records

Information pertinent to the problem may be found in related records. Common related records include changes (through the **RFC** field) and incidents in the incident related list. All of the directly related records are accessible through related lists. If the appropriate related list does not appear on the form, add it by configuring the form.

Checking Known Errors and the Knowledge Base

Information on already known issues can be found in two places: the **Known Errors** module in the **Problem Management** application, or in the Knowledge Base. The **Known Errors** module filters the problem table to present all of the problems whose cause has been identified, but cannot be fixed. The Knowledge Base may have information gathered from incidents, and may also have useful workarounds for problems.

Using the CDMB

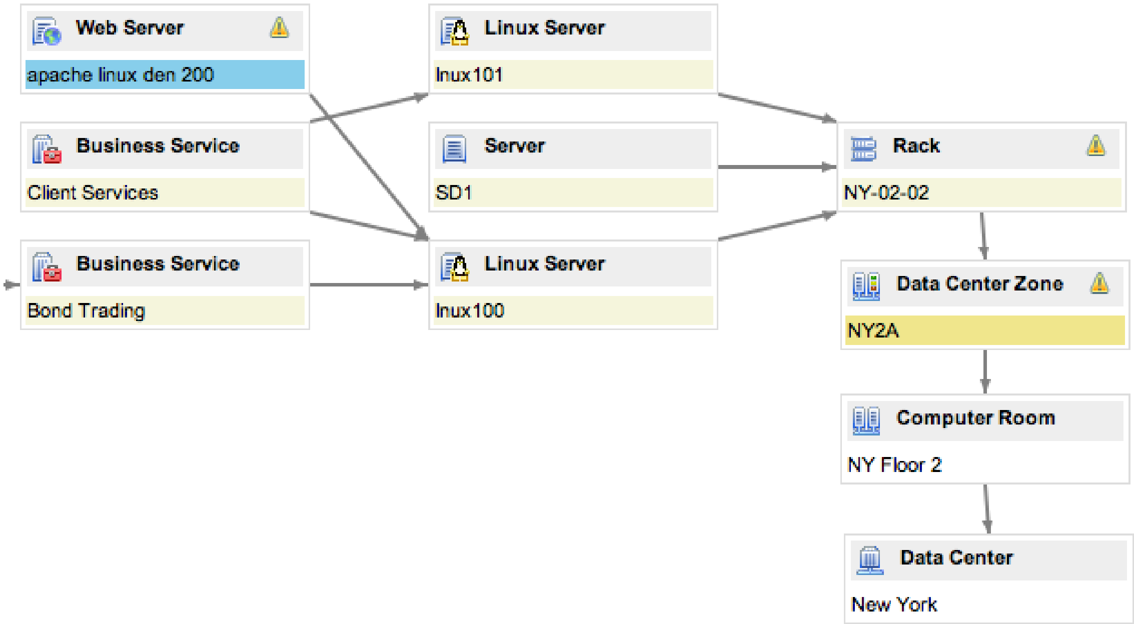
The Configuration Management Database stores information on all of the configuration items and their relationships. In addition to providing basic information about the configuration item to serve as a reference, there are two tools within the CMDB that can provide important information on problems:

- The Business Service Map, which can help isolate problems caused by problems in related items
- The CMDB Baseline, which can help track planned and unplanned changes

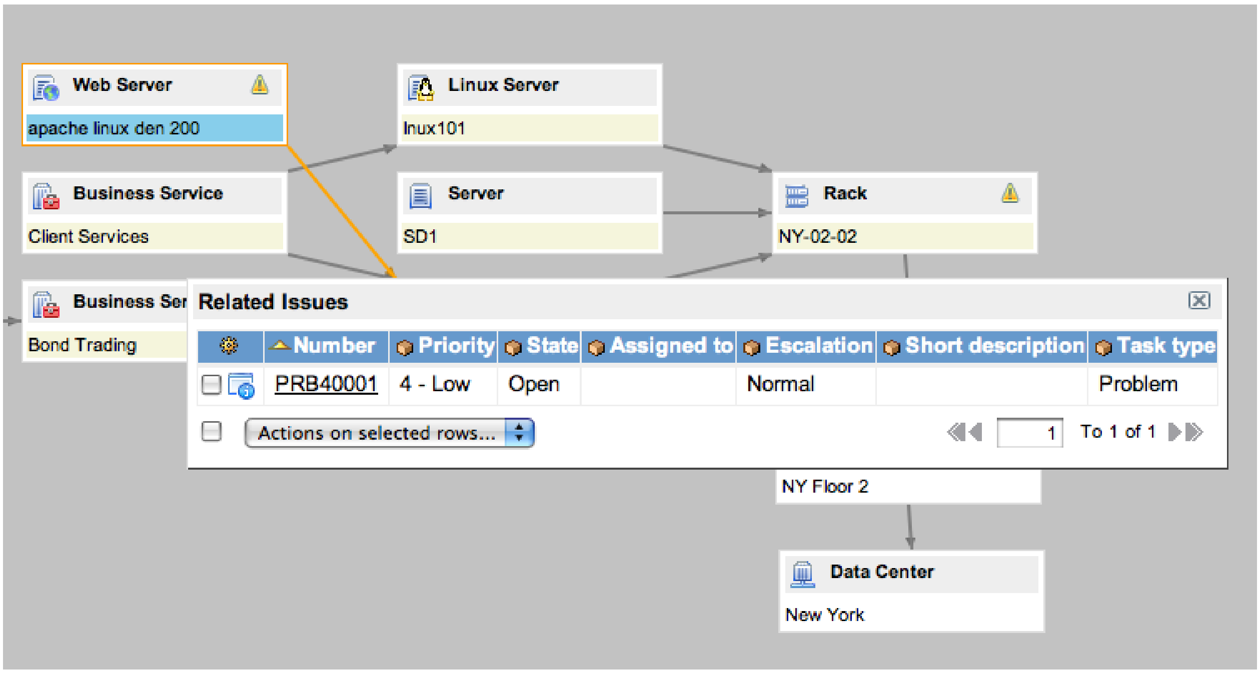
Using the Business Service Map

The Business Service Map provides a visual representation of the configuration items and their relationships, as well as displaying information on related issues.

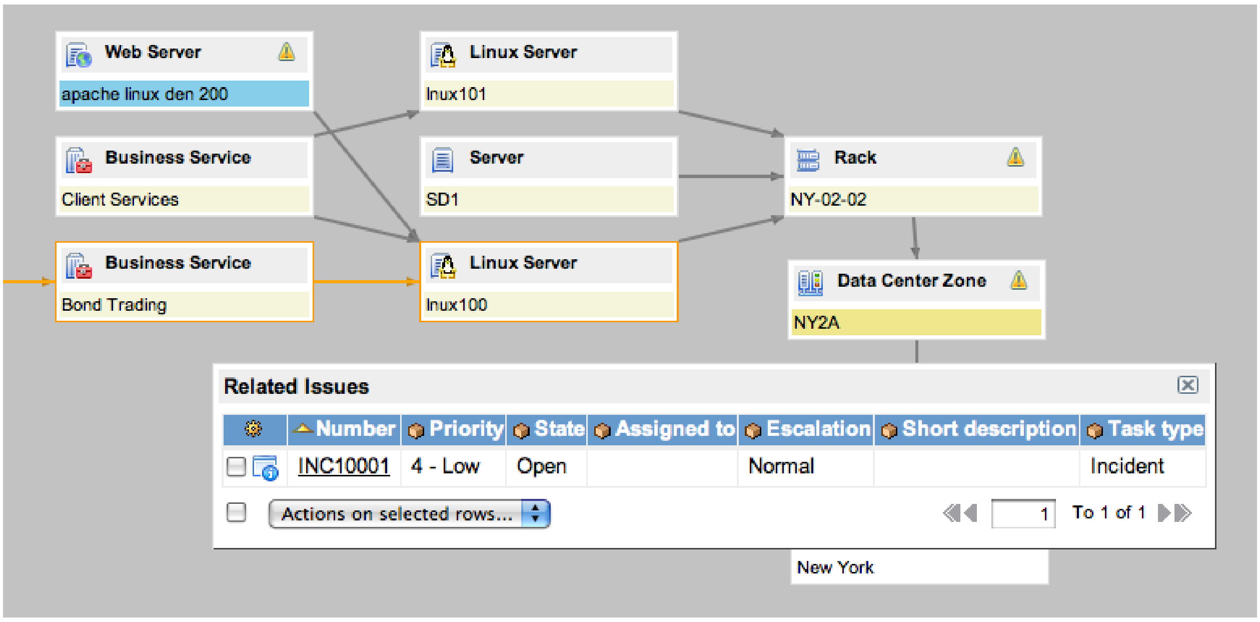
Take, for instance, this BSM for the CI **NY-02-02**, a server rack.



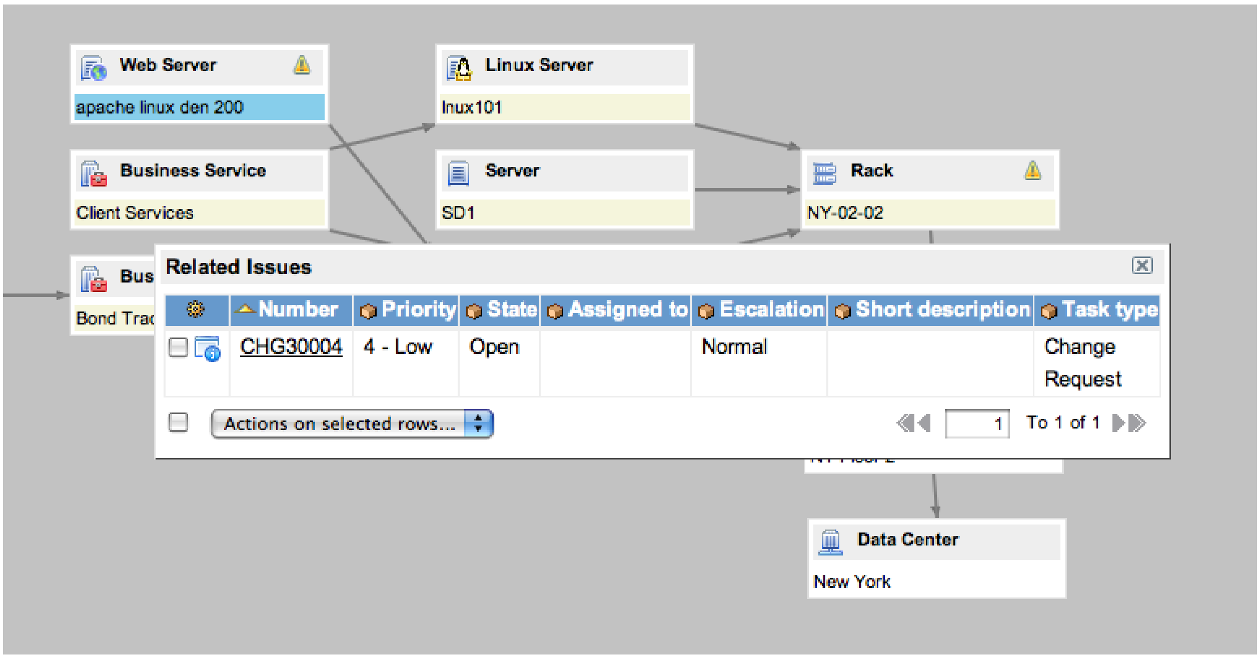
The caution symbol in the top right-hand corner indicates that there is a problem attached.



The light color in on the rack indicates that it is affected by an down-stream CI's incident. In this case, the orange-colored Data Center Zone **NY2A** has the caution symbol, which indicates that there is an incident attached:



Lastly, one of the upstream CI's is colored in blue. This indicates that the CI has a change record attached:

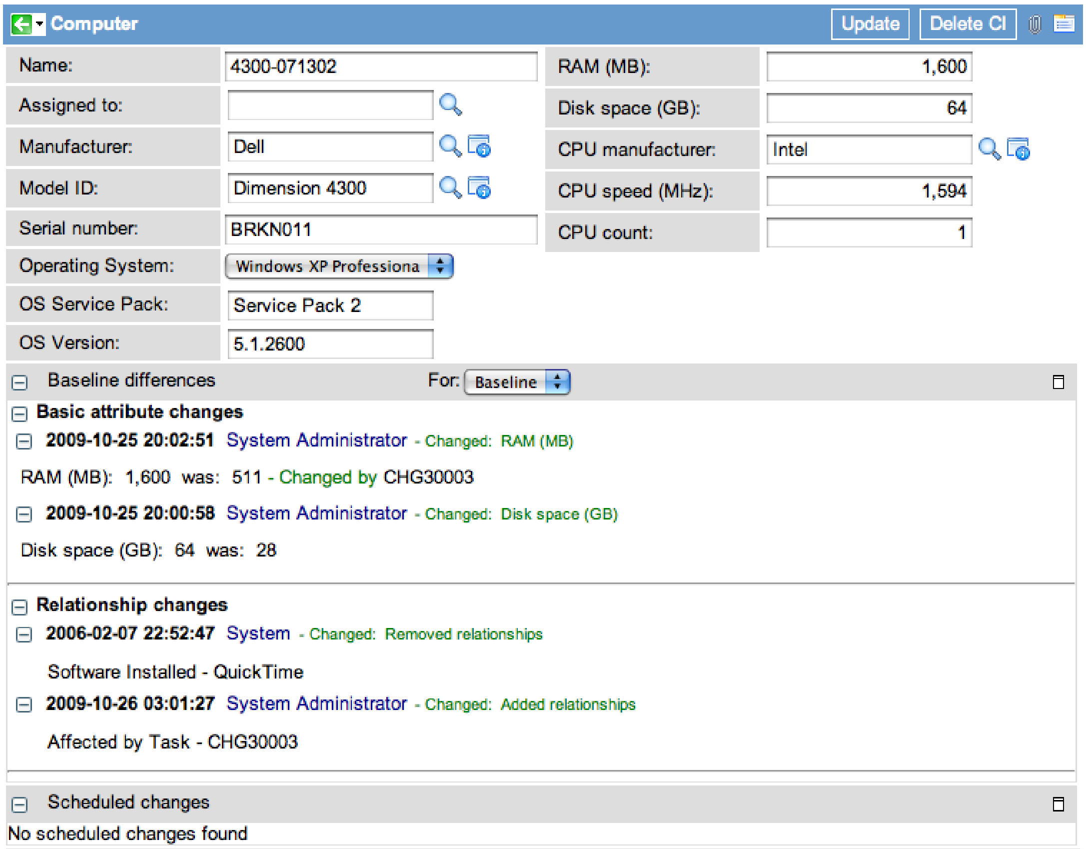


With this information, we can see not only the CI, but also its relationships upstream and downstream. The rack's problem might be caused by an improper change to the Web Server software on one of its Linux Servers, or it might be caused by the incident logged on the Data Center Zone where it resides.

Using the CMDB Baseline

If a Baseline has been generated, any changes (planned or unplanned) will be tracked within the system. Since one major cause of problems is improperly executed changes, seeing the history of changes of a configuration item can help the Problem Management team track problems caused by improper changes.

To check the CMDB Baseline, view the CI's record and check the fields **Baseline Differences** and **Scheduled Changes** (these may need to be added to the form):

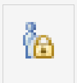


In the example above, the computer has recorded both a planned an an unplanned change. System Administrator changed RAM according to CHG30002, changed the disk space, removed QuickTime, and associated the CI with CHG30002.

This information provides a window into the history of the configuration item. The changes are recorded, including the time of change and the person who recorded the change. Because the change in RAM is associated with a Change Record, it is possible to review the change and see what was planned and what was implemented.

Resolving

Requesting a Change

	Functionality described here requires the **ITIL** role.

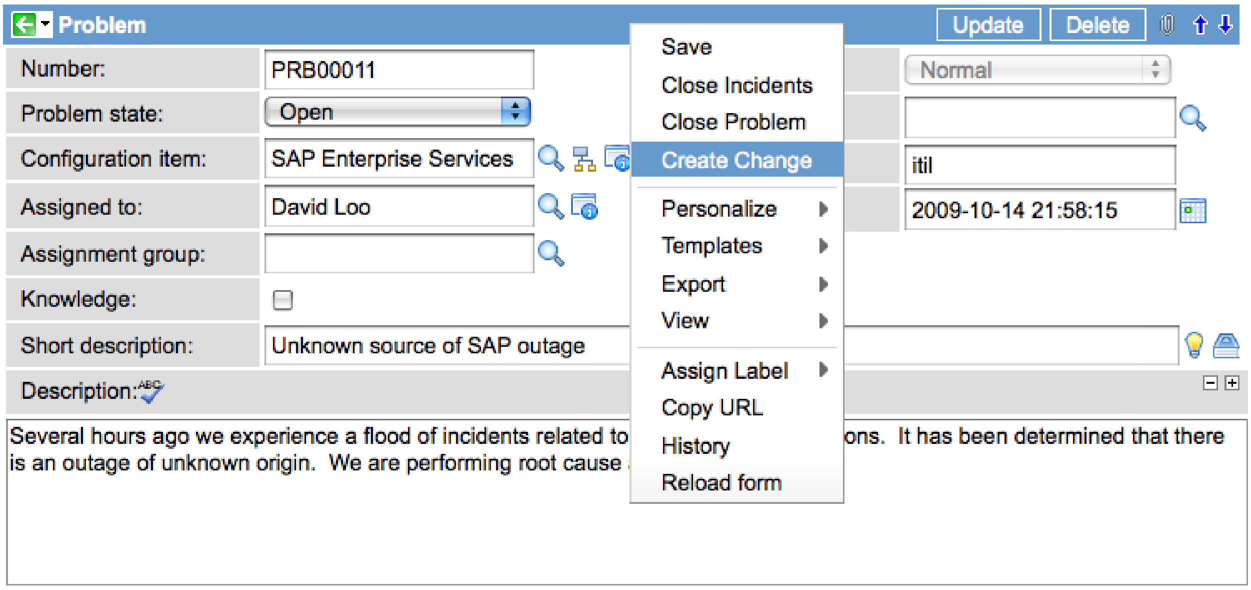
Overview

Once a problem has been isolated, it may require changes to be made through the organization's Change Management process. Within the platform, this can be accomplished easily directly from the problem record.

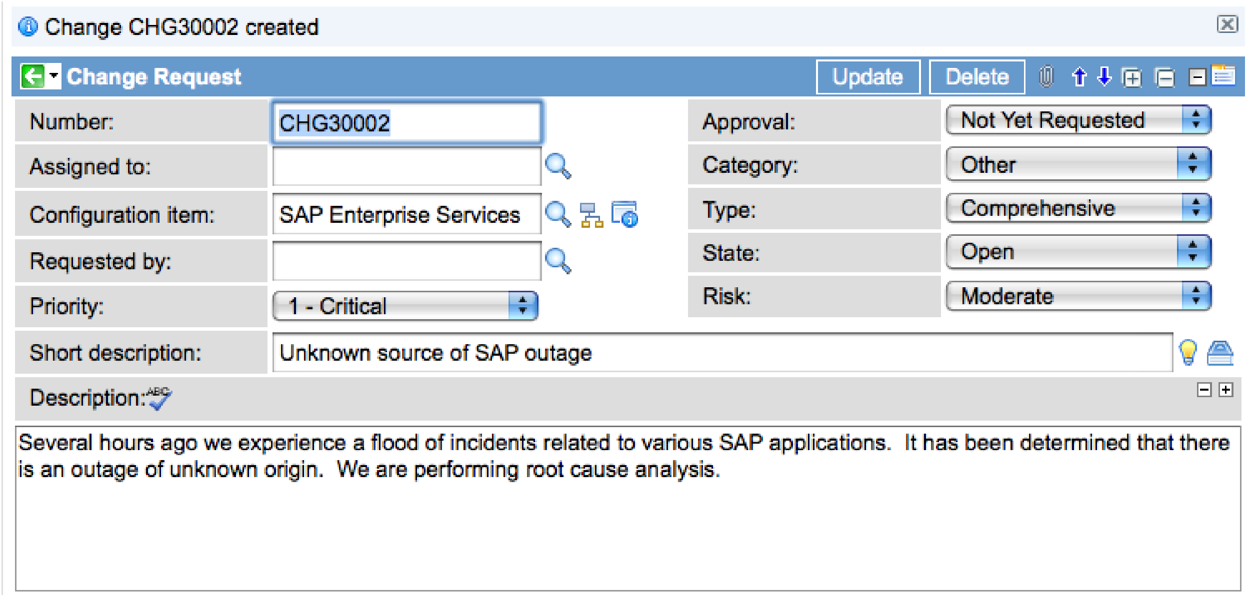
Requesting a Change from a Problem

To request a change from a problem:

1. Open the problem record in question.
2. Right click the form header bar, and select **Create Change**.



The new Change Request form displays:



Modifying the Create Change UI Action

Functionality described here requires the **Admin** role.

To modify how the Create Change UI Action works, navigate to **System Definition > UI Actions**, and select the **Create Change** UI Action that specifies **Problem** in the table column.

Continual Service Improvements

Reporting

Note: *This article applies to Fuji and earlier releases. For more current information, see Reporting* [1] *at* http://docs.servicenow.com **The ServiceNow Wiki is no longer being updated. Visit** http://docs.servicenow.com **for the latest product documentation.**

Overview

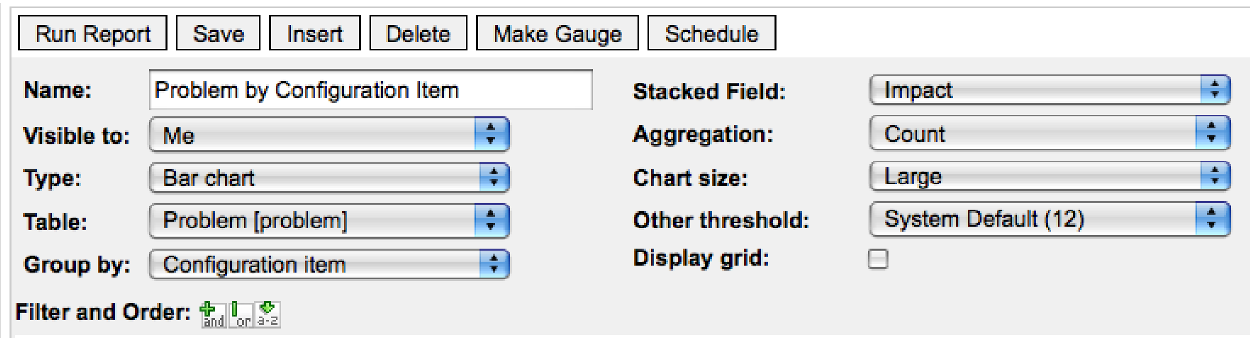
In order to continually improve the Problem Management process, and to understand the causes and sources of problems, it is possible to gather the information collected by the platform and present the data in reports. Below are instructions on how to create a pair of sample Problem Management reports. The first is a bar chart of problems by configuration item. The second is a line chart of Incidents Opened per Month. The last is a pivot table of Incidents by Caller and State. The last example also demonstrates how to put the new report on a homepage as a gauge.

Problems by Configuration Item

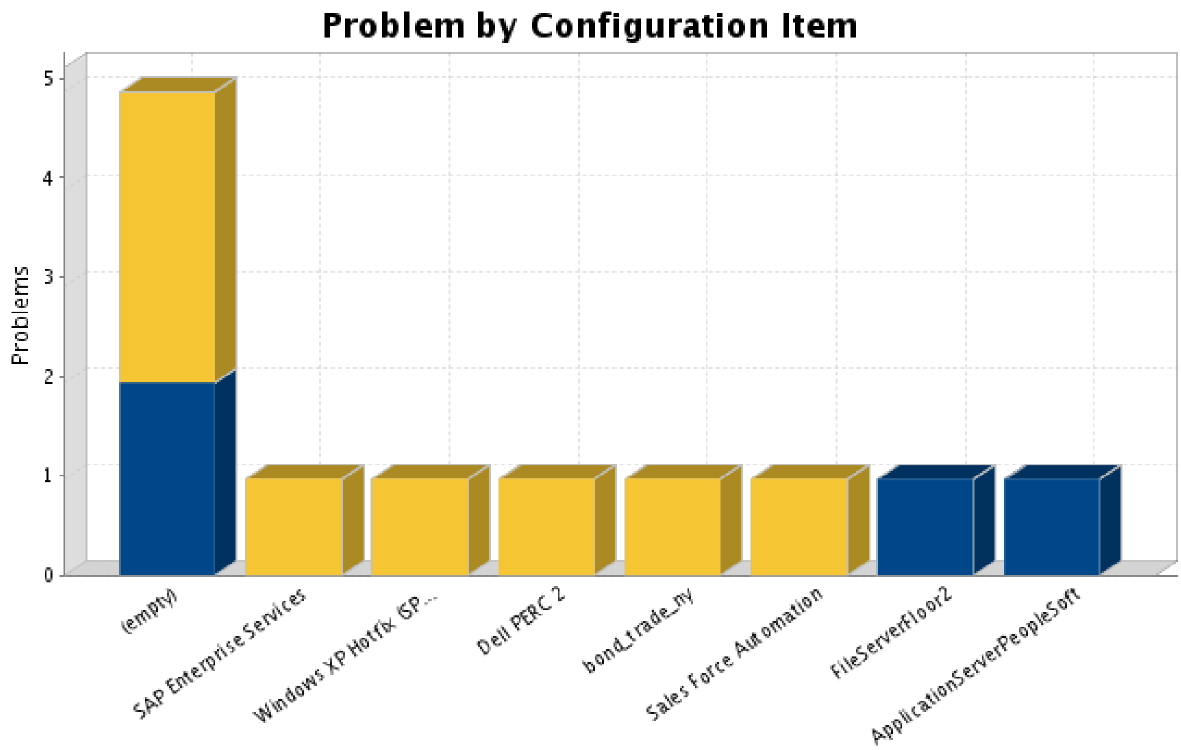
This bar chart displays all of the problems, grouped by configuration items, further broken down by the impact of the problem. This allows the problem management team to see which configuration items have problems associated to them, and how severe those problems are.

To report on Problems by Configuration Item:

1. Navigate to **Reports > View / Run** and click **New**.
2. Populate the form as follows:
   - **Name** - Problems by Configuration Item.
   - **Type** - Bar Chart
   - **Table** - Problem [problem]
   - **Group By** - Configuration Item
   - **Stacked Field** - Impact



3. Select **Run Report**. The bar chart should appear as follows:

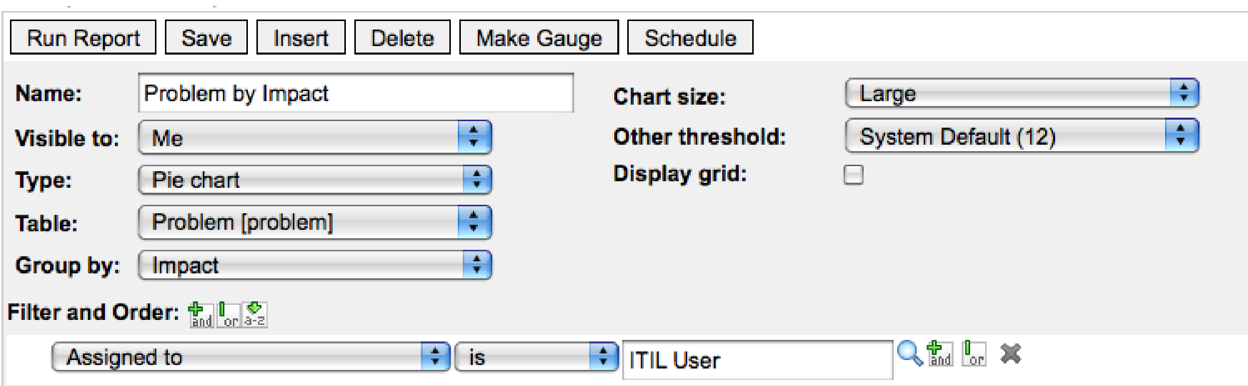


4. Click **Save**.

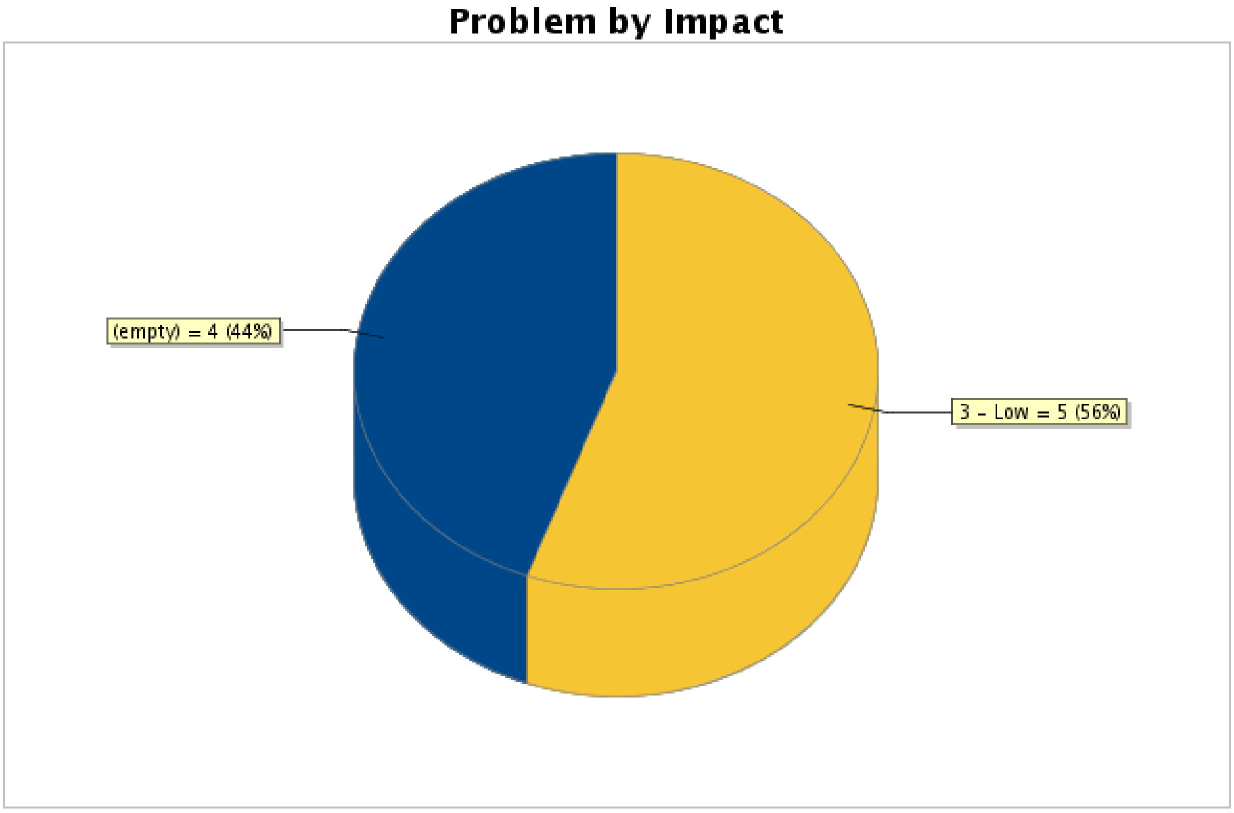
Problems by Impact Assigned to Current User

To report on Problems by Impact which are assigned to the current user:

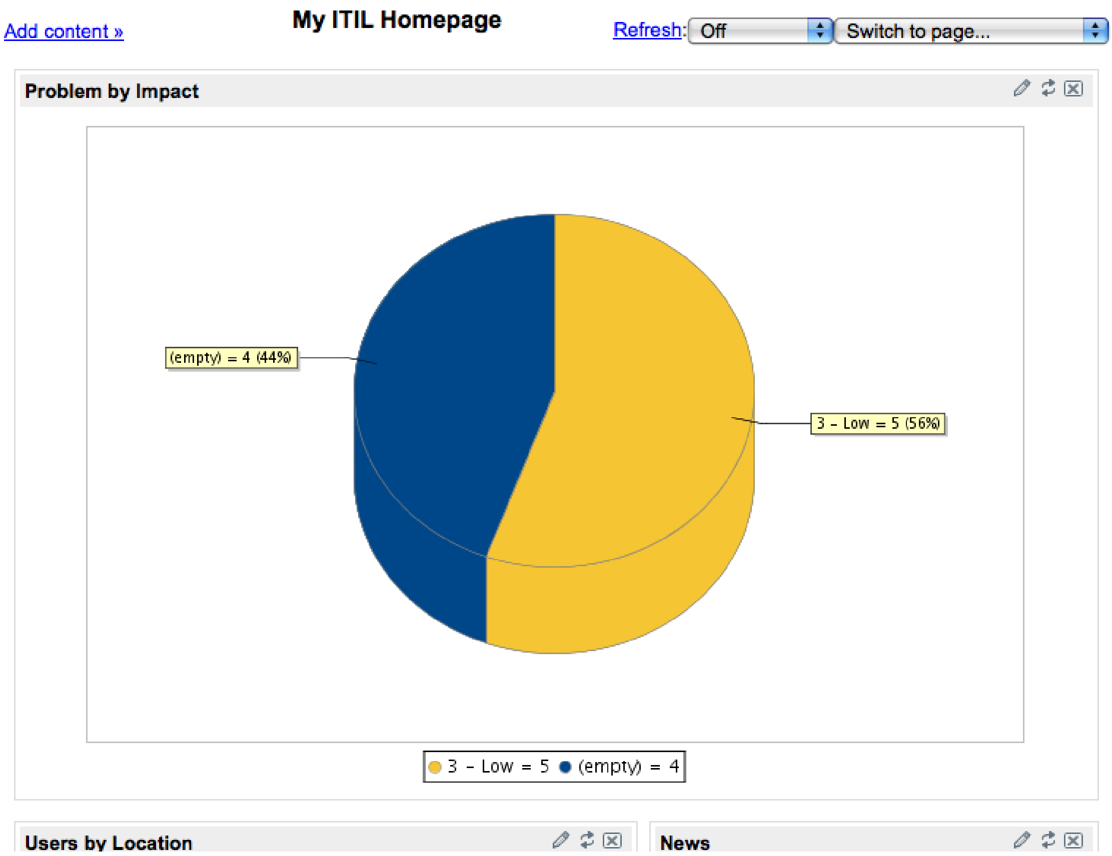
1. Navigate to **Reports > View / Run** and click **New**.
2. Populate the form as follows:
   - **Name** - Problems by Impact.
   - **Type** - Pie Chart
   - **Table** - Problem [problem]
   - **Group By** - Impact.
   - **Filter and Order** - Assigned To is the name of the current user. In this example, the current user will be ITIL User.



3. Select **Run Report**. The table should appear as follows:



4. Click **Make Gauge** and then **Add to Homepage**. Select a particular dropzone. The report will now appear on the last homepage viewed.



References

[1] https://docs.servicenow.com/bundle/jakarta-performance-analytics-and-reporting/page/use/reporting/reference/reporting-landing-page.html

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