ServiceNow Calm Plug-In Administrator Guide

1.0

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Contents

Nutanix Calm Plug-In for ServiceNow

Nutanix Calm plug-in for ServiceNow enables you to launch Calm blueprints in ServiceNow platform as service catalog items. The Calm plug-in helps to automate the application provisioning and life-cycle management of Calm product. The plug-in allows you to control the resources by using IT services management (ITSM) and IT operations management (ITOM) processes that are defined by the customers in ServiceNow to reduce the time in Nutanix Marketplace.

> **Note:** To configure and use Calm plug-in, you must be familiar with the basic concepts of Nutanix Calm and ServiceNow platform .
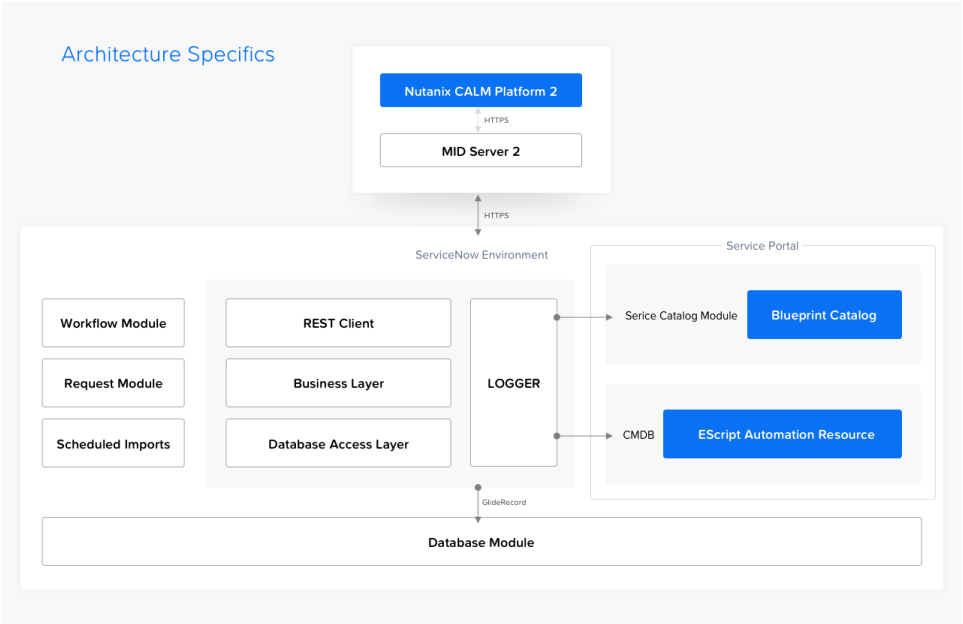
Figure 1: Architecture

Supported Versions

The following table shows the supported versions in this release.

Entity	Supported versions
ServiceNow	Kingston, Jakarta, and London
Nutanix Calm	2.4.0, 2.5.0, 2.6.0, and 2.7.0
Web-browser	Latest versions of Chrome and Firefox

Roles and Responsibilities

You need to have access privileges to perform certain actions. The following table describes the various roles and their respective responsibilities.

Table 1: Roles and Responsibilities

Role	Responsibility
System administrator	• Assigns Calm administrator role to one of the LDAP imported users.
Calm administrator	• Plug-in configuration • Runtime configuration • Importing Calm resources in ServiceNow platform
User	• Launch blueprints • Perform actions on applications • Check logs
ITIL	• Manages incidents
Agent_administrator	• Manages MID server management
Workflow_administrator	• Manages workflow assignment

> **Note:** Only a Calm administrator can be assigned with workflow administrator role.

Prerequisites for Nutanix Calm ServiceNow Plug-In

Before starting using the Nutanix Calm ServiceNow plug-in, ensure that the following prerequisites are completed.

• Nutanix Calm and ServiceNow both must be configured with the same AD or LDAP instance.
• ITSM license that includes incident management module. The license is used to create incidents to report blueprint launch failures.

> **Note:** Without ITSM license, installation of application from the store does not work as this dependency is bundled with the application.

• ServiceNow MID server must be installed and configured. For information on how to install and configure MID server, refer to MID Server Documentation and Setting up a MID server video.
• Ensure that the MID server is running in your environment.
• The MID server user has administrator privileges.
• The MID server is up and validated.
• To activate the Calm plug-in on ServiceNow platform, contact your instance ServiceNow administrator.
• You must have administrator privileges to activate and configure the plug-in.
• When application is installed, the Calm administrator role and user roles get installed in the ServiceNow instance. System administrator needs to manually assign the Calm administrator role to one of the LDAP imported users.
• Nutanix Calm administrator user must have the following roles assigned. See Assigning User Permissions on page v.

  • agent_admin: To access MID server
  • workflow_admin: To access existing workflows available in the plug-in configuration page.
  • ITIL role
• All applications and operations should have access of the following tables:

  • item_option_new

- user_criteria
- sc_category
- catalog_ui_policy
- sc_catalog
- catalog_script_client
- sys_user_has_role
- sys_group_has_role
- sys_user_group
- sys_user_grmember

> **Note:** For sys_user_grmember table provides only read-only access.

- Set glide.ui.escape_all_script to false.

> **Note:** You need security administrator privileges to perform this action

This will require a security admin access.
- To send and receive email notifications, Nutanix Calm administrator must have administrator role in global scope and itil role to view incidents.
- To view the incidents, Calm users must have itil role.

Installing Nutanix Calm Plug-In by using XML Package

Nutanix provides a custom xml file containing the application build. Administrator of the ServiceNow instance needs to install the build in the ServiceNow platform.

Before you begin

- You need to download the Calm plug-in build.
- You need ITSM licenses as the plug-in uses incident management.
- You need system administrator privileges to install the Calm plug-in.

1. Log on to the ServiceNow portal as system administrator.

2. Click **System Update Sets** > **Retrieved Update Sets** .

3. Under **Related Links**, click **Import Update Set from XML** to import the Calm plug-in build.

4. Click **Choose File** to browse and pick the build from your local machine.

5. Select the build and click **Upload**.
   The Nutanix Calm plug-in is now available as a retrieved update set with state Loaded. If there is any error, resolve the error by doing an accept remote of selected files from the list of files on the same page.

   If there is no error, click **Commit** to commit the update set. After you commit the update set successfully, the application installation step is completed and plug-in is installed on the given ServiceNow instance.

Assigning User Permissions

The Calm administrator needs to assign access of different tables to the users.

1. Log on to the ServiceNow portal.

2. Click **System Definition** > **Tables** .

3. Enter the table name in the **Search** field.

4. Click the label name link.

Figure 2: Assigning User Permission

5. Click **To edit this record click here**.

6. Under the **Application Access** tab, assign the permissions.

7. Click **Update**.

   Similarly, you need to assign all operations access permission of the following tables:

   • item_option_new
   • user_criteria
   • sc_category
   • catalog_ui_policy
   • sc_catalog
   • catalog_script_client
   • sys_user_has_role
   • sys_group_has_role
   • sys_user_group
   • sys_user_grmember

   > **Note:** For sys_user_grmember table provides only read-only access.

Enabling the Email Server

To send and receive email notifications, you must enable the email server.

1. Log on to the ServiceNow portal as administrator.

2. Click **System Properties** > **Email Properties** to configure the email notifications.
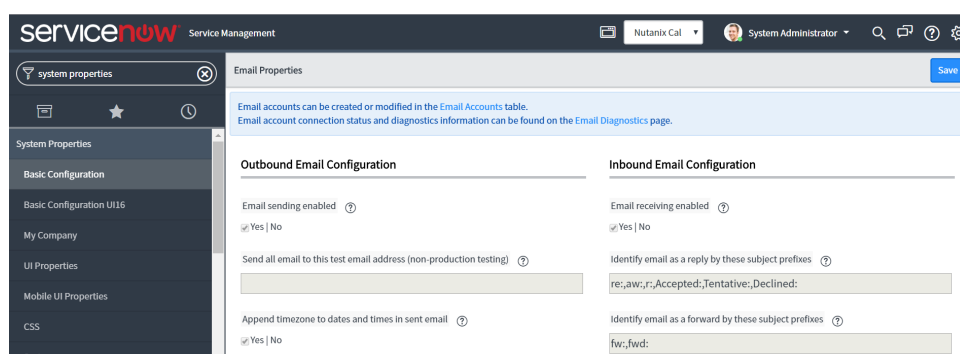
Figure 3: Email Properties Window

3. In the **Outbound Email Configuration** panel, select **Yes** check-box against the **Email sending enable** to enable sending email.

4. In the **Inbound Email Configuration** panel, select **Yes** check-box against the **Email receiving enabled** to enable receiving email.

5. Click **Save** to save the email notification settings.
   The email server is configured to send and receive email notifications.

6. ServiceNow application sends an email to the user when the following actions are performed in the application.

   a. Blueprint launch request is approved by the approval mechanism set on the configuration page, an email is sent to the user who launched the blueprint.

   b. Blueprint launch request is completed, an email is sent to the user who launched the blueprint.

7. If you do not want to send out the notification email, then click **System Notifications** > **Notifications**.

8. Set **Request Approved** and **Request Completed** to active false.

Configuring LDAP in ServiceNow

A system administrator can enable LDAP integration to allow single sign-on of users from their company LDAP directory. Imported users from AD to ServiceNow can be assigned with either Calm administrator or user role.

- If you already have an existing LDAP configured on your ServiceNow instance, then ensure that your configuration is inline with the OU definition mentioned in the step 5 of the following procedure. Also, perform Scheduled Load so that all groups are immediately synced and there is no difference between users of ServiceNow and your AD.
- If you do not have an existing LDAP configuration on your ServiceNow instance , then perform the following procedure.
- To create an AD, see Adding users to AD.

1. Log on to the ServiceNow portal.

2. Click **System LDAP** > **Create New User**.
   In the New LDAP server window, Active Directory option is selected by default.

3. Scroll down the window and click **Submit**.

4. In the LDAP server window, enter the name of the server in the **Name** field.

5. Select **Active** check box, if the server is active.

    The check-box is enabled by default.

6. Enter the distinguished name (DN) of the user authenticating the LDAP connection in the **Login distinguished name** field.

7. Enter the server password in the **Login password** field.

8. Enter the relative distinguished name (RDN) of the default search directory in the **Starting search directory** field.

9. Click the search icon and select the MID server you want to use to connect to the LDAP server.

    Using a MID server to establish an LDAP connection prevents you from having to expose the LDAP server to external network traffic. MID server also eliminates the need to establish a VPN tunnel between your LDAP server and ServiceNow datacenters.

10. Under LDAP server URLs, click **+** to add an LDAP server URL.

    Enter the URLs of the primary and back up LDAP servers. Servers are first ordered by operational status, with servers that are Up listed first, then ordered by the order value that you specify. The first server listed is the primary LDAP server. The others are redundant servers.

11. Under **Advance Options** panel, enter connection timeout value in the **Connection timeout** field.

    Specify the maximum number of seconds that the instance has to establish an LDAP connection. If no connection is made by this time, the connection is terminated.

12. Specify the number of seconds the integration has to read LDAP data in the **Read timeout** field.

    The integration stops reading LDAP data after the connection exceeds the read timeout.

13. Select **SSL** check- box to require the LDAP server to make an SSL-encrypted connection.

    > **Note:** If you have selected a MID server, then this field is not available.

14. Select **Listener** check-box to enable the integration to periodically poll Microsoft Active Directory servers or LDAP servers that support persistent search request control. Additionally, if you have selected a MID server, the listener functionality is available for that MID server.

15. Enter the listener timeout value in minutes in the **Listen interval** field.

    Specify the listener timeout value in the number of minutes that the integration listens for LDAP data with every connection. The integration stops listening for LDAP data after the connection exceeds the listen interval.

16. Select **Paging** check-box to have the LDAP server split up LDAP attribute data into multiple result sets rather than submit multiple queries.

17. Under **Related Links**, click **Test Connection** to test the connection configuration.

18. Under **LDAP OU Definitions**, click **New** to define an organization unit (OU) definition for importing.

19. In the LDAP OU Definition New record, enter the name the integration uses when referencing this OU in the **Name** field.

    The name you enter here becomes an LDAP target in the data source record.

20. Enter the relative distinguished name of the subdirectory you want to search in the **RDN** field.

    This RDN is combined with the start-searching directory from the LDAP server definition to identify the subdirectory containing information for this organizational unit.

21. Enter the name of the attribute within the LDAP server to query for records in the **Query field**.

The query field must be unique in both single and multiple domain instances.

22. Select **Active** check-box to activate the OU definition and to allow administrators to test importing data. However, the integration can only bring data into the system from active OU definitions.

23. Select server by clicking the search icon and select from the available list of servers.

24. Specify the table that receives the mapped data from your LDAP server.

25. Enter an LDAP filter string in the **Filter** field to select specific records to import from the OU.

26. Click **Submit**.

27. Under **Related Links**, click **Test Connection** to test the connection.

28. Click **System LDAP** > **Schedule Loads** to execute the users import schedule job.

29. From the listed LDAPs, click the LDAP you have imported.

30. In the Scheduled data Import window, click **Execute Now** .

Configuring the Application Properties

Using the application properties you can view and update the Calm plug-in properties and the following attributes.

- Calm Instance URL: Calm plug-in uses the mentioned URL to import all the Calm resources.
- Approval Workflow: The system uses the approval workflow for approvals, when you create any request blueprint launch operation.
- Support URL: User can use the support URL to contact Nutanix Calm support.
- Logs: Administrator can set the logs that are displayed to the user.

1. Log on to the ServiceNow portal.

2. Click **Nutanix Calm** > **Configuration** > **Application Properties** to view the Nutanix Calm application properties.

Figure 4: Application Properties

3. **Service Catalog** field displays the name of the service catalog item. Default value is Nutanix Calm. Catalog name groups all the catalog items that are created in the ServiceNow application.

4. Do the following in the **MID Server** field.

   a. Click the tooltip icon to view the MID server details.

   b. Click the search icon to view the status of the MID server.
      In the MID servers window, check the status column to determine whether the server is up or down.

5. Do the following in the **Calm Instance** field.

   a. Click the lock icon to edit the field.

   b. Enter the URL to create failure instances.

   c. Click the unlock icon to lock the field.

6. Enter the administrator username in the **Calm Admin Username** field.

7. Enter the administrator password in the **Calm Admin Password** field.

8. Under the **Configuration** tab, do the following in the **Approval Workflow** field to select an approval workflow.

   a. Click the search icon and select the required workflow.

   b. Click the tooltip icon to view the details of the selected workflow.

9. From the **Assignment Group** drop-down menu, select an assignment group to whom the incident needs to be triggered for resolution.

10. Do the following in the **Support URL** field.

    a. Click the lock icon to unlock the field.

    b. Enter the support URL to direct the users in case of failure instances.
       The mentioned support URL is displayed in the support page.

    c. Click the unlock icon to lock the field.

11. Under the **Properties** tab, select the **Show Published Blueprints** check-box to view the published blueprints.
    If the check-box is not selected, then you can only view the unpublished blueprints.

12. Select **Create Incidents** check-box to automatically create incidents in case of failure instances.
    If the check-box is not selected, then application only logs a message under logs and does not create an incident.

13. Select the applicable log to show the users from the **Log Verbosity** drop-down menu.

14. Click **Save Properties** to save the application properties.
    After the authentication is successful, **Sync Now** button is displayed.

15. Click the **Sync Now** button to sync the Calm resources.
    Sync Now imports Calm resources such as projects, blueprints, profiles, marketplace items, applications, and actions. Calm administrator can now create catalog items based on the imported data.
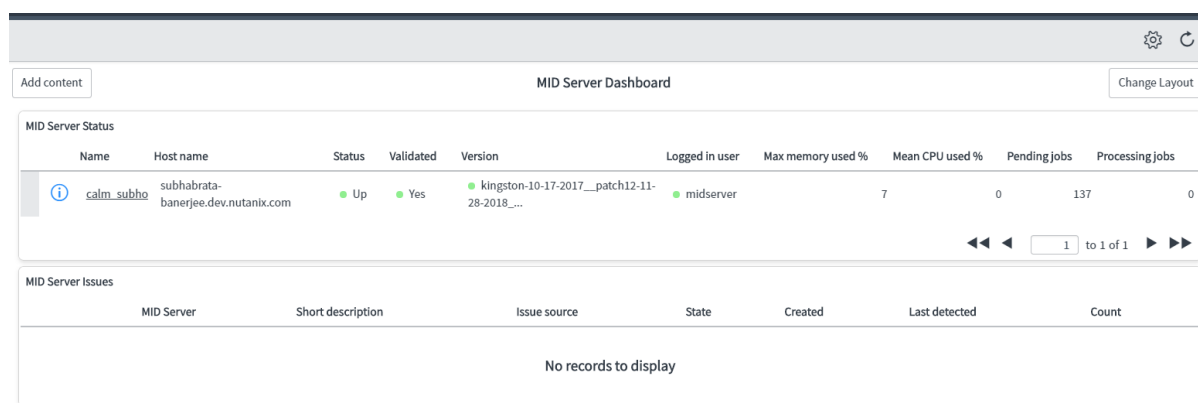
Viewing the MID Server Status

The ServiceNow MID server works as a communication bridge between the ServiceNow platform and Nutanix Calm plug-in.

1. Log on to the ServiceNow portal.

2. Click **MID Server** > **Dashboard**.

   The MID server dashboard displays the basic information about the configured MID server.

MID Server Status										
	Name	Host name	Status	Validated	Version	Logged in user	Max memory used %	Mean CPU used %	Pending jobs	Processing jobs
ⓘ	calm_subho	subhabrata-banerjee.dev.nutanix.com	● Up	● Yes	● kingston-10-17-2017__patch12-11-28-2018_...	● midserver	7	0	137	0

Figure 5: MID Server Dashboard

3. Check the **Status** column to view the status of the MID server.

   Note: To perform any operations on the Calm plug-in, the MID server status must be **Up** and the validation must be **Yes**.

What to do next

For detailed information about the MID server, see MID Server Documentation.

Inventory Sync

Inventory sync menu option is used to sync the ServiceNow application with the Nutanix Calm database. By using Inventory sync, you can do the following:

• view the draft and published blueprints
• run and view the jobs that are scheduled to run at a predefined time interval.

Inventory sync updates the following objects in Configuration Management Database (CMDB):

Table 2: Inventory Sync

Entity	Objects
Projects	• Environments • Providers • Credentials • Existing users
Blueprints	• Marketplace items • Unpublished blueprints
Applications	• Actions • Run logs

For detailed information about CMDB, see Configuration Management Database Documentation.

Executing a Schedule Job

Scheduled Jobs are automated pieces of work that can be performed at either a particular time, or on a recurring schedule. Calm administrator can view the jobs that are scheduled to run at a predefined time. The scheduled jobs enable you to sync the Calm plug-in with Nutanix Calm and update the ServiceNow database as per the job script. You can also use the **Sync Now** button to sync the ServiceNow Calm plug-in with Nutanix Calm.

1. Log on to the ServiceNow portal.

2. Click **Nutanix Calm** > **Inventory Sync** > **Schedule Jobs** to view the scheduled jobs.

3. Click the scheduled job to view the job details.

4. Click **Execute Now** to run the job.
   After the data is imported in the Calm ServiceNow plug-in, you can browse to blueprint and marketplace to view the imported data and assign these catalog items to the users as a runtime variable.

Viewing Nutanix Projects

The Nutanix Projects window displays the list of available projects in the Nutanix Calm plug-in. You can also view the blueprints associated with a project.

1. Log on to the ServiceNow portal.

2. Click **Nutanix Calm** > **Inventory Sync** > **Nutanix Projects** to view the projects.

3. Click the project name to view the project details.
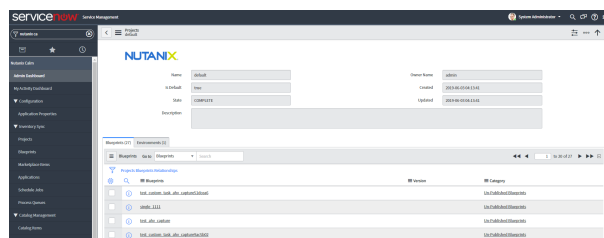
Figure 6: Nutanix Calm Projects

The list of associated blueprints is displayed at the bottom.

Viewing Nutanix Blueprints

The Nutanix Blueprints window displays the list of unpublished blueprints available in the Nutanix Calm plug-in. From this window, you can also view the list of available variable and application profiles associated with a blueprint.

1. Log on to the ServiceNow portal.

2. Click **Nutanix Calm** > **Inventory Sync** > **Nutanix Blueprints** to view the blueprints.
   The list of unpublished blueprints is displayed.

Figure 7: Nutanix Blueprints

3. Click the blueprint name to view the blueprint details.

The list of available variables and application profiles is displayed at the bottom.

Nutanix Marketplace Items

The Nutanix Marketplace Items window displays the list of published blueprints available in the Nutanix Calm plug-in. From this window, you can also view the list of available variable, associated application profiles, UI policy, catalog scripts available in a blueprint.

1. Log on to the ServiceNow portal.

2. Click **Nutanix Calm** > **Inventory Sync** > **Nutanix Marketplace Items** to view the blueprints.

Figure 8: Nutanix Marketplace Items

3. Click the blueprint name to view the blueprint details.

The list of available variables and application profiles is displayed at the bottom.

Runtime Variables

Calm administrator can use Runtime Variables feature to mark the attributes while creating the blueprint so that those attributes can be modified at the time of launching the application blueprint. Calm administrator has access to runtime configuration flow to create a catalog item and performs user entitlement. From this window, Administrator can also assign a Blueprint to the users.

Assigning a Blueprint to a User

This is a Nutanix task.

Context for the current task

1. Log on to the ServiceNow portal.

2. Click **Nutanix Calm** > **Configuration** > **Runtime Variables**.

3. Click **New**.

4. From the **Project** drop-down menu, select a project.

5. In the **Select Type of Blueprint to Configure** field, select one of the following.

- Unpublished blueprints: To assign an unpublished blueprint to user, an administrator can view the list of unpublished blueprints in the Nutanix Blueprints option under the Inventory Sync menu.

- Published blueprints: To assign a published blueprint to user, an administrator can view the list of published blueprints in the Nutanix Marketplace Items option under the Inventory Sync menu.

6. From the **Blueprint** drop-down list, select a blueprint to assign the user.

7. From the **Application Profile** drop-down list, select an environment for blueprint.

8. Click **Choose Options**.

   On the Choose Options window, field available in the Variables, Service configuration, Credentials, and General Settings tab are the dynamic fields. This means fields presents in these tabs can be different for each blueprints.

9. Under the **General Configuration** tab, do the following.

   a. In the Item Name field, enter the item name.

   b. Optionally, in the Description field, update the description for catalog.

   c. In the Assign User field, click the lock icon to unlock the Assign User field.

   d. In the Search field search for the user to assign the Blueprint then select it from the displayed list.

   e. Click the lock icon to unlock the Support URL field.

10. In the **Choose Options** window, enter the values for all the mandatory fields.

11. Click **Checkout**.
    The Blueprint is assigned to user.

Viewing Support Details

Calm administrator and end-user can access the Nutanix Calm support contact details.

1. Log on to the ServiceNow portal.

2. Click **Nutanix Calm** > **Support** > **Contact Support**.
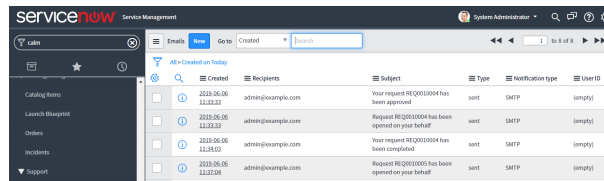   The contact support details is displayed.

Figure 9: Support Details

Viewing Logs

Logs module is visible to both Calm administrator and end user. From the Logs menu, user can access the following options:

- Emails: To view the various notifications sent or received.
- User Logs: To view the error details.

1. Log on to the ServiceNow portal.

2. Click **Nutanix Calm** > **Logs** > **Emails or User Logs**.

   The logs detail is displayed.

Figure 10: Email Logs