



Modify a Virtual Server Workflow Guide

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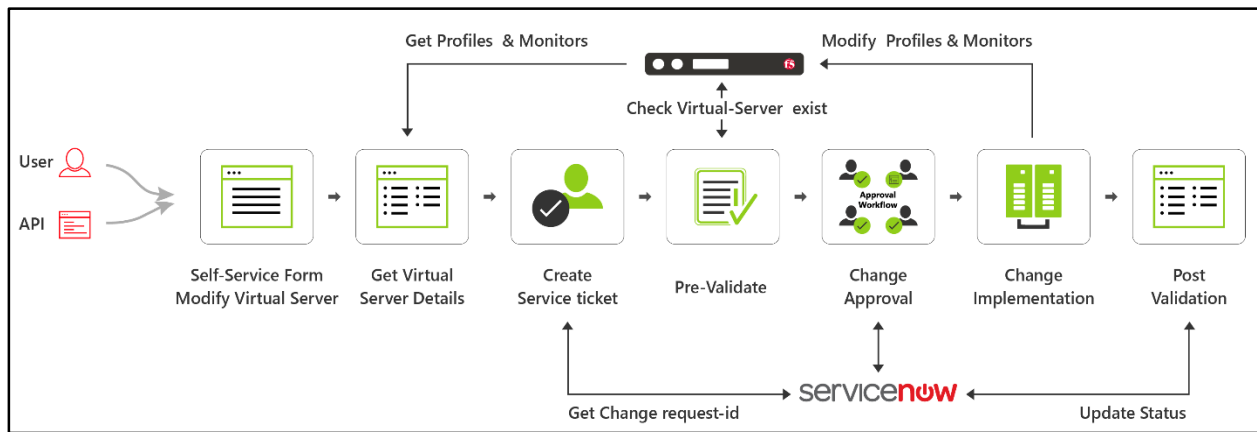
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AppViewX Overview

Application-oriented companies can only accomplish true business agility through the automation of delivery infrastructure. At AppViewX, we believe that in order to power faster and more compliant application provisioning, Network Operations groups need to work smarter, not harder. Our platform offers a solid foundation to start your automation journey. It enables complete change management automation by integrating with leading technology providers and defining workflows for all stages of application provisioning on ADC: validation, approval, implementation, and rollback. To get started, you can download Free AppViewX, which comes with a series of preloaded application automation provisioning workflows.

Modify Virtual Server Workflow

With the *Modify Virtual Server* automation workflow, users can add or delete iRules, profiles, monitors, and pool members on an existing virtual server. This workflow filters F5 ADC devices based on the user's access permissions, defined by Role Based Access Control (RBAC), and displays the list of virtual servers available on the selected ADC device. When a virtual server is selected, object details like iRules, profiles, monitors, and pool members are displayed in the form fields. The workflow also provides an option to modify the association of these virtual server objects and allows users to create change request tickets in ITSM systems like ServiceNow for approvals and tracking. The service request change ID is associated with a work order and is updated based on the implementation status.



The work order that is generated confirms the existence of the virtual server and its associated objects before any changes are made. On successful pre-validation, the configuration changes are reviewed through a two-level approval process: first by ServiceNow, then by AppViewX. After approval is received, the configuration changes are implemented on the ADC device. A post-validation script ensures the virtual server and the associated objects are modified successfully.

Prerequisites

To run this workflow in your environment, the following prerequisites must be met:

- Free AppViewX or AVX 12.3.0 has been downloaded and installed.
- An F5 LTM device has been added to AppViewX as a managed device.
- (Optional) An Infoblox device has been added to AppViewX.
- (Optional) ServiceNow is registered to AppViewX.
- Multiple server nodes are running the application.

Compatible Software Versions

The application provisioning automation templates have been validated for the following software versions:

- AppViewX – Free AppViewX or AVX 12.3.0 has been downloaded and installed.
- ServiceNow – Geneva, Jakarta, and Eureka

- Infoblox – version 7.2.X
- F5 LTM – version 10.X, 11.X, or 12.X

Log In to AppViewX

Log in to the AppViewX web interface. The standard format for a login URL is:



`http://hostname:portnumber.`

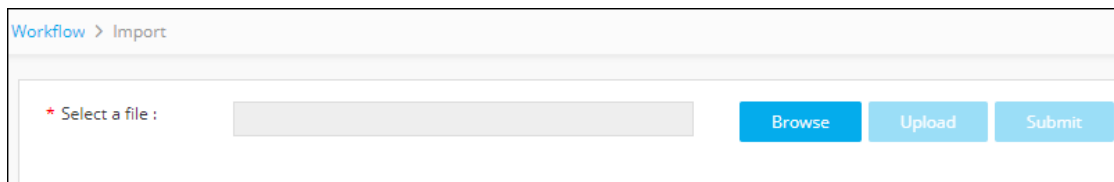
The hostname and port number are configured during deployment, with the default port number set to 5004 and the default web credentials set to `admin/AppViewX@123`.

Note: It is recommended that you access AppViewX using Internet Explorer, Firefox, or Google Chrome.

Import Visual Workflows

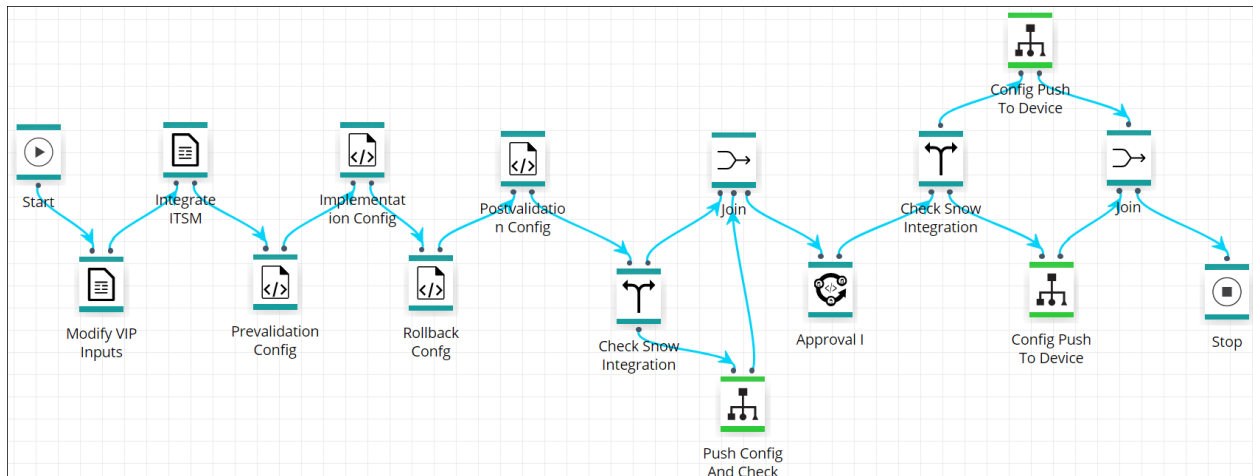
Note: Free AppViewX comes preloaded with visual workflows. You will only need to use the following import instructions when newer versions of the workflows become available.

1. Click the  (Menu) button.
2. Navigate to **Workflow > Configurator**.
3. Click the  (**Import**) button in the Command bar.



4. To import a workflow, complete the following sub-steps:
 - a. Click the **Browse** button.
 - b. Select the zip file containing one or more workflows, then click **Upload**.
 - c. In the table at the bottom of the *Import* page, select the check box beside the unzipped workflow file.
 - d. Click **Submit** to deploy the workflow into your AppViewX environment.

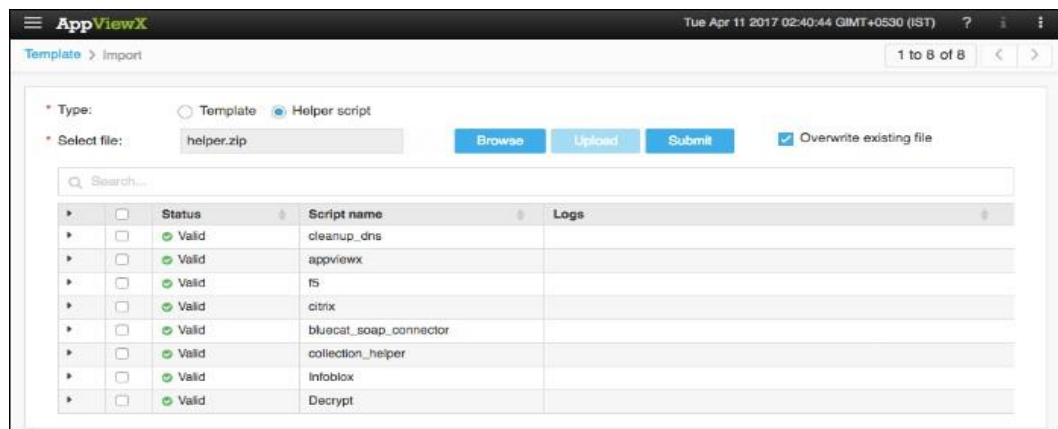
The Modify Virtual Server workflow is shown in the image below:



Import Helper Scripts

Note: Free AppViewX comes preloaded with the helper scripts. You will only need to use the following import instructions when newer versions of the helper scripts become available.


1. In the navigation menu on the left-hand side of the AppViewX screen, navigate to **Provisioning > Template**.
2. Click on the **Helper script** button.
3. To import a helper script, complete the following sub-steps:
 - a. Select the **Helper Script** radio button.
 - b. Click **Browse** and select the helper script zip file you want to import.
 - c. Click **Upload** to import the file and view its contents.



- d. In the table at the bottom of the Import page, select the check boxes beside each of the helper scripts.
- e. Click **Submit** to deploy them into your AppViewX environment.

Add an ADC Device: F5 LTM

1. In the navigation menu on the left-hand side of the AppViewX screen, navigate to **Inventory > Device**.

2. On the *Device* screen, click the **ADC** tab if it is not already visible.
3. Click the  (**Add**) button in the Command bar.
4. On the *Add* screen that opens, click to select **F5** as the ADC vendor.


5. Select the module to be managed on the ADC device.
6. Create a **Device name** that is specific to AppViewX and that will identify the device in the AppViewX inventory.
7. Enter the **management IP address** of the device.
8. (Optional) Specify a **Data center location** if you want to have the option later to filter devices based on their location.
9. In the **Cert sync** field, select the radio button for the kind of synchronization relationship you want to establish between SSL certificates on the ADC device and AppViewX: **Managed, Monitored, or Ignored**.
10. (Optional) Select the **AppViewX group sync** check box if you need AppViewX to sync the configuration changes from an active to standby F5 ADC device. This is required in older F5 versions like v10. The latest versions of F5 sync automatically.
11. Select a **Credential type** from the dropdown menu.
12. Enter the **User name** and **Password** that are associated with the credentials.
13. **Note:** The user you enter in the **User name** field must have advanced shell access.
14. Select **Auto detect** to automatically detect and add secondary or failover devices or sync groups to the ADC device inventory.
15. Click **Save** to save the new ADC device on the ADC tab.

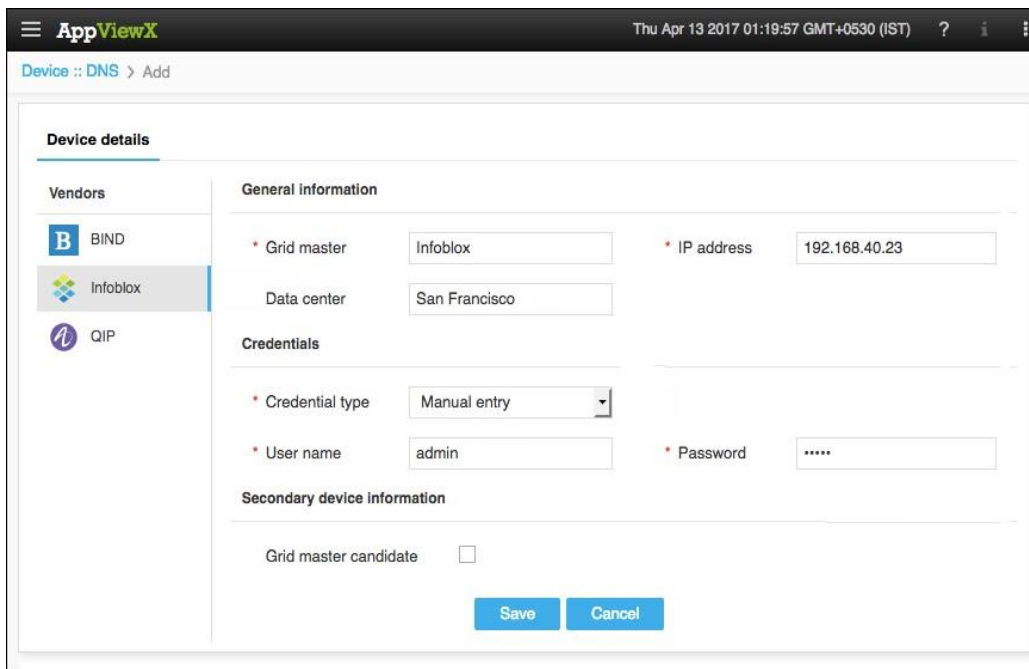
| Name | Sync group/cluster | IP address | Vendor | Modules | Data center | Status | Version |
|----------------|--------------------|----------------|--------|---------|---------------|---------|----------------------|
| SFO_F5_ADC_R23 | | 192.168.40.153 | F5 | LTM | San Francisco | Managed | 12.1.1 build 0.0.184 |

The device will display one of the following statuses:

- o **In Progress** – Device configuration fetch is in progress.
- o **Managed** - Device configurations are fetched and parsed successfully. This is the status a successfully added ADC device should have.
- o **Unresolved** – Unable to communicate with device, due to invalid login credentials.
- o **Failed** – Device configuration fetch failed, due to unsupported version.

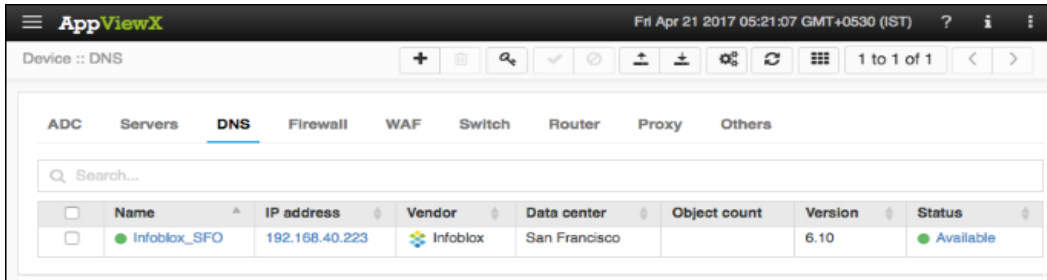
Add an IPAM Device: Infoblox

1. In the navigation menu on the left-hand side of the AppViewX screen, navigate to **Inventory > Device**.
2. Click the **DNS** tab.
3. Click the  (**Add**) button in the Command bar.
4. On the *Add* page that appears, click to select **Infoblox** and enter the device's IP address and advanced shell access credentials.



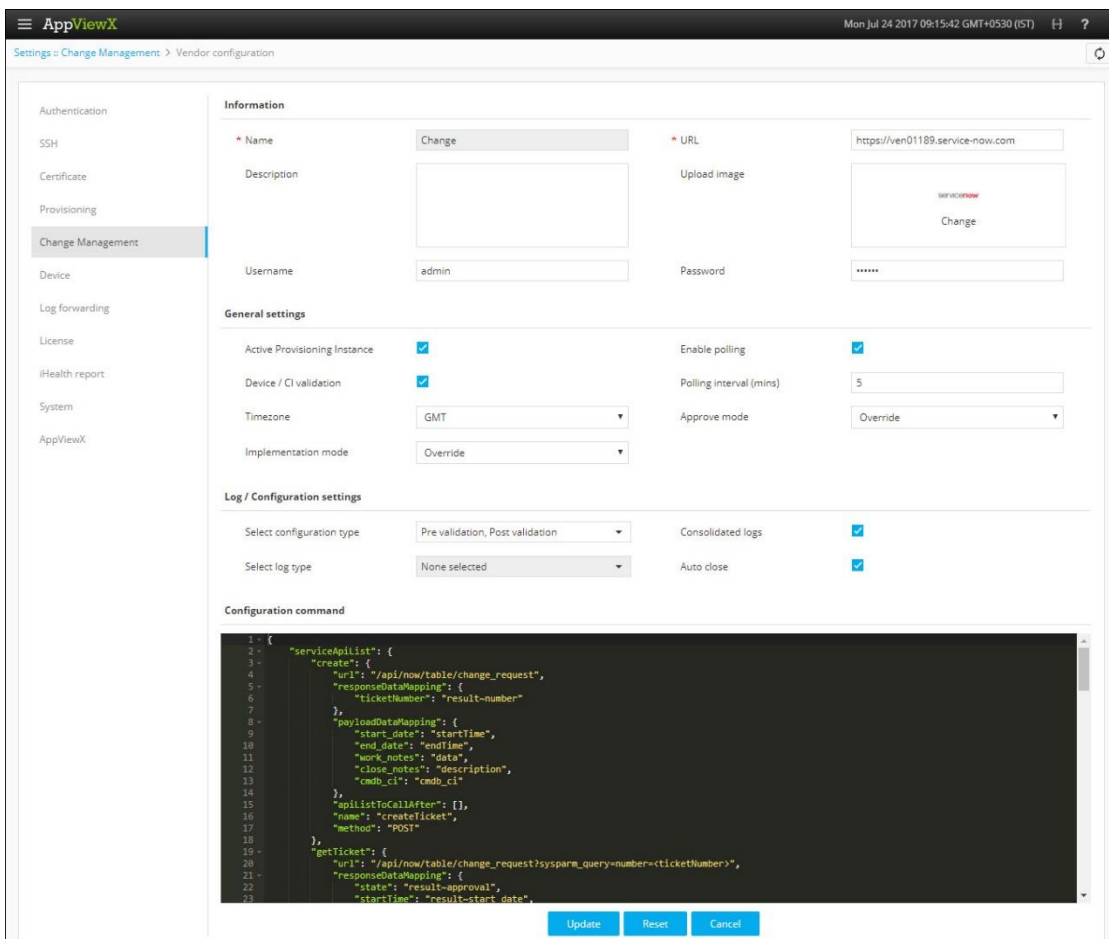
5. Click the **Save** button.

The device status on the DNS tab changes to **Available** to indicate the successful addition of Infoblox.

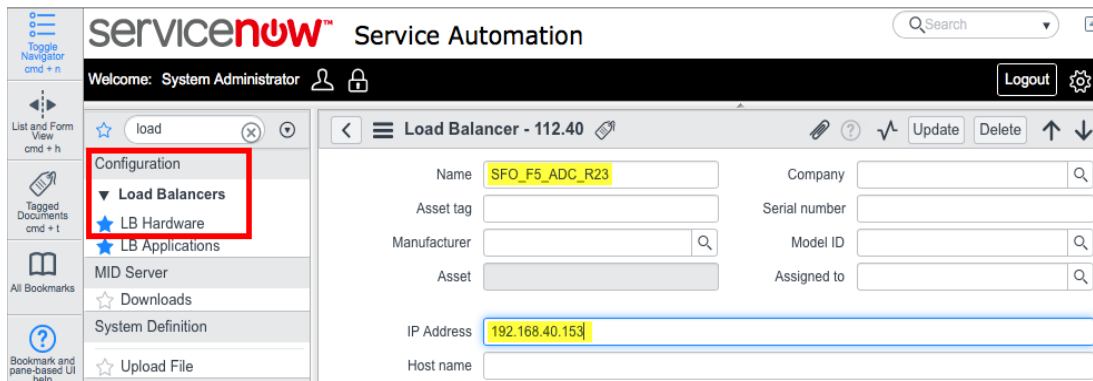


Register an ITSM Device: ServiceNow

1. In the navigation menu on the left-hand side of the AppViewX screen, navigate to **Settings**.
2. On the *Settings* page that opens, click **Change Management** in the column on the left.
3. Click the **ServiceNow** plug-in.
4. On the *Vendor configuration* screen that opens, enter a valid web URL
5. (Optional) Enter a **Description** of the vendor to help users identify it.
6. Enter the ServiceNow **username** and **password** credentials in the respective fields.
7. Click **Update** to save the changes made in the system.






- (Optional) The F5 LTM device you are configuring should be present in the ServiceNow LB Hardware inventory. You can check this by opening ServiceNow and clicking to open the **Load Balancers > LB Hardware** section shown below. The device name used in the ServiceNow inventory and AppViewX ADC device inventory should be the same.

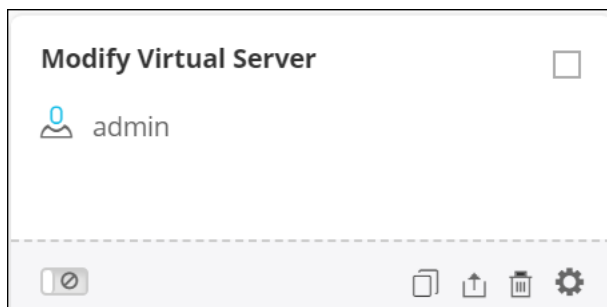


Enable a Workflow

To enable the **Create Virtual Server** workflow, complete the following steps:

- Click the  (**Menu**) button.
- Navigate to **Workflow > Configurator**.
- The *Workflow* screen opens.
- Click the (**Select**) button on the *Create Virtual Server* workflow to enable it. If the workflow is already selected, a (**Deselect**) button appears.
- Click the  (Enable) button in the Command bar.

Note: You can also enable the required workflow from the Card view by clicking the  (**Disable**) button.










- On the *Confirmation* screen that appears, click **Yes**.

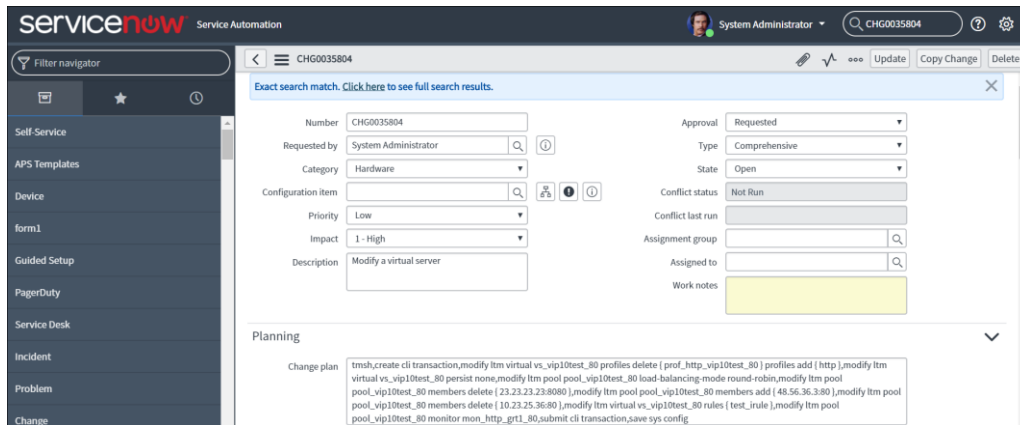
Modify a Virtual Server Workflow

- Click the  (**Menu**) button.
- Navigate to **Workflow > Request**.

The *Request* screen opens with the **My catalog** tab displayed by default. This screen displays all enabled workflows assigned to a specific user role.

3. Click the  (**Run workflow**) button from the Card view of **Modify a Virtual Server** workflow.
4. Click the **Get F5 LTM Device List** button to fetch the list of managed F5 LTM devices.
5. In the **F5 LTM Device** field, click the  (**Retrieve field values**) button and select the device that contains the virtual server to be modified.
6. In the **Virtual ServerName** field, click the  (**Retrieve field values**) button to fetch the list of virtual servers from the device. Select a virtual server from the dropdown list.
7. Click the **Fetch Device Details** button to retrieve virtual server related details from the selected device and populate the form fields, like profiles and monitors.
8. Click the  (**Retrieve field values**) button in the following fields and select the required options from the corresponding dropdowns:
 - a. **Select Client SSL Profile**
 - b. **Select Server SSL Profile**
 - c. **Select HTTP Profile**
 - d. **Select Persistence**
 - e. **SNAT**
9. Click the **Fetch Existing Monitors** button to retrieve the monitor associated to the selected VIP and display it in the **Monitor Details** table.
10. In the **Select Existing Monitors** field, click the  (**Retrieve field values**) button to retrieve the existing monitor from the device. Select the required monitor from the dropdown.
11. Click the **Fetch Existing iRules** button to retrieve the iRule associated to the selected VIP and display it in the **iRule Details** table.
12. In the **iRules** field, click the  (**Retrieve field values**) button to retrieve the existing iRules from the device. Select the required iRule from the dropdown.
13. In the **Load Balancing Method** field, click the  (**Retrieve field values**) button to retrieve the existing load balancing methods from the device. Select the required method from the dropdown.
14. Modify the **Pool Member IP** and **Pool Member Port** if required.
15. Click the **Submit VIP Modification Request** button to submit the self-service form and create the work order and associate it with the ServiceNow change request ID (RFC-ID) in the AppViewX system.

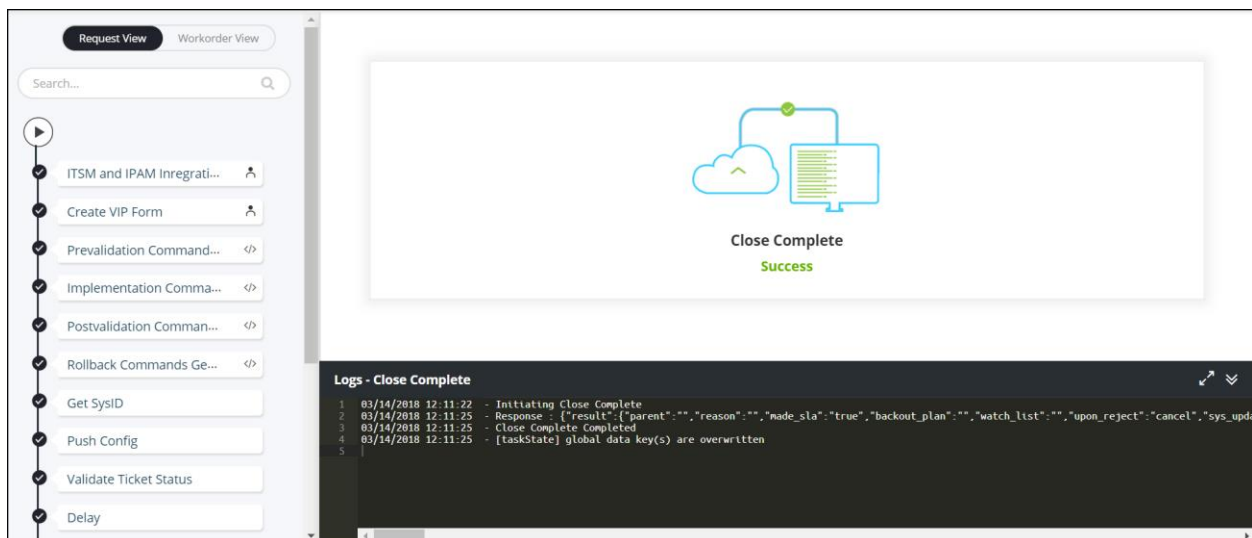
AppViewX then creates the ServiceNow change request and populates the change request fields like **Configuration item**, **Planned start date**, and **Planned end date** from the self-service form. The **Change plan** field is populated with the proposed F5 LTM configuration changes, which can be reviewed at any time by the approver.



Workorder Flow

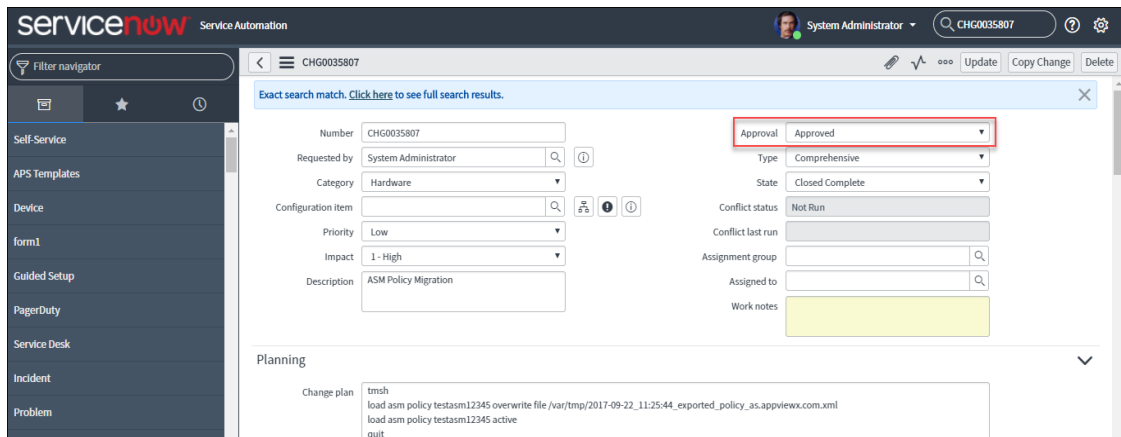
The following are the workorder tasks of the *Modify Virtual Server* workflow.

Note: You can click each task to view its details. Wherever applicable, all logs related to the selected task are displayed in the Logs pane at the bottom of the screen.

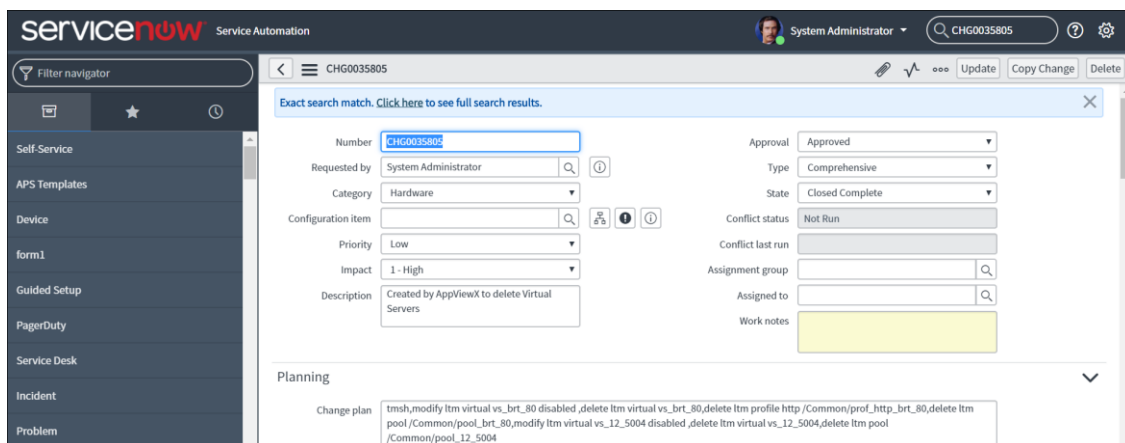


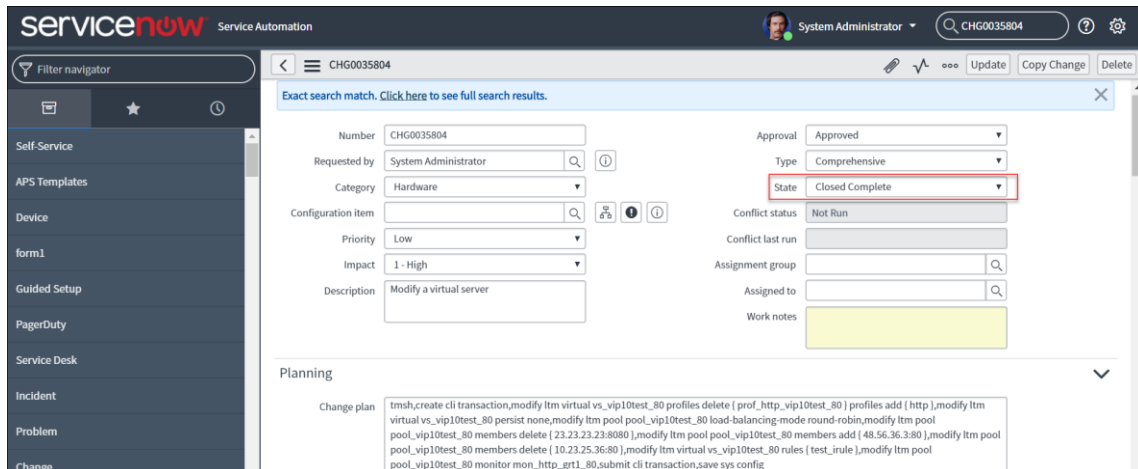
1. **Integrate ITSM** – ITSM is integrated with the *Delete Virtual Server* workflow.
2. **Pre-validation Command Generation**– Pre-validation commands are generated to initiate the pre-validation process.
3. **Implementation command generation** – Configuration commands are generated to implement the deletion of a virtual server from a source device.
4. **RollBack command generation** – Configuration commands are generated to implement the deleted virtual server and their LTM objects from a source device.
5. **Post-validation command generation** – Post validation commands are generated to initiate the post-validation process.
6. **Get SYSID** – The ticket information for the *Delete Virtual Server* workflow is generated to track the ServiceNow request.
7. **Push Config** – Push the configuration commands to the ServiceNow ticket.

- ValidateTicket Status** — To validate the ticket, log in to ServiceNow and manually approve the ticket.





- Approval I** — Approval of a work order is based on the role assigned to the user, who has access to approve and implement. After you submit the request form, the configuration changes are reviewed and approved at AppViewX. The configuration changes are implemented on the device only after the approval is received.
- ValidateTicket Status** — To validate the ticket, log in to ServiceNow and manually approve the ticket.
- Prevalidation** — Check the following:
 - A list of virtual servers is available in the source and destination devices.
 - The performance metrics, such as CPU and memory utilization on the destination device, are validated.
- Implementation** — Configuration commands are implemented for the deletion of a virtual server from a source device.
- Post-Validation** — Checks if the virtual server has been deleted successfully.
- Close Complete** — After successful deletion of the virtual server, the status of the ServiceNow ticket updates automatically.





Rollback a Workflow

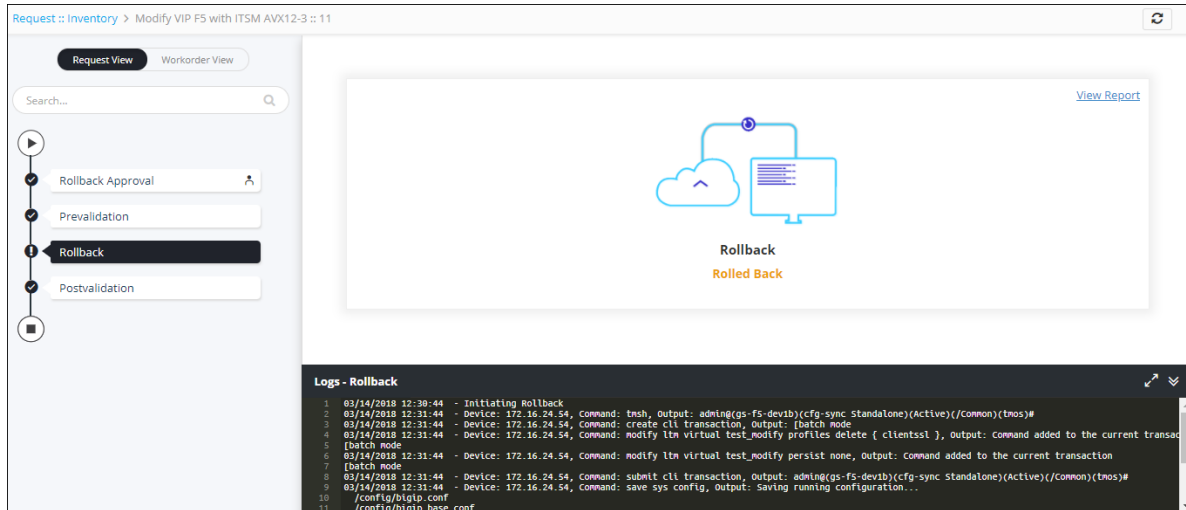
A rollback action can be performed only on the completed workflows. To trigger a rollback action, complete the following steps:

1. Click the  (**Menu**) button.
2. Navigate to **Workflow > Request**.
The *Request* screen opens with **My catalog** tab displayed by default.
3. Click the **Request Inventory** tab.
This displays all workflows that have been triggered. On the **Request Inventory** screen, you can search for a request created for *Modify a Virtual Server* workflow using the **Search** field and/or click the  (**Filter**) button.
4. Right-click the request and select **Rollback**.
5. On the Confirmation screen that appears, click **Yes**.
6. Select the **Request** or **Workorder** radio button based on how you want to set the rollback type.
7. Click **Rollback** to trigger the action.

Workorder Flow

The following are the workorder tasks of *Modify a Virtual Server* workflow.

Note: You can click each task to view its details. Wherever applicable, all logs related to the selected task are displayed in the Logs pane at the bottom of the screen.



1. **Rollback Approval** – Review the configurations that will be rolled back. The configuration changes are implemented on the device only after an approval.
2. **Prevalidation** – Check the following:
 - A list of virtual servers available in the source and destination device.
 - The performance metrics, such as CPU and memory utilization on the destination device have been validated.
3. **RollBack** – The configuration commands are implemented to rollback the changes made to the virtual server.
4. **Post-Validation** – Checks if the virtual server has been modified successfully.


Request Inventory

To go to the Request inventory, complete the following steps:


1. Click the  (**Menu**) button.
2. Navigate to **Workflow > Request**.

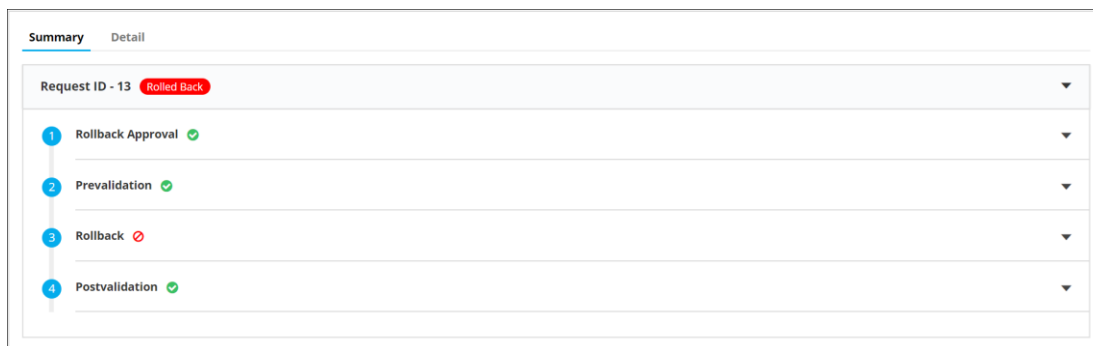
The *Request* screen opens with the **My catalog** tab displayed by default.

3. Click the **Request Inventory** tab.

This displays all workflows that have been triggered. On the **Request Inventory** screen, you can search for a request using the **Search** field and/or click the  (**Filter**) button to select the options you want to use to sort the requests.



| Request ID | Workflow | Created by | Created time | Last updated | Status | Activity log |
|------------|-----------------------|------------|---------------------|---------------------|-------------|----------------------|
| 229 | Modify Virtual Server | admin | 26/09/2017 03:00 PM | 26/09/2017 03:00 PM | In Progress | View |
| 228 | ASM Policy Creation | admin | 26/09/2017 03:00 PM | 26/09/2017 03:00 PM | In Progress | View |
| 227 | ASM Policy Creation | admin | 26/09/2017 02:58 PM | 26/09/2017 02:58 PM | In Progress | View |
| 226 | ASM Policy Creation | admin | 26/09/2017 02:53 PM | 26/09/2017 02:53 PM | In Progress | View |
| 225 | ASM Policy Creation | admin | 26/09/2017 02:47 PM | 26/09/2017 02:47 PM | In Progress | View |
| 224 | ASM Policy Creation | admin | 26/09/2017 02:41 PM | 26/09/2017 02:41 PM | In Progress | View |
| 223 | ZTP of BIG-IP VE | admin | 22/09/2017 11:56 AM | 22/09/2017 11:56 AM | Completed | View |
| 222 | ASM Policy Migration | admin | 22/09/2017 11:26 AM | 22/09/2017 11:26 AM | Completed | View |

4. Click the **Request ID** of the requested workflow to view the tasks or phases of a request in a tree-view.
5. You can also view the following details of the request that are created: request creator, request time, last updated time, status, and activity log.
6. Click **View** in the **Activity log** column to display the request in a stage view. In the **Summary** tab, click the  (**Expand**) icon to view the details of each task. Click the **Details** tab to view log messages and other particulars of a request.






Schedule a Workflow

To schedule a workflow, complete the following steps:

1. Click the  (**Menu**) button.
2. Navigate to **Workflow > Request**.
The *Request* screen opens with the **My catalog** tab displayed by default.
3. Click the  (**Schedule workflow**) button on the respective workflow.
4. On the window that opens, select the frequency of the policy migration process: once, hourly, daily, weekly, monthly, or yearly. The remaining fields in the Scheduler region update depending on what you select.
5. Click **Save**.

View Scheduled Workflows

To go to the scheduled workflow screen, complete the following steps:

1. Click the  (**Menu**) button.
2. Navigate to **Workflow > Request**.
3. The *Request* screen opens with the **My catalog** tab displayed by default.
4. Click the **Scheduled workflows** tab.
5. On the *Scheduled workflow* screen that appears, you can perform the following tasks:
 - In the **View log** column, click **View** to display the details of a scheduled workflow.
 - Click the  (Pause) or  (Resume) button to temporarily stop or continue the execution of a workflow.

Troubleshooting

I cannot find the workflow in the Request Catalog

You must enable the workflow from the Configurator section. For more details on how to enable a workflow, refer to the [Enable a Workflow](#) section of this guide.