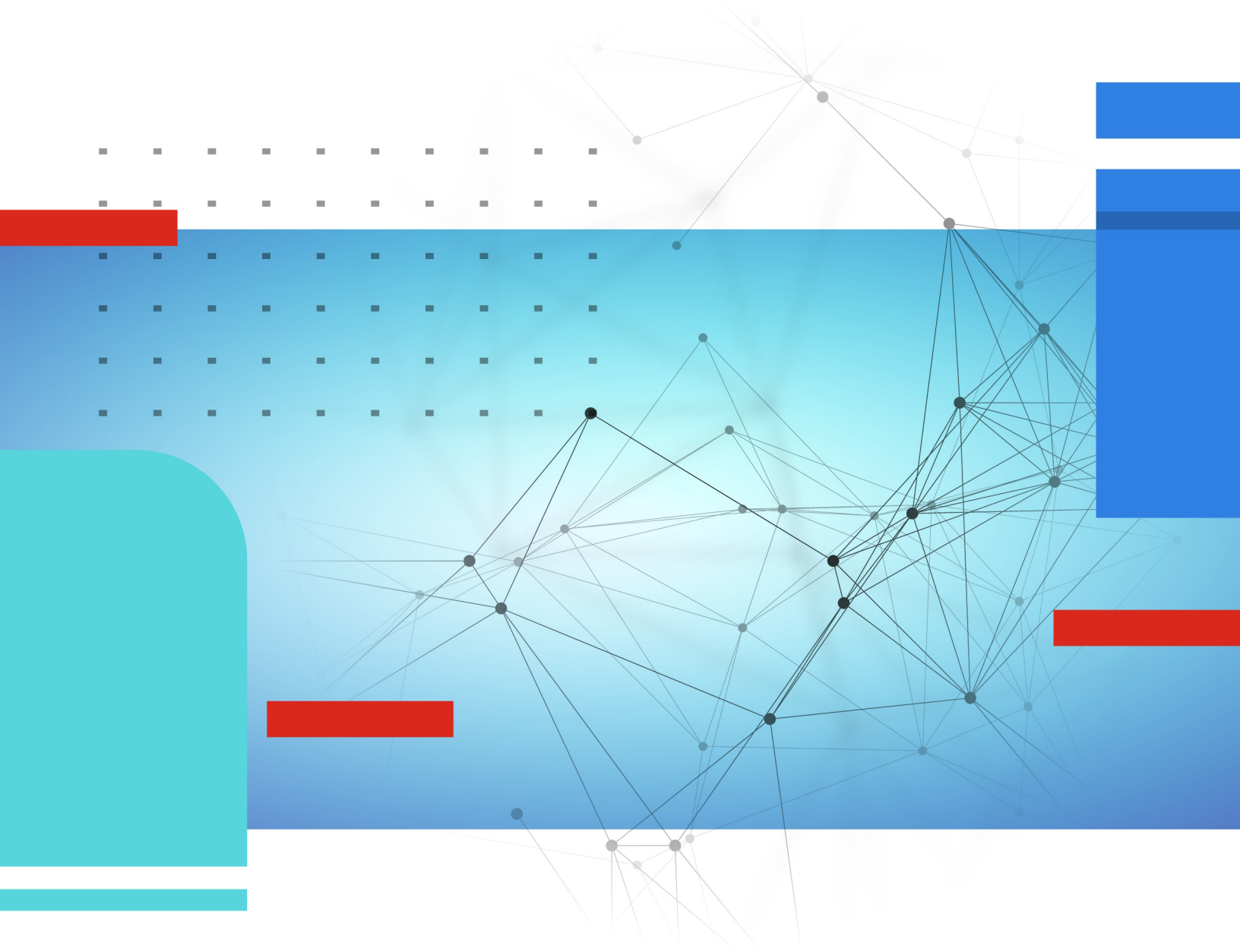
Upgrade Guide

FortiSOAR 7.4.5



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FortiSOAR 7.4.5 Upgrade Guide
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Change Log

Date	Change Description
2024-08-12	Initial release of 7.4.5

Introduction

This guide covers upgrading a FortiSOAR™ enterprise instance, High Availability (HA) cluster, or a distributed multi-tenant configuration.

The FortiSOAR UI displays a notification when a new release (always the latest) is available. The notification also contains a link to that version's release notes so that you can get details about the latest available release. This keeps FortiSOAR users informed about the latest releases and then users can make informed decisions about upgrading to the latest available FortiSOAR version.

This document describes how to upgrade FortiSOAR to 7.4.5.

Upgrading the FortiSOAR Docker image to the 7.4.5 and 7.4.4 releases is not supported.

This guide is intended to supplement the FortiSOAR Release Notes, and it includes the following sections:

- Preparing to Upgrade FortiSOAR
- Upgrading a FortiSOAR Enterprise Instance
- Upgrading a FortiSOAR High Availability Cluster
- Upgrading a FortiSOAR Distributed Multi-Tenancy Configuration
- Upgrading FortiSOAR using the Offline Repository

You can upgrade your FortiSOAR enterprise instance, High Availability (HA) cluster, or a distributed multi-tenant instance to version 7.4.5 from version 7.4.4 or 7.4.3 only. Also, once you have upgraded your instance, you must log out from the FortiSOAR UI and log back into FortiSOAR.

Also, note that the upgrade procedure temporarily takes the FortiSOAR application offline while the upgrade operations are taking place. We recommend that you send a prior notification to all users of a scheduled upgrade as users are unable to log in to the FortiSOAR Platform during the upgrade.

Before you upgrade your FortiSOAR instance, it is highly recommended that you review the *Special Notices* chapter in the "Release Notes", so that you are aware of operational and breaking changes made in version 7.4.5.

For information on upgrading FortiSOAR using the offline repository and upgrading your FortiSOAR Docker image, see the "Deployment Guide."

To solve common issues that occur during the upgrade process, see the *Troubleshooting FortiSOAR* chapter in the “Deployment Guide.”

Preparing to Upgrade FortiSOAR

We recommend performing the following tasks to prepare for a successful FortiSOAR upgrade:

To prepare for upgrading FortiSOAR (summary):

- Ensure that all data ingestion playbooks and schedules are stopped and wait for all existing active playbooks to complete before starting the upgrade process.
- Take a VM snapshot of your current system. Only after you have taken a VM snapshot of your system should you attempt to upgrade FortiSOAR. In case of any failures, these VM snapshots will allow you to revert to the latest working state. Follow the steps mentioned in the documentation of your platform for taking a snapshot and reverting to the current snapshot.
- Take a backup of your FortiSOAR Built-in connectors' (SSH, IMAP, Database, Utilities, etc.) configuration, since the configuration of your FortiSOAR Built-in connectors might be reset, if there are changes to the configuration parameters across versions.
- Run the `tmux` command to ensure that the upgrade is not affected if your `ssh` session times out.
- Ensure that repo.fortisoar.fortinet.com is reachable from your VM. If you are connecting using a proxy, then ensure that proxy details set are correct using the `csadm network list-proxy` command and also ensure that `repo.fortisoar.fortinet.com` is allowed in your proxy. For more information on `csadm` CLI, see the *FortiSOAR Admin CLI* chapter in the "Administration Guide."
- Ensure that you have reviewed the *Special Notices* chapter in the "Release Notes", so that you are aware of operational and breaking changes made in version 7.4.5.

Upgrading a FortiSOAR Enterprise Instance

To upgrade your system to FortiSOAR from 7.4.3 or 7.4.4 to 7.4.5, perform the following steps:

1. Users who have `root` access must run the upgrade installer.
2. ssh to the VM that you want to upgrade.
3. Check that you are connected to a `tmux` session. A tmux session is needed for situations where network connectivity is less than favorable. You can check your tmux session using the following command:
   ```
   # tmux ls
   ```
   This command returns an output such as the following example:
   ```
   0: 1 windows (created Thu Nov 24 09:37:47 2022) [170x47]
   ```
   Log back into the SSH console and run the following command to reattach the `tmux` session:
   ```
   tmux attach-session -t 0
   ```
4. Run the following command to download the upgrade installer:
   ```
   # wget https://repo.fortisoar.fortinet.com/7.4.5/upgrade-fortisoar-7.4.5.bin
   ```
   Note: If your instance can connect to "repo.fortisoar.fortinet.com" only by using a proxy, then ensure that the proxy is set in the `/etc/wgetrc` file. For example,
   ```
   use_proxy=yes
   http_proxy=<proxy_server_ip:port>
   https_proxy=<proxy_server_ip:port>
   ```
   You can also set the proxy while running the FortiSOAR Configuration Wizard or by using the `csadm network` command.
5. Run the upgrade installer using the following command:
   ```
   # sh upgrade-fortisoar-7.4.5.bin
   ```
   OR
   ```
   # chmod +x upgrade-fortisoar-7.4.5.bin
   # ./upgrade-fortisoar-7.4.5.bin
   ```
   Notes: The FortiSOAR upgrade installer checks for the following:
   - The space available in `/tmp` or `/var/temp` (if exist in `/etc/fstab`), which must be at least 500MB. If the space available in `/tmp` or `/var/temp` is less than 500MB, then the upgrade installer exits after displaying an appropriate error message. If you want to skip this space validation check, you can use the `--skip-tmp-validation` option while running the upgrade script:
     ```
     # ./upgrade-fortisoar-7.4.5.bin --skip-tmp-validation
     ```
   - The disk space available in `/boot`, and if the `/boot` has insufficient space, then the upgrade installer exits after displaying an appropriate error message. Use standard methods to remove old kernels and free up space in `/boot`.
   - The disk space available in `/var/lib/pgsql` to ensure that you have sufficient disk space for pgsql. If you do not have sufficient disk space for pgsql, in this case also the upgrade installer exits. In these cases, you must increase the partition size for `/var/lib/pgsql`. For the procedure to increase the partition size, see the 'Issues occurring in FortiSOAR due to insufficient space' section in the *Deployment Troubleshooting* chapter in the "Deployment Guide" for more information.

   Once you complete cleaning up `/boot` and/or increasing disk space and space in `/tmp` (as per the messages provided by the upgrade installer) and you have sufficient space for upgrading FortiSOAR, you must re-run the upgrade installer to continue the process of upgrading FortiSOAR.
   Important: To upgrade a high availability cluster in FortiSOAR, you require to upgrade each node individually, one after the other. For more information, see the Upgrading a FortiSOAR High Availability Cluster section. For information on how to upgrade a FortiSOAR distributed multi-tenant configuration to 7.4.5, see the Upgrading a FortiSOAR Distributed Multi-Tenancy Configuration section.
   Note: When you upgrade your FortiSOAR enterprise instance, High Availability (HA) cluster, or a distributed multi-

tenant configuration, the FortiSOAR appliance hostkey also gets changed.

6. Once your FortiSOAR instance is upgraded, you must log out from the FortiSOAR UI and log back into FortiSOAR.

After upgrading FortiSOAR to release 7.4.5 from a release prior to 7.4.5, review the tasks mentioned in the Post-Upgrade Tasks chapter.

Email notifications that you had set up for your FortiSOAR system or HA cluster for resource consumption after an update to release 7.4.2 or later will not include the system's swap utilization parameter. This change has been done because, even though Elasticsearch performance remained unaffected, the bulk of FortiSOAR upgrades issued notifications concerning swap consumption.

Upgrading a FortiSOAR High Availability Cluster

This section describes the procedure to upgrade a FortiSOAR High Availability (HA) cluster. This section considers that the HA setup has a Reverse Proxy or Load Balancer such as "HAProxy" configured.

Refer to the Preparing to Upgrade FortiSOAR section and ensure that all the prerequisites mentioned in that section are met. The upgrade installer will handle all FortiSOAR services management.

Upgrading an Active-Active HA Cluster

For the purpose of the following procedure, *Node1* is considered as the Active Primary node, *Node2* is considered as the Active Secondary node. Both the nodes are fronted by a Reverse Proxy or Load Balancer such as "HAProxy".

Approximately 30 minutes of downtime is required for the upgrade.

To upgrade your active-active HA cluster to FortiSOAR 7.4.5, perform the following steps:

1. Configure the Reverse Proxy to pass requests only to *Node1*.
   This ensures that FortiSOAR requests are passed only to *Node1*, and *Node2* can be upgraded.
2. Use the `#csadm ha` command as a root user and run the `suspend-cluster` command on *Node2*.
   This makes *Node2* a standalone system.
3. Upgrade *Node2* using `upgrade-fortisoar-x.x.x.bin`.
   Once the upgrade of *Node2* is completed successfully, you can now upgrade *Node1*.
   Important: Upgrade of *Node1* will incur downtime.
4. Once both the nodes are upgraded then run the `resume-cluster` command from *Node2*.
5. Configure the Reverse Proxy again to handle requests from both *Node1* and *Node2*.

Upgrading an Active-Passive HA Cluster

For the purpose of the following procedure, *Node1* is considered as the Active Primary node, *Node2* is considered as the Passive Secondary node. Both the nodes are fronted by a Reverse Proxy or Load Balancer such as "HAProxy".

Approximately 30 minutes of downtime is required for the upgrade.

To upgrade your active-passive HA cluster to FortiSOAR 7.4.5, perform the following steps:

1. Reverse Proxy is configured to have *Node2* as backup system. Therefore, you require to comment out that part from Reverse Proxy configuration.
2. Use the `#csadm ha` command as a `root` user and run the `suspend-cluster` command on *Node2*.
   This makes *Node2* a standalone system.
3. Upgrade *Node2* using `upgrade-fortisoar-x.x.x.bin`.
   Once the upgrade of *Node2* is completed successfully, you can now upgrade *Node1*.
   Important: Upgrade of *Node1* will incur downtime.
4. Once both the nodes are upgraded then run the `resume-cluster` command from *Node2*.
5. Configure the Reverse Proxy again to set *Node2* as the backup server.

Upgrading a FortiSOAR Distributed Multi-Tenancy Configuration

This section describes the procedure to upgrade a FortiSOAR distributed multi-tenant configuration for managed security services providers (MSSPs) or Distributed SOC configuration.

You must first upgrade the master node of your FortiSOAR distributed multi-tenant configuration and only then upgrade the tenant nodes of your FortiSOAR multi-tenancy setup.

In case of a distributed deployment, both the master and the tenant nodes must be upgraded. A version mismatch will not work if either of them upgrades to 7.4.5.

In release 7.4.2, the default behavior of the On Create, On Update, and On Delete playbooks is changed to run only on the instance where the record is created. If you want to retain the previous behavior for these playbooks, see the Post-Upgrade Tasks chapter.

Upgrading a FortiSOAR master node

Before you upgrade your FortiSOAR master node, ensure the following:

- All playbooks have completed their execution on the master.
- The tenant node(s) are deactivated from the master node before upgrading the master node, and tenant nodes have disabled communication to the master node from the "`Master Configuration`" page.

If the master node of your multi-tenant configuration is part of an HA setup, i.e., MSSP +HA, then follow the steps mentioned in the Upgrading a FortiSOAR High Availability Cluster chapter.

If the master node of your multi-tenant configuration is not part of an HA setup, then follow the steps mentioned in the Upgrading a FortiSOAR Enterprise Instance chapter.

Upgrading a FortiSOAR Tenant node

Before you upgrade your FortiSOAR tenant node, ensure the following:

- Data replication from the tenant node to the master node is stopped. You can stop data replication by logging on to the tenant node and clicking **Settings** to open the `System` page, then in the `Multi Tenancy` section, click the **Master Configuration** menu item and then in the `Communication With Master Node` section, toggle the **Enabled** button to **NO**.
  Once you have completed the upgrade process, i.e., upgrading both your master and tenant nodes from a release prior to 7.4.2 to release 7.4.2 or later, you must restart the `cyops-integrations-agent` service on tenant nodes using the following command:
  `systemctl restart cyops-integrations-agent`
  You must restart the `cyops-integrations-agent` service at tenant nodes before you download the agent's or

tenant's logs, from the master node's console..
- All playbooks have completed their execution on the tenant.
- All schedule playbooks that fetch data from data sources to the tenant are stopped.
- Any application that pushes data from data sources to the tenant is stopped.

If the tenant node of your multi-tenant configuration is part of an HA setup, i.e., MSSP +HA, then follow the steps mentioned in the Upgrading a FortiSOAR High Availability Cluster section.

If the tenant node of your multi-tenant configuration is not part of an HA setup, then follow the steps mentioned in the Upgrading a FortiSOAR Enterprise Instance section.

After the tenant node has been successfully upgraded, you must toggle the **Allow Module Management** setting to **NO** and then back to **YES**. This is needed only if you were already using the 'Allow Module Management' feature and is required to synchronize the tenant module metadata with the master instance. You can ignore this step, if your 'Allow Module Management' setting was already disabled before the upgrade.

Upgrading a FortiSOAR Secure Message Exchange

A secure message exchange establishes a secure channel that is used to relay information to the agents or tenant nodes. To create a dedicated secure channel, you are required to add the reference of the installed and configured secure message exchange, when you add agent or tenant nodes to your environment. For information on agents see the *Segmented Network support in FortiSOAR* chapter in the "Administration Guide," and for more information on secure message exchange and tenants, see the "Multi-Tenancy support in FortiSOAR Guide".

1. Ensure that you stop data replication between the master and the tenant nodes. You can stop data replication by logging on to the tenant node and clicking **Settings** to open the `System` page, then in the `Multi Tenancy` section, click the **Master Configuration** menu item and then in the `Communication With Master Node` section, toggle the **Enabled** button to **NO**.
2. Upgrade the SSH to the secure message exchange VM that you want to upgrade.
3. Check that you are connected to a `tmux` session. A tmux session is needed for situations where network connectivity is less than favorable. You can check your tmux session using the following command:
   ```
   # tmux ls
   ```
   This command returns an output such as the following example:
   ```
   0: 1 windows (created Thu Nov 24 09:37:47 2022) [170x47]
   ```
   Log back into the SSH console and run the following command to reattach the `tmux` session:
   ```
   tmux attach-session -t 0
   ```
4. Run the following command to download the upgrade installer:
   ```
   # wget https://repo.fortisoar.fortinet.com/7.4.5/upgrade-fortisoar-7.4.5.bin
   ```
5. Run the upgrade installer using the following command:
   ```
   # sh upgrade-fortisoar-7.4.5.bin
   ```
   OR
   ```
   # chmod +x upgrade-fortisoar-7.4.5.bin
   # ./upgrade-fortisoar-7.4.5.bin
   ```
   Notes: The FortiSOAR upgrade installer checks for the following:
   - The space available in `/tmp` or `/var/temp` (if exist in `/etc/fstab`), which must be at least 2GB. If the space available in in `/tmp` or `/var/temp` is less than 2GB, then the upgrade installer exits after displaying an appropriate error message. If you want to skip this space validation check, you can use the `--skip-tmp-validation` option while running the upgrade script:

```
# ./upgrade-fortisoar-7.4.5.bin --skip-tmp-validation
```

- The disk space available in `/boot`, and if the `/boot` has insufficient space, then the upgrade installer exits after displaying an appropriate error message. Use standard methods to remove old kernels and free up space in `/boot`.

Once you complete cleaning up `/boot` and/or increasing disk space and space in `/tmp` (as per the messages provided by the upgrade installer) and you have sufficient space for upgrading FortiSOAR, you must re-run the upgrade installer to continue the process of upgrading FortiSOAR.

6. Once you have successfully upgraded the secure message exchange, start the data replication between the master and the tenant nodes again by toggling the **Data Replication** button to **ON**, and then verify the replication.

Upgrading a FortiSOAR Secure Message Exchange Cluster

RabbitMQ supports clustering, that in conjunction with Queue Mirroring can be used for an Active-Active configuration as explained in the Clustering Guide and in the Highly Available (Mirrored) Queues article, which includes steps on how to set up the clusters and monitor queues. The clustered instances should be fronted by a TCP Load Balancer such as HAProxy, and clients should connect to the cluster using the address of the proxy. For more information, see the *Multi-tenancy support in FortiSOAR* guide.

For the purpose of the following procedure, we are considering a two-node MQ mirrored queue clusters that are both added to the Reverse Proxy.

1. Configure the Reverse Proxy to pass requests only to *Node1*, which is the primary node of the MQ cluster. Therefore, now all requests will be handled by *Node1* and *Node2* will be available for maintenance.
2. Log on to the *Node2* terminal session as a `root` user, and upgrade *Node2* by following the steps mentioned in the Upgrading a FortiSOAR Secure Message Exchange section.
3. Configure the Reverse Proxy to route requests through *Node2*. Therefore, now all requests will be handled by *Node2* and *Node1* will be available for maintenance.
4. Login to *Node1*, and upgrade *Node1* as per the procedure mentioned in **step 2**.
5. Reconfigure the Reverse Proxy to load balance both *Node1* and *Node2*.

Troubleshooting upgrade issues for MSSP setups

Replication from tenant to master stops once you upgrade an MSSP with an HA setup

If you have upgraded an MSSP+HA setup, then post-upgrade the replication from tenant nodes to the master node stopped.

Resolution

To resolve this issue, once you have upgraded your MSSP setup and created the HA cluster, you must restart all services on the primary master node and the primary tenant node using the following command:

```
csadm services --restart
```

Upgrading FortiSOAR using the Offline Repository

1. Ensure that the offline repository host is accessible from the FortiSOAR appliance and ensure that your ssh session does not timeout, run the `tmux` command:
   ```
   [root@localhost ~]# tmux
   ```
2. If you are using your private repository to install or upgrade FortiSOAR, then use the following command to export the "custom_yum_url" variable before running the fresh install or upgrade script:
   ```
   export custom_yum_url=<"custom_yum_url_name">
   ```
3. Download the upgrade installer for FortiSOAR 7.4.5 using the following command:
   ```
   [root@localhost ~]# wget https://<offline repo>/7.4.5/upgrade-fortisoar-7.4.5.bin
   ```
4. To upgrade to FortiSOAR7.4.5, run the following command as a *root* user:
   ```
   [root@localhost ~]# sh upgrade-fortisoar-7.4.5.bin
   ```
   If you have not deployed an SSL certificate on your offline repo or you have a self-signed certificate deployed on your offline repo, then run the following command on plain Rocky Linux or RHEL system, to ignore the SSL check while upgrading FortiSOAR:
   ```
   [root@localhost ~]# sh upgrade-fortisoar-7.4.5.bin --ignore-ssl-check
   ```

Post-Upgrade Tasks

Change in the default behavior of the On Create, On Update, and On Delete playbooks for MSSP configurations

Prior to version 7.4.2, for modules that had multi-tenancy enabled and configured for data replication, the On Create, On Update, and On Delete playbooks executed on both the instances where the record is created as well as on the instance where the record is replicated. From release 7.4.2 onwards, the default behavior of the On Create, On Update, and On Delete playbooks is to run only on the instance where the record is created.

If you want to retain the previous behavior for these playbooks, i.e., run the On Create, On Update, and On Delete playbooks on both the source and the replicated instance of the record, then do the following:

1. Open the `parameters_prod.yaml` file:
   `vi /opt/cyops-api/config/parameters_prod.yaml`
2. Change the value of the `execute_workflow_on_replicate_node` parameter to `true`. By default, this parameter is set to `false`.
3. Run the following command:
   `systemctl restart php-fpm && sudo -u nginx php /opt/cyops-api/bin/console cache:clear && systemctl restart php-fpm`

These steps change the default behavior of playbooks to run on both the source and replicated instances of the record instead of only the source instance. However, you can update this behavior to run either on the instance where the record is created or where it is replicated by opening the playbook that contains the On Create, On Update, or On Delete step and selecting the appropriate option. *The behavior selected on the UI takes preference over the default behavior.* For information on updating the behavior from the UI, see the 'Distributed Tenancy Support' chapter in the *Multi-tenancy Support in FortiSOAR* guide.

Restart the cyops-integrations-agent service on the tenant nodes for multi-tenant configurations

Considering that data communication between the tenant node to the master node is stopped prior to an upgrade of a FortiSOAR distributed multi-tenancy configuration, post-upgrade of both your master and tenant nodes from a release prior to 7.4.2 to release 7.4.2 or later, you must restart the `cyops-integrations-agent` service on the tenant nodes using the following command:

`systemctl restart cyops-integrations-agent`

You must restart the `cyops-integrations-agent` service at tenant nodes before you download the agent's or tenant's logs, from the master node's console.

Update the config.ini file to prevent the Jinja Editor from traversing paths

FortiSOAR playbooks create or edit operations allow path traversal, giving authorized attackers access to sensitive system files. Perform the following actions after the upgrade to make sure that this does not happen:

1. SSH to your FortiSOAR VM and login as a *root* user.
2. Edit the `config.ini` file:
   `vi /opt/cyops-workflow/sealab/sealab/config.ini`
3. Add the following parameter in the `[application]` section of the `config.ini` file:
   `DISALLOWED_JINJA_FILTERS = ['readfile']`
4. Restart the 'uwsgi' service using the following command:
   `systemctl restart uwsgi`

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