



Upgrade Guide

Version 1.5 to Version 1.6

Document Number: XRUP1.07

DOCUMENT NUMBER: XRUP1.07

DOCUMENT RELEASE DATE: June 2023

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Chapter 1: XRay 1.6 Prerequisites

XRay version 1.6 requires the following versions to be installed:

- Java 11.0.19
- AutoPilot SU34 (For release notes, see the [AutoPilot release notes page](#) in the Resource Center.)
- Job Scheduler 0.1.16

This guide includes instructions for upgrading from XRay version 1.5.6. These instructions use the standard installation directory of `/opt/nastel`. Your installation location depends on the `APIN_HOME` environment variable and may differ from the location used in this guide.

Example: `APIN_HOME=/opt/nastel`

1.1 Installing Java 11.0.19

1. Stop the WEB, CEP, and Domain servers.
2. Go to `/opt/nastel/java`. (Current and jre symbolic links are in this folder.)
3. Download Java version 11.0.19.
4. Go to `/opt/nastel/java/current`.
5. Unlink current.
6. Unlink JRE.
7. Link the current version by the commands:

```
ln -s jdk-11.0.19 current
ln -s jdk-11.0.19 jre
```
8. Both Java and JRE are now linked.
9. Start the Domain, CEP, and WEB services.

1.2 Applying SU34 and Updating Job Scheduler

1. Stop the WEB, CEP, and Domain servers.
2. Place the SU34 package file (`AP60_SU34.pkg`) in the `/opt/nastel/AutoPilotM6/updates` folder.
3. Go to `/opt/nastel/AutoPilotM6/bin` and run the following command:

```
./pkgman ../updates/AP60_SU34.pkg
```
4. Start the Domain Server to allow libraries to be updated properly. Then stop it.
5. Place the `JOB_SCHEDULER-0.1.16.pkg` file in the `/opt/nastel/AutoPilotM6/updates` folder.
6. Go to `/opt/nastel/AutoPilotM6/bin` and run the following command:

```
./pkgman ../updates/JOB_SCHEDULER-0.1.16.pkg
```
7. As in the previous step, start the Domain Server again to allow libraries to be updated properly. Then stop it.

Chapter 2: XRay 1.6 Installation Instructions



NOTE

During the upgrade process below, you can keep services such as Storm, ZooKeeper, Kafka and Solr running.

This chapter contains instructions for upgrading Nastel XRay from version 1.5 to version 1.6.

1. Stop the WEB, CEP, and Domain services.
2. Place `jkool-dbapi-1.6.xx.tar.gz` under `/opt/nastel/misc/jkool-dbapi`.
3. Untar the file by using the command:

```
tar -zxvf jkool-dbapi-1.6.xx.tar.gz
```
4. Unlink the current version by using the command `unlink current`.
5. Link the current version using the following command:

```
ln -s jkool-dbapi-1.6.xx.tar.gz current
```
6. Place the `jkool-rest-service-1.6.X.tar.gz`, `xray-ui-1.6.X.tar.gz`, and `JKOOL_SERVICE-1.6.X.pkg` files under `/opt/nastel/AutoPilotM6/updates`.
7. Go to `/opt/nastel/AutoPilotM6/bin` and type the command:

```
./pkgman ../updates/JKOOL_SERVICE-1.6.X.pkg
```
8. Go to `/opt/nastel/sbin`. Start and stop the Domain server using the commands:

```
./start.sh domain
```

 and

```
./stop.sh domain
```

.
9. When the Domain server has stopped, go to `/opt/nastel/AutoPilotM6/updates`.
10. Untar both files by using the following commands:

```
tar -zxvf jkool-rest-service.tar.gz
```



```
tar -zxvf jkool-ui-service.tar.gz
```
11. Two files are extracted: `jkool-service.war` and `xray-ui.war`.
12. Move both files to the following location: `/opt/nastel/AutoPilotM6/apache-tomcat/webapps`
13. Start the Domain, CEP, and WEB services.
14. In `/opt/nastel/misc/jkool-dbapi/current/schemas`, use the command `./reload-cores.sh` to reload Solr cores.

Chapter 3: Upgrading XRay components

XRay version 1.6 requires the following component versions:

- OpenJDK 11.0.19
- ZooKeeper 3.6.2
- Solr 8.11.1
- Kafka 3.4.0
- ActiveMQ 5.17.4 (included)
- Storm 2.4.0

3.1 Upgrading ActiveMQ to v5.17.4



The following procedure assumes that the ActiveMQ distribution is installed in `$APIN_HOME/actmq`.

1. Stop all the services by using the command `./stop.sh` in `/opt/nastel/sbin`.
2. To update the ActiveMQ component, download the latest ActiveMQ 5.xx version from <https://activemq.apache.org/download>.
3. Update `${ACTIVEMQ_HOME}/conf/activemq.xml` as follows:
 - a. Add the following to the `<broker>` element:
`schedulePeriodForDestinationPurge="300000"`
 - b. (Optional.) Change `brokerName`.
 - c. Add the following:
`<policyEntry queue="jkool.client.>" gcInactiveDestinations="true"
inactiveTimeoutBeforeGC="120000"
sendAdvisoryIfNoConsumers="true"/>`
4. The default address that the console listens on has changed. To connect to it, it must be run on a local machine. To be able to connect-to-console remotely, restore the "host" value for bean "jettyPort" back to "0.0.0.0" by updating line 123 of `${ACTIVEMQ_HOME}/conf/jetty.xml` (shown in **bold**):

```
<bean id="jettyPort" class="org.apache.activemq.web.WebConsolePort"
init-method="start">
    <!-- the default port number for the web console -->
    <property name="host" value="0.0.0.0"/>
    <property name="port" value="8161"/>
</bean>
```

- Update the following WebApplicationContext definition for "/admin" in jetty.xml to add the "aliasChecks" property so that it looks like the example below:

```
<bean class="org.eclipse.jetty.webapp.WebApplicationContext">
  <property name="contextPath" value="/admin" />
  <property name="resourceBase"
value="${activemq.home}/webapps/admin" />
  <property name="logUrlOnStart" value="true" />
  <property name="aliasChecks">
    <list>
      <bean
class="org.eclipse.jetty.server.handler.ContextHandler$ApproveAliases"/>
    </list>
  </property>
</bean>
```

- Unlink the current version of ActiveMQ.
- Link the current version in /opt/nastel/actmq using the following command:
ln -s apache-activemq-5.17.4 current

3.2 Upgrading Kafka to v3.4.0

- Stop the Kafka service by using the command `./stop.sh kafkasrv` in `/opt/nastel/sbin`.
- To update the Kafka component, download the latest version of Kafka 3.x from <https://kafka.apache.org/downloads> and place the file in `/opt/nastel/kafka`.
- Unlink the current version of Kafka by using the command `unlink current`.
- Using the command `ln -s kafka 3.x current`, link the current Kafka version.
- To configure Kafka 3.4.0, edit `server.properties` in `config` subfolder within the Kafka distribution:
 - Change the following properties:
 - `num.network.threads` from 3 to 8
 - `num.io.threads` from 8 to 16
 - `log.dirs` (if you do not want to use the default folder)
 - `num.partitions` from 1 to 16
 - `log.retention.hours` from 168 to 1
 - `zookeeper.connect` from default value to `localhost:2181/xraykafka`
 - Add the following properties:
 - `message.max.bytes=10485760`
 - `replica.fetch.max.bytes=10485760`
- After the above steps have been completed, restart the Kafka service by using the command `./start.sh kafkasrv` to apply the changes.
- Recreate Kafka topics using the command `./config.sh kaf` in `/opt/nastel/sbin`.

3.3 Upgrading Log4j

As we announced in December of 2021, your usage of meshIQ products is not impacted by the Log4j V2 security vulnerability identified as CVE-2021-44228. We do not log information in the way that would be required to leverage the vulnerability. See [meshIQ response to Log4j vulnerabilities](#) to read our announcement pertaining to this vulnerability.

However, customers may wish to manually update the Log4j version. To do so, follow the instructions below.

1. Stop web, CEP, and Domain servers, then stop Solr by using the following command:

```
./stop.sh solr in /opt/nastel/sbin.
```

2. Replace the jar files with the latest Log4j core version in the following locations:

```
/opt/nastel/solr/solr-8.11.1/server/lib/ext/log4j-core-xxx.jar
/opt/nastel/solr/solr-8.11.1/server/lib/ext/log4j-web-xxx.jar
/opt/nastel/solr/solr-8.11.1/server/lib/ext/log4j-slf4j-xxx.jar
/opt/nastel/solr/solr-8.11.1/server/lib/ext/log4j-layout-template-json-xxx.jar
/opt/nastel/solr/solr-8.11.1/server/lib/ext/log4j-api-xxx.jar
/opt/nastel/solr/solr-8.11.1/server/lib/ext/log4j-1.2-api-xxx.jar
/opt/nastel/solr/solr-8.11.1/contrib/prometheus-exporter/lib/log4j-core-xxx.jar
/opt/nastel/solr/solr-8.11.1/contrib/prometheus-exporter/lib/log4j-slf4j-xxx.jar
/opt/nastel/solr/solr-8.11.1/contrib/prometheus-exporter/lib/log4j-api-xxx.jar
```

3. Also, you can replace the `commons-text-xxx.jar` file in the following location:

```
/opt/nastel/solr/solr-8.11.1/server/solr-webapp/webapp/WEB-INF/lib/commons-text-xxx.jar
```

4. Restart the Domain, CEP, and web servers, and Solr.