



NetBrain[®] Integrated Edition 8.0

System Upgrade Guide

Distributed Deployment

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1. Upgrading System

The upgrade process ensures data integrity, which means that the data in the current system will be still available after upgrading. If you encounter any issues during the upgrade process, contact [NetBrain Support Team](#) for help.

Note: Before upgrading your system, check its current version and the network connectivity requirements.

Upgrade from IEv8.0x

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Note: If you have installed Smart CLI and Ansible Agent before, you need to run the latest installation packages to upgrade the two components. See [Installing Smart CLI](#) and [Installing Ansible Agent](#) for more details.

To obtain the installation package of Ansible Agent:

- **Option 1:** If the Linux server has no access to the Internet, obtain the **netbrain-ansibleagent-linux-x86_64-rhel7-8.0.3.tar.gz** file from NetBrain and then upload it to the **/opt/netbraintemp8.0.3** directory by using a file transfer tool.
- **Option 2:** If the Linux server has access to the Internet, run the `wget`
`http://download.netbraintech.com/netbrain-ansibleagent-linux-x86_64-rhel7-8.0.3.tar.gz`

command under the **/opt/netbraintemp8.0.3** directory to directly download the **netbrain-ansibleagent-linux-x86_64-rhel7-8.0.3.tar.gz** file from NetBrain official download site.

Network Connectivity Requirements

Source	Destination	Protocol and Port Number ^{*)}
Thin Client	Web Server Web API Server	HTTP/HTTPS (80/443)
Service Monitor Agent	Web API Server	HTTP/HTTPS (80/443)
Web API Server	Knowledge Cloud Domain (https://knowledgecloud.netbraintech.com/)	HTTPS (443)
Web API Server Worker Server Task Engine Front Server Controller	MongoDB	TCP 27017
Web API Server Worker Server	Elasticsearch	TCP 9200
Web API Server	License Agent	TCP 27654
Web API Server Worker Server Front Server Controller	Redis	TCP 6379 (non-SSL)/TCP 7000 (SSL)
Web API Server Worker Server Task Engine Front Server Controller	RabbitMQ	TCP 5672
Worker Server Task Engine Front Server	Front Server Controller	TCP 9095
Front Server	Live Network	ICMP/SNMP/Telnet/SSH/REST API
Front Server	Ansible Agent (add-on)	TCP 50051

Note: ^{*)} The port numbers listed in this column are defaults only. The actual port numbers used during installation might be different.

1.1. Terminating System Tasks

1. Log in to the System Management page.
2. In the System Management page, select **Operations > Task Manager** from the quick access toolbar.
3. Select all running tasks and click **End Process**.

1.2. Stopping Server Services

To avoid any further dataset changes or data corruption while reinstalling MongoDB/Elasticsearch binary files or restoring MongoDB/Elasticsearch data, stop the relevant services.

Log in to the Windows servers where NetBrain applications are installed and stop the following services in the Task Manager.

Tip: If you have deployed a Worker Server cluster or Web API Server cluster, stop the services on each node.

NetBrain Component	Service Name
Web API Server	W3SVC
Web API Server	WAS
Worker Server	NetBrainWorkerServer
Front Server	NetBrainFrontServer
Task Engine	NetBrainTaskEngine
Front Server Controller	NetBrainFrontServerController
Service Monitor Agent	NetBrain Agent
Knowledge Cloud Proxy	NetBrainKCProxy

1.3. Backing Up MongoDB Data

Before upgrading the system, it is highly recommended to back up all MongoDB data in case of any data loss or corruption during the upgrade process. The backup data will be used to restore data after MongoDB is reinstalled. See [Restoring MongoDB Data](#) for more details.

In case that you don't want to stop the service of MongoDB or the volume of the MongoDB data is small, you can refer to [Dumping MongoDB Data](#) for another way to back up the data and refer to [Restoring Dumped MongoDB Data](#) to restore the dumped data.

The following steps introduces how to use the `cp` command to copy underlying MongoDB data files directly for backup.

Notes:

- Make sure you have stopped [all relevant services](#) before backing up data.
- The backup data can only be used to restore the database on the same server.

1. Log in to the Linux server where the MongoDB node is installed as the **root** user.

2. Stop the service of MongoDB.

- 1) Run the `systemctl stop mongod` command to stop the MongoDB service.
- 2) Run the `ps -ef|grep mongod` command to verify whether the **mongod** process is stopped.

```
[root@localhost ~]# ps -ef| grep mongod
root      15136 14237   0 10:42 pts/2    00:00:00 grep --color=auto mongod
```

Note: If the **mongod** process is stopped, the result should only contain one entry as shown above.

3. Run the `mkdir /etc/mongodb_databk` command to create a directory under the **/etc** directory to save the backup data.

```
[root@localhost ~]# mkdir /etc/mongodb_databk
```

Note: Ensure the backup directory (**/etc/mongodb_databk** in this example) has sufficient space to store the backup data.

4. Run the `cd /usr/lib/mongodb` command to navigate to the **/usr/lib/mongodb** directory.

Note: If you modified the following default directory to store all MongoDB data files during the MongoDB installation, you must use the new directory (available in **mongod.conf**) accordingly.

5. Run the `du -hs data` command under the **/usr/lib/mongodb** directory to check the total size of MongoDB backup data.

6. Run the `cp -a data /etc/mongodb_databk` command under the **/usr/lib/mongodb** directory to copy all MongoDB data files from the **data** directory to the **/etc/mongodb_databk** directory.

```
[root@localhost mongodb]# cp -a data /etc/mongodb_databk
```

7. Run the `cd /etc/mongodb_databk` command to navigate to the **/etc/mongodb_databk** directory.

- Run the `ls -al` command under the `/etc/mongodb_databk` directory to browse the backup data.

```
[root@localhost mongodb_databk]# ls -al
total 136
drwxr-xr-x.  3 root root          18 Jun 6 22:49 .
drwxr-xr-x.  6 root root          79 Jun 6 22:48 ..
drwxr-xr-x.  4 netbrain netbrain 106496 Jun 6 22:49 data
```

- Run the `systemctl start mongod` command to start the MongoDB service.

1.4. Upgrading MongoDB

- Log in to the Linux server as the **root** user.

Note: It is highly recommended to install **numactl** on the Linux Server to optimize MongoDB performance. Run the `rpm -qa | grep numactl` command to check whether **numactl** has already been installed. If it has not been installed yet and the Linux server has access to the Internet, run the `yum install numactl` command to install it online.

- Run the `mkdir` command to create a directory under the `/opt` directory to place the installation package. For example, **netbraintemp8.0.3**.

Note: Don't place the installation package under any personal directories, such as `/root`.

- Run the `cd /opt/netbraintemp8.0.3` command to navigate to the `/opt/netbraintemp8.0.3` directory.

- Download the installation package.

- Option 1:** If the Linux server has no access to the Internet, obtain the **mongodb-linux-x86_64-rhel7-4.0.6-8.0.3.tar.gz** file from NetBrain and upload it to the `/opt/netbraintemp8.0.3` directory by using a file transfer tool.
- Option 2:** If the Linux server has access to the Internet, run the `wget http://download.netbraintech.com/mongodb-linux-x86_64-rhel7-4.0.6-8.0.3.tar.gz` command under the `/opt/netbraintemp8.0.3` directory to directly download the **mongodb-linux-x86_64-rhel7-4.0.6-8.0.3.tar.gz** file from NetBrain official download site.

Note: The download link is case-sensitive.

Tip: Run the `yum -y install wget` command to install the **wget** command if it has not been installed on the server.

- Run the `tar -zxvf mongodb-linux-x86_64-rhel7-4.0.6-8.0.3.tar.gz` command under the `/opt/netbraintemp8.0.3` directory to extract installation files.

```
[root@centos netbraintemp8.0.3]# tar -zxvf mongodb-linux-x86_64-rhel7-4.0.6-8.0.3.tar.gz
MongoDB/
```



```
MongoDB/config/
...
MongoDB/upgrade/upgrade_single_node/upgrade.sh
```

6. Run the `cd MongoDB/upgrade/upgrade_single_node` command to navigate to the **MongoDB/upgrade/upgrade_single_node** directory.
7. Run the `systemctl start mongod` command to restart the MongoDB service.
8. Run the `./upgrade.sh` command under the **upgrade_single_node** directory.

Note: Ensure MongoDB service is up and running before executing the `./upgrade.sh` command.

Note: If the default username and password were changed during the installation of MongoDB, you must enter these customized values during the upgrade.

9. After the MongoDB Server is successfully upgraded, run the `systemctl status mongod` command to check its service status.

```
[root@localhost ~]# systemctl status mongod
mongod.service - MongoDB service
Loaded: loaded (/usr/lib/systemd/system/mongod.service; enabled; vendor preset: disabled)
Active: active (running) since Thu 2020-07-16 10:15:52 EDT; 56s ago
Process: 18325 ExecStop=/usr/bin/pkill mongod (code=exited, status=0/SUCCESS)
Process: 18373 ExecStart=/bin/mongod -f /etc/mongodb/mongod.conf (code=exited,
status=0/SUCCESS)
Main PID: 18382 (mongod)
Memory: 213.6M (limit: 6.8G)
...
```

Tip: It is highly recommended to run the `rm -rf /opt/netbraintemp8.0.3/MongoDB/config/setup.conf` command to delete the **setup.conf** file from the server after MongoDB is successfully upgraded because the file may cause security vulnerability.

1.5. Upgrading Elasticsearch

1. Log in to the Linux server as the **root** user.
2. Run the `mkdir` command to create a directory under the **/opt** directory to place the installation package. For example, **netbraintemp8.0.3**.
3. Run the `cd /opt/netbraintemp8.0.3` command to navigate to the **/opt/netbraintemp8.0.3** directory.

4. Download the installation package.

- **Option 1:** If the Linux server has no access to the Internet, obtain the **elasticsearch-linux-x86_64-rhel7-6.7.2-8.0.3.tar.gz** file from NetBrain and then upload it to the **/opt/netbraintemp8.0.3** directory by using a file transfer tool.
- **Option 2:** If the Linux server has access to the Internet, run the `wget http://download.netbraintech.com/elasticsearch-linux-x86_64-rhel7-6.7.2-8.0.3.tar.gz` command under the **/opt/netbraintemp8.0.3** directory to directly download the **elasticsearch-linux-x86_64-rhel7-6.7.2-8.0.3.tar.gz** file from NetBrain official download site.

Note: The download link is case-sensitive.

Tip: Run the `yum -y install wget` command to install the **wget** command if it has not been installed on the server.

5. Run the `tar -zxvf elasticsearch-linux-x86_64-rhel7-6.7.2-8.0.3.tar.gz` command under the **/opt/netbraintemp8.0.3** directory to extract installation files.

```
[root@centos netbraintemp8.0.3]# tar -zxvf elasticsearch-linux-x86_64-rhel7-6.7.2-8.0.3.tar.gz
Elasticsearch/
Elasticsearch/config/
...
Elasticsearch/upgrade.sh
```

6. Run the `cd Elasticsearch` command to navigate to the **Elasticsearch** directory.

7. Run the `./upgrade.sh` command under the **Elasticsearch** directory.

Note: If the default username and password were changed during the installation of Elasticsearch, you must enter these customized values during the upgrade.

8. After the Elasticsearch is successfully upgraded, run the `systemctl status elasticsearch` command to check its service status.

```
[root@localhost ~]# systemctl status elasticsearch
elasticsearch.service - Elasticsearch
Loaded: loaded (/usr/lib/systemd/system/elasticsearch.service; enabled; vendor preset: disabled)
Active: active (running) since Thu 2020-07-16 10:23:46 EDT; 230ms ago
Docs: http://www.elastic.co
Main PID: 22168 (elasticsearch)
Memory: 4.6G
...
```

9. Run the `curl -s -XGET --user <username:password> http://<IP address>:<port>` command to check the current version of Elasticsearch.

Note: If you enabled SSL, replace `http` with `https`.

Example:

```
[root@localhost Elasticsearch]# curl -s -XGET --user admin:admin http://10.10.3.142:9200
{
  "name" : "node1",
  "cluster_name" : "elastic-search-cluster",
  "cluster_uuid" : "OctFIL44T--5mArFA93r-A",
  "version" : {
    "number" : "6.7.2",
    "build_flavor" : "oss",
    "build_type" : "rpm",
    "build_hash" : "8f0685b",
    "build_date" : "2020-07-16T18:41:22.859Z",
    "build_snapshot" : false,
    "lucene_version" : "7.7.0",
    "minimum_wire_compatibility_version" : "5.6.0",
    "minimum_index_compatibility_version" : "5.0.0"
  },
  "tagline" : "You Know, for Search"
}
```

Tip: It is highly recommended to run the `rm -rf /opt/netbraintemp8.0.3/Elasticsearch/config/setup.conf` command to delete the **setup.conf** file from the server after Elasticsearch is successfully upgraded because the file may cause security vulnerability.

1.6. Upgrading License Agent

1. Log in to the Linux server as the **root** user.
2. Run the `mkdir` command to create a directory under the **/opt** directory to place the installation package. For example, **netbraintemp8.0.3**.
3. Run the `cd /opt/netbraintemp8.0.3` command to navigate to the **/opt/netbraintemp8.0.3** directory.
4. Download the installation package.
 - **Option 1:** If the Linux server has no access to the Internet, obtain the **netbrain-licenseagent-linux-x86_64-rhel7-8.0.3.tar.gz** file from NetBrain and then upload it to the **/opt/netbraintemp8.0.3** directory by using a file transfer tool.
 - **Option 2:** If the Linux server has access to the Internet, run the `wget http://download.netbraintech.com/netbrain-licenseagent-linux-x86_64-rhel7-8.0.3.tar.gz` command under the **/opt/netbraintemp8.0.3** directory to directly download the file from NetBrain official download site.

Note: The download link is case-sensitive.

Tip: Run the `yum -y install wget` command to install the **wget** command if it has not been installed on the server.

5. Run the `tar -zxvf netbrain-licenseagent-linux-x86_64-rhel7-8.0.3.tar.gz` command under the **/opt/netbraintemp8.0.3** directory to extract installation files.

```
[root@localhost netbraintemp8.0.3]# tar -zxvf netbrain-licenseagent-linux-x86_64-rhel7-8.0.3.tar.gz
License/
License/config/
License/config/install_licenseagent.conf
License/config/setup.conf
...
License/upgrade.sh
```

6. Run the `cd License` command to navigate to the **License** directory.

7. Run the `./upgrade.sh` command under the **License** directory.

- 1) Read the license agreement, and then type **YES** and press the **Enter** key.
- 2) Type **I ACCEPT** and press the **Enter** key to accept the license agreement. The script starts to check whether the system configuration of the Linux server meets the requirement, and all required dependent packages are installed for License Agent.

```
[root@localhost License]# ./upgrade.sh

Please read the End User License Agreement ("EULA") for the license type (perpetual or
subscription)
purchased in the order form at https://www.netbraintech.com/legal-tc/ carefully. I have read
the
subscription EULA, if I have purchased a subscription license, or the perpetual EULA, if I
have
purchased a perpetual license, at the link provided above. Please type "YES" if you have read
the
applicable EULA and understand its and understand its contents, or "NO" if you have not read
the
applicable EULA. [YES/NO]: YES

Do you accept the terms in the subscription EULA, if you have purchased a subscription
license, or
the perpetual EULA, if you have purchased a perpetual license? If you accept, and to continue
with
the installation, please type "I Accept" to continue. If you do not accept, and to quit the
installation script, please type "CANCEL" to stop. [I ACCEPT/CANCEL]: I ACCEPT

...
INFO: Component Name: License Agent
INFO: RPM name: netbrainlicense
INFO: RPM package list:
INFO: Starting to check system
...
INFO: Successfully installed License Agent. Service is running.
INFO: Backing up uninstall.sh SUCCEEDED.
INFO: Upgrading License Agent SUCCEEDED.
```

- After the License Agent is successfully upgraded, run the `systemctl status netbrainlicense` command to check its service status.

```
[root@localhost ~]# systemctl status netbrainlicense
netbrainlicense.service - NetBrain license agent service
Loaded: loaded (/usr/lib/systemd/system/netbrainlicense.service; enabled; vendor preset: disabled)
Active: active (running) since Thu 2020-07-16 10:32:04 EDT; 218ms ago
Main PID: 27328 (licensed)
CGroup: /system.slice/netbrainlicense.service
        └─ 27328 /usr/bin/netbrainlicense/licensed -f /etc/netbrainlicense/licensed.conf
```

1.7. Upgrading Redis

- Log in to the Linux server as the **root** user.
- Run the `mkdir` command to create a directory under the **/opt** directory to place the installation package. For example, **netbraintemp8.0.3**.
- Run the `cd /opt/netbraintemp8.0.3` command to navigate to the **/opt/netbraintemp8.0.3** directory.
- Download the installation package.
 - Option 1:** If the Linux server has no access to the Internet, obtain the **redis-linux-x86_64-rhel7-6.0.4-8.0.3.tar.gz** file from NetBrain and then upload it to the **/opt/netbraintemp8.0.3** directory by using a file transfer tool.
 - Option 2:** If the Linux server has access to the Internet, run the `wget http://download.netbraintech.com/redis-linux-x86_64-rhel7-6.0.4-8.0.3.tar.gz` command under the **/opt/netbraintemp8.0.3** directory to directly download the **redis-linux-x86_64-rhel7-6.0.4-8.0.3.tar.gz** file from NetBrain official download site.

Note: The download link is case-sensitive.

Tip: Run the `yum -y install wget` command to install the **wget** command if it has not been installed on the server.

- Run the `tar -zxvf redis-linux-x86_64-rhel7-6.0.4-8.0.3.tar.gz` command under the **/opt/netbraintemp8.0.3** directory to extract installation files.

```
[root@localhost netbraintemp8.0.3]# tar -zxvf redis-linux-x86_64-rhel7-6.0.4-8.0.3.tar.gz
redis/
redis/config/
...
redis/config/setup.conf
...
```

```
redis/upgrade.sh
...
```

6. Run the `cd redis` command to navigate to the **redis** directory.
7. Run the `./upgrade.sh` script under the **redis** directory to upgrade Redis.

```
[root@localhost redis]# ./upgrade.sh
INFO: Creating upgrading log...
INFO: Component Name: Redis
INFO: Starting to check system
INFO: Collecting system information SUCCEEDED.
INFO: Starting to check Linux OS info
INFO: Starting to check if rpm exists
INFO: Old version of Redis was installed. Upgrade is required.
INFO: Successfully validated for upgrade status. Proceeding with upgrade.
INFO: System checking SUCCEEDED
INFO: redis rpm has been upgraded successfully.
    redis.service - Redis
    Loaded: loaded (/usr/lib/systemd/system/redis.service; enabled; vendor preset: disabled)
    Active: active (running) since Thu 2020-07-16 10:39:02 EDT; 192ms ago
Main PID: 30773 (redis-server)
Memory: 1.8M
CGroup: /system.slice/redis.service
        └─30773 /sbin/redis-server *:6379
...
INFO: Upgrading Redis SUCCEEDED
```

8. Run the `systemctl status redis` command to verify whether its service starts successfully.

```
[root@localhost ~]# systemctl status redis
redis.service - Redis
    Loaded: loaded (/usr/lib/systemd/system/redis.service; enabled; vendor preset: disabled)
    Active: active (running) since Thu 2020-07-16 10:39:02 EDT; 15min ago
Main PID: 52318 (redis-server)
Memory: 7.7M
...
```

Note: When your disk space is insufficient for large amounts of logs, you can modify the log settings in the **redis.conf** file under the **/etc/logrotate** directory.

Tip: It is highly recommended to run the `rm -rf /opt/netbraintemp8.0.3/redis/config/setup.conf` command to delete the **setup.conf** file from the server after Redis is successfully installed because the file may cause security vulnerability.

1.8. Upgrading RabbitMQ

Note: RabbitMQ has dependencies on the third-party package **socat** and **logrotate**. Before you install the RabbitMQ, run the `rpm -qa|grep socat` and `rpm -qa|grep logrotate` commands to check whether they have been installed on the server. If they have not been installed yet, you can choose either option below to install the dependencies.

- **Online Install:** run the `yum -y install socat` and `yum -y install logrotate` commands to install them online.
- **Offline Install:** refer to [Offline Installing Third-party Dependencies](#) for more details.

1. Log in to the Linux server as the **root** user.
2. Run the `mkdir` command to create a directory under the **/opt** directory to place the installation package. For example, **netbraintemp8.0.3**.
3. Run the `cd /opt/netbraintemp8.0.3` command to navigate to the **/opt/netbraintemp8.0.3** directory.
4. Download the installation package.
 - **Option 1:** If the Linux server has no access to the Internet, obtain the **rabbitmq-linux-x86_64-rhel7-3.8.1-8.0.3.tar.gz** file from NetBrain and then upload it to the **/opt/netbraintemp8.0.3** directory by using a file transfer tool.
 - **Option 2:** If the Linux server has access to the Internet, run the `wget http://download.netbraintech.com/rabbitmq-linux-x86_64-rhel7-3.8.1-8.0.3.tar.gz` command under the **/opt/netbraintemp8.0.3** directory to directly download the **rabbitmq-linux-x86_64-rhel7-3.8.1-8.0.3.tar.gz** file from NetBrain official download site.

Note: The download link is case-sensitive.

Tip: Run the `yum -y install wget` command to install the **wget** command if it has not been installed on the server.

5. Run the `tar -zxvf rabbitmq-linux-x86_64-rhel7-3.8.1-8.0.3.tar.gz` command under the **/opt/netbraintemp8.0.3** directory to extract installation files.

```
[root@localhost netbraintemp8.0.3]# tar -zxvf rabbitmq-linux-x86_64-rhel7-3.8.1-8.0.3.tar.gz
rabbitmq/
rabbitmq/config/
rabbitmq/config/setup.conf
...
rabbitmq/upgrade.sh
..
```

6. Run the `cd rabbitmq` command to navigate to the **rabbitmq** directory.
7. Run the `./upgrade.sh` script under the **rabbitmq** directory to upgrade RabbitMQ.

```
[root@localhost rabbitmq]# ./upgrade.sh
INFO: Creating upgrading log...
INFO: 2020-07-16 10-56-22.399: Component Name: RabbitMQ
INFO: 2020-07-16 10-56-22.410: RPM name: rabbitmq-server
INFO: 2020-07-16 10-56-22.421: Starting to check system
INFO: 2020-07-16 10-56-23.801: Collecting system information SUCCEEDED.
INFO: 2020-07-16 10-56-23.806: Starting to check Linux OS info
INFO: 2020-07-16 10-56-23.822: Starting to check if rpm exists
INFO: 2020-07-16 10-56-24.586: Old version of RabbitMQ was installed. Upgrade is required.
INFO: 2020-07-16 10-56-24.598: Successfully validated for upgrade status. Proceeding with upgrade.
INFO: 2020-07-16 10-56-24.611: System checking SUCCEEDED
...
INFO: 2020-07-16 10-56-43.062: Upgrading RabbitMQ SUCCEEDED.
```

8. Run the `systemctl status rabbitmq-server` command to verify whether its service starts successfully.

```
[root@localhost ~]# systemctl status rabbitmq-server
rabbitmq-server.service - RabbitMQ broker
   Loaded: loaded (/usr/lib/systemd/system/rabbitmq-server.service; enabled; vendor preset: disabled)
   Active: active (running) since MON Thu 2020-07-16 10:56:42 EDT; 22ms ago
     Process: 6457 ExecStop=/usr/sbin/rabbitmqctl shutdown (code=exited, status=0/SUCCESS)
    Main PID: 4509 (beam.smp)
      Status: "Initialized"
     Memory: 96.5M
     ...
```

Tip: It is highly recommended to run the `rm -rf /opt/netbraintemp8.0.3/rabbitmq/config/setup.conf` command to delete the `setup.conf` file from the server after RabbitMQ is successfully installed because the file may cause security vulnerability.

1.9. Upgrading Web/Web API Server

Note: Before the upgrading, clean the `C:\Windows\Temp` folder to make sure the upgrade process goes smoothly.

Complete the following steps to upgrade Web API Server and Web Server on the same machine with administrative privileges.

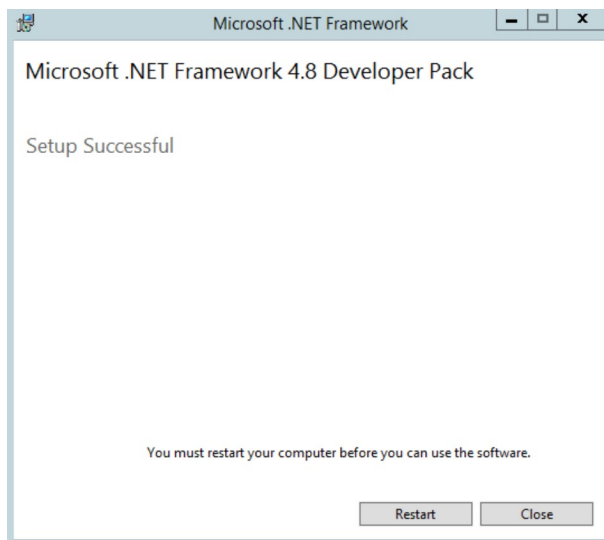
1. Download the **netbrain-ie-windows-x86_64-8.0.3.zip** file from http://download.netbraintech.com/netbrain-ie-windows-x86_64-8.0.3.zip and save it in your local folder.
2. Extract installation files from the **netbrain-ie-windows-x86_64-8.0.3.zip** file.

3. Right-click the **netbrain-ie-windows-x86_64-8.0.3.exe** file, and then select **Run as administrator** to start the Installation Wizard.
4. Follow the Installation Wizard to complete the upgrade step by step:
 - 1) If **.NET Framework 4.8** has not been pre-installed on this machine, the Installation Wizard will guide you through the installation of **.NET Framework 4.8** first.

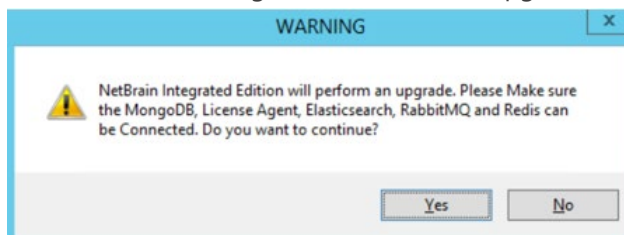
Note: Make sure the Windows update is of the latest. For Windows Server 2012, the update **KB2919442** and **KB2919355** must be installed before the .NET Framework 4.8 installation can start.

Note: Some running applications must be closed during the installation of .NET Framework 4.8, such as Server Manager.

Note: After .NET Framework 4.8 is successfully installed, you must click **Restart** to restart the machine immediately. Otherwise, the upgrade will fail due to the failure of upgrading the new .Net Framework. After the machine reboots, ensure the FIPS is disabled after restarting the machine. To disable the FIPS setting, modify the **Enabled** value to **0** under the **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Lsa\FipsAlgorithmPolicy** directory of Windows registry.

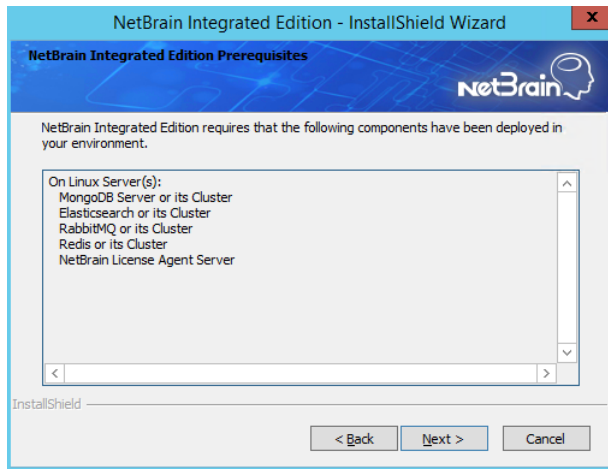


- 2) Stop the services of Web/Web API server manually before continuing the upgrade.
- 3) Click **Yes** in the dialog box to initiate the upgrade.

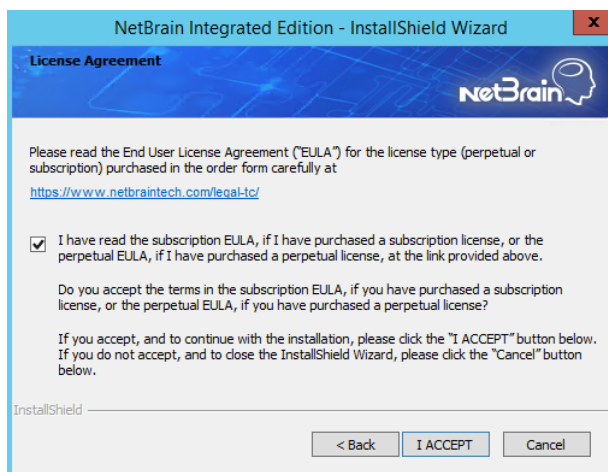


- 4) On the Welcome page, click **Next**.

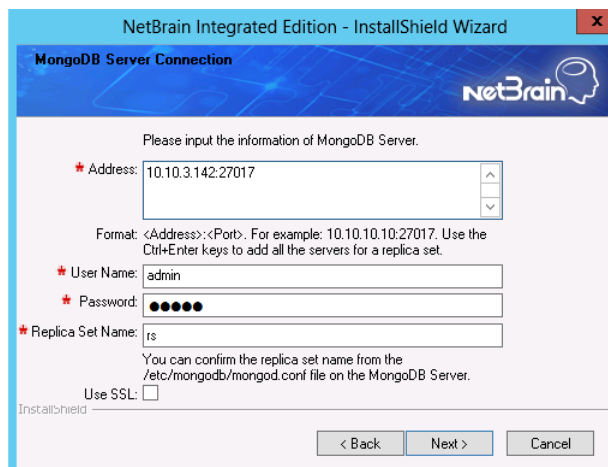
- 5) On the NetBrain Integrated Edition Prerequisites page, read the components that must be set up in your environment beforehand and click **Next**.



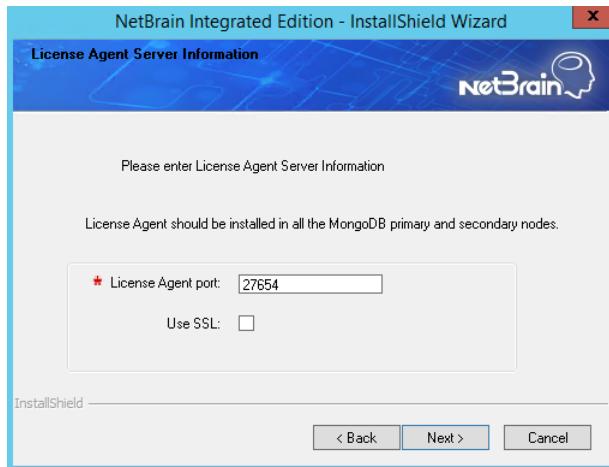
- 6) On the System Configuration page, review the system configuration summary and click **Next**.
- 7) On the License Agreement page, read the license agreements, select the **I have read the subscription EULA** check box and then click **I ACCEPT**.



- 8) On the MongoDB Server Connection page, enter the password that you created when installing MongoDB and then click **Next**.

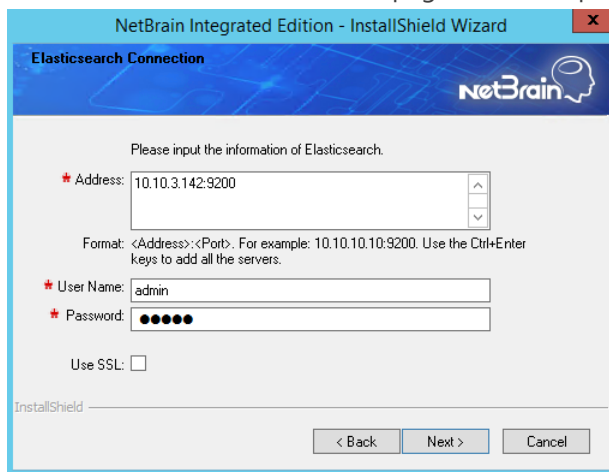


- 9) On the License Agent Server Information page, verify the information to connect to the License Agent, and then click **Next**.



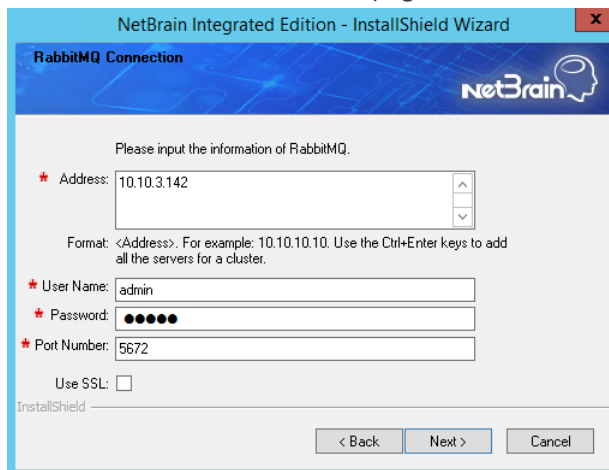
The screenshot shows the 'License Agent Server Information' page of the NetBrain Integrated Edition - InstallShield Wizard. The page has a blue header with the NetBrain logo. Below the header, it says 'Please enter License Agent Server Information' and 'License Agent should be installed in all the MongoDB primary and secondary nodes.' There is a text box for 'License Agent port:' with the value '27654' entered. Below it is a checkbox for 'Use SSL:' which is unchecked. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

- 10) On the Elasticsearch Connection page, enter the password of the Elasticsearch, and then click **Next**.



The screenshot shows the 'Elasticsearch Connection' page of the NetBrain Integrated Edition - InstallShield Wizard. The page has a blue header with the NetBrain logo. Below the header, it says 'Please input the information of Elasticsearch.' There is a text box for 'Address:' with the value '10.10.3.142:9200' entered. Below it, there is a format instruction: 'Format: <Address>:<Port>. For example: 10.10.10.10:9200. Use the Ctrl+Enter keys to add all the servers.' There is a text box for 'User Name:' with the value 'admin' entered. Below it is a text box for 'Password:' with several dots indicating a masked password. Below the password box is a checkbox for 'Use SSL:' which is unchecked. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

- 11) On the RabbitMQ Connection page, enter the admin password of the RabbitMQ, and then click **Next**.



The screenshot shows the 'RabbitMQ Connection' page of the NetBrain Integrated Edition - InstallShield Wizard. The page has a blue header with the NetBrain logo. Below the header, it says 'Please input the information of RabbitMQ.' There is a text box for 'Address:' with the value '10.10.3.142' entered. Below it, there is a format instruction: 'Format: <Address>. For example: 10.10.10.10. Use the Ctrl+Enter keys to add all the servers for a cluster.' There is a text box for 'User Name:' with the value 'admin' entered. Below it is a text box for 'Password:' with several dots indicating a masked password. Below the password box is a text box for 'Port Number:' with the value '5672' entered. Below the port number box is a checkbox for 'Use SSL:' which is unchecked. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

- 12) On the Redis Connection page, enter the admin password of the Redis, and then click **Next**.

The screenshot shows the 'Redis Connection' page of the NetBrain Integrated Edition - InstallShield Wizard. The page has a blue header with the NetBrain logo. Below the header, it says 'Please input the information for Redis.' There are five input fields: 'Master Address' (10.10.3.142), 'Password' (masked with dots), 'Use SSL' (checkbox), 'Master Port' (6379), and 'Stunnel Port' (7000). There is also a 'Use Sentinel' checkbox. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

- 13) (Required only if the **Use SSL** check box is selected when configuring the connections to MongoDB, License Agent, Elasticsearch, RabbitMQ, or Redis.) On the Certificate Configuration page, keep using the existing CA file, and then click **Next**.

The screenshot shows the 'Certificate Configuration' page of the NetBrain Integrated Edition - InstallShield Wizard. The page has a blue header with the NetBrain logo. Below the header, it says 'Please enter the Certificate Authority information.' There is a checkbox 'Conduct Certificate Authority verification' which is checked. Below this, there is a section 'Certificate Authority Information' with two radio buttons: 'I have already installed the Certificate Authority on this machine' and 'I will upload the Certificate Authority from this location'. The second radio button is selected. Below the radio buttons, there is a text box containing the path 'C:\Program Files\NetBrain\Web Server\nb_publish_server\co' and a 'Browse...' button. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

Note: Only the applied CA file for IEv8.0 is allowed.

- 14) On the KeyVault Administration Passphrase Settings page, enter the existing passphrase twice and click **Next**.

The screenshot shows the 'KeyVault Administration Passphrase Settings' page of the NetBrain Integrated Edition All Packages - InstallShield Wizard. The page has a blue header with the NetBrain logo. Below the header, there is a caution message: 'CAUTION: This passphrase is not stored in the product and CANNOT be recovered by ANY means. NetBrain STRONGLY recommends storing this passphrase in your company's password vault application. If you lose or forget this passphrase you will have to re-install this product to gain access to the KeyVault, however this will result in the loss of all your data.' Below the caution, it says 'Please enter the KeyVault Administration Passphrase (KVAP)'. There are two input fields: 'KVAP' and 'Re-enter KVAP', both masked with dots. Below the input fields, there is a warning message: 'WARNING: There is a feature that would allow an Administrator, working with NetBrain technical support to perform a KVAP reset to restore access. By checking the "Enable Resetting KVAP" checkbox below, you will enable this feature. Once activated, this feature CANNOT be deactivated without re-installing the product.' There is a checkbox 'Enable Resetting KVAP' which is checked. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

Note: Keep notes of the passphrase because it is required when you scale up or upgrade these servers. In case of losing the passphrase, keep the **Enable Resetting KVAP** check box selected so that NetBrain system admin can reset the passphrase at any time.

15) Review the summary of the installation settings and click **Install**. The installation will take some time and it depends on the scale of your database.

5. After successfully upgrading the Web Server and Web API Server, click **Finish**.
6. Open the IIS Manager to check that the **Default Web Site** and **ServicesAPI** service exist.
7. Open the Task Manager to check that the **NetBrainKCProxy** service is running.

1.10. Upgrading Worker Server

Note: Before the upgrading, clean the **C:\Windows\Temp** folder to make sure the upgrade process goes smoothly.

Complete the following steps with administrative privileges.

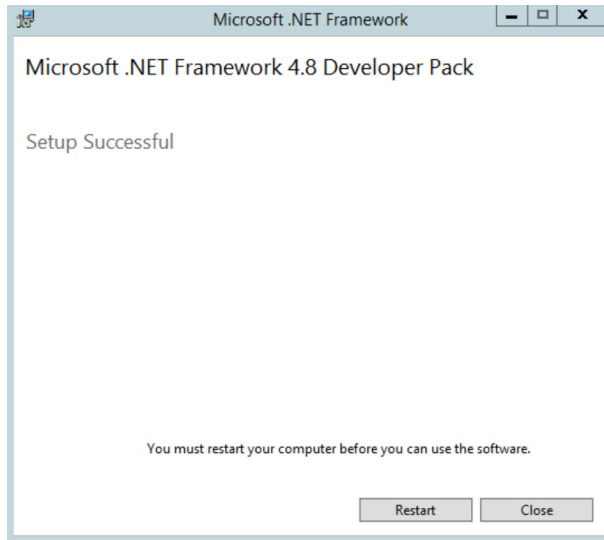
1. Download the **netbrain-ie-windows-x86_64-8.0.3.zip** file from http://download.netbraintech.com/netbrain-ie-windows-x86_64-8.0.3.zip and save it in your local folder.
2. Extract installation files from the **netbrain-ie-windows-x86_64-8.0.3.zip** file.
3. Right-click the **netbrain-ie-windows-x86_64-8.0.3.exe** file, and then select **Run as administrator** to launch the Installation Wizard.
4. Follow the Installation Wizard to complete the upgrade step by step:
 - 1) If **.NET Framework 4.8** has not been pre-installed on this machine, the Installation Wizard will guide you through the installation of **.NET Framework 4.8** first.

Note: Make sure the Windows update is of the latest. For Windows Server 2012, the update **KB2919442** and **KB2919355** must be installed before the .NET Framework 4.8 installation can start.

Note: Some running applications must be closed during the installation of .NET Framework 4.8, such as Server Manager.

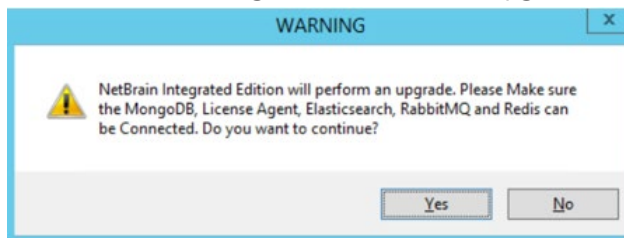
Note: After .NET Framework 4.8 is successfully installed, you must click **Restart** to restart the machine immediately. Otherwise, the upgrade will fail due to the failure of upgrading the new .Net Framework. After the machine reboots, ensure the FIPS is disabled after restarting the machine. To disable the FIPS setting, modify the **Enabled** value to **0** under

the **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Lsa\FipsAlgorithmPolicy** directory of Windows registry.



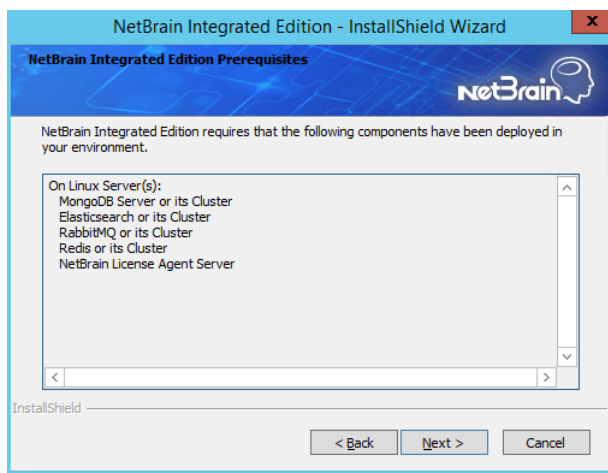
2) Stop the service of worker server manually before continuing the upgrade.

3) Click **Yes** in the dialog box to initiate the upgrade.



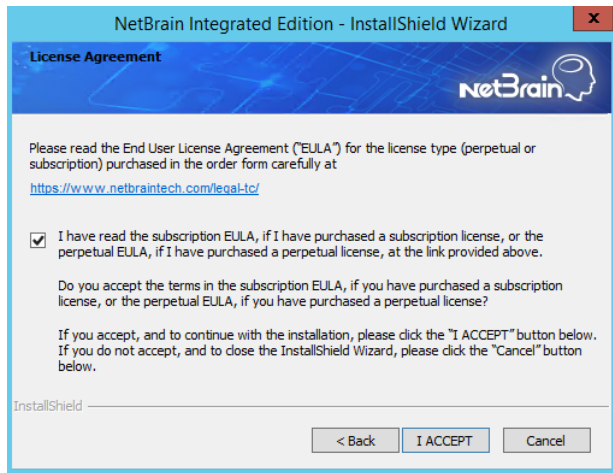
4) On the Welcome page, click **Next**.

5) On the NetBrain Integrated Edition Prerequisites page, read the components that must be set up in your environment beforehand and click **Next**.



6) On the System Configuration page, review the system configuration summary and click **Next**.

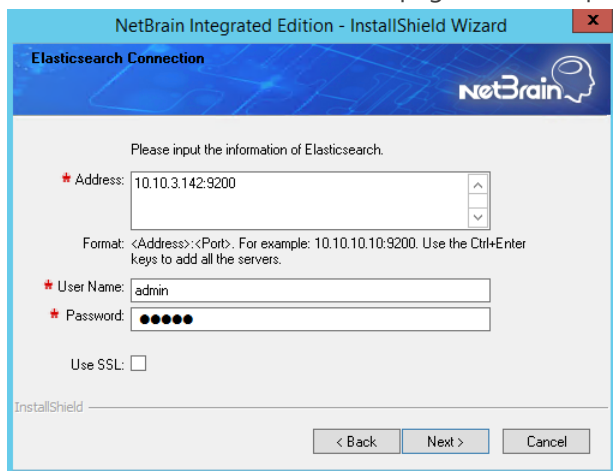
- 7) On the License Agreement page, read the license agreements, select the **I have read the subscription EULA** check box and then click **I ACCEPT**.



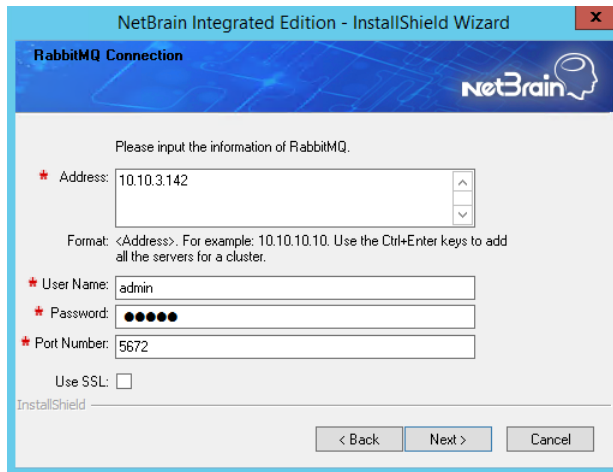
- 8) On the MongoDB Server Connection page, enter the password that you created when installing MongoDB and then click **Next**.



- 9) On the Elasticsearch Connection page, enter the password of the Elasticsearch, and then click **Next**.



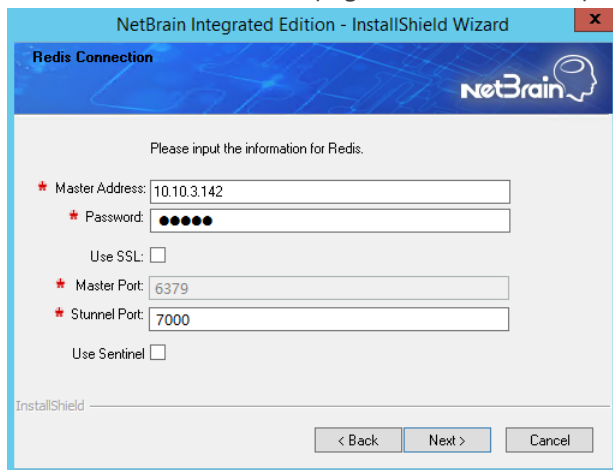
10) On the RabbitMQ Connection page, enter the admin password of RabbitMQ, and then click **Next**.



The image shows the 'RabbitMQ Connection' dialog box within the 'NetBrain Integrated Edition - InstallShield Wizard'. The dialog has a blue header with the NetBrain logo. The main area is white and contains the following fields and controls:

- Address:** A text box containing '10.10.3.142' with up and down arrow buttons to its right.
- Format:** A small text label below the address field stating: 'Format: <Address>. For example: 10.10.10.10. Use the Ctrl+Enter keys to add all the servers for a cluster.'
- User Name:** A text box containing 'admin'.
- Password:** A password field with seven black dots.
- Port Number:** A text box containing '5672'.
- Use SSL:** An unchecked checkbox.
- Buttons:** At the bottom right, there are three buttons: '< Back', 'Next >', and 'Cancel'.

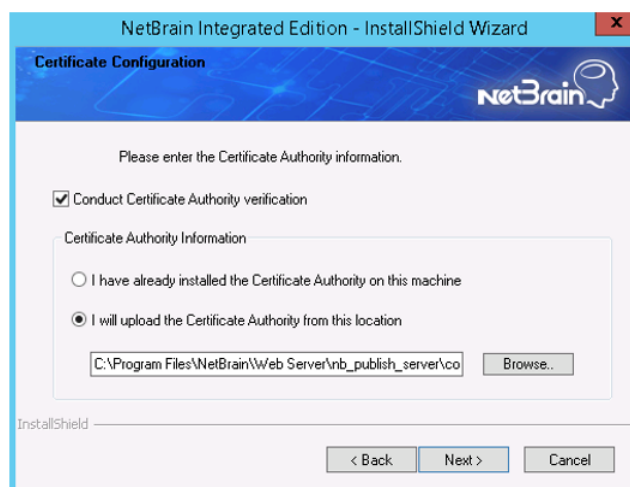
11) On the Redis Connection page, enter the admin password of the Redis, and then click **Next**.



The image shows the 'Redis Connection' dialog box within the 'NetBrain Integrated Edition - InstallShield Wizard'. The dialog has a blue header with the NetBrain logo. The main area is white and contains the following fields and controls:

- Master Address:** A text box containing '10.10.3.142'.
- Password:** A password field with seven black dots.
- Use SSL:** An unchecked checkbox.
- Master Port:** A text box containing '6379'.
- Stunnel Port:** A text box containing '7000'.
- Use Sentinel:** An unchecked checkbox.
- Buttons:** At the bottom right, there are three buttons: '< Back', 'Next >', and 'Cancel'.

12) (Required only if the **Use SSL** check box is selected when configuring the connections to MongoDB, License Agent, Elasticsearch, RabbitMQ, or Redis.) On the Certificate Configuration page, keep using the existing CA file, and then click **Next**.



The image shows the 'Certificate Configuration' dialog box within the 'NetBrain Integrated Edition - InstallShield Wizard'. The dialog has a blue header with the NetBrain logo. The main area is white and contains the following fields and controls:

- Conduct Certificate Authority verification:** A checked checkbox.
- Certificate Authority Information:** A section containing two radio buttons:
 - ☐ I have already installed the Certificate Authority on this machine
 - ☒ I will upload the Certificate Authority from this location
- File Path:** A text box containing 'C:\Program Files\NetBrain\Web Server\nb_publish_server\co'.
- Browse...** A button next to the file path text box.
- Buttons:** At the bottom right, there are three buttons: '< Back', 'Next >', and 'Cancel'.

Note: Only the applied CA file for IEv8.0 is allowed.

14) On the KeyVault Administration Passphrase Settings page, enter the existing passphrase twice and click **Next**.

NetBrain Integrated Edition All Packages - InstallShield Wizard

KeyVault Administration Passphrase Settings

★ CAUTION: This passphrase is not stored in the product and CANNOT be recovered by ANY means. NetBrain STRONGLY recommends storing this passphrase in your company's password vault application. If you lose or forget this passphrase you will have to re-install this product to gain access to the KeyVault, however this will result in the loss of all your data.

Please enter the KeyVault Administration Passphrase (KVAP).

★ KVAP: [password field]

★ Re-enter KVAP: [password field]

★ WARNING: There is a feature that would allow an Administrator, working with NetBrain technical support to perform a KVAP reset to restore access. By checking the "Enable Resetting KVAP" checkbox below, you will enable this feature. Once activated, this feature CANNOT be deactivated without re-installing the product.

☒ Enable Resetting KVAP

InstallShield

< Back Next > Cancel

Note: Keep notes of the passphrase because it is required when you scale up or upgrade the Application Server. In case of losing the passphrase, keep the **Enable Resetting KVAP** check box selected so that NetBrain system admin can reset the passphrase at any time.

15) Review the summary of the installation information and click **Install**.

5. After successfully upgrading the Worker Server, click **Finish**.
6. Open the Task Manager and navigate to the **Services** panel to check that the **NetBrainWorkerServer** service is running.
7. If you have deployed a Worker Server Cluster for load balancing, you can repeat the above steps to upgrade the Worker Servers on separate machines.

Note: Make sure all cluster members have the same configurations for MongoDB, License Agent, Elasticsearch, RabbitMQ, and Redis. And your network configurations allow communications among them.

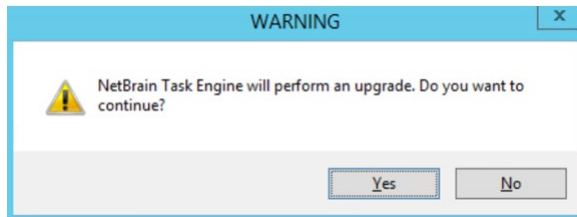
1.11. Upgrading Task Engine

Note: Before the upgrading, clean the **C:\Windows\Temp** folder to make sure the upgrade process goes smoothly.

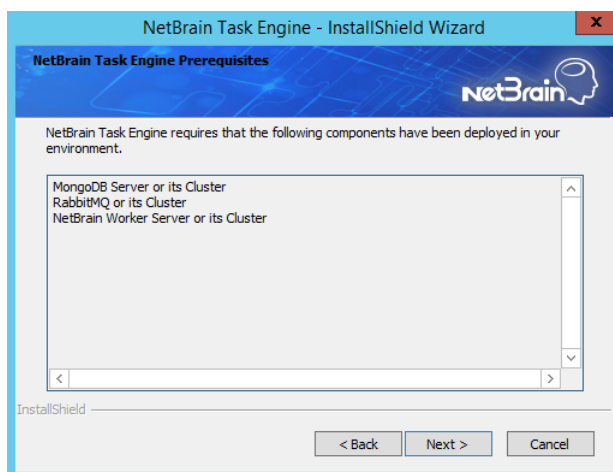
Complete the following steps with administrative privileges.

1. Download the **netbrain-taskengine-windows-x86_64-8.0.3.zip** file from http://download.netbraintech.com/netbrain-taskengine-windows-x86_64-8.0.3.zip and save it in your local folder.

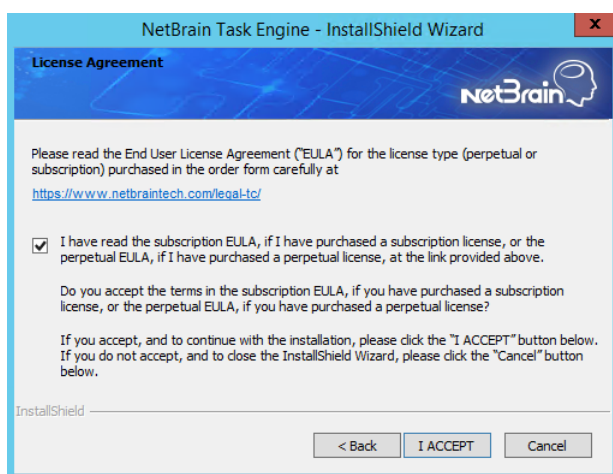
2. Extract installation files from the **netbrain-taskengine-windows-x86_64-8.0.3.zip** file.
3. Right-click the **netbrain-taskengine-windows-x86_64-8.0.3.exe** file, and then select **Run as administrator** to start the Installation Wizard.
 - 1) Click **Yes** in the dialog box to initiate the upgrade.



- 2) On the Welcome page, click **Next**.
- 3) On the NetBrain Task Engine Prerequisites page, view the components that must be deployed beforehand in your environment and click **Next**.



- 4) On the System Configuration page, review the system configuration summary and click **Next**.
- 5) On the License Agreement page, read the license agreements, select the **I have read the subscription EULA** check box and then click **I ACCEPT**.



- 6) On the MongoDB Server Connection page, enter the admin password you created when installing MongoDB, and then click **Next**.

The screenshot shows the 'MongoDB Server Connection' window. It has a title bar 'NetBrain Task Engine - InstallShield Wizard' and a NetBrain logo. The main area says 'Please input the details of MongoDB Server configuration.' and contains the following fields: 'Address' (10.10.3.142:27017), 'User Name' (admin), 'Password' (masked with dots), 'Replica Set Name' (rs), and 'Use SSL' (unchecked). A format hint says: 'Format: <Address>:<Port>. For example: 10.10.10.10:27017. Use the Ctrl+Enter keys to add all the servers for a replica set.' At the bottom are '< Back', 'Next >', and 'Cancel' buttons.

- 7) On the RabbitMQ Connection page, enter the admin password of the RabbitMQ, and then click **Next**.

The screenshot shows the 'RabbitMQ Connection' window. It has a title bar 'NetBrain Task Engine - InstallShield Wizard' and a NetBrain logo. The main area says 'Please input the details of the RabbitMQ configuration.' and contains the following fields: 'Address' (10.10.3.142), 'User Name' (admin), 'Password' (masked with dots), 'Port Number' (5672), and 'Use SSL' (unchecked). A format hint says: 'Format: <Address>. For example: 10.10.10.10. Use the Ctrl+Enter keys to add all the servers for a cluster.' At the bottom are '< Back', 'Next >', and 'Cancel' buttons.

- 11) (Required only if the **Use SSL** check box is selected when configuring the connections to MongoDB or RabbitMQ.) On the Certificate Configuration page, keep using the existing CA file, and then click **Next**.

The screenshot shows the 'Certificate Configuration' window. It has a title bar 'NetBrain Integrated Edition - InstallShield Wizard' and a NetBrain logo. The main area says 'Please enter the Certificate Authority information.' and contains a checked checkbox 'Conduct Certificate Authority verification'. Below it is a section 'Certificate Authority Information' with two radio buttons: 'I have already installed the Certificate Authority on this machine' (unselected) and 'I will upload the Certificate Authority from this location' (selected). Below the second radio button is a text box containing 'C:\Program Files\NetBrain\Web Server\nb_publish_server\co' and a 'Browse...' button. At the bottom are '< Back', 'Next >', and 'Cancel' buttons.

Note: Only the applied CA file for IEv8.0 is allowed.

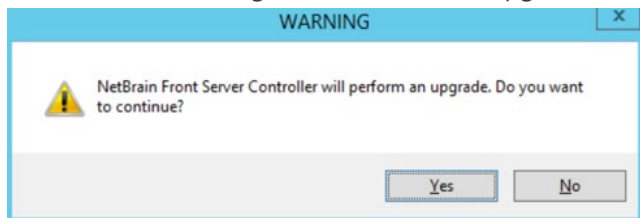
- 12) Review the summary of the installation information and then click **Install**.
4. After successfully upgrading the Task Engine, click **Finish**.
5. Open the Task Manager and navigate to the **Services** panel to check that the **NetBrainTaskEngine** service is running.

1.12. Upgrading Front Server Controller

Note: Before the upgrading, clean the **C:\Windows\Temp** folder to make sure the upgrade process goes smoothly.

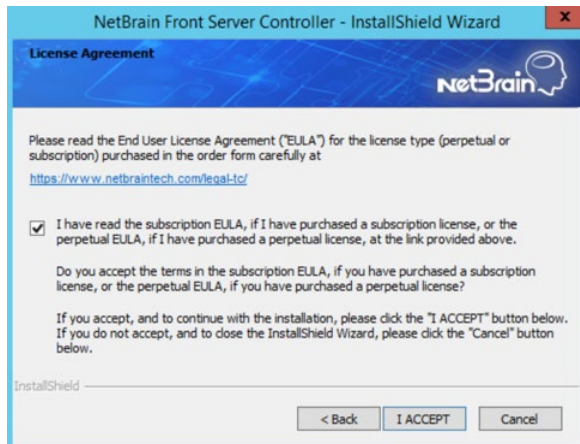
Complete the following steps with administrative privileges.

1. Download the **netbrain-frontservercontroller-windows-x86_64-8.0.3.zip** file from http://download.netbraintech.com/netbrain-frontservercontroller-windows-x86_64-8.0.3.zip and save it in your local folder.
2. Extract installation files from the **netbrain-frontservercontroller-windows-x86_64-8.0.3.zip** file.
3. Right-click the **netbrain-frontservercontroller-windows-x86_64-8.0.3.exe** file, and then select **Run as administrator** to start the Installation Wizard.
 - 1) Click **Yes** in the dialog box to initiate the upgrade.

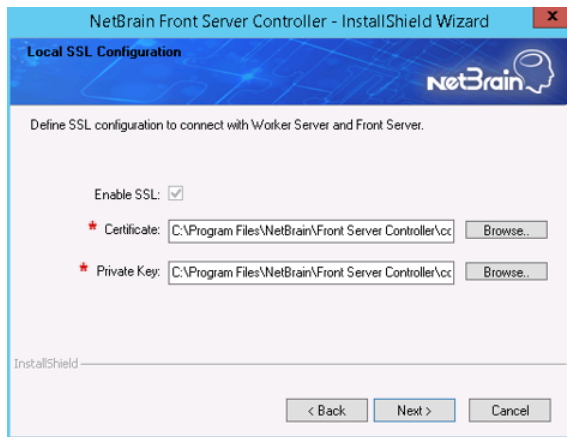


- 2) On the Welcome page, click **Next**.
- 3) On the System Configuration page, review the system configuration summary and click **Next**.

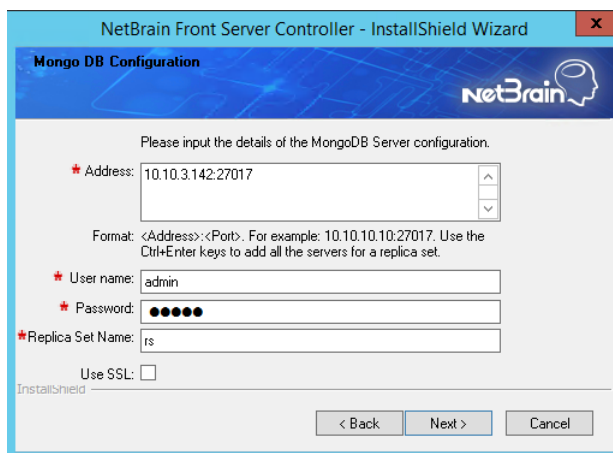
- 4) On the License Agreement page, read the license agreements, select the **I have read the subscription EULA** check box and then click **I ACCEPT**.



- 5) (Required only if SSL has already been enabled) On the Local SSL Configuration page, confirm the certificate and private key for the Front Server Controller to establish encrypted connections with Worker Server and Front Server, and then click **Next**.



- 6) On the MongoDB Connection page, enter the admin password you created when installing MongoDB and then click **Next**.



- 7) On the RabbitMQ Connection page, enter the admin password of the RabbitMQ, and then click **Next**.

The screenshot shows the 'RabbitMQ Connection' page of the 'NetBrain Front Server Controller - InstallShield Wizard'. The page has a blue header with the NetBrain logo. Below the header, it says 'Please input the details of the RabbitMQ configuration.' There are four required fields: 'Address' (10.10.3.142), 'User name' (admin), 'Password' (masked with dots), and 'Port Number' (5672). There is a 'Use SSL' checkbox which is unchecked. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

- 8) On the Redis Connection page, enter the admin password of the Redis, and then click **Next**.

The screenshot shows the 'Redis Connection' page of the 'NetBrain Front Server Controller - InstallShield Wizard'. The page has a blue header with the NetBrain logo. Below the header, it says 'Please input the information for Redis Connection.' There are four required fields: 'Master Address' (10.10.3.142), 'Password' (masked with dots), 'Redis Port' (6379), and 'Stunnel Port' (7000). There are two checkboxes: 'Use SSL' (unchecked) and 'Use Sentinel' (unchecked). At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

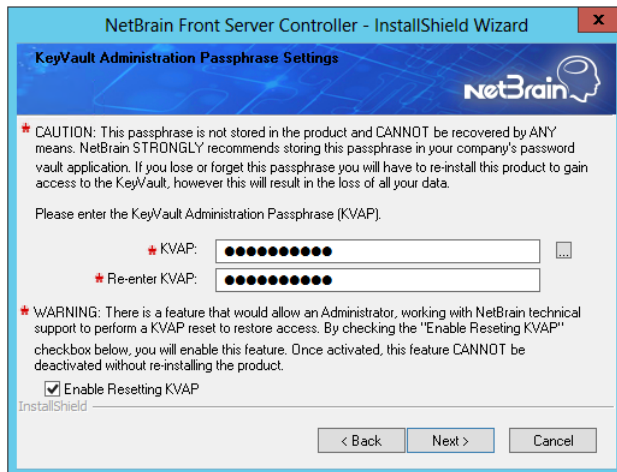
9)

- 10) (Required only if the **Use SSL** check box is selected when configuring the connections to MongoDB, RabbitMQ, or Redis). On the Certificate Configuration page, keep using the existing CA file, and then click **Next**.

The screenshot shows the 'Certificate Configuration' page of the 'NetBrain Integrated Edition - InstallShield Wizard'. The page has a blue header with the NetBrain logo. Below the header, it says 'Please enter the Certificate Authority information.' There is a checkbox 'Conduct Certificate Authority verification' which is checked. Below this, there is a section 'Certificate Authority Information' with two radio buttons: 'I have already installed the Certificate Authority on this machine' (unchecked) and 'I will upload the Certificate Authority from this location' (checked). Below the second radio button, there is a text box containing the path 'C:\Program Files\NetBrain\Web Server\nb_publish_server\co' and a 'Browse...' button. At the bottom, there are three buttons: '< Back', 'Next >', and 'Cancel'.

Note: Only the applied CA file for IEv8.0 is allowed.

11) On the KeyVault Administration Passphrase Settings page, enter the existing passphrase twice and click **Next**.



12) Review the summary of the installation information and click **Install**.

4. After successfully upgrading the Front Server Controller, click **Finish**.
5. Open the Task Manager and navigate to the **Services** panel to check that the **NetBrainFrontServerController** service is running.

1.13. Upgrading Front Server

Select either of the following ways to upgrade your Front Servers, depending on their operating systems:

- [Upgrading Front Server on Windows](#)
- [Upgrading Front Server on Linux](#)

1.13.1. Upgrading Front Server on Linux

Pre-Upgrade Tasks

Front Server has dependencies on several third-party packages. Before you install the Front Server, run the `rpm -qa | grep -E "glibc|libstdc++|libuuid|pam"` command to check whether these dependencies have been installed. If not, you can choose either option below to install the dependencies:

- **Online Install:** run the `yum install -y glibc.x86_64 glibc.i686 libstdc++.x86_64 libstdc++.i686 libuuid.x86_64 libuuid.i686 pam.x86_64 pam.i686` command to install these third-party packages online.
- **Offline Install:** see [Appendix](#) for more details.

Upgrading Front Server on Linux

1. Log in to the Linux server as the **root** user.
2. Run the `mkdir` command to create a directory under the **/opt** directory to place the Front Server installation package. For example, **netbraintemp8.0.3**.
3. Run the `cd /opt/netbraintemp8.0.3` command to navigate to the **/opt/netbraintemp8.0.3** directory.
4. Download the installation package.
 - **Option 1:** If the Linux server has no access to the Internet, obtain the **netbrain-frontserver-linux-x86_64-rhel7-8.0.3.tar.gz** file from NetBrain and then upload it to the **/opt/netbraintemp8.0.3** directory by using a file transfer tool.
 - **Option 2:** If the Linux server has access to the Internet, run the `wget` `http://download.netbraintech.com/netbrain-frontserver-linux-x86_64-rhel7-8.0.3.tar.gz` command under the **/opt/netbraintemp8.0.3** directory to directly download the **netbrain-frontserver-linux-x86_64-rhel7-8.0.3.tar.gz** file from NetBrain official download site.

Note: The download link is case-sensitive.

Tip: Run the `yum -y install wget` command to install the **wget** command if it has not been installed on the server.

5. Run the `tar -zxvf netbrain-frontserver-linux-x86_64-rhel7-8.0.3.tar.gz` command under the **/opt/netbraintemp8.0.3** directory to extract installation files.

```
[root@localhost netbraintemp8.0.3]# tar -zxvf netbrain-frontserver-linux-x86_64-rhel7-8.0.3.tar.gz
FrontServer/
FrontServer/config/

FrontServer/upgrade.sh
...
```

6. Run the `cd FrontServer` command to navigate to the **FrontServer** directory.
7. Run the `./upgrade.sh` script under the **FrontServer** directory to upgrade the Front Server.
 - 1) Read the License Agreement, and type **YES**.
 - 2) Type **I ACCEPT** to accept the License Agreement. The script starts to install the Front Server.

```
[root@localhost FrontServer]# ./upgrade.sh
Please read the End User License Agreement ("EULA") for the license type (perpetual or
subscription) purchased in the order form at https://www.netbraintech.com/legal-tc/
carefully. I
have read the subscription EULA, if I have purchased a subscription license, or the
perpetual
EULA, if I have purchased a perpetual license, at the link provided above. Please type "YES"
if
you have read the applicable EULA and understand its contents, or "NO" if you have not read
the
```



```
applicable EULA. [YES/NO]: YES
```

```
Do you accept the terms in the subscription EULA, if you have purchased a subscription license, or the perpetual EULA, if you have purchased a perpetual license? If you accept, and to continue with the installation, please type "I ACCEPT" to continue. If you do not accept, and to quit the installation script, please type "CANCEL" to stop. [I ACCEPT/CANCEL]: I ACCEPT
```

```
INFO: Collecting system information... SUCCEEDED
INFO: Start checking date
INFO: Start checking rhel7x
INFO: Start checking systemd
INFO: Start checking required CPU
INFO: Start checking minimum memory
INFO: System checking SUCCEEDED
INFO: Dependent packages checking SUCCEEDED
INFO: Configuration parameters checking SUCCEEDED
...
INFO: Installing frontserver.tar SUCCEEDED
INFO: Configuration parameters updating SUCCEEDED
...
INFO: Backup uninstall.sh SUCCEEDED
INFO: Upgrading netbrainfrontserver SUCCEEDED.
```

Note: The Front Server service will not be automatically started until it is successfully registered. You cannot register a Front Server immediately until adding the Front Server to a Tenant.

8. If you deployed multiple Front Servers for load balancing, repeat the above steps on other machines.
9. Run the `systemctl status netbrainfrontserver` command to check the service status of each node.

1.13.2. Upgrading Front Server on Windows

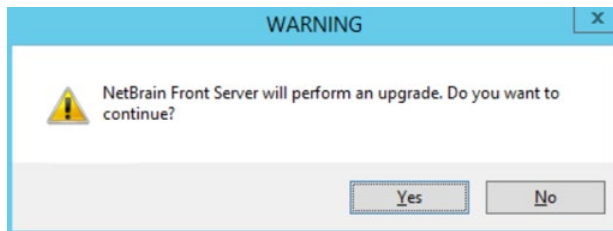
Note: Before the upgrading, clean the `C:\Windows\Temp` folder to make sure the upgrade process goes smoothly.

Complete the following steps with administrative privileges.

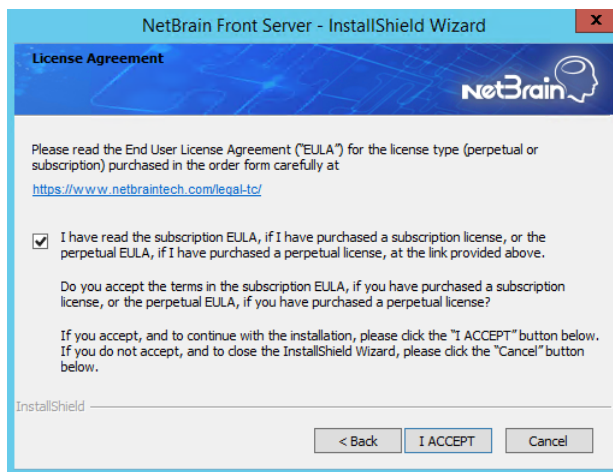
1. Download the **netbrain-frontserver-windows-x86_64-8.0.3.zip** file from http://download.netbraintech.com/netbrain-frontserver-windows-x86_64-8.0.3.zip and save it in your local folder.
2. Extract installation files from the **netbrain-frontserver-windows-x86_64-8.0.3.zip** file.

3. Right-click the **netbrain-frontserver-windows-x86_64-8.0.3.exe** file, and then select **Run as administrator** to start the Installation Wizard.

- 1) Click **Yes** in the dialog box to initiate the upgrade.



- 2) On the Welcome page, click **Next**.
- 3) On the System Configuration page, review the system configuration summary and click **Next**.
- 4) On the License Agreement page, read the license agreements, select the **I have read the subscription EULA** check box and then click **I ACCEPT**.



- 5) Review the summary of the current installation settings and click **Install**.
4. After successfully upgrading the Front Server, click **Finish**.

Note: The Front Server service will not be automatically started until it is successfully registered. You cannot register a Front Server immediately until adding the Front Server to a Tenant.

5. If you have deployed multiple Front Servers for load balancing, repeat the above steps on other machines.
6. After the installation is completed, you can open the Task Manager and navigate to the **Services** panel to check whether **NetBrainFrontServer** is running.

1.14. Upgrading Service Monitor Agent

Select either of the following ways to upgrade your Service Monitor Agent, depending on the operating system:

- [Upgrading Service Monitor Agent on Linux](#)
- [Upgrading Service Monitor Agent on Windows](#)

1.14.1. Upgrading Service Monitor Agent on Linux

Pre-Upgrade Tasks

Service Monitor Agent has dependencies on the third-party package on **zlib-devel readline-devel bzip2-devel ncurses-devel gdbm-devel xz-devel tk-devel libffi-devel**. Run the `rpm -qa | grep -E "zlib-devel|readline-devel|bzip2-devel|ncurses-devel|gdbm-devel|xz-devel|tk-devel|libffi-devel"` command to check whether **zlib-devel readline-devel bzip2-devel ncurses-devel gdbm-devel xz-devel tk-devel libffi-devel** has been installed on this Linux server. If it has not been installed, you can choose either option below to install the dependencies:

- **Online Install:** run the `yum -y install zlib-devel readline-devel bzip2-devel ncurses-devel gdbm-devel xz-devel tk-devel libffi-devel` command to install it online.
- **Offline Install:** see [Appendix](#) for more details.

Upgrading Service Monitor Agent on Linux

1. Log in to the Linux server as the **root** user.
2. Run the `cd /opt/netbraintemp8.0.3` command to navigate to the **/opt/netbraintemp8.0.3** directory.
3. Download the installation package.
 - **Option 1:** If the Linux server has no access to the Internet, obtain the **netbrain-servicemonitoragent-linux-x86_64-rhel7-8.0.3.tar.gz** file from NetBrain and then upload it to the **/opt/netbraintemp8.0.3** directory by using a file transfer tool.
 - **Option 2:** If the Linux server has access to the Internet, run the `wget http://download.netbraintech.com/netbrain-servicemonitoragent-linux-x86_64-rhel7-8.0.3.tar.gz` command under the **/opt/netbraintemp8.0.3** directory to directly download the **netbrain-servicemonitoragent-linux-x86_64-rhel7-8.0.3.tar.gz** file from NetBrain official download site.
4. Run the `tar -zxvf netbrain-servicemonitoragent-linux-x86_64-rhel7-8.0.3.tar.gz` command under the **/opt/netbraintemp8.0.3** directory to extract installation files.

Note: The download link is case-sensitive.

Tip: Run the `yum -y install wget` command to install the **wget** command if it has not been installed on the server.

```
[root@localhost netbraintemp8.0.3]# tar -zxvf netbrain-servicemonitoragent-linux-x86_64-rhel7-8.0.3.tar.gz
ServiceMonitorAgent/
```

```
ServiceMonitorAgent/config/  
ServiceMonitorAgent/config/setup.conf  
...  
ServiceMonitorAgent/upgrade.sh  
...
```

5. Run the `cd ServiceMonitorAgent` command to navigate to the **ServiceMonitorAgent** directory.
6. Run the `./upgrade.sh` script under the **ServiceMonitorAgent** directory to upgrade the Service Monitor Agent.
 - 1) Read the License Agreement, and type **YES**.
 - 2) Type **I ACCEPT** to accept the License Agreement. The script starts to install Service Monitor Agent.

```
[root@localhost ServiceMonitorAgent]# ./upgrade.sh  
  
Please read the End User License Agreement ("EULA") for the license type (perpetual or  
subscription) purchased in the order form at  
https://www.netbraintech.com/legal-tc/ carefully. I have read the subscription EULA, if I  
have purchased a subscription license, or the  
perpetual EULA, if I have purchased a perpetual license, at the link provided above. Please  
type "YES" if you have read the applicable EULA  
and understand its contents, or "NO" if you have not read the applicable EULA. [YES/NO]: YES  
  
Do you accept the terms in the subscription EULA, if you have purchased a subscription  
license, or the perpetual EULA, if you have purchased  
a perpetual license? If you accept, and to continue with the installation, please type "I  
Accept" to continue. If you do not accept, and to quit  
the installation script, please type "CANCEL" to stop. [I ACCEPT/CANCEL]: I ACCEPT  
  
INFO: Collecting system information SUCCEEDED.  
Starting to upgrade Service Monitor Agent...  
Starting to get previous installation parameters...  
Getting the previous installation parameters SUCCEEDED.  
...  
Configuration parameters updating SUCCEEDED.  
Starting to permission assigning...  
Permission assigning SUCCEEDED.  
Starting to daemon setting...  
Daemon setting SUCCEEDED.  
INFO: Backing up uninstall.sh SUCCEEDED  
...  
Successfully upgraded Service Monitor Agent. Service is running.
```

7. Run the `systemctl status netbrainagent` command to verify whether its service starts successfully.

```
[root@localhost ~]# systemctl status netbrainagent  
netbrainagent.service - NetBrain Service Monitor Agent Daemon  
Loaded: loaded (/usr/lib/systemd/system/netbrainagent.service; enabled; vendor preset:  
disabled)  
Active: active (running) since Tue 2020-07-14 13:36:28 EDT; 71ms ago  
Main PID: 4520 (python3)  
Memory: 73.5M  
...  
...
```

8. Repeat the above steps to upgrade the Service Monitor Agent on more Linux servers.

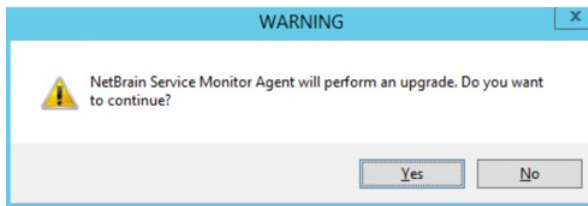
Tip: It is highly recommended to run the `rm -rf`

`/opt/netbraintemp8.0.3/servicemonitoragent/config/setup.conf` command to delete the **setup.conf** file from the server after Service Monitor Agent is successfully upgraded because the file may cause security vulnerability.

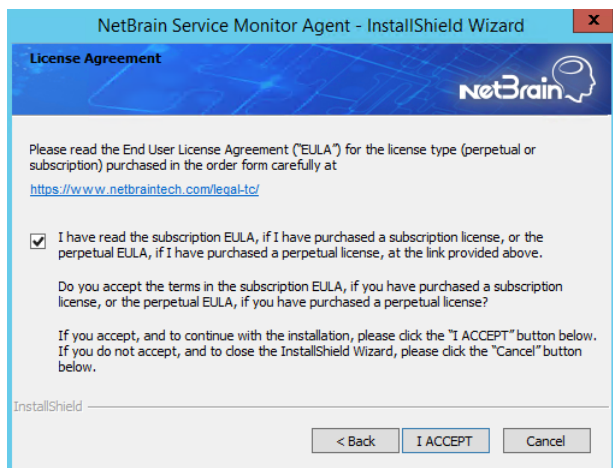
1.14.2. Upgrading Service Monitor Agent on Windows

Complete the following steps with administrative privileges.

1. Download the **netbrain-servicemonitoragent-windows-x86_64-8.0.3.zip** file from http://download.netbraintech.com/netbrain-servicemonitoragent-windows-x86_64-8.0.3.zip and save it in your local folder.
2. Extract installation files from the **netbrain-servicemonitoragent-windows-x86_64-8.0.3.zip** file.
3. Right-click the **netbrain-servicemonitoragent-windows-x86_64-8.0.3.exe** file, and then select **Run as administrator** to start the Installation Wizard.
 - 1) Click **Yes** in the dialog box to initiate the upgrade.



- 2) On the Welcome page, click **Next**.
- 3) On the System Configuration page, review the system configuration summary and click **Next**.
- 4) On the License Agreement page, read the license agreements, select the **I have read the subscription EULA** check box and then click **I ACCEPT**.



- 5) Review the summary of the installation information and click **Install**.

4. After successfully upgrading the Service Monitor Agent, click **Finish**.

Tip: You can open the Task Manager and navigate to the **Services** panel to check whether **NetBrainAgent** is running.

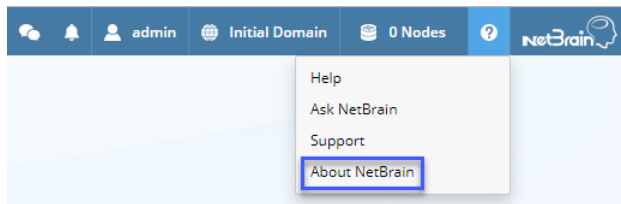
5. Repeat the above steps to upgrade the Service Monitor Agent on more Windows servers.

1.15. Verifying Upgrade Results

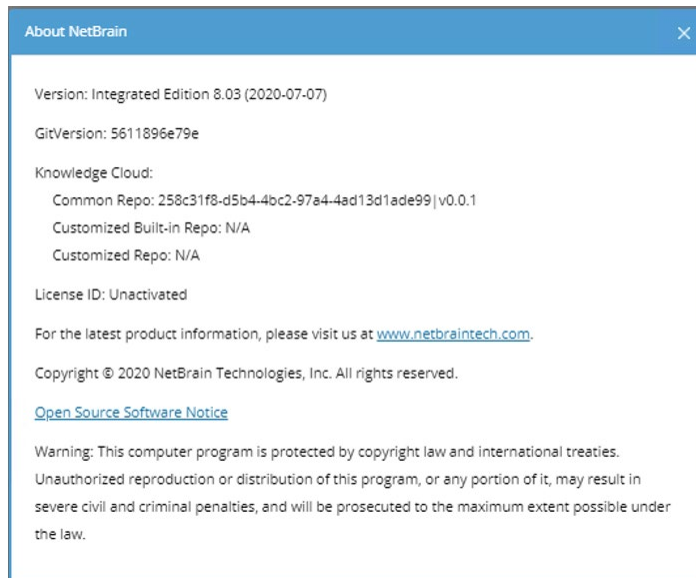
1. Do the following steps to check the IE version in web browser:

Note: It is highly recommended to clear your web browser's cache before reloading the IE web page.

- 1) In the system Management page, click the  icon and select **About NetBrain** from the quick access toolbar.



- 2) Check the version information.



2. Do the following steps to check the system version in MongoDB:

- 1) Log in to the Linux server where MongoDB is installed.
- 2) Open a command prompt and run the `mongo --host <IP or hostname of MongoDB Server:Port> -u <username> -p <password> --authenticationDatabase <database_name> --authenticationMechanism SCRAM-SHA-256` command to connect to MongoDB.

Example:

```
[root@localhost ~]# mongo --host 10.10.3.142:27017 -u mongodb -p mongodb --
authenticationDatabase admin --authenticationMechanism SCRAM-SHA-256
MongoDB shell version v4.0.6
connecting to: mongodb://10.10.3.142:27017/?authMechanism=SCRAM-SHA-
256&authSource=admin&gssapiServiceName=mongodb
...
```

Tip: If SSL is enabled, run the `mongo --host <IP or hostname of MongoDB Server:Port> -u <username> -p <password> --authenticationDatabase <database_name> --ssl --sslAllowInvalidCertificates --authenticationMechanism SCRAM-SHA-256` command.

- 3) Run the `use NGSystem` command to switch to the **NGSystem** database.

```
rsnetbrain:PRIMARY> use NGSystem
switched to db NGSystem
```

- 4) Run the `db.SystemInfo.find({_id: "SystemVersion"})` command to check the system version number.

```
rsnetbrain:PRIMARY> db.SystemInfo.find({_id: "SystemVersion"})
{ "_id" : "SystemVersion", "version" : "8.0.03", "operateInfo" : { "opUser" : "NetBrain",
"opTime" :
  ISODate("2020-07-14T18:31:21.735") } }
```

- 5) Run the `exit` command to exit the command prompt.

1.16. Customizing MongoDB Disk Alert Rules

To proactively prevent the system database from data loss or even corruption, you can customize MongoDB disk alert rules with progressive quotas assigned. When the MongoDB usage reaches the predefined threshold, specified users can be notified by both email alerts and system alerts.

1. In the System Management page, click **Operations > Service Monitor** from the quick access toolbar.

2. In the Service Monitor home page, click **Alert Rules** at the upper-right corner. The default settings are as follows:

Alert Rules

☐ When MongoDB disk usage reaches 80 % or only 20 GB free space, send emails.

☒ When MongoDB disk usage reaches 90 % or only 10 GB free space, send emails and delete Data Engine data older than 3 months. i

☒ When MongoDB disk usage reaches 93 % or only 5 GB free space, send emails and disable write permission to MongoDB.

☐ When a server is disconnected or a service is stopped, send email

Send Email To : Cc :

Send Email Frequency : Hours

[Help](#) Cancel OK

3. Change the settings based on your needs.

- 1) Specify the disk usage threshold for different levels.

Note: To email alerts when a server is disconnected or a service is stopped, select the corresponding check box.

- 2) Enter the email address in the **Send Email To** or **CC** fields.

Note: Email alerts are enabled only when email addresses are added at least in one field. Use a colon or semicolon to separate multiple items.

- 3) Specify the frequency to send emails.
- 4) Click **OK** to save the configuration.


1.17. Tuning Live Access

To tune live access, complete the following steps:

1. In your web browser, navigate to **http(s)://<IP address of NetBrain Web Server>/** to log in to your domain.
2. Click the domain name from the quick access toolbar and select **Manage Domain**.
3. In the Domain Management page, select **Operations > Advanced Tools > Tune Live Access** from the quick access toolbar. The **Tune Live Access** tab opens with all devices in the domain listed.
4. Click **Start Tuning**.

5. When the tuning process is completed, a notification message is displayed. Click **OK**.

1.18. Scheduling Benchmark Task

1. In the Domain Management page, select **Operations > Schedule Task** from the quick access toolbar.
2. On the **Schedule Task > Schedule Discovery/Benchmark** tab, select the **Enable** check box for the **Basic System Benchmark** entry.
3. Click the  icon to select the **Run Now** option from the drop-down list to run the benchmark task immediately.

Note: If you have multiple Front Servers, go to **Operations > Benchmark Tools > CheckPoint OPSEC Manager** to specify the target Front Server to access your CheckPoint firewalls and retrieve live data.

2. Appendix: Editing a File with VI Editor

The following steps illustrate how to edit a configuration file with the vi editor, which is the default text file editing tool of a Linux operating system.

1. Create a terminal and run the `cd` command at the command line to navigate to the directory where the configuration file is located.
2. Run the `vi <configuration file name>` command under the directory to show the configuration file.
3. Press the **Insert** or **I** key on your keyboard, and then move the cursor to the location where you want to edit.
4. Modify the file based on your needs, and then press the **Esc** key to exit the input mode.
5. Enter the `:wq!` command and press the **Enter** key to save the changes and exit the vi editor.

3. Appendix: Offline Installing Third-party Dependencies

1. Download the dependency package from a server with the Internet access using one of the following download links according to the version of your Operating System:

- **CentOS7.5:** <http://download.netbraintech.com/dependencies-centos7.5-8.0.tar.gz>
- **CentOS7.6:** <http://download.netbraintech.com/dependencies-centos7.6-8.0.tar.gz>
- **CentOS7.7:** <http://download.netbraintech.com/dependencies-centos7.7-8.0.tar.gz>
- **CentOS7.8:** <http://download.netbraintech.com/dependencies-centos7.8-8.0.tar.gz>
- **CentOS7.9:** <http://download.netbraintech.com/dependencies-centos7.9-8.0.tar.gz>
- **RHEL7.5:** <http://download.netbraintech.com/dependencies-rhel7.5-8.0.tar.gz>
- **RHEL7.6:** <http://download.netbraintech.com/dependencies-rhel7.6-8.0.tar.gz>
- **RHEL7.7:** <http://download.netbraintech.com/dependencies-rhel7.7-8.0.tar.gz>
- **RHEL7.8:** <http://download.netbraintech.com/dependencies-rhel7.8-8.0.tar.gz>
- **RHEL7.9:** <http://download.netbraintech.com/dependencies-rhel7.9-8.0.tar.gz>

2. Copy the downloaded dependency package to your Linux server.

3. Run the `tar -zxvf dependencies-<OS version>-8.0.tar.gz` command to decompress the package.

Tip: Possible values of **OS version** include: `centos7.5`; `centos7.6`; `centos7.7`; `centos7.8`; `rhel7.5`; `rhel7.6`; `rhel7.7`; `rhel7.8`.

4. Run the `cd dependencies` command to navigate to the decompressed directory.

5. Run the `offline-install.sh` command to install the dependencies.

4. Appendix: Restoring MongoDB Data

If you encounter data loss or corruption during the upgrade process, complete the following steps to restore MongoDB data with the backup data.

1. Log in to the Linux server where the MongoDB is installed as the **root** user.

2. Stop the MongoDB Service.

1) Run the `systemctl stop mongod` command to stop the MongoDB service.

2) Run the `ps -ef|grep mongod` command to verify whether the **mongod** process is stopped.

```
[root@localhost ~]# ps -ef| grep mongod
root      15136 14237  0 10:42 pts/2    00:00:00 grep --color=auto mongod
```

Note: If the **mongod** process is stopped, the result should only contain one entry as shown above.

3. Restore the old data onto the MongoDB.

1) Run the `cd /usr/lib/mongodb` command to navigate to the **/usr/lib/mongodb** directory.

Note: If you modified the following default directory to store all MongoDB data files during the MongoDB installation, you must use the new directory (available in the **mongod.conf** file) accordingly.

2) Run the `ls -al` command to browse all directories and files under the **/usr/lib/mongodb** directory.

```
[root@localhost mongodb]# ls -al
total 142
drwxr-xr-x. 5 netbrain netbrain 146 Oct 19 15:02 .
drwxr-xr-x. 4 root      root      42 Sep 19 14:41 ..
drwxr-xr-x. 4 root      root      42 Oct 19 15:03 data
drwxr-xr-x. 4 root      root      100 Oct 19 15: 03 log
-rwxr-xr-x. 2 netbrain netbrain 1004 Aug 25 17: 26 mongodb-keyfile
-rwxr-xr-x. 1 netbrain netbrain 1076 Oct 19 15:02 mongod.conf
```

3) Run the `rm -rf ./data` command to delete the **data** directory.

4) Run the `mv /etc/mongodb_databk/data` command under the **/usr/lib/mongodb** directory to move the data directory to the **/opt/mongodb** directory.

5) Run the `ls -al` command to browse all directories and files under the **/usr/lib/mongodb** directory.

```
[root@localhost mongodb]# ls -al
total 142
drwxr-xr-x. 5 netbrain netbrain 146 Oct 19 15:02 .
drwxr-xr-x. 4 root      root      42 Sep 19 14:41 ..
drwxr-xr-x. 4 root      root      86016 Oct 19 15: 03 data
drwxr-xr-x. 4 root      root      100 Oct 19 15: 03 log
-rwxr-xr-x. 2 netbrain netbrain 1004 Aug 25 17: 26 mongodb-keyfile
```

```
-rwxr-xr-x. 1 netbrain netbrain 1076 Oct 19 15:02 mongod.conf
-rwxr-xr-x. 1 netbrain netbrain 1147 Oct 19 14:51 mongod.conf2017|Oct|19|10:15:50
```

4. Run the `systemctl mongod start` command to restart the MongoDB service.
5. Run the `mongo --host <IP or hostname of MongoDB Server:Port> -u <username> -p <password> --authenticationDatabase <database_name> --authenticationMechanism SCRAM-SHA-256` command to connect to the node.

Example:

```
[root@localhost upgrade_replica_set]# mongo --host 10.10.3.142:27017 -u mongodb -p mongodb --
authenticationDatabase admin --authenticationMechanism SCRAM-SHA-256
MongoDB shell version v4.0.6
connecting to: mongodb://10.10.3.142:27017/?authMechanism=SCRAM-SHA-
256&authSource=admin&gssapiServiceName=mongodb
Implicit session: session { "id" : UUID("0315bda2-73f3-4304-9166-c008b9b06ce3") }
MongoDB server version: 4.0.6
...
rsnetbrain:PRIMARY>
```

Tip: If SSL is enabled, run the command `mongo --host <IP or hostname of MongoDB Server:Port> -u <username> -p <password> --authenticationDatabase <database_name> --ssl --sslAllowInvalidCertificates --authenticationMechanism SCRAM-SHA-256` command.

5. Appendix: Dumping MongoDB Data

The built-in MongoDB command `mongodump` is a simple and efficient tool for backing up a small volume of MongoDB data. However, for a large volume of data, it is more time-consuming than using the `cp` command introduced in [Backing Up MongoDB Data](#).

Note: Make sure the service of MongoDB is running when you run the `mongodump` command.

Note: The dumped data can be used to restore data in any server.

1. Log in to the Linux server where the MongoDB is installed as **root** user.
2. Open a command prompt and run the `[root@localhost ~]# mkdir /etc/mongodb_databk` command to create a directory under the **/etc** directory to save the backup data.
3. Run the `mongodump --host <ip>:<port> -u <username> -p <password> --authenticationDatabase <database_name> --authenticationMechanism SCRAM-SHA-256 --gzip --out <filepath>` command to dump the MongoDB data to the **/etc/mongodb_databk** directory.

Example:

```
[root@localhost ~]# mongodump --host 127.0.0.1:27017 -u mongodb -p mongodb --
authenticationDatabase admin --gzip --out /etc/mongodb_databk
```

Tip: If SSL is enabled, run the `mongodump --host <ip>:<port> -u <username> -p <password> --authenticationDatabase <dbname> --ssl --sslAllowInvalidCertificates --authenticationMechanism SCRAM-SHA-256 --gzip --out <filepath>` command.

4. Verify the backup result.
 - 1) Run the `cd /etc/mongodb_databk` command to navigate to the **/etc/mongodb_databk** directory.
 - 2) Run the `ls -al` command under the **mongodb_databk** directory to browse the backup data.

Restoring Dumped MongoDB Data

Restore the dumped data by using the `mongorestore` command provided by MongoDB.

Note: Make sure the service of MongoDB is running when you run the `mongorestore` command.

Note: Make sure other relevant services are stopped.

To restore the dumped MongoDB data onto the MongoDB server, run the `mongorestore --host <ip>:<port> -u <username> -p <password> --authenticationDatabase <database_name> --authenticationMechanism SCRAM-SHA-256 --gzip --out <filepath>` command.

Example:

```
[root@localhost ~]# mongorestore --host 127.0.0.1:27017 -u mongodb -p mongodb --
authenticationDatabase admin --gzip --out /etc/mongodb_databk
```

Tip: If SSL is enabled, run the `mongorestore --host <ip>:<port> -u <username> -p <password> --authenticationDatabase <dbname> --ssl --sslAllowInvalidCertificates --authenticationMechanism SCRAM-SHA-256 --gzip --out <filepath>` command.