**IE**

NetBrain® Integrated Edition 8.0

# Quick Start Guide (AAM)

# Contents

# 1. Organizing and Verifying Paths in Application Manager

Application Manager enables you to manage traffic paths based on applications and verify the application paths periodically to detect possible network changes and ensure application consistency.



## Use Flow

The following is a recommended flow for verifying paths in batch in the system:

1. [Define Applications and Paths](#).

2. [Define Golden Paths for Application Paths](#).

3. [Verify Application Paths Automatically](#).

4. [View Results and Generate Report](#).

5. [Troubleshoot the Path Changes with Runbook Automation](#).

## 1.1. Defining Applications and Paths

<u>Example:</u> Create an Email Service application and add paths to the application.

1. Click the start menu  and then select the **Application Manager**.

2. Click **New Application** at the upper-right corner and define the details as follows:
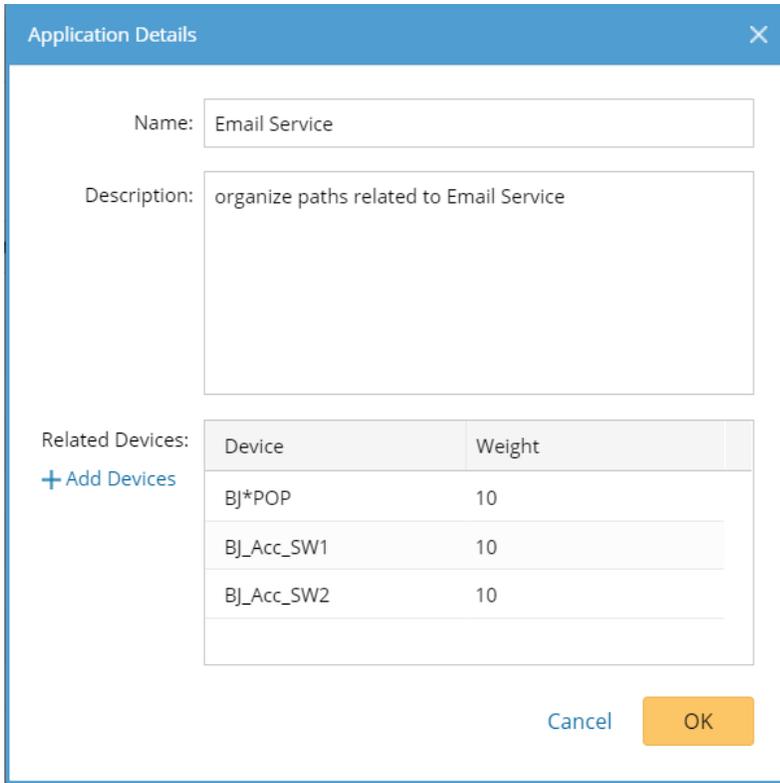


1) Enter a meaningful name for the application, such as **Email Service**.

2) (Optional) Add a description of the application.

3) (Optional) Add related devices to the application and define a weight for each device.

> **Tip:** Each related device has a default weight value 10, and you can double-click to modify the value. The weight is used to sort the application list order.

4) Click **OK.**

5) Repeat to add more applications.

3.  Click **New Path** at the upper-right corner of the Application Manager pane and define the details as follows:



1)  Enter a meaningful name for the path, such as **Client to DNS**.

2)  Specify an application for the path, such as **Email Service**, in this case.

3)  Specify the parameters to calculate the path.

    ▪  For unicast path, enter the source and destination.

    ▪  For multicast path, enter the multicast receiver, source and group value.

4)  Specify an application protocol for the path. By default, the protocol is IPv4.

5)  (Optional) Click **Configure** to input values for QoS parameters if the source device is an end system with QoS configured. See Parameters for details.

6)  Click **OK**.

7)  Repeat to add more paths to the application, such as **Client to SMTP** and **POP3 to Client**.

4.  View the applications and paths. The paths are organized and displayed per application.
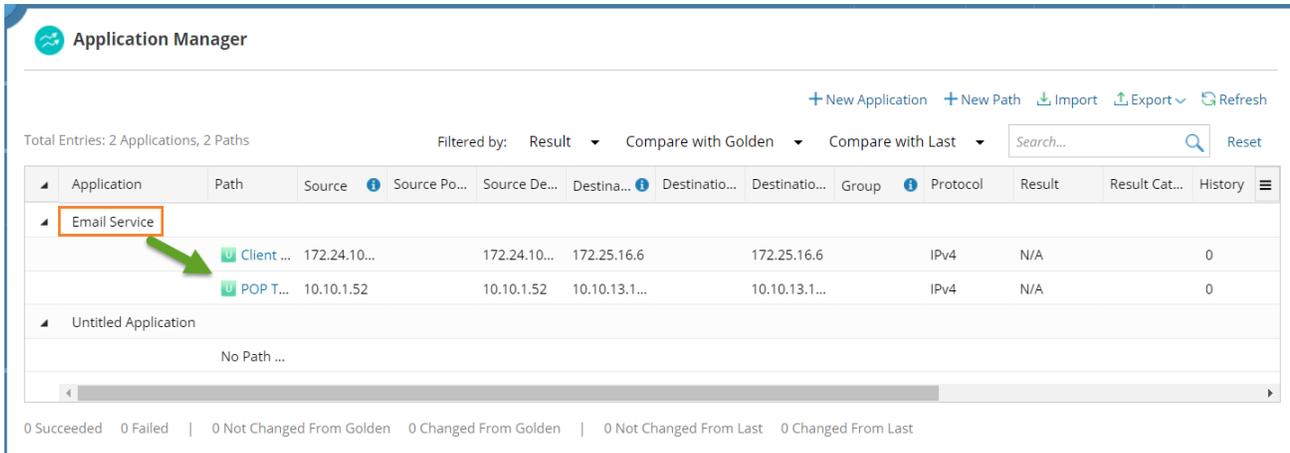


> **Tip:** Right-click a path entry to calculate the path with live data. If the calculated path goes exactly as the traffic does in your real network, you can set it as a [Golden Path](#).

## Customizing Table Headers in Application Manager

The Application Manager displays all the information about paths by default. To remove specific table headers, click the ☰ icon and uncheck them.
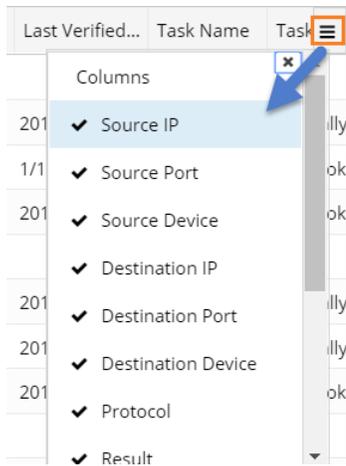


## 1.2. Defining Golden Paths

Golden Path refers to a calculated path in your NetBrain system that goes exactly as the traffic does in the real network. The system automatically compares the results of the verified paths with golden paths when it

periodically verifies or monitors the paths.

| Path | Source | | Source Po... | Source De... | Destina... | | Destinatio... | Destinatio... | Group | | Protocol | Result | Result Cat... | History | Compare with Golden ... | Compare ... | Last Verifi... | Task Nam... |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Client ... | 172.24.10... | | | 172.24.10... | 172.25.16.6 | | | 172.25.16.6 | | | IPv4 | Succeeded | | 2 | No Change | No Change | 12/30/201... | Manually ... |
| POP T... | 10.10.1.52 | | | 10.10.1.52 | 10.10.13.1... | | | 10.10.13.1... | | | IPv4 | Succeeded | | 1 | N/A | N/A | 12/30/201... | Manually ... |

Golden Paths can be set through any of the following ways:

- Set Golden Paths Manually in the Application Manager
- Set Golden Paths Automatically Through Basic System Benchmark
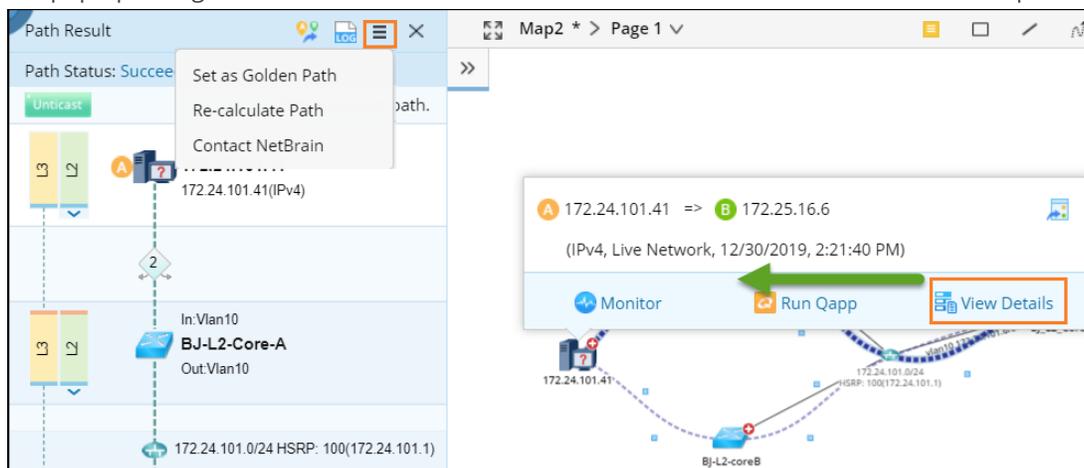
## Set Golden Path in the Application Manager

Proceed with the following steps to set Golden Path one by one for the paths in the Application Manager:

1. Right-click the path that you want to set Golden Path for in the Application Manager.

   Note: Make sure that a path has been calculated at least once before you set the Golden Path.

2. Select **View Path History** in the right-click menu.

3. Right-click a history path and select **Set as Golden Path**. A confirmation dialog will pop up and click **Yes** to continue if you are sure to set it as Golden Path.

   Tip: If you are not sure whether a path is appropriate as a Golden Path, you can draw it on a map for a check first. To do so, right-click the path in the **History** dialog to select **Open Path in Map**, select the path on the map, click **View Details** in the pop-up dialog and then click the ≡ icon to select **Set as Golden Path** in the Path Result pane.

## Set Golden Path Automatically through Basic System Benchmark

You can automatically set golden paths in batch through the **Basic System Benchmark**. The golden path settings in the Basic System Benchmark target all application paths in the Application Manager. The system analyzes the results of one calculated path after the benchmark task runs several times and automatically set the path as Golden Path if it meets the defined requirements.

1. Edit the **Basic System Benchmark** and navigate to the **Additional Operations after Benchmark** tab.

   > **Note:** The Auto-Set Golden Path function is only available in the built-in **Basic System Benchmark**.

2. In the **Auto Set Golden Path** area, check the **Enable** checkbox.

3. Set the times to run the benchmark for the Golden Path definition. If the results of a path in the specified consecutive times of benchmark executions are always successful and consistent, then the system automatically sets the last result of the path as Golden Path.

## 1.3. Verifying Application Paths Automatically to Detect Changes

You can set your NetBrain system to periodically monitor or verify the application paths and send alerts and emails when the path changes.

- Verify Application Paths via Basic System Benchmark
- Monitor Application Paths by Scheduling Qapp

## Verify Application Paths via Basic System Benchmark

It is highly recommended you add the application paths to the Basic System Benchmark for verification. These paths will be verified as soon as the benchmark is executed.

   > **Note:** If you want to verify application paths in another benchmark task, make sure you select all the data types on the **Retrieve Live Data** tab of that benchmark task.
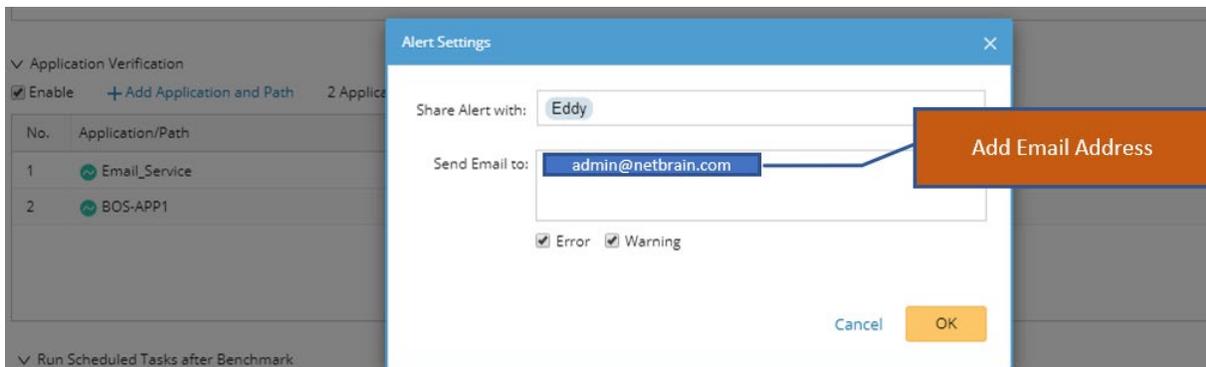
1. Edit the **Basic System Benchmark**, and go to the **Additional Operations after Benchmark** tab.

2. In the **Application Verification** area, check the **Enable** option, and add paths or applications that you want to verify.
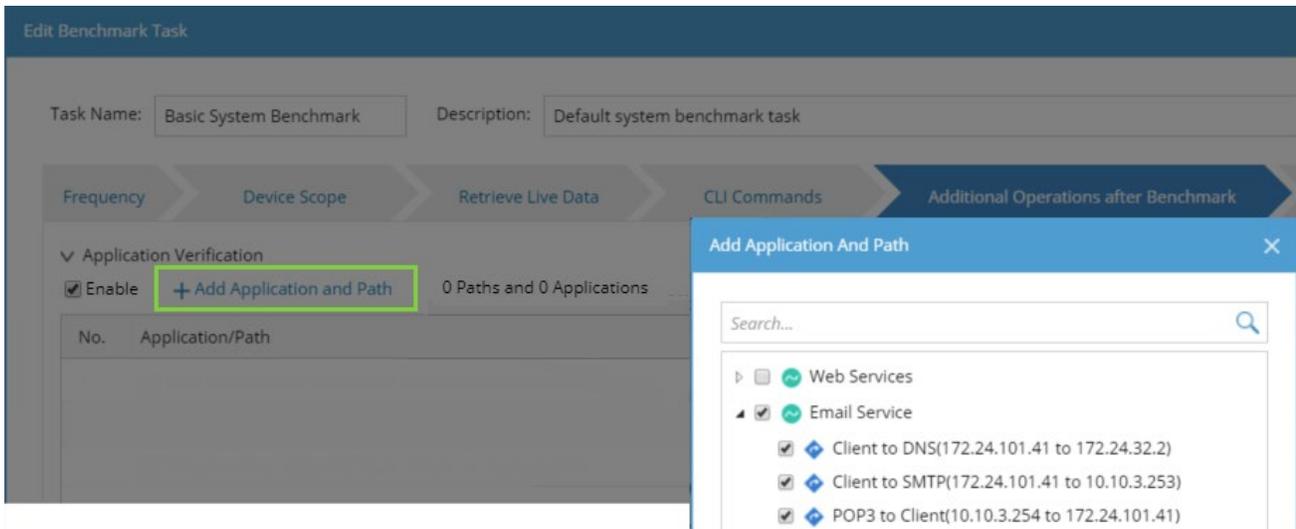


3. Click **Alert Settings** to define system alerts and email alerts for path changes. If the paths fail or change when being compared with Golden Path or last verified result, the system will send alerts.

   1) In the **Share Alert with** field, enter a username and then select the matched user account from the populated drop-down list.

   2) In the **Send Email to** field, input the email addresses.
   <u>Alert Email Definition Sample:</u>

Email Notification Sample:



3) Select the alert level for system alerts and email alerts.

4. Submit the benchmark task.

## Verify Application Paths by Scheduling Qapp

You can periodically monitor application paths in a scheduling Qapp task. Once the paths have changed, the system can detect changes and notify the changes via emails and alerts.

1. Create a **Schedule Qapp** task. In the **Domain Management** page, click **Schedule Task** on the **Start Page** tab, click **Schedule Qapp**, and click **Add Task**.

2. On the **Target Devices** tab, add the paths that you want to monitor.

3. On the **Select Qapp** tab, select a Qapp to run on the devices of the selected paths.

4. On the **Time Settings** tab, set the time and frequency to run the task. To 24*7 monitor the application paths, select **Continually,** and then define the frequency to repeat the task.

5. On the **Output** tab, define alert and email for path changes.

   1) In the **Share Alert with** field, enter a username and then select the matched user account from the populated drop-down list, or directly enter an email address.

      > **Note:** To complete an email address, you can enter a comma, semicolon, or press the **Enter** key, **Tab** key, or **Space** key.

   2) In the **Send Email to** field, input the email addresses.

6. Click **Finish** to save the task.

## 1.4. Viewing Path Result and Exporting Report

At each run cycle, the system compares the current result of a path with the last calculated one and Golden Path. The calculation and comparison results are recorded and visualized in the Application Manager.

- [View the Latest Results in the Application Manager](#)
- [Export Path Results](#)

## View the Latest Results in the Application Manager

The Application Manager shows the latest path results and supports a variety of filter methods to filter the results.

| Path | Source | Source Po... | Source De... | Destina... | Destinatio... | Destinatio... | Group | Protocol | Result | Result Cat... | History | Compare with Go... | Compare ... | Last Verifi... | Task Nam... | Task Type |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | |
| Client to D... | 172.24.10... | | 172.24.10... | 17.14.12.1 | | 17.14.12.1 | | IPv4 | Failed | Lack of rel... | 3 | N/A | Changed | 12/30/201... | Manually ... | Manually ... |
| POP To Clie... | 10.10.1.52 | | 10.10.1.52 | 10.10.13.1... | | 10.10.13.1... | | IPv4 | Succeeded | | 3 | No Change | No Change | 12/30/201... | Manually ... | Manually ... |
| Client to S... | 10.10.10.13 | | 10.10.10.13 | 10.10.1.186 | | 10.10.1.186 | | IPv4 | Succeeded | | 2 | N/A | Changed | 12/30/201... | Manually ... | Manually ... |

1. View the changed or failed paths in the **Result**, **Compare with Last,** and **Compare with Golden** columns.

   > **Tip:** Use the **Filter** function to search for the results that you want to view. You can use multiple filters together.

2. Draw the current path and Golden Path on a map to see the differences. To draw the paths on a map, select **Draw Latest Path on Map** and **Draw Golden Path on Map** respectively in the right-click menu of a path.

| ◢ | Path | Source | ⓘ | Source Po... | Source De... | Destina... ⓘ | Destinatio... | Destinatio... | Group | ⓘ | Protocol | Result | Result Cat... | History | Compare with Go... | Compare ... | Last Verifi... |
|---|------|--------|---|-------------|--------------|--------------|---------------|---------------|-------|---|----------|--------|---------------|---------|-------------------|-------------|----------------|
| ◢ | | | | | | | | | | | | | | | | | |
| | 🔲 Client to D... | 172.24.10... | | | 172.24.10... | 17.14.12.1 | | 17.14.12.1 | | | IPv4 | Failed | Lack of rel... | 3 | N/A | Changed | 12/30/201... |
| | 🔲 POP To Clie... | 10.10.1.52 | | | 10.10.1.52 | 10.10.13.1... | | 10.10.13.1... | | | IPv4 | Succeeded | | 3 | | | '201... |
| | 🔲 Client to S... | 10.10.10.13 | | | 10.10.10.13 | 10.10.1.186 | | 10.10.1.186 | | | IPv4 | Succeeded | | 2 | | | '201... |
| ◢ | | | | | | | | | | | | | | | | | |

Draw Latest Path on Map
Draw Golden Path on Map
Calculate Live Path

3. Draw the current path and last calculated path on a map to see the differences.

> **Tip:** The Application Manager stores the last calculated path and earlier historical paths. To view and map the history paths, right-click a path, select **View Path History**, and right-click a history path to open it on a map from the **History** pane.



## Export Path Results

You can export the latest path results to a CSV file. Click **Export** in the Application Manager and select **Export Report.**

> **Note:** If you are using the **Filter** function, the exported results only include the filtered content.

## 1.5. Troubleshooting Path Changes via Runbook Automation

You can verify application paths in a runbook and run Qapps, CLI command, or other automation to troubleshoot upon path changes.

1. On a map, open a runbook and add a **Verify Application** node to the runbook.

2. Click the **Verify Application** node and add the application paths.

3. Click **Run** to calculate and verify the paths.



4. Right-click a verified path with changes and draw the path on a map.

5. Add Qapps or other actions that you want to run for the application paths.

## 1.6. Application Weight

When you select paths to add them to the **Verify Application** node of a runbook, the applications will be listed and sorted by weight from high to low.



The weight of an application is the sum of device weight and path weight.

## Device Weight

The device weight of an application is the sum of the weights of all devices involved in the application. When assigning devices to an application, you can manually assign a weight to each device.

## Path Weight

The path weight of an application is the sum of the weights of all the paths contained in the application. For example, APP1 has two paths, and the weight of Path1 is 3, the weight of Path2 is 5, then the path weight of the App1 is 8.

The weight of a path depends on how many devices that the path crosses on have appeared on a map, and one device weighs 1. For example, a path crosses 5 devices, only 3 of 5 devices appear on the map, then the path weight is 3.