IBM Operations Analytics Predictive Insights 1.3.5

IBM

Troubleshooting Guide

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Preface

The purpose of this guide is to help you install Operations Analytics Predictive Insights.

After completing all steps documented in this guide, you will have a set of running Operations Analytics Predictive Insights components ready to configure into a fully functional system.

Audience

The audience for this manual is the network administrator or operations specialist responsible for installing Operations Analytics Predictive Insights.

To install Operations Analytics Predictive Insights successfully, a basic knowledge of the following is required:

- Administration of the Linux operating system.
- Administration of IBM InfoSphere Streams.
- Administration of the DB2 database management system.
- Administration of OMNIbus and OMNIbus WebGUI.
- Operations Analytics Predictive Insights

Components

IBM® Operations Analytics Predictive Insights consists of four main components.

The IBM Operations Analytics Predictive Insights components are:

- **The Database component**: is used to store configuration data, metadata and metric data.
- **The Analytic component**: performs data mediation and processes incoming data to discover any anomalies that are present.
- **The UI component**: presents any discovered anomalies through the IBM Dashboard Application Services Hub application or the IBM Tivoli Integrated Portal application.
- **The Mediation Tool**: is used to configure a data source and the data model that Operations Analytics Predictive Insights will monitor.

Operations Analytics Predictive Insights documentation includes the following guides:

- Release notes
- Installation Guide
- Upgrade Guide
- Administration Guide
- Error Messages Guide

Troubleshooting

Troubleshooting the Operations Analytics Predictive Insights system.

This section contains possible troubleshooting tasks that can be carried out by the Administrator to ensure Operations Analytics Predictive Insights functions correctly.

Sending troubleshooting information to IBM

If you encounter a problem that you cannot solve, use the `collect.sh` script to gather all available information before your contact IBM. For more information, see collect.sh. For further information on log files that you can send to IBM, see Log files created.

Troubleshooting issues

Database connection check failed

An error occurs when you perform an Operations Analytics Predictive Insights operation.

Symptoms
When you perform an operation such as launching the User Interface or running a command such as **admin.sh**, **start.sh**, or **run_extractor_instance**, you see the error message: "database connection check failed."

Resolving the problem
A likely reason for this is that the database user password has changed, and that change has not been reflected in the Operations Analytics Predictive Insights files.

To update the database user password in the Operations Analytics Predictive Insights files, see Changing the database user password.

DB2 database crashes

How to resume data processing if the Operations Analytics Predictive Insights DB2 database crashes.

Symptoms
The DB2 database crashes when processing data.

Resolving the problem
If the DB2 database crashes, follow these steps to resume data processing:
1. Start DB2.
2. When DB2 starts, stop Operations Analytics Predictive Insights:
   `$PI_HOME/bin/stop.sh`
3. Start Operations Analytics Predictive Insights:
   `$PI_HOME/bin/start.sh -t=<topic name>`
   If you wish to start all available topics, do not specify the -t parameter.
4. Start data extraction:

```
./admin.sh run_extractor_instance -mode=EXTRACT -topic=<topic name> -e=<end time>
```

Note: By not specifying a start time, the extraction process resumes processing from the point where it stopped when the database crashed.

Out of memory error results in Streams process crash

Operations Analytics Predictive Insights uses several Java Virtual Machines, one of which may crash due to an out of memory error.

Symptoms
An out of memory error or crash, such as the following:
```
JVMDUMP006I Processing dump event "systhrow", detail "java/lang/OutOfMemoryError" - please wait.
```

Resolving the problem
If the event of an OutOfMemory exception, refer back to the sizing process in combination with IBM support assistance. To assist Support in diagnosing the problem, send IBM support the output of `$PI_HOME/bin/collect.sh`.

Resolve the problem by performing the following steps:

1. Change memory settings as advised by the sizing process.
2. Stop/start the Operations Analytics Predictive Insights Analytics. The following example uses the topic name Topic1. Substitute this with the appropriate topic name.
   ```
   $PI_HOME/bin/stop.sh -t=Topic1
   $PI_HOME/bin/start.sh -t=Topic1
   $PI_HOME/bin/run_extractor_instance -t=Topic1
   ```

Mediation is stopped after training failure

How to start mediation if training fails.

Symptoms
If training does not complete successfully, Mediation is stopped. When extracting data in backlog mode, Mediation is suspended at the start of training and remains suspended if training fails. When extracting data in steady-state mode, Mediation runs during training, except for the first training, but is suspended if training fails. If training fails, an error is displayed in the Active Event List. For example:
```
Granger training failed at 2014-06-05 07:32:27, Last successful training: 1969-12-31 19:00:00".
```

Diagnosing the problem
Run the collect.sh script to identify the log file with errors:
```
$PI_HOME/bin/collect.sh
```

The log file are in: `$PI_HOME/log/<topic name>/`

Where <topic name> is the name of the topic .

Resolving the problem
Stop the analytics instance by running `stop.sh -t=<topic name>`. Take the appropriate corrective action. For example, if there was insufficient memory allocated to the training process, see the Performance and Sizing guidelines. After you resolve the problem, start the analytics instance by typing `start.sh -t=<topic name>`. Start mediation by executing `run_extractor_instance [-e=<endtime> -l=<latency>]`.

Installation log hyperlink fails to open log file

How to open the Installation Manager installation log.

Symptoms
When you click the installation log hyperlink in Installation Manager, the log file does not open.

Diagnosing the problem
This problem occurs because an editor is not installed on the server.

Resolving the problem
Install an editor. For example,

```
yum install emacs
```

Error displayed when viewing dashboards

This topic describes how to resolve an error that occurs when viewing a dashboard.

Symptoms
When you attempt to view a dashboard in Dashboard Application Services Hub, an error similar to the following error is displayed:

```
Error Collecting data visualization input data.Failed to create
dataset.ATKRST132E  An error occurred while transferring a request to the following remoteprovider
provider - Predictive_Insights.default_provider
```

Resolving the problem
To resolve this problem, clear your browser's cache and open a new browser window.

Error displayed when you open the Detected Anomalies widget

You must modify the data source name to resolve an error that occurs when you open the Detected Anomalies widget.

Symptoms
When you attempt to open the Detected Anomalies widget, you see an error similar to the following:

```
HEMDP0119E : Failed to obtain event data in the expected format for
'PredictiveInsights:global' filter from data source 'OMNIBUS' for user
'ncoadmin'. The message returned by the Event Data Service was: '
No valid data source found in 'OMNIBUS'.'
```

Causes
The default OMNIbus Data Source name, OMNIBUS, was changed so the Detected Anomalies widget is unable to locate the event data.

Resolving the problem
Complete the following steps to modify the data source name for the Detected Anomalies widget:

1. In the Detected Anomalies page, click the **Page Actions** icon, , and click **Edit Page ...**.

2. Move the cursor along either side edge of the widget until the cursor changes to a hand symbol, ▟. When the hand symbol is displayed, click to bring the widget into focus so that you can edit it. When the widget is in focus, a dotted line is displayed around the widget.

3. From the Widget menu, click **Edit**.

4. In the data tab, under Data Sources, click the check box beside the updated OMNIbus object server name.

5. Click **Save**.

6. Click **Save and Exit**.

7. Close and reopen the Detected Anomalies widget.

Error displayed when synchronizing the Mediation tool with a CSV data source

The first step in creating a data model is to synchronize the Mediation tool with a data source.

Symptoms

When you synchronize the Mediation tool with a CSV data source schema, the following error is displayed:

```
Could not access datasourcecom.ibm.tivoli.netcool.pa.mediation.model.validate.ModelValidationExcepti
datasource Folder [\Demo\France\data]: could not parse files due to invalid delimiter for source elem
Example [V_QOS_CPU_UTILIZATION_1150419000000000_1150428000000000.csv]
```

Causes

The fields in a CSV source file are not delimited with a comma.

Resolving the problem

Use a comma to delimit the fields in the CSV source files.

A temporary network interruption between Analytics and Database servers causes the PostProcessingOperator to fail

An error occurs due to a temporary network interruption between the Analytics and Database servers.

Symptoms

1. In the event list, you see a system health alarm similar to the following:

```
Application is in unhealthy mode. System health message not coming since <timestamp>.
Run collect.sh on the server to begin investigation.
```

2. When you run the collect.sh script, the output shows that the script found exceptions in the following log files:

   - $PI_HOME/log/<topic>/Analytics<TOPIC>_log_PostProcessingOperator.log
   - $PI_HOME/log/<topic>/Analytics<TOPIC>_log_DataSourceOperator.log

3. If you view both log files, you see errors similar to the following:

```
2015-09-15 01:10:30,963 ERROR [PostProcessingOperator]
ERR_INTERNAL_SYSTEM: Internal system errorcom.ibm.tivoli.netcool.pa.PaException:
ERR_INTERNAL_SYSTEM
Caused by: com.ibm.tivoli.netcool.pa.dao.ConnectionException:ERR_DB_DATABASE_ERROR
Caused by: com.ibm.db2.jcc.am.DisconnectNonTransientConnectionException:
[jcc][t4][2030][11211][4.17.29] A communication error occurred during  operations on the
connection's underlying socket, socket input stream,or  socket output stream.  Error
location: Reply.fill() -  socketInputStream.read (-1).  Message: Connection timed out.
ERRORCODE=-4499, SQLSTATE=08001
```

4. After the errors occur in the `$PI_HOME/log/<topic>/Analytics<TOPIC>_log_DataSourceOperator.log` file, you see that the **Datasource** component connects successfully to the Database and data mediation recovers. However, the problem remains in the `$PI_HOME/log/<topic>/Analytics<TOPIC>_log_PostProcessingOperator.log` file.

5. If you run the `streamtool lspe -i spl` command, you see that the `UnifiedAlarmAlgoOutput` operator is unhealthy.

Causes
A temporary network interruption occurred between the Analytics and Database servers.

Resolving the problem
To resolve the problem:

1. Enter the following command to stop Operations Analytics Predictive Insights:
   `$PI_HOME/bin/stop.sh -s`

2. To start Operations Analytics Predictive Insights, enter the following command:
   `$PI_HOME/bin/start.sh [-t=<topic>]`

3. To resume extraction, enter the following command:
   `$PI_HOME/bin/run_extractor_instance [-t=<topic>] [-l=<latency>]`

   For more information, see run_extractor_instance.

Error displayed when you open Metric Search after upgrade

You see an error when you open the Service Diagnosis Metric Search page in Microsoft Internet Explorer after you upgrade Operations Analytics Predictive Insights.

Symptoms
After you upgrade Operations Analytics Predictive Insights to version 1.35, you see an error when you open the Metric Search page in Microsoft Internet Explorer:

`The service [TASPUIMetaDataServicesWrapper] and method [getLatestAnalyticProcessData] is not defir`

Resolving the problem
When you see the error, click OK. The metric search page works as expected. However, the time period that is shown on the chart reflects the current date and time and not the last date and time that data was processed for the metric. You must manually adjust the time period that is shown on the chart to show the time period when data was last processed for the metric.

Error Messages

Use the message descriptions contained in this guide to correctly respond to any errors occurring in your Operations Analytics Predictive Insights system.

GYMVB10001E An error has occurred while trying to retrieve anomaly information for anomaly.

Explanation: The anomaly you are searching for is either: in the system and is corrupt, or you are not able to connect to the database containing the anomaly information.

User response: Confirm that the database is working

and available when connecting from the server running the UI component. Any further UI error information is available in your TIP or DASH log files.

GYMVB10002E No anomaly can be found for anomaly id.

Explanation: The anomaly you are searching for does not exist. There is no record of this anomaly in the

Predictive Insights database.

User response: You may be searching for an anomaly that has been removed from the Predictive Insights database. Confirm if your system has recently undergone cleanup, or if the anomaly you are searching for is older than the maximum retention period for anomaly information. The metric retention period is set using the configuration property metric.retention.days.

GYMVB10003E **The list of metrics could not be retrieved.**

Explanation: The database is no longer available or the metric information is incorrectly formatted.

User response: Confirm that the database is available. If the database is available, then you have encountered an issue with metric information format. Contact your system administrator.

GYMVB10004E **The selected anomaly is invalid**

Explanation: The anomaly you are searching for is either: in the system and is corrupt, or you are not able to connect to the database containing the anomaly information.

User response: Confirm that the database is working and available when connecting from the server running the UI component. Any further UI error information is available in your TIP or DASH log files.

GYMVB10005E **Properties for the visualization cannot be retrieved.**

Explanation: You cannot connect to the database.

User response: Check if your database is up and running, if a network path exists between the UI server and the database, and make sure you have the correct database credentials. The password may have expired and have been reset.

GYMVB10007E **The start and end times of a tag need to be within those of the chart.**

Explanation: You have attempted to create a tag containing times that are not within the visualization period.

User response: Limit the tag to the times that are available within the visualization period.

GYMVB10009E **The chart is showing only the target metrics from the top {0} child alarms, ordered by Last Occurrence and Severity, of this consolidated alarm. Use the 'Related Metrics' tab in the bottom pane to modify the metrics that are displayed.**

Explanation: You have opened a consolidated alarm

that has more than six child alarms. By default Predictive Insights only displays the first six child alarms.

User response: Use the Related Metrics tab to include those metrics you want to display.

GYMVB9010E **KPI Count did not find any matching data.**

Explanation: The KPI count is output after the model is deployed and is displayed with a breakdown of metrics, resources, and time period the estimate was based upon. The file system data you used as a data source may not have had sufficient data to allow for an accurate KPI count.

User response: The Mediation Tool calculates the KPI Count from a sample of the source data. When using a file system data source, ensure that this sample is representative of the complete data set by having at least one full day of data available to the Mediation Tool. If the Mediation Tool is running on a separate server to the Analytics component, you must copy the sample data to the Mediation Tool server.

After KPI Count has completed the eclipse workspace logs contain details of KPI Count, such as, periods searched, resources matching and not matching filtering. Search these logs for the text "Group ". This logging information will give detailed information on the KPI Count.

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