iWD Deployment Guide

Stat Server Extensions

5/4/2025

Contents

Stat Server Extensions

After you have installed iWD, you can install the iWD Stat Extensions, which provide access to the aggregated data in the Data Mart.

> **Important**
> iWD Setup Utility is not supported in release 9.0.

Installing Stat Server Extensions

> **Important**
> If the Data Mart is not used, Stat Extensions are not required and the solution will work fine.

Purpose

To provide access to the aggregated data in the Data Mart.

Prerequisites

- An instance of Stat Server is installed, dedicated for use with iWD. Refer to the *Stat Server 8.5 Deployment Guide* for more information.
- ORS 8.1.400.48 is installed if you wish to use the Stat Server Extensions features implemented in iWD release 8.5.106.03.

Procedure

1. From the server that is running Stat Server, navigate to the **iWD Stat Extensions** folder of the iWD CD. Locate and double-click **Setup.exe**.
2. Click **Next** on the **Welcome** screen.
3. Select the appropriate Stat Server instance from the list that is displayed and click **Next**.
4. Click **Install** to install iWD Stat Extensions. Click **Finish** when the installation has been completed.

Stat Server Configuration Options

[java-extensions] section

During installation, a new option—**BPR_iWD_Extension.jar**—is added to the [java-extensions] section, with a default value of `true`.

[java-extensions-bpr-iwd] section

The **[java-extensions-bpr-iwd]** section contains options which specify the JDBC connection driver and parameters for access to the iWD Data Mart database. Most options are managed by the Stat Adapter job of iWD Data Mart and are rewritten each time the Stat Adapter is run. For reference, those options are listed below:

- **jdbc-driver-jar**—The **.jar** file with the JDBC driver. The path is relative to the directory specified as **java-libraries-dir** in the Stat Server configuration (which defaults to **./java/lib** in the Stat Server installation directory). Valid values include:
  - `mssql-jdbc-6.1.0.jre8.jar` (for MS SQL)
  - `ojdbc8.jar` (for Oracle)
  - `postgresql-9.4.1212.jar` (for PostgreSQL)
- **jdbc-driver**—The class name for the corresponding JDBC driver. Valid values include:
  - `com.microsoft.sqlserver.jdbc.SQLServerDriver` (for MS SQL)
  - `oracle.jdbc.OracleDriver` (for Oracle)
  - `org.postgresql.Driver` (for PostgreSQL)
- **jdbc-url**—The JDBC URL, which describes RDBMS-specific access parameters. Below are some sample values:
  - `jdbc:sqlserver://hostname:1433;databaseName=databasename` (for MS SQL)
  - `jdbc:oracle:thin:@//hostname:1521/databasename` (for Oracle)
  - `jdbc:postgresql://hostname:5432/databasename` (for PostgreSQL)
- **user**—The user name for database access.
- **password**—The password for database access.
- **verbose**—The level to control debug information, provided in the Stat Server log file. Possible values are `debug`, `trace`, or `standard`.
- **refresh-interval**—The interval (in minutes) for data updates from the database.
- **service-id-1**—The runtime ID of the Statistics Adapter service in the iWD configuration.
- **service-tenant-1**—The name of the configuration tenant—this is linked to the iWD managed tenant where the Statistics Adapter service is configured.

- **virtual-queue-name-1**—
  - If Dimension Mapping is set to `Filter`, it is the name of the single Genesys virtual queue to which statistics are distributed.
  - If Dimension Mapping is set to `Virtual Queue`, it is the prefix to be added to the names of Genesys virtual queues to which statistics are distributed.
- **dimension-mapping-1**—The type of the dimension mapping between iWD Data Mart and Stat Server. Valid values are `Filter` and `Virtual Queue`.

You can set a small subset of options manually:

- **java-extension-jar**—Name of the BPR iWD extension file. Defaults to `BPR_iWD_Extension.jar`. This must match the option in **java-extensions** section in the Stat Server configuration.
- **jdbc-properties-file**—Path to JDBC driver properties file relative to directory specified as `java-libraries-dir` in Stat Server configuration (defaults to `./java/lib` in Stat Server installation directory). Can be used to specify optional driver-specific JDBC options. Please consult driver documentation for further information.
- **reconnection-timeout**—Delay in milliseconds between database reconnection attempts performed by the BPR iWD extension. Defaults to `10000`.
- **tenant-ids**—A list of Configuration Server/Genesys Administrator tenant names mapped to iWD tenant IDs, separated by a comma. For a system with one tenant with name `TenantA` and ID `T2`, this option should be set to value:`Environment=1,TenantA=2`.

Creating iWD Virtual Queues automatically

The Statistics Adapter job can automatically create Virtual Queues for statistics to be reported. This feature is disabled by default.

For every unique value stored for the tenant in the **gtl_stat** table in the **dimensionId** column, the Statistics Adapter job does the following:

1. Checks whether the Virtual Queue with the defined name exists.
2. If the Virtual Queue does not exist, the Statistics Adapter job creates the Virtual Queue.
3. If the Virtual Queue does exist, the Statistics Adapter skips Virtual Queue creation.

These steps are continuously performed on each run of the Statistic Adapter job. No automatic update or delete is implemented.

Configuring Virtual Queues creation

To enable this feature, the following options in iWD Runtime Node application must be set:

- **stat-server \ dimension-mapping** = `Virtual Queue`
- **stat-server \ virtual-queue-name** = *<VQ_name_prefix>* (`iWD_` by default)
- **virtual-queues \ create-vqs** = `true`

- **virtual-queues \ switch** = *<switch_name>* (name of the switch where VQs will be created)

You can configure these options in a more convenient way by using Data Mart settings in the iWD Plug-in for GAX, as described in this article.

Virtual Queues naming convention

Virtual Queues are created according to the following naming convention:

- <VQ prefix> + <dimensionId value>

where:

- <VQ prefix> is taken from iWD Runtime Node options > **stat-server\virtual-queue-name** option.
- <dimensionId value> is taken from **dimensionId** column of **gtl_stat** table.

Report Stats for each Dimension on its own Virtual Queue

The iWD Stat Server Java Extension can be configured to report statistics in two different ways:

- All statistics for all dimensions can be reported on one Virtual Queue, or;
- Each dimension can have its statistics reported on its own Virtual Queue.

Manual setup of IWD configures the Stat Server to use the iWD Stat Server Java Extension to report each statistic on its own Virtual Queue. If you want to change this, you must make the change manually.

Procedure

To report each dimension on its own Virtual Queue:

1. Set the the option **dimension-mapping-1** to the value `Virtual Queue`.
2. Instead of using the Virtual Queue name as a value for the option **virtual-queue-name-1**, indicate the prefix that will be used for Virtual Queue names. For example, if **virtual-queue-name-1**=`dim-`, then Virtual Queues with the names `dim-CNT_T2_C106, dim-CNT_T2_C107` and so on, have to be created.

To report all statistics on one Virtual Queue:

1. Set the option **dimension-mapping-1** to the value `Filter`.
2. Set the Virtual Queue name as the value for the option **virtual-queue-name-1**.
3. Create the Virtual Queue using the name value from step 2.

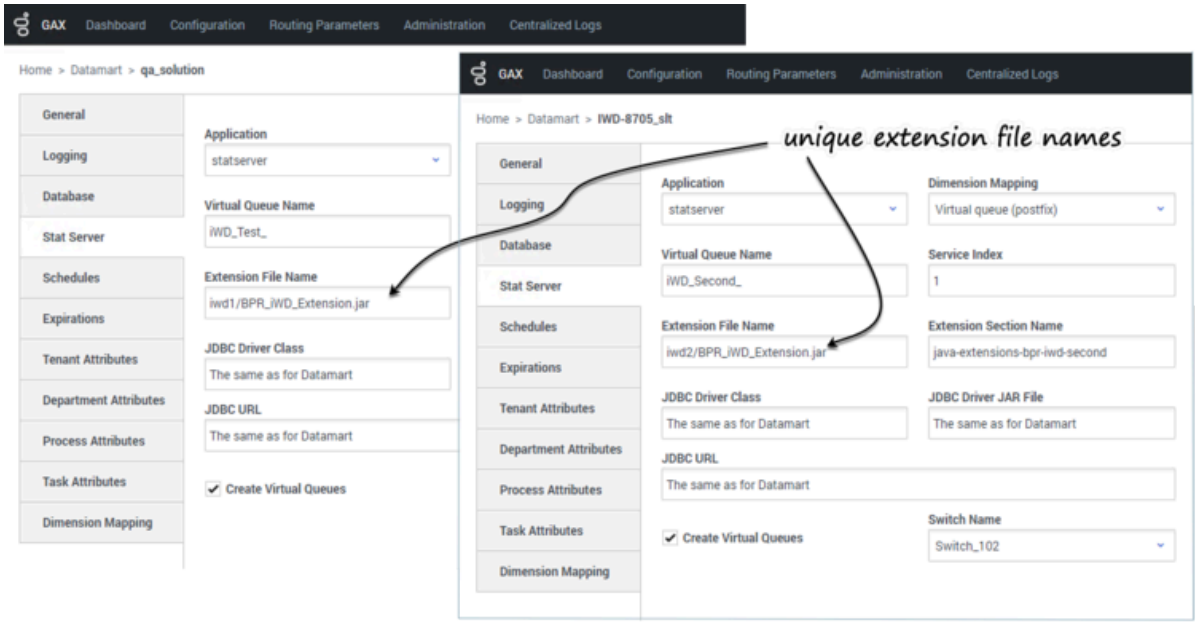
Configure Stat Extensions for separate iWD Solutions using one

Stat Server

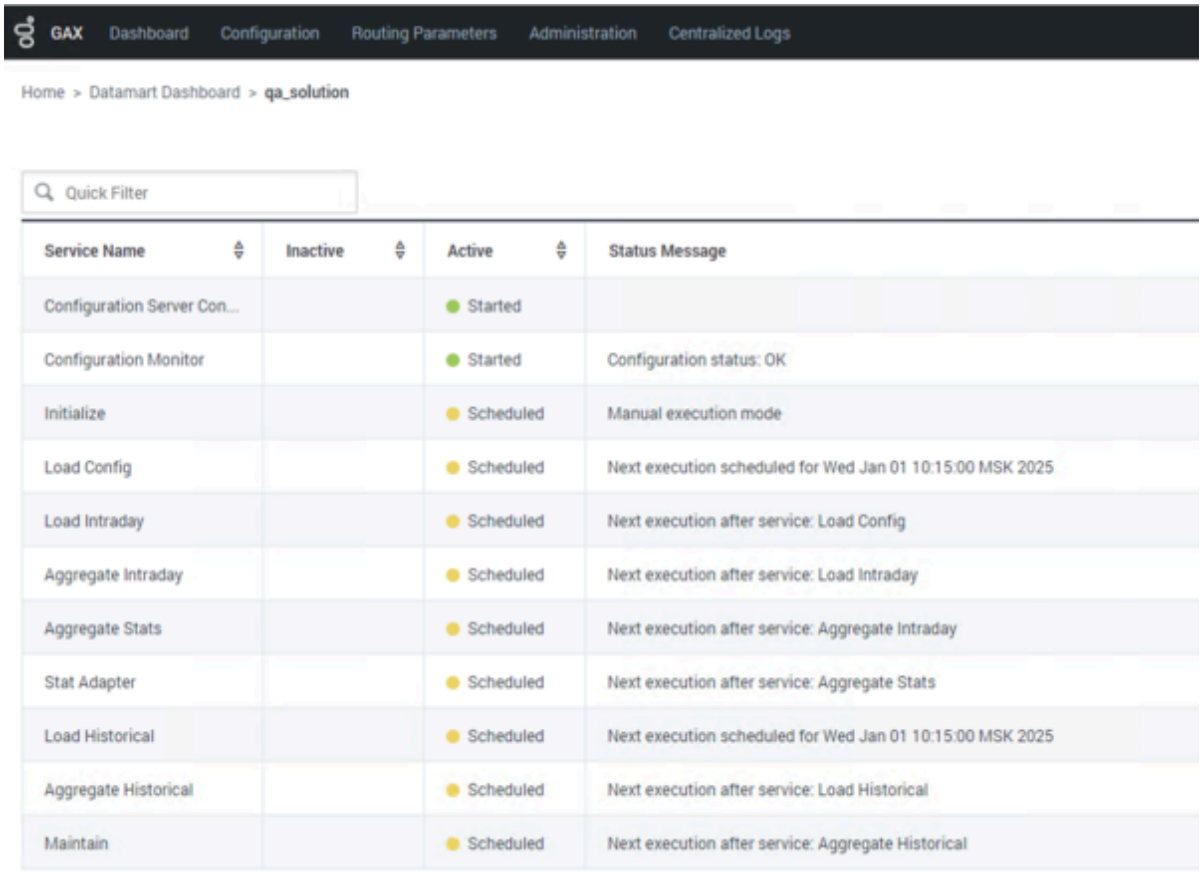
1. Copy the iWD SSJE binary on the back-end for each solution to provide statistics. In this example they are put into separate directories:

```
$ mkdir statserver/java/ext/iwd1 statserver/java/ext/iwd2

$ mv statserver/java/ext/BPR_iWD_Extension.jar statserver/java/ext/iwd1

$ cp statserver/java/ext/iwd1/BPR_iWD_Extension.jar statserver/java/ext/iwd2/


$ ls statserver/java/ext/*

statserver/java/ext/iwd1:

BPR_iWD_Extension.jar


statserver/java/ext/iwd2:

BPR_iWD_Extension.jar
```

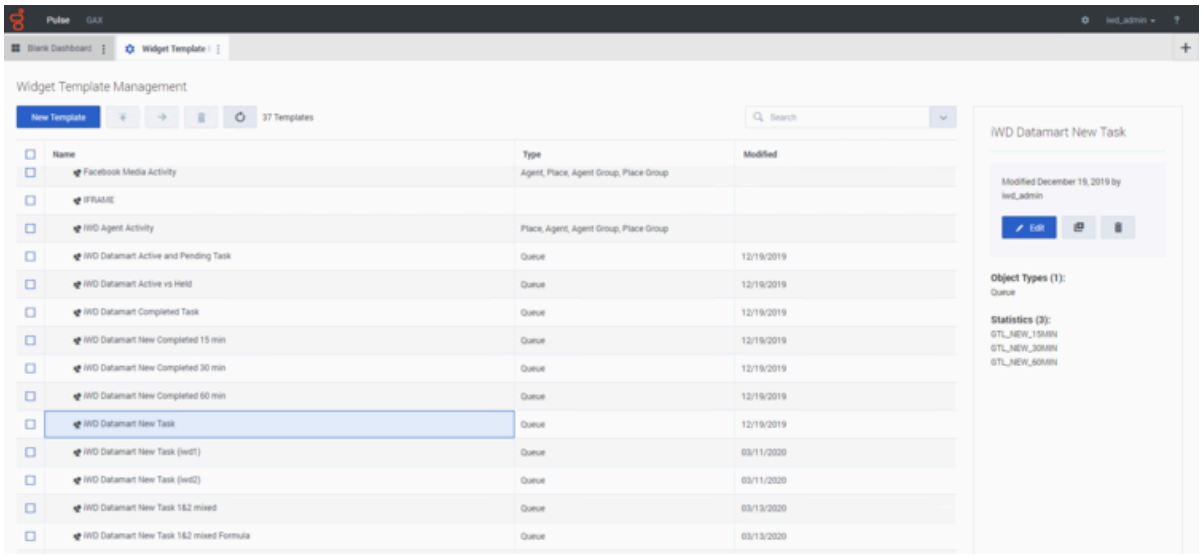
2. Reflect these changes in each iWD Solution by using iWD Plug-in for GAX (**Configuration > iWD > Datamart > [tenant] > [solution] > Stat Server**). Ensure that the **Extension File Name** is unique for each solution:



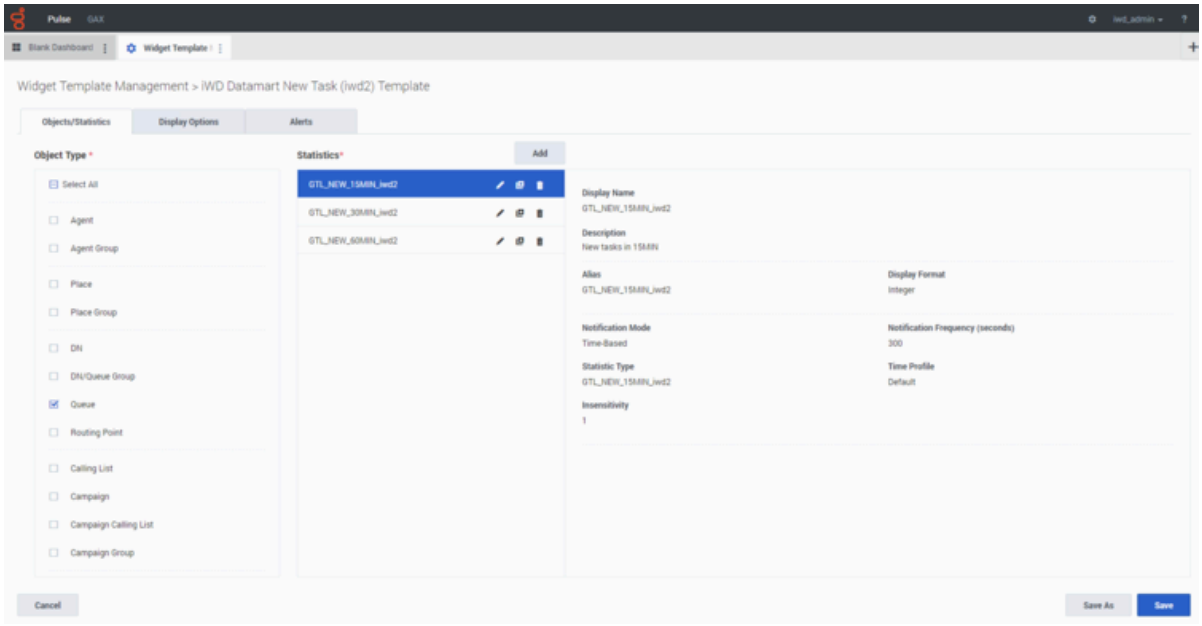
3. Run the **Stat Adapter** job for each Data Mart you have configured (**Configuration > iWD > Datamart Dashboard > [tenant] > [solution] > Stat Adapter > Start**):



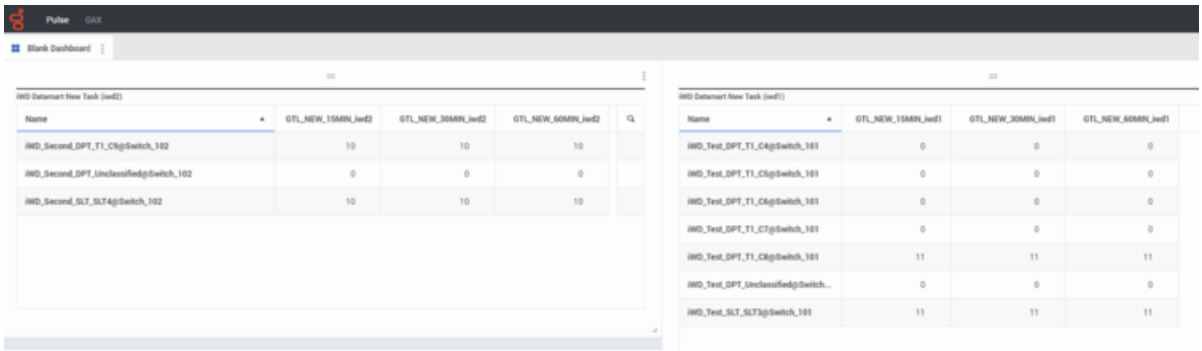
4. Open your Stat Server application object, open **Application Options** and export them to either a cfg or csv file.
5. Within these options there are Stat Types (options sections) with names starting with `GTL_`; such as `GTL_ACTIVE`, `GTL_NEW_15MIN`, and more. Clone these sections while providing some unique affix to them, like `_iwd1` and `_iwd2`, for each solution. You should end up with sections `GTL_ACTIVE_iwd1`, `GTL_ACTIVE_iwd2`, and so on.
6. Within each such section amend option **JavaSubCategory** with the name of the Java Extension name. Please refer to the sample configuration file for two IWD solutions below.
7. Import the amended configurations to the Stat Server application object.
8. Restart Stat Server.
9. Open Pulse and clone the default iWD widget templates for each solution:



10. In the templates, change the **Statistics Type** for each Statistic to match with the section names given in Stat Server:



11. With new templates created, you can now add widgets and assign proper Virtual Queues to them, depending on the solution. Here's the result of a sample configuration:



Sample configuration file for two IWD solutions

```
[java-config]
java-extensions-dir=./java/ext
jvm-path=/usr/java/jre-1.8/lib/amd64/server/libjvm.so

[java-extensions-bpr-iwd-test]
service-id-1=STAT_1
service-tenant-1=selenium
virtual-queue-name-1=iWD_Test_
dimension-mapping-1=Virtual Queue
java-extension=iwd1/BPR_iWD_Extension.jar
java-extension-jar=iwd1/BPR_iWD_Extension.jar
jdbc-driver-jar=mssql-jdbc-6.1.0.jre8.jar
jdbc-driver=com.microsoft.sqlserver.jdbc.SQLServerDriver
jdbc-url=jdbc:sqlserver://<db_host>:1433;databaseName=<iwd_dm_1_db_name>
user=<iwd_dm_1_db_user>
refresh-interval=15
verbose=debug

[java-extensions-bpr-iwd-second]
service-id-1=STAT_1
service-tenant-1=selenium
virtual-queue-name-1=iWD_Second_
dimension-mapping-1=Virtual Queue
java-extension=iwd2/BPR_iWD_Extension.jar
java-extension-jar=iwd2/BPR_iWD_Extension.jar
jdbc-driver-jar=mssql-jdbc-6.1.0.jre8.jar
jdbc-driver=com.microsoft.sqlserver.jdbc.SQLServerDriver
jdbc-url=jdbc:sqlserver://<db_host>:1433;databaseName=<iwd_dm_2_db_name>
user=<iwd_dm_2_db_user>
refresh-interval=15
verbose=debug

[GTL_NEW_15MIN_iwd1]
Objects=Queue
Category=JavaCategory
JavaSubCategory=iwd1/BPR_iWD_Extension.jar:BPR iWD Statistics
Description=BPR iWD Statistics
measure-id=NEW_15MIN
```

```
[GTL_COMPLETED_15MIN_iwd1]
Objects=Queue
Category=JavaCategory
JavaSubCategory=iwd1/BPR_iWD_Extension.jar:BPR iWD Statistics
Description=BPR iWD Statistics
measure-id=COMPLETED_15MIN

[GTL_NEW_30MIN_iwd1]
Objects=Queue
Category=JavaCategory
JavaSubCategory=iwd1/BPR_iWD_Extension.jar:BPR iWD Statistics
Description=BPR iWD Statistics
measure-id=NEW_30MIN

[GTL_COMPLETED_30MIN_iwd1]
Objects=Queue
Category=JavaCategory
JavaSubCategory=iwd1/BPR_iWD_Extension.jar:BPR iWD Statistics
Description=BPR iWD Statistics
measure-id=COMPLETED_30MIN

[GTL_NEW_60MIN_iwd1]
Objects=Queue
Category=JavaCategory
JavaSubCategory=iwd1/BPR_iWD_Extension.jar:BPR iWD Statistics
Description=BPR iWD Statistics
measure-id=NEW_60MIN

[GTL_COMPLETED_60MIN_iwd1]
Objects=Queue
Category=JavaCategory
JavaSubCategory=iwd1/BPR_iWD_Extension.jar:BPR iWD Statistics
Description=BPR iWD Statistics
measure-id=COMPLETED_60MIN

[GTL_OVERDUE_15MIN_iwd1]
Objects=Queue
Category=JavaCategory
JavaSubCategory=iwd1/BPR_iWD_Extension.jar:BPR iWD Statistics
Description=BPR iWD Statistics
measure-id=OVERDUE_15MIN

[GTL_PENDING_15MIN_iwd1]
Objects=Queue
Category=JavaCategory
JavaSubCategory=iwd1/BPR_iWD_Extension.jar:BPR iWD Statistics
Description=BPR iWD Statistics
measure-id=PENDING_15MIN

[GTL_ACTIVE_iwd1]
Objects=Queue
Category=JavaCategory
JavaSubCategory=iwd1/BPR_iWD_Extension.jar:BPR iWD Statistics
Description=BPR iWD Statistics
measure-id=ACTIVE

[GTL_HELD_iwd1]
Objects=Queue
Category=JavaCategory
JavaSubCategory=iwd1/BPR_iWD_Extension.jar:BPR iWD Statistics
Description=BPR iWD Statistics
measure-id=HELD
```

```
[GTL_NEW_15MIN_iwd2]
Objects=Queue
Category=JavaCategory
JavaSubCategory=iwd2/BPR_iWD_Extension.jar:BPR iWD Statistics
Description=BPR iWD Statistics
measure-id=NEW_15MIN

[GTL_COMPLETED_15MIN_iwd2]
Objects=Queue
Category=JavaCategory
JavaSubCategory=iwd2/BPR_iWD_Extension.jar:BPR iWD Statistics
Description=BPR iWD Statistics
measure-id=COMPLETED_15MIN

[GTL_NEW_30MIN_iwd2]
Objects=Queue
Category=JavaCategory
JavaSubCategory=iwd2/BPR_iWD_Extension.jar:BPR iWD Statistics
Description=BPR iWD Statistics
measure-id=NEW_30MIN

[GTL_COMPLETED_30MIN_iwd2]
Objects=Queue
Category=JavaCategory
JavaSubCategory=iwd2/BPR_iWD_Extension.jar:BPR iWD Statistics
Description=BPR iWD Statistics
measure-id=COMPLETED_30MIN

[GTL_NEW_60MIN_iwd2]
Objects=Queue
Category=JavaCategory
JavaSubCategory=iwd2/BPR_iWD_Extension.jar:BPR iWD Statistics
Description=BPR iWD Statistics
measure-id=NEW_60MIN

[GTL_COMPLETED_60MIN_iwd2]
Objects=Queue
Category=JavaCategory
JavaSubCategory=iwd2/BPR_iWD_Extension.jar:BPR iWD Statistics
Description=BPR iWD Statistics
measure-id=COMPLETED_60MIN

[GTL_OVERDUE_15MIN_iwd2]
Objects=Queue
Category=JavaCategory
JavaSubCategory=iwd2/BPR_iWD_Extension.jar:BPR iWD Statistics
Description=BPR iWD Statistics
measure-id=OVERDUE_15MIN

[GTL_PENDING_15MIN_iwd2]
Objects=Queue
Category=JavaCategory
JavaSubCategory=iwd2/BPR_iWD_Extension.jar:BPR iWD Statistics
Description=BPR iWD Statistics
measure-id=PENDING_15MIN

[GTL_ACTIVE_iwd2]
Objects=Queue
Category=JavaCategory
JavaSubCategory=iwd2/BPR_iWD_Extension.jar:BPR iWD Statistics
Description=BPR iWD Statistics
measure-id=ACTIVE
```

```
[GTL_HELD_iwd2]
Objects=Queue
Category=JavaCategory
JavaSubCategory=iwd2/BPR_iWD_Extension.jar:BPR iWD Statistics
Description=BPR iWD Statistics
measure-id=HELD

[java-extensions]
iwd1/BPR_iWD_Extension.jar=true
iwd2/BPR_iWD_Extension.jar=true
```