



Reporting Tools

There are two CLI reporting tools. One is `mate_jasper`, which integrates with the JasperReports library. The other is `manage_reports`, which provides a way to manage reports that are generated in a plan file.

JasperReports Tool

JasperReports is an open-source reporting library, which is distributed with WAE Design. The `mate_jasper` tool provides integration with this library. The tool enables you to produce reports in PDF or HTML format using either a plan file or arbitrary SQLite database file as input and using a `.jrxml` (JasperReports) file as a template.

You can call the `mate_jasper` tool from an add-on so as to produce reports directly from the GUI. You can find two such example add-ons in the following locations.

- `$(CARIDEN_HOME)/addons/Reports/highutilcircuits`
- `$(CARIDEN_HOME)/addons/Reports/trafficdistribution`

For information regarding add-ons, see the [Add-Ons and GUI Customizations](#) chapter. For more information on using this tool, see the `mate_jasper` Help output.

Example: This shows the `mate_jasper` tool generating a report named `peak_util.pdf` and placing it in the `$(CARIDEN_HOME)/addons/peak_traffic/report` directory. It uses the `apac_backbone.pln` plan file as input and the `traffic_template.jrxml` file as a template.

```
mate_jasper -template traffic_template.jrxml -out-file
$(CARIDEN_HOME)/addons/peak_traffic/report/peak_util.pdf -plan-file apac_backbone.pln
```

Reports in Plan Files

Reports are created when certain tools are run, such as Simulation Analysis (`sim_analysis`) and Demand Deduction (`dmd_deduct`). These reports are stored in the plan file on which the tool is run and can be accessed through the Window > Reports menu. Add-ons and other scripts can use this reporting functionality.

The `manage_reports` tool provides access to the reports in a plan file for any of the following functions.

- Insert a report into a plan file
- Delete a report from a plan file
- Extract a report from a plan file
- Rename a report within a plan file

- List the reports in a plan file
- Print a report in a plan file

Once a report is generated, use the `manage_reports` tool to insert the report into a plan file. If `manage_reports` is used to extract a report from a plan file, the extracted report uses this same report format.

Plan File Report Format

The plan file report format consists of a directory containing the data and formatting details for each section in the report. The directory must contain a `config.txt` configuration file that includes a `<Sections>` table identifying sections of the report. All columns in this `<Sections>` table are required (Table 8-1).

Optionally, the `config.txt` file contains a `<TableColumns>` table that provides formatting information on how to display the TABLE sections of the report (Table 8-2). If the `<TableColumns>` table is not included, WAE Design defaults are used.

The name of the report is the name of the directory containing the report. If you create a report in an add-on executable using the `report-dir` option, in which case you cannot name the directory, the report is named after the add-on.

Table 8-1 Columns of the Required `<Sections>` Table in the `config.txt` File

Column	Description
Name	Section name that appears on the report.
Type	Output format of the report: HTML, TEXT, or TABLE.
Filename	The file in the report directory containing the source data for the section. <ul style="list-style-type: none"> • If the <code>ContentType</code> is HTML, this file must contain HTML. • If the <code>ContentType</code> is TEXT, this file must contain plain text. • If the <code>ContentType</code> is TABLE, this file must contain WAE Design tables. One of those tables must use the same name as the section name (Name column) of this row. This table is used as the contents of this section. <p>Example: If the Name column of this row is Interfaces, then this file must contain a table named <code><Interfaces></code>.</p>
Index	An integer representing the order in which the sections appear in the report.

Table 8-2 Columns in the Optional `<TableColumns>` Table in the `config.txt` File

Column	Description
Table	The name of the section being defined. This name must be the same as a TABLE section name in the <code><Sections></code> table.
Column	The name of the column.
DisplayName	Optional: Alternative column name. If not specified, the Column name is used. <p>Example: You could set the column name to <code>TraffMinusReservation</code>, and the display name to <code>Traffic Reservation</code>.</p>

Column	Description
Shown	Optional: Whether the column is shown when the plan file opens (T) or hidden (F, default). If a report is imported into the plan using an add-on's <code>report-dir</code> option or through <code>manage_reports</code> , then the Shown setting is copied from that report.
ToolTip	Optional: The information to be displayed when you hover the cursor over the column heading in the GUI.
Type	Optional: The sorting order for the column: REAL, TEXT (default), INTEGER, or BOOLEAN.
Decimals	Optional: If the column Type is REAL, this value specifies the number of decimal places to use. The default is empty, which means do not constrain the decimal places.

Example Plan File Report Directory and Tables

This example shows a sample report in the `/QuarterlyReport` directory.

```
% ls QuarterlyReport/
config.txt
summary.txt
file.txt
log.txt
```

Table 8-3 shows the `<Sections>` table in the `config.txt` file. Notice that each section name has an associated file that corresponds with the files listed in the above directory. Both the Interfaces and the Nodes sections of this report draw their contents from the same `file.txt` file. The report output lists these sections in the order identified in the Index column.

Table 8-3 Example <Sections> Table

Name	Filename	Type	Index
Summary	summary.txt	HTML	1
Interfaces	file.txt	TABLE	2
Nodes	file.txt	TABLE	3
Log	log.txt	TEXT	4

Table 8-4 shows the columns of the Nodes and Interfaces TABLE sections being defined in the `<TableColumns>` table in the `config.txt` file. All empty fields use the WAE Design defaults.

Table 8-4 Example <TableColumns> Table

Table	Column	DisplayName	Type	Decimals	Shown	ToolTip
Node	Name					
Node	Status					Upgrade, remove, or keep
Interfaces	Capacity		REAL	2		Required capacity
Interfaces	Node					Interface node
Interfaces	Active		BOOLEAN		F	Is it running?
Interfaces	Interface	Interface Name				

