Metrics Publishing Utility

User's Guide

Release 1.0

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20091002081646

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Publishing Metrics to Optimal Delivery Manager

The metrics publishing utility publishes Java profiling metrics from DevPartner Java Edition or Code Review to Optimal Delivery Manager. The utility is available through the command line and through a graphical user interface. It connects with Optimal Delivery Manager through the Compuware Open Server (COS).

Required: Before using the metrics publishing utility, make sure `JAVA_HOME` for the shell where you start the utility is set to the location of your JDK. The utility requires JDK 1.5 or above.

Metrics for Optimal Delivery Manager

The metrics provided to Optimal Delivery Manager from DevPartner Java Edition and Code Review are described below.

DevPartner Java Edition Metrics

DevPartner Java Edition provides the following code coverage metrics to Optimal Delivery Manager:

- Coverage — The percentage of lines in the code that were executed in the profiling session, calculated as lines executed divided by total lines.

  The Coverage metric value is displayed within the **Overall Coverage Statistics** section of the Coverage Results Summary in DevPartner Java Edition.

- Volatility — The measure of the rate of change, from session to session, of the source code being analyzed. For more information, see the "Volatility" topic in the DevPartner Java Edition online help.

  The Volatility metric value is displayed in the **Merged Session History** section of the Coverage Results Summary for merged session files. The value represents the data point for the last merge measurement in the series.

Note: Volatility can only be measured for merged session files for multiple sessions analyzing the same code over time. If the export file contains only one session, or if the merged session file contains profiles of different code, then no value can be calculated for Volatility.

Code Review Metrics

Code Review provides the following quality metrics to Optimal Delivery Manager:

- Maintainability
- Compliance

Maintainability

Maintainability is a normalized integer value, from 0 to 6, based on the metric ADPR (class-level).

The following table lists the normalized Maintainability index for ADPR percentages. Cycles are detrimental to long-term maintainability and usability of code modules, therefore a lower Maintainability index indicates fewer cycles.

ADPR (Class Level)	Maintainability
1.00	0
0.98 – 1.00	1
0.95 – 0.98	2
0.90 – 0.95	3
0.85 – 0.90	4
0.75 – 0.85	5
Less than 0.75	6

The Maintainability metric value is displayed in the **Cycles** tab of the Metrics window within Code Review.

Compliance

Compliance is a composite metric that uses a weighted formula to calculate the ratio of violations to total line count. A lower score indicates fewer code violations. The weighting is based on high-, medium-, and low-severity violations per 1,000 lines of source code.

Compliance can only be calculated for a Source Code model; it is not available for Bytecode models.

The Compliance metric value is displayed in the Code Validation Summary page.

Publishing Metrics

Note: For information about displaying the metrics in Optimal Delivery Manager, see that product's documentation.

Before publishing metrics to Optimal Delivery Manager, you must export them from DevPartner Java Edition or Code Review, as appropriate. For more information, see the relevant online help topic:

- DevPartner Java Edition metrics — ”Exporting Session Data”
- Code Review Maintainability metric — ”Exporting Rule Violation Reports”
- Code Review Compliance metric — ”Exporting Design Reports”

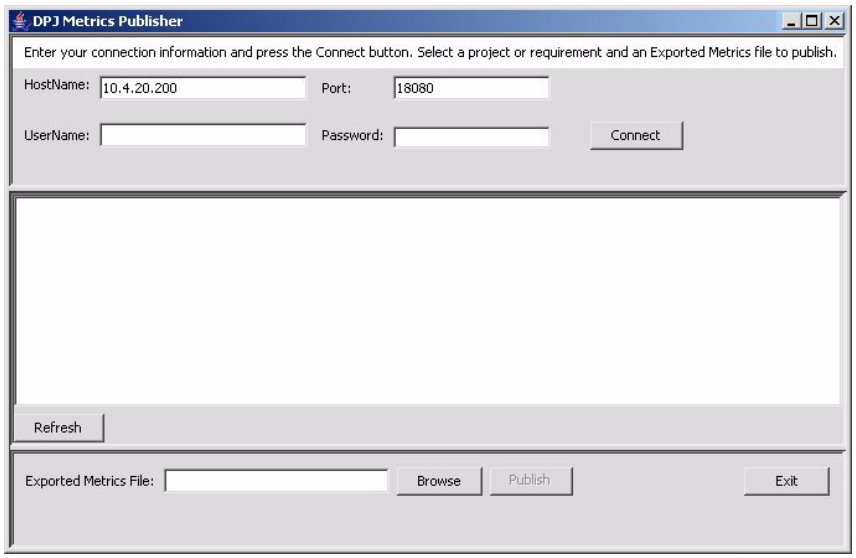
After you export the metrics, publish them to Optimal Delivery Manager through the Metrics Publisher or from the command line.

Metrics Publisher

1 At the command line, execute

`pubmetrics`

without arguments. The Metrics Publisher appears.

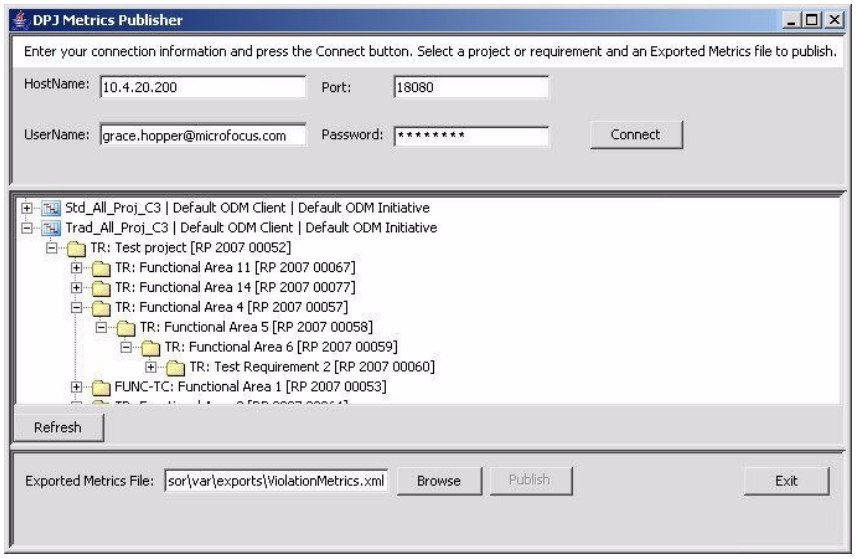


2 If you have not previously connected to COS, provide the **HostName** (IP address) and **Port**. If you have previously connected, these fields are already populated with the required information.

3 In the **UserName** and **Password** fields, provide your Changepoint ID and password.

Note: The username and password are not saved. You must enter this information every time you open the Metrics Publisher.

4 Click **Connect**. The list of Changepoint projects and requirements appears in the tree pane.



5 Select a project or requirement.

Note: DevPartner Java Edition and Code Review cannot publish metrics at the package level. Code Review can publish metrics only for projects, not for requirements.

6 Click **Open File** to browse to the file containing the metrics you want to publish to Optimal Delivery Manager.

The default location of the export files depends on the operating system.

DevPartner Java Edition:

- ◇ Windows XP or 2003 Server — **`C:\Documents and Settings\All Users\Application Data\Micro Focus\DevPartner Java Edition\var\exports\`*`config`***
- ◇ Other supported Windows operating systems — **`C:\Program Data\Micro Focus\DevPartner Java Edition\var\exports\`*`config`***
- ◇ UNIX — ***`DPJ_dir`*`/var/exports/`*`config`***

where ***`DPJ_dir`*** is the DevPartner Java Edition installation folder and ***`config`*** is the configuration for the profiling session.

Note: By default, the **`Application Data`** folder is hidden. To display the **`exports`** folder and its contents, type the path in the Address bar of Windows Explorer and press **Enter**.

7 Click **Publish**. A message appears: “Metrics were published successfully”.

Command-Line Utility

1. Execute `pubmetrics` with the `-list` option to obtain the list of Changepoint projects and requirements.
2. Execute `pubmetrics` with the `-publish` option to publish the metrics to Optimal Delivery Manager.

For more information, see "Command-Line Syntax", below.

Command-Line Syntax

To open the Metrics Publisher, execute `pubmetrics` from the command line without arguments. For more information, see "Metrics Publisher" on page 7.

To publish metrics from the command line, use the following syntax (as one line):

`pubmetrics [{-list | -publish -ID` ***`ID`*** `-file` ***`metrics-extract-file`***`} -username` ***`username`*** `-password` ***`password`*** `-host` ***`hostname`*** `-port` ***`portnumber`***`]`

Note: In Windows, if you do not include `-username` and `-password` in the command line, you are prompted to supply them. In UNIX, `-username` and `-password` are required.

Argument	Value	Description
`-list`	n/a	List the projects and requirements for the specified Changepoint user account.
`-publish`	n/a	Send exported metrics to Optimal Delivery Manager. When you include `-publish` in the command line, you must also include `-ID` and `-file`.
`-ID`	***`ID`***	Specify the code number assigned by the -list argument to the project or requirement against which you want to report metrics.
`-file`	***`metrics-extract-file`***	Specify the fully qualified path of the metrics export file to publish. The default location of the export files depends on the operating system (***`product-name`*** is DevPartner Java Edition and ***`product-dir`*** is the installation folder): • Windows XP or 2003 Server — **`C:\Documents and Settings\All Users\Application Data\Micro Focus\`*`product-name`*`\var\exports`** • Other supported Windows operating systems — **`C:\Program Data\ Micro Focus\`*`productname`*`\var\exports`** • UNIX — ***`productdir`*`/var/exports`** If the path contains a space, enclose it in double quotation marks.

Argument	Value	Description
-username	***username***	Specify the username of the Changepoint account. If you do not know the username, contact your Changepoint administrator.
-password	***password***	Specify the password for the Changepoint account. If you do not know the password, contact your Changepoint administrator. Passwords are entered in plain text in your shell or calling script, but are encrypted in all further network traffic.
-host	***hostname***	The host name for COS. This argument is required if you have not previously connected to COS or you want to connect to a different server.
-port	***portnumber***	The port number for the COS.This argument is required if you have not previously connected to COS or you want to connect to a different server.
-? -h -help	n/a	Display the help text for the Metrics Piblishing Utility.

The following xamples show the `pubmetrics` command with the `-list` argument and with the `-publish` argument. The username in the examples has the typical Changepoint format, ***name@company.com***.

Before running `pubmetrics`, change to the **`bin`** folder in the product installation location. The default paths are as follows:

- Windows — C:\Program Files\Micro Focus\DevPartner Java Edition\bin
- Linux or UNIX — /opt/Micro Focus/DPJ/bin

-list

Execute `pubmetrics` with the `-list` argument to display a list of Changepoint projects and requirements.

The following is an example of the output for `pubmetrics -list`.

```
pubmetrics -list -username Grace.Hopper@microfocus.com -password navy0001 -
host 10.1.10.100 -port 18080

PC88A795F-C130-4855-B995-49974E2A556C | Default ODM Client | Default ODM
Initiative

R8F1DB6BC-03BF-4194-96DC-BF6D1052C7C4 TR: Test project [RP 2007 00406]

R5B31F474-CDF3-4F5D-A1BB-300A1DBA869F TR: Functional Area 14 [RP 2007 00431]

RC055C506-ED30-44B2-B125-3169EDE77CBE TR: Functional Area 15 [RP 2007 00432]

RD9C02BEA-8419-4901-9F57-1A6B25E73193 TR: Functional Area16 [RP 2007 00433]

R30E16410-31FF-44A8-8888-A23FFDC20A76 TR: Test Requirement 12 [RP 2007 00434]

R462FE3F8-4A6E-4F66-BC0A-C406ECD93194 TR: Functional Area 11 [RP 2007 00421]
```

```
RCBA8B864-4413-41AF-A243-C83180968B33 TR: Test Requirement 5 [RP 2007 00422]

R3105C246-6F47-4BB1-B14B-49AC102BF31F TR:9. New Requirement 9 [RQ 2007 00290]

RD4A2794F-19E6-4292-B826-7897370BF5BE TR:12. New Requirement 12 [RQ 2007
00293]

RBDBFCF1C-5BD8-41CD-A859-C294609B4CAC TR:10. New Requirement 10 [RQ 2007
00291]

R50737A1F-FA62-403F-BAE1-3EE3E1EE8509 TR:11. New Requirement 11 [RQ 2007
00292]

R8EEBB565-B058-4204-B399-B75BA045E7FA TR: Functional Area 17 [RP 2007 00435]

R1F3B771E-B7E0-4AE9-A36C-27469531FCDB TR: Test Requirement 18 [RP 2007 00436]

R4E6819F1-D900-4A38-BA78-0AB4A2C3A145 TR: Test Requirement 13 [RP 2007 00437]

R8F5E7FC4-8649-4693-AA4B-85F11B2EB8C1 TR: Functional Area 7 [RP 2007 00415]

R6600734E-4771-4FF1-A577-D226A081C33E TR: Functional Area 8 [RP 2007 00416]

R98D7F2BE-2CFD-4F4C-88BB-70348856C2DE TR: Test Requirement 3 [RP 2007 00417]

R720A8AFC-D606-4CE4-B65C-ACC5E1EE71EE TR:6. New Requirement 6 [RQ 2007 00287]

-publish
```

Execute `pubmetrics` with the `-publish` argument to publish the metrics for the specified Project or Requirement (`-ID`) from the specified export file (`-file`) to Optimal Delivery Manager.

Note: DevPartner Java Edition and Code Review cannot publish metrics at the package level. Code Review can publish metrics only for projects, not for requirements.

The following is an example of the output for `pubmetrics -publish`.

```
pubmetrics -publish -ID R8F1DB6BC-03BF-4194-96DC-BF6D1052C7C4 -file
C:\Program Data\Micro Focus\DevPartner Java Edition\var\exports\Viola-
tionMetrics.xml" -username Grace.Hopper@co mpuware.com -password
navy0001 -host 10.1.10.100 -port 18080

Getting product metrics from: C:\Program Data\Micro Focus\DevPartner
Java Edition\var\exports\ViolationMetrics.xml

Publish was successful
```

Error Messages

The following table describes the messages that may be displayed if an error prevents pubmetrics from publishing metrics to Optimal Delivery Manager.

Code	Message
501	A problem occurred during initialization of the COS ODM service.
502	An input validation error occurred.

Code	Message
503	A problem occurred while attempting to establish a connection to the Changepoint web service APIs.
504	A problem occurred while attempting to establish a connection to the Changepoint repository.
505	A system error occurred while attempting to process a transaction via the Changepoint web service APIs.
506	A database error occurred while attempting to process a transaction against the Changepoint repository.
507	The specified metrics target could not be found.
508	The specified user-defined field could not be found.
509	The user with the specified network ID could not be found.
510	The user with the specified username and password could not be found.
511	The specified parent request could not be found.
512	The specified project could not be found.
513	A problem occurred which prevented the execution of your request.