



BEA AquaLogic Enterprise Repository®

Metrics Configuration Guide

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Metrics Configuration Guide

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Introduction

This guide addresses metrics enhancements available in BEA AquaLogic Enterprise Repository. Information in this guide will assist those with earlier product versions in adding these metrics enhancements.

The upgrade process described in this document requires the participation of your site's DBA, system administrator, and a registrar.

Metrics Elements

Overview

This document explains how to add metrics elements to a Type. These metrics are used to estimate the value of each asset and to determine the ROI of the asset portfolio.

A total of five metrics elements must be added, and the **Development Hours** element must already exist in the Type. If it does not, or if it has been deleted, it, too, must be added. The necessary changes are made in the **Type Manager** and the database; instructions for both are included here. The new metrics elements are listed below:

- **Total Development Hours (TDH)** - the total development effort expended to create this asset.
- **Production Investment (Pinv)** - the extra time or effort involved in building or harvesting the asset, and in packaging and documenting the asset to make it reusable. This value is represented as a percentage over the time initially required to build the asset for one-time use.
- **Consumption Factor (Cfac)** - the time an asset consumer spends locating, evaluating, and using an asset, represented as a percentage of the time necessary to build the asset from scratch.
- **Predicted Number of Annual Reuse Opportunities (n)** - indicates the number of times the asset is expected to be used over the course of a year
- **Hourly Burden Rate (B)** - the hourly overhead cost of the individual that produced the asset.

The metrics should be included in the ten base Asset Types:

- Application
- Business Process
- Communication Adapter
- Component

- Environment
- Framework
- Pattern
- Process
- Service
- XML Schema

Adding Metrics

This procedure is performed in the **Asset Editor**.

Use this text to cut and paste element names:

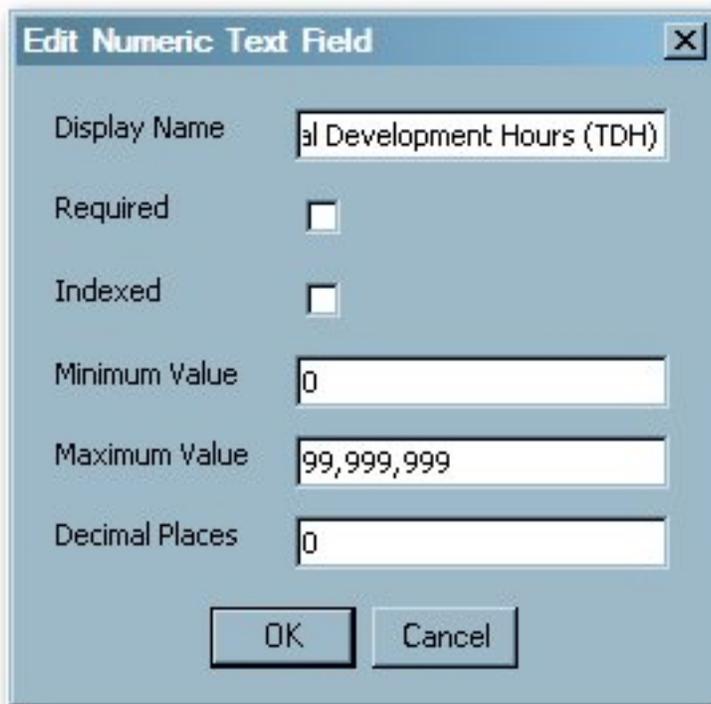
- Total development hours (TDH)
- Production investment (Pinv)
- Consumption Factor (Cfac)
- Predicted number of annual reuse opportunities (n)
- Hourly burden rate (B)
- **Note**
 - The `ValidateMetrics.sql` file must be run against the database.

1. Select **Manage Types** in the **Actions** menu.

The **Type Manager** launches.

2. Select the Type to which the metrics are to be added from the **Type Manager** sidebar.

3. Select the **Editor** view.
4. Add a tab called **Metrics**. It should appear above the **Miscellaneous** tab.
5. Click **Add** in the **Elements** section.
6. Select **Numeric Text Field** from the drop-down.
7. Click **OK**.
8. In the **Edit Text Field** box, copy and paste the element name in the **Display Name** box.
9. Change the **Decimal Places** value to **0**. Only the **Consumption Factor** element has two decimal places.



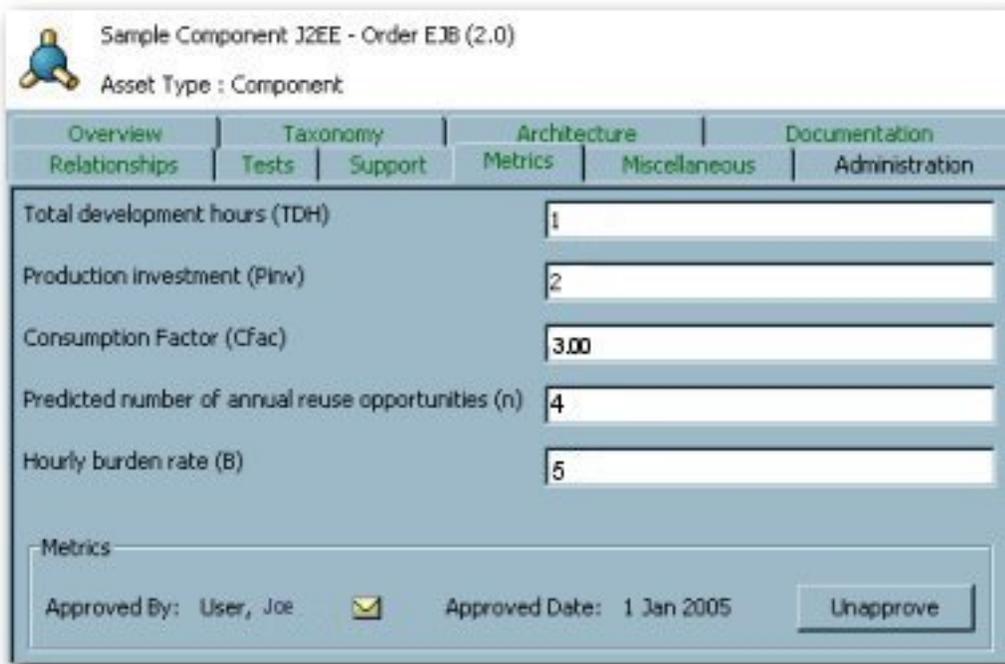
The image shows a dialog box titled "Edit Numeric Text Field". It contains the following fields and controls:

- Display Name:** A text box containing "al Development Hours (TDH)".
- Required:** A checkbox that is currently unchecked.
- Indexed:** A checkbox that is currently unchecked.
- Minimum Value:** A text box containing "0".
- Maximum Value:** A text box containing "99,999,999".
- Decimal Places:** A text box containing "0".
- Buttons:** "OK" and "Cancel" buttons at the bottom.

10. Click **OK**.
11. Repeat steps 4 - 9 for each metric.
12. When all metrics have been added to the **Type**, click **Save**.
 - Do not add the elements to the **Viewer** tab at this time.
13. Repeat the process for each of the base asset types.

Validate the Elements on the Asset Type

1. Select an asset belonging to one of asset types just modified. The easiest way to find such an asset is to right-click on the **Registered** folder in the **Asset Editor** and sort by asset type.
2. Add a unique value to each metric element on the asset. Recommended values are 1, 2, 3, 4, and 5.



The screenshot shows the 'Asset Editor' window for a component asset named 'Sample Component J2EE - Order EJB (2.0)'. The 'Asset Type' is 'Component'. The 'Metrics' tab is selected, displaying a table of metrics with input fields. The metrics and their values are:

Metric	Value
Total development hours (TDH)	1
Production investment (PInv)	2
Consumption Factor (Cfac)	3.00
Predicted number of annual reuse opportunities (n)	4
Hourly burden rate (B)	5

At the bottom, the 'Metrics' section shows 'Approved By: User, Joe' with an email icon, 'Approved Date: 1 Jan 2005', and an 'Unapprove' button.

3. Determine the asset name, version and asset type name from the status bar on the edited asset.
4. Save the asset.

Running Queries Against the Database

The following metrics queries may be run against the database by following the instructions provided [below](#).

```
-- Metrics SQL (for Oracle, UDB and MsSQL Server)
-- Total Development Hours
```

```

select a.name as AssetName, a.version as Version, at.name as
AssetTypeName, axi.stringvalue as tdh
from assetxmlindex axi, assets a, assettypes at
where axi.assetid = a.id and axi.assettypeid = at.id
and axi.fieldid in
    (select id from assetxmlindexmappings where fieldname =
'/custom-data/total-development-hours--tdh-')
order by a.name, a.version;

-- Production Investment
select a.name as AssetName, a.version as Version, at.name as
AssetTypeName, axi.stringvalue as Pinv
from assetxmlindex axi, assets a, assettypes at
where axi.assetid = a.id and axi.assettypeid = at.id
and axi.fieldid in
    (select id from assetxmlindexmappings where fieldname =
'/custom-data/production-investment--pinv-')
order by a.name, a.version;

-- Consumption Factor
select a.name as AssetName, a.version as Version, at.name as
AssetTypeName, axi.stringvalue as Cfac
from assetxmlindex axi, assets a, assettypes at
where axi.assetid = a.id and axi.assettypeid = at.id
and axi.fieldid in
    (select id from assetxmlindexmappings where fieldname =
'/custom-data/consumption-factor--cfac-')
order by a.name, a.version;

-- Predicted Number of Annual Reuse Opportunities
select a.name as AssetName, a.version as Version, at.name as
AssetTypeName, axi.stringvalue as n
from assetxmlindex axi, assets a, assettypes at
where axi.assetid = a.id and axi.assettypeid = at.id
and axi.fieldid in
    (select id from assetxmlindexmappings where fieldname =
'/custom-data/predicted-number-of-annual-reuse-opportunities--n-')
order by a.name, a.version;

-- Hourly Burden Rate
select a.name as AssetName, a.version as Version, at.name as
AssetTypeName, axi.stringvalue as B
from assetxmlindex axi, assets a, assettypes at where axi.assetid =

```

```

a.id and axi.assettypeid = at.id
and axi.fieldid in
    (select id from assetxmlindexmappings where fieldname =
'/custom-data/hourly-burden-rate--b-')
order by a.name, a.version;

-- Predicted Net Hours Saved
select a.name as AssetName, a.version as Version, at.name as
AssetTypeName, axi.stringvalue as PNHS
from assetxmlindex axi, assets a, assettypes at
where axi.assetid = a.id and axi.assettypeid = at.id
and axi.fieldid in
    (select id from assetxmlindexmappings where fieldname =
'/custom-data/development-hours')
order by a.name, a.version;

-- End Metrics SQL

```

dbqueries

1. Open a connection to the database and run the six queries listed above. The asset name, version, asset type, and metric should be returned as the result. If a metric is not returned, it is likely that the metric name was not copied and pasted accurately. Each metric has its own query; it is recommended that these queries be run separately. Any metric that returns the expected results is validated.
2. If any metric query fails, remove the element and follow the steps to create the metric element, validate it, and run it against the database. If the PNHS element is missing from the selected asset type, it must be added, as described below:
 1. Add the string **Development Hours**
 2. Click **OK**.
 3. Edit the **Development Hours** element and change the name to **Predicted Net Hours Saved (PNHS)**. (The element name in the metrics is based on the **Development Hours** programmatic name.) The **Predicted Net Hours Saved** label must appear in the **Asset Editor**.
3. After all metrics are validated, open the asset type in the BEA AquaLogic Enterprise Repository **Type Manager**.
4. Select the **Viewer** tab.

- **Note:**
 - All added elements should appear in the **Hidden Elements** area.
 - Only the **Predicted Net Hours Saved (PNHS)** metric will be meaningful to asset consumers.
 - It is recommended that **Predicted Net Hours Saved (PNHS)** appears in the first column in the **Overview** group.

5. Save the asset type.

6. Repeat steps 1 - 5 to add metrics elements to other asset types.

7. Remove any sample data that may have been added to test the queries, and save your data.