# Netcool Operations Insight V.1.4.1 - Installation and set-up (step by step procedure)

(DB2, OMNIbus Core, DASH, OMNIbus WebGUI, Impact, LA, Event Analytics, Event Search)

[ including reference to 2018 Q1 Fix Packs ]

Author: Francesco Rinaldi, Reviewer: Zane Bray
Date: 25 January 2018, Version 1.0

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<thead>
<tr>
<th>Version</th>
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<th>Details</th>
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<td>1.1</td>
<td>31 July 2017</td>
<td>First published version</td>
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<tr>
<td>1.2</td>
<td>11 September 2017</td>
<td><strong>New Items</strong>&lt;br&gt;28.7 Create Console Integration: added Knowledge center ID Link&lt;br&gt;33.10 Configure OMNibus WebGUI server.init: modified as a verification step, as values are set by installer&lt;br&gt;31.2 Impact JVM tuning for OutOfMemory exceptions: JVM setting suggestion for large databases&lt;br&gt;<strong>Corrections</strong>&lt;br&gt;32.7 Install OMNibus insight pack: version corrected to 1.3.0.2&lt;br&gt;<strong>Updates</strong>&lt;br&gt;4.8 Netcool OMNibus Core 8.1 GA + Fix Pack: added new links to Fix Central for FP13&lt;br&gt;4.10 Netcool OMNibus WebGUI 8.1.0.4 Refresh + Fix Pack: added new links to Fix Central for FP11&lt;br&gt;4.11 Netcool Impact 7.1.0.4 Refresh + Fix Pack: added new links to Fix Central for FP11</td>
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<td>1.3</td>
<td>25 January 2018</td>
<td><strong>New Items</strong>&lt;br&gt;2.2 Software Product Compatibility Reports / Operating System Reports&lt;br&gt;3.2 Components distribution (example)&lt;br&gt;4.9 Software – Info to download new OMNibus Core 8.1 Fix Pack 15&lt;br&gt;4.12 Software – Info to download new OMNibus WebGUI 8.1 Fix Pack 12&lt;br&gt;4.13 Software – Info to download new Impact 7.1 Fix Pack 12&lt;br&gt;33. Event Search - XML configuration: added info: Why configure SSL between LA and XML gateway&lt;br&gt;33.4 Export Server Certificate from LA server: Alternative method (to get the certificate with openssl)&lt;br&gt;33.13 Add XML Gateway to PA&lt;br&gt;34.8 Operations Analytics Log Analysis - Troubleshooting: cannot login into LA&lt;br&gt;35. Event Search - Log Analysis how to delete data&lt;br&gt;<strong>Updates</strong>&lt;br&gt;4.10 JazzSM1130 Cumulative Patch 05: updated from CP3 to CP5&lt;br&gt;32.9 Create Log Analysis data source: Added reference to Reference to scalaTransport.properties&lt;br&gt;33.8 XML Gateway - Configure Replication: updated with suggested setting&lt;br&gt;33.9 Configure OMNibus Object Server triggers: updated with note: How to check trigger status</td>
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<th>Step</th>
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<th>Step</th>
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<tr>
<td><strong>1 Installation and set-up time (average)</strong></td>
<td><strong>Details</strong></td>
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<td>SCA-LA 1.3.3.1 (with Installation Manager 1.8.5) 25 min</td>
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<td>OMNibus Insight Pack 1.3.0.2 1</td>
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<td>DASH 3130 (WAS8559 / JazzSM 1130) 30</td>
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<td>WebGUI 8.1.0.7 25</td>
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<td>Impact GUI 7.1.0.7 30</td>
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<td>OMNibus Core 8.1.0.9 (with Installation Manager 1.8.5) 2</td>
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<td>Impact Server 7.1.0.7 30</td>
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<td>Configuration Event Search (Log Analysis) 20</td>
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<td>Event Analytics (Seasonal Events &amp; Related Events Groups) 10</td>
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<td><strong>Time to Install &amp; Set-up NOI 1.4.0.3</strong> 2 hours 55 minutes</td>
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<td>netcool-server1 (PRIMARY)</td>
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<td>OMNibus Core 8115</td>
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<td>OMNibus WebGUI 8112</td>
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<td>Impact 7108</td>
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<td>Message Probe nco-p-xml 1.4 Master</td>
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### 3 Default URLs Login

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<th>Component</th>
<th>Primary URL</th>
<th>Backup URL</th>
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</thead>
</table>

### 4 Event Search (Log Analysis) - Integration components

Event Search feature comes from the integration of following components:
- Operations Analytics Log Analysis
- OMNIbus Insight Pack (installed on LA)
- XML Gateway
- OMNIbus Core
- OMNIbus WebGUI

### 5 Event Analytics (Seasonal Events & Related Events) - Integration components

Event Analytics feature comes from the integration of following components:
- OMNIbus Core
- OMNIbus WebGUI
- Impact
- Historical archive database (REPORTER)
### 4. Software list

<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td><strong>IBM Software Downloads</strong>&lt;br&gt;<a href="https://g03zcdwas001.ahe.boulder.ibm.com/software/xl/download/ticket.wss">https://g03zcdwas001.ahe.boulder.ibm.com/software/xl/download/ticket.wss</a></td>
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<tr>
<td>8</td>
<td><strong>Installation Manager 1.8.6</strong>&lt;br&gt;Repository&lt;br&gt;$SW_Repository/IM186&lt;br&gt;&lt;br&gt;Product : <strong>Installation Manager 1.8.6</strong>&lt;br&gt;File name: <code>agent.installer.linux.gtk.x86_64_1.8.6000.20161118_1611.zip</code>&lt;br&gt;Size: 171679275&lt;br&gt;&lt;br&gt;Information on Fix Central&lt;br&gt;<a href="http://www-01.ibm.com/support/docview.wss?uid=swg24043138">http://www-01.ibm.com/support/docview.wss?uid=swg24043138</a>&lt;br&gt;&lt;br&gt;Download from Fix Central&lt;br&gt;<a href="https://www-945.ibm.com/support/fixcentral/swg/selectFixes?parent=ibm~Rational&amp;product=ibm/Rational/IBM+Installation+Manager&amp;release=1.8.6.0&amp;platform=Linux&amp;function=all&amp;useReleaseAsTarget=true">https://www-945.ibm.com/support/fixcentral/swg/selectFixes?parent=ibm~Rational&amp;product=ibm/Rational/IBM+Installation+Manager&amp;release=1.8.6.0&amp;platform=Linux&amp;function=all&amp;useReleaseAsTarget=true</a></td>
</tr>
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<td><strong>Netcool OMNIbus Core 8.1 GA + Fix Pack</strong>&lt;br&gt;Repository&lt;br&gt;$SW_Repository/NOI14/Core81GA&lt;br&gt;$SW_Repository/NOI14/Core8115&lt;br&gt;&lt;br&gt;All Fix Packs (all platforms)&lt;br&gt;<a href="https://www-945.ibm.com/support/fixcentral/swg/selectFixes?parent=ibm~Tivoli&amp;product=ibm/Tivoli/Tivoli+Netcool+OMNIbus&amp;release=8.1.0.12&amp;platform=All&amp;function=all">https://www-945.ibm.com/support/fixcentral/swg/selectFixes?parent=ibm~Tivoli&amp;product=ibm/Tivoli/Tivoli+Netcool+OMNIbus&amp;release=8.1.0.12&amp;platform=All&amp;function=all</a>&lt;br&gt;&lt;br&gt;Product : <strong>OMNIbus Core 8.1 GA</strong>&lt;br&gt;File name: <code>OMNIbus-v8.1-Core.linux64/com.ibm.tivoli.omnibus.core.linux.x86_64.zip</code>&lt;br&gt;Part code Linux: CN05EML&lt;br&gt;Size: 478,740,827&lt;br&gt;&lt;br&gt;Fix Pack 15&lt;br&gt;File name: <code>8.1.0-TIV-OMNIbusCore-linux-x86_64-FP0015.zip</code>&lt;br&gt;FP15 Information on Fix Central&lt;br&gt;<a href="https://www-01.ibm.com/support/docview.wss?uid=swg24044023">https://www-01.ibm.com/support/docview.wss?uid=swg24044023</a>&lt;br&gt;&lt;br&gt;Download from FixCentral FP15 (Linux)&lt;br&gt;<a href="https://www-945.ibm.com/support/fixcentral/swg/downloadFixes?parent=ibm%7ETivoli%7Eproduct=ibm/Tivoli/Tivoli+Netcool+OMNIbus%7Erelease=8.1.0.12%7Eplatform=All%7Efunction=fixId%7EfixIds=8.1.0-TIV-NOMNIbus-Linux-FP0015%7EincludeRequisites=1%7EincludeSupersedes=0%7EdownloadMethod=http">https://www-945.ibm.com/support/fixcentral/swg/downloadFixes?parent=ibm%7ETivoli%7Eproduct=ibm/Tivoli/Tivoli+Netcool+OMNIbus%7Erelease=8.1.0.12%7Eplatform=All%7Efunction=fixId%7EfixIds=8.1.0-TIV-NOMNIbus-Linux-FP0015%7EincludeRequisites=1%7EincludeSupersedes=0%7EdownloadMethod=http</a></td>
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<td>10</td>
<td><strong>DASH 3130 (WAS8559 / JazzSM1300) + SDK</strong>&lt;br&gt;Product : <strong>WAS8559 / IBM WebSphere Application Server V8.5.5.9 for Jazz for Service Management</strong></td>
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Part code Linux: CNC1ZML
Size: 1532153946

**Product:** JazzSM 1130
File name: CNC1PML.ibm_jazzsm_v1300_Linux64.zip / JAZZ_FOR_SM_1.1.3.0_FOR_LNX
Part code Linux: CNC1PML
Size: 1326258486

**Product:** SDK Java(TM) Technology Edition Version 7.1.3.10_0001 for WebSphere Application
File name: 7.1.3.10_0001-WS-IBMWSJAVA-part1.zip
Size: 715,446,210
File name: 7.1.3.10_0001-WS-IBMWSJAVA-part2.zip
Size: 336,403,550

Information on Fix Central

Download from Fix Central
https://www-945.ibm.com/support/fixcentral/swg/select Fixes?
parent=ibm/WebSphere&product=ibm/WebSphere/WebSphere+Application+Server&release=All&platform=All&func tion=fixId&fixids=7.1.3.10_0001-WS-IBMWSJAVA-part1,7.1.3.10_0001-WS-IBMWSJAVA- part2&includeSupersedes=0&source=fc

11 JazzSM1130 Cumulative Patch 05

**Product:** JazzSM 1130 CP05
Interim fix: 1.1.3.0-TIV-JazzSM-DASH-Cumulative-Patch-0005
File name: 1.1.3.0-TIV-JazzSM-DASH-Cumulative-Patch-0005
Size: 226359680

Download link
https://www-945.ibm.com/support/fixcentral/swg/download Fixes?
product=ibm/Tivoli/Jazz+for+Service+Management&release=1.1&platform=All&function=fixId&fixids=1.1.3.0 -TIV-JazzSM-DASH-Cumulative-Patch-0005&includeRequisites=1&includeSupersedes=0&downloadMethod=http

12 Netcool OMNibus WebGUI 8.1.0.4 Refresh + Fix Pack

**Product:** WebGUI 8.1.0.4 (Refresh)
File name: OMNibus-v8.1.0-WebGUI-FP4-IM-Extensions-linux64.zip
Part code Linux: CN8IKEN
Size: 686722859

PREVIOUS FIX PACK
Fix Pack 11
First select first the corresponding Core FP number. Example to find WebGUI FP10 select first OMNIbus Core FP10

Fix Central all Fix Packs after FP10
https://www-945.ibm.com/support/fixcentral/swg/selectFixes?parent=ibm&Tivoli&product=ibm/Tivoli/Tivoli+Netcool+OMNIbus&release=8.1.0.10&platform=All&function=all

FP11 Information on Fix Central
http://www-01.ibm.com/support/docview.wss?uid=swg24043825

Download FP11 from FixCentral (Linux)
https://www-945.ibm.com/support/fxcentral/swg/downloadFixes?parent=ibm%7ETivoli&product=ibm/Tivoli/Tivoli+Netcool+OMNIbus&release=8.1.0.11&platform=All&function=fixId&fixids=8.1.0-TIV-NCOMNIbus-Linux-FP0011&includeRequisites=1&includeSupersedes=0&downloadMethod=http&login=true

NEW FIX PACK

Fix Pack 12
File name: OMNIbus-v8.1.0-WebGUI-FP12-IM-Extensions-linux64-UpdatePack.zip

FP12 Information on Fix Central

Download FP12 from FixCentral (Linux)
https://www-945.ibm.com/support/fxcentral/swg/downloadFixes?parent=ibm%7ETivoli&product=ibm/Tivoli/Tivoli+Netcool+OMNIbus&release=8.1.0.12&platform=All&function=findFixId&fixids=8.1.0-TIV-NCOMNIbus-Linux-FP0012&includeRequisites=1&includeSupersedes=0&downloadMethod=http

13 Netcool Impact 7.1.0.4 Refresh + Fix Pack

Repositories
$SW_Repository/NOI14/Impact7104-Refresh
$SW_Repository/NOI1405/Impact7109
$SW_Repository/NOI141/Impact7110

PREVIOUS FIX PACK

Fix Pack 11
File name: 7.1.0-TIV-NCI-LINUX-FP0011.zip
Size: 521,022,613

FP11 Information on Fix Central
https://www-01.ibm.com/support/docview.wss?uid=swg24043858

Download FP11 from Fix Central (Linux)
https://www-945.ibm.com/support/fxcentral/swg/selectFixes?parent=ibm%7ETivoli&product=ibm/Tivoli/Tivoli+Netcool+OMNIbus&release=8.1.0.10&platform=All&function=all

Product : Impact 7.1.0.4 Refresh
File name: Impact-v7.1.0.4-NOLinux64 / CN8HYEN.zip
Part code Linux: CN8HYEN
Size: 85986308

LAST FIXPACK

Fix Pack 12
File name: 7.1.0-TIV-NCI-LINUX-FP0012.zip

FP12 Information on Fix Central
http://www-01.ibm.com/support/docview.wss?uid=swg24044312

Download FP12 from Fix Central (Linux)
or
https://www-945.ibm.com/support/fxcentral/swg/selectFixes?parent=ibm%7ETivoli&product=ibm/Tivoli/Tivoli+Netcool+Impact&release=7.1.0.10&platform=Linux&function=all
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| **14 Operations Analytics - Log Analysis 1.3.5 / 1.3.5.1** | **Product**: IBM Operations Analytics Log Analysis V1.3.5 Linux 64 (LA)  
**File name**: IOALAM_DEV_BSD_LNX64_ED.tar.gz  
**Part code Linux**: CNE6BEN  
**Size**: 1,100,197,533 |
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**File name**: IOALAM_DEV_BSD_LNX64_ED.tar.gz  
**Part code Linux**: CNE6BEN  
**Size**: 1,100,197,533 |
| **http://rtpgsa.ibm.com/projects/l/loganalytics/builds/nightly_build/1.3.5.1/201703302030/** | **Product**: IBM Operations Analytics Log Analysis V1.3.5 Linux 64 (LA)  
**File name**: IOALAM_DEV_BSD_LNX64_ED.tar.gz  
**Part code Linux**: CNE6BEN  
**Size**: 1,100,197,533 |
| **15 XML Gateway 7.0.10 (for OMNIbus - LA integration)** | **Product**: Netcool/OMNibus 8 Plus Gateway for Message Bus (nco-g-xml 7_0)  
**File name**: omnibus-gateway-nco-g-xml-1.7.0.10.zip  
**Part code Linux**: CN8BKEN  
**Size**: 120435504 |
| **Repository** | **Product**: Netcool/OMNibus 8 Plus Gateway for Message Bus (nco-g-xml 7_0)  
**File name**: omnibus-gateway-nco-g-xml-1.7.0.10.zip  
**Part code Linux**: CN8BKEN  
**Size**: 120435504 |
| **$SSW_Repository/NOI1403/SCALA133/xml-gate** | **Product**: Netcool/OMNibus 8 Plus Gateway for Message Bus (nco-g-xml 7_0)  
**File name**: omnibus-gateway-nco-g-xml-1.7.0.10.zip  
**Part code Linux**: CN8BKEN  
**Size**: 120435504 |
| **16 OMNIbus Insight Pack 1.3.0.2 (for OMNIbus - LA integration)** | **Product**: Netcool/OMNibus Insight Pack V1.3.0.2 for IBM Operations Analytics - Log Analysis V1.3  
**File name**: OMNibusInsightPack_v1.3.0.2.6.zip  
**Part code**: CN8IPEN  
**Size**: 276041 |
| **Repository** | **Product**: Netcool/OMNibus Insight Pack V1.3.0.2 for IBM Operations Analytics - Log Analysis V1.3  
**File name**: OMNibusInsightPack_v1.3.0.2.6.zip  
**Part code**: CN8IPEN  
**Size**: 276041 |
| **https://tfr.hursley.ibm.com/explorer.php** | **Product**: Netcool/OMNibus Insight Pack V1.3.0.2 for IBM Operations Analytics - Log Analysis V1.3  
**File name**: OMNibusInsightPack_v1.3.0.2.6.zip  
**Part code**: CN8IPEN  
**Size**: 276041 |
| **$SSW_Repository/NOI1403/SCALA133/InsightPack/** | **Product**: Netcool/OMNibus Insight Pack V1.3.0.2 for IBM Operations Analytics - Log Analysis V1.3  
**File name**: OMNibusInsightPack_v1.3.0.2.6.zip  
**Part code**: CN8IPEN  
**Size**: 276041 |
| **17 DB2** | **Product**: DB2 v10.5 Enterprise Server Edition for Tivoli Netcool/OMNibus, Network Manager, and Netcool Configuration Manager  
**Part code**: CRYY2ML |
| **Repository** | **Product**: DB2 v10.5 Enterprise Server Edition for Tivoli Netcool/OMNibus, Network Manager, and Netcool Configuration Manager  
**Part code**: CRYY2ML |
| **$SSW_Repository/DB2-10.5.0.3** | **Product**: DB2 v10.5 Enterprise Server Edition for Tivoli Netcool/OMNibus, Network Manager, and Netcool Configuration Manager  
**Part code**: CRYY2ML |
| **18 JDBC Gateway (for REPORTER Event Archiving in DB2)** | **Product**: Netcool/OMNibus 8 Plus Gateway for JDBC (nco-g-jdbc_6_0)  
**File name**: NCOMNI_GTW_JDBC.zip  
**Part code**: CN4FUEN  
**Size**: 2350139 |
| **Repository** | **Product**: Netcool/OMNibus 8 Plus Gateway for JDBC (nco-g-jdbc_6_0)  
**File name**: NCOMNI_GTW_JDBC.zip  
**Part code**: CN4FUEN  
**Size**: 2350139 |
| **19 JDBC Scripts (with db2.reporting.sql to create REPORTER schema)** | **Product**: Netcool/OMNibus 8 Plus JDBC Gateway Configuration Scripts (Reporting Mode : nco-g-jdbc-reporting-scripts_1_0)  
**File name**: im-nco-g-jdbc-rpt-scripts-1_0.zip  
**Part code**: CN1FLEN  
**Size**: 610,502 |
<table>
<thead>
<tr>
<th>20 Message Bus Probe</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM Tivoli Netcool/OMNibus Integrations Release Notice</td>
</tr>
<tr>
<td>Probe for Message Bus (nco-p-message-bus-5_0)</td>
</tr>
<tr>
<td><a href="http://www-01.ibm.com/support/docview.wss?uid=swg21970413">http://www-01.ibm.com/support/docview.wss?uid=swg21970413</a></td>
</tr>
</tbody>
</table>

| Product : Netcool/OMNibus 8 Plus Probe for Message Bus (nco-p-message-bus 5_0) |
| File name: Im-nco-p-message-bus-5_0.zip |
| Part code: CNL65EN |
| Size: 152072509 |
### 5. Example of NOI PoC configuration (3 machines)

<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
</table>
| 1 Components distribution | **Machine 1 - nectool-server1**  
OMNIbus Core 8.1.0.12 (with Installation Manager 1.8.6)  
XML Gateway 7.0  
Impact Server 7.1.0.10  

**Machine 2 - nectool-server2**  
DASH 3130 (WAS8559 / JazzSM 1130)  
WebGUI 8.1.0.10  
Impact GUI 7.1.0.10  

**Machine 3 - analysis-server1**  
SCA-LA 1.3.5.1 (with Installation Manager 1.8.6)  
OMNIbus Insight Pack 1.3.0.2 |
| 2 Machine requirements | **Minimal sizing**  
CPU: 4 cores  - RAM: 8GB  - HDD: 40GB  

**Suggested sizing**  
CPU: 8 cores  - RAM: 16 GB  - HDD: 120GB |
### 6. Example of NOI setup - Primary / Backup configuration (4 machines)

<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong> Schema (example)</td>
<td><img src="image" alt="Diagram" /></td>
</tr>
</tbody>
</table>
| **2** Machine 1 - OMNIbus Primary (netcool-server1) | Installation Manager 186  
OMNIbus Core 8112  
OMNIbus WebGUI 8110  
Impact 7110  
XML Gateway nco-g-xm 1.7  
DB2 10.5.0.3 in REPORTER schema  
Message Probe nco_p_message_bus 1.5 Master |
<table>
<thead>
<tr>
<th>Machine</th>
<th>Role</th>
<th>Installation Manager</th>
<th>OMNibus Core</th>
<th>OMNibus WebGUI</th>
<th>Impact</th>
<th>XML Gateway</th>
<th>DB2</th>
<th>JDBC Gateway</th>
<th>Message Probe</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>OMNIbus Backup (netcool-server2)</td>
<td>186</td>
<td>8112</td>
<td>8110</td>
<td>7110</td>
<td>nco-g-xml 1.7</td>
<td>10.5.0.3 in REPORTER schema</td>
<td>nco-g-jdbc 1.6</td>
<td>nco_p_message_bus 1.5 Slave</td>
</tr>
<tr>
<td>4</td>
<td>Log Analysis Primary (analysis-server1)</td>
<td>186</td>
<td>135</td>
<td>1302</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Log Analysis Backup (analysis-server2)</td>
<td>186</td>
<td>135</td>
<td>1302</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## 7. Preliminary steps

<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
</table>
| **1** Group and User creations (ncoadmin/netcool) | sudo -i  
groupadd ncoadmin  
useradd netcool  
passwd netcool (set password)  
usermod -g ncoadmin netcool  

cgrp ncoadmin /opt  
chown -R netcool /opt |
| **2** Default variables | export NCHOME=/opt/IBM/tivoli/netcool  
export OMNIHOME=/opt/IBM/tivoli/netcool/omnibus  
export IMPACT_HOME=/opt/IBM/tivoli/impact  
export JAZZSM_HOME=/opt/IBM/JazzSM  
export WEBGUI_HOME=/opt/IBM/netcool/gui/omnibus_webgui  
export UNITY_HOME=/opt/IBM/LogAnalysis |
## 8. DB2 installation and set-up

<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
</table>
| **1** Software | ~/DB2-10.5.0.3/server  
- drwxr-xr-x.  6 netcool netcool  4096 Feb  7 2014 db2  
- -r--r--r--.  1 netcool netcool  4987 Feb  7 2014 db2checkCOL_readme.txt  
- -r--r--r--.  1 netcool netcool 26340 Feb  7 2014 db2checkCOL.tar.gz  
- -r-xr-xr-x.  1 netcool netcool  5349 Feb  7 2014 db2ckupgrade  
- -r-xr-xr-x.  1 netcool netcool  5302 Feb  7 2014 db2_deinstall  
- -r-xr-xr-x.  1 netcool netcool  5172 Feb  7 2014 db2_install  
- -r-xr-xr-x.  1 netcool netcool  5136 Feb  7 2014 db2ls  
- -r-xr-xr-x.  1 netcool netcool  5154 Feb  7 2014 db2prereqcheck  
- -r-xr-xr-x.  1 netcool netcool  5154 Feb  7 2014 db2setup  
- drwxr-xr-x. 10 netcool netcool  4096 Feb  7 2014 ibm_im  
- -r-xr-xr-x.  1 netcool netcool  5190 Feb  7 2014 installFixPack  
- drwxr-xr-x.  4 netcool netcool  103 Feb  7 2014 ntpack |

### 2 Summary db2prereqcheck

```
~/DB2-10.5.0.3/server/db2prereqcheck
```

Checking DB2 prerequisites for DB2 database version "10.5.0.3" on operating system "Linux"

Summary of prerequisites that are not met on the current system:

DBT3514W  The db2prereqcheck utility failed to find the following 32-bit library file: "/lib/libpam.so*".

DBT3594W  The db2prereqcheck utility found that the directory "/" does not have the recommended amount of free space on host "netcool-server1.ibm.net".  
Recommended amount needed: "5120000 KB".  
Actual space present: "2894710164 KB".

DBT3594W  The db2prereqcheck utility found that the directory "/opt" does not have the recommended amount of free space on host "netcool-server1.ibm.net".  
Recommended amount needed: "5120000 KB".  
Actual space present: "2894710164 KB".

DBT3594W  The db2prereqcheck utility found that the directory "/home" does not have the recommended amount of free space on host "netcool-server1.ibm.net".  
Recommended amount needed: "5120000 KB".  
Actual space present: "2894710164 KB".

DBT3594W  The db2prereqcheck utility found that the directory "/var" does not have enough free space on host "netcool-server1.ibm.net".  
Required space: "512000 KB".  
Actual space present: "2894710164 KB".

DBT3571E  The db2prereqcheck utility found that the directory "/tmp" does not have enough free space on host "netcool-server1.ibm.net".  
Required space: "2000000 KB".  
Actual space present: "2894710164 KB".  

16 / 94
The db2prereqcheck utility was unable to find the package "openibd" on host "netcool-server1.ibm.net".

The db2prereqcheck utility failed to find the following 32-bit library file: "libstdc++.so.6".

The db2prereqcheck utility determined that SELinux is enabled, which is not supported with GPFS.

In the db2prereqcheck.log file, the following errors are not critical and can be ignored.


Libraries db2prereqcheck

The db2prereqcheck utility failed to find the following 32-bit library file: "/lib/libpam.so*".
The db2prereqcheck utility failed to find the following 32-bit library file: "libstdc++.so.6".

Install DB2

Default directory for installation of products - /opt/ibm/db2/V10.5

Install into default directory (/opt/ibm/db2/V10.5) ? [yes/no] yes

Specify one of the following keywords to install DB2 products.
SERVER
CONSV
Task #46 end
EXP
CLIENT
RTCL

Enter "help" to redisplay product names.

Enter "quit" to exit.

Do you want to install the DB2 pureScale Feature? [yes/no] no
Requirement not matched for DB2 database "Server". Version: "10.5.0.3".
Summary of prerequisites that are not met on the current system:
  DBT3514W  The db2prereqcheck utility failed to find the following 32-bit library file: "/lib/libpam.so*".
  DBT3514W  The db2prereqcheck utility failed to find the following 32-bit library file: "libstdc++.so.6".

DB2 installation is being initialized.

Total number of tasks to be performed: 48
Total estimated time for all tasks to be performed: 1873 second(s)

Task #1 start
  Description: Checking license agreement acceptance
  Estimated time 1 second(s)
  Task #1 end

......

Task #50 start
  Description: Updating global profile registry
  Estimated time 3 second(s)
  Task #50 end

The execution completed successfully.

For more information see the DB2 installation log at "/tmp/db2_install.log.9177".

5  Check DB2 installation log

DB2 Setup log file started at: Tue Jan 31 09:33:00 2017 CST
============================================================
Operating system information: Linux 3.10.0-514.2.2.el7.x86_64.#1 SMP Wed Nov 16 13:15:13 EST 2016 x86_64
WARNING: Notification SMTP server has not been specified. Notifications cannot be sent to contacts in your contact list until this is specified. For more information see the DB2 administration documentation.

Product to install: DB2 Server Edition

Previously Installed Components:

Selected Components:
  Base client support
  Java support
  SQL procedures
  Base server support
  Connect support
  DB2 data source support
Spatial Extender server support
IBM Software Development Kit (SDK) for Java(TM)
DB2 LDAP support
Verify that you have access to the DB2 Information Center based on the choices you made during this installation. If you performed a typical
DB2 Instance Setup wizard
Integrated Flash Copy Support
Spatial Extender client
Communication support - TCP/IP
Tivoli SA MP
Base application development tools
DB2 Update Service
Replication tools
Sample database source
DB2 Text Search
Informix data source support
Oracle data source support
First Steps
Guardium Installation Manager Client
Target directory: /opt/ibm/db2/V10.5
Space required: 1254 MB
Install IBM Tivoli System Automation for Multiplatforms (Tivoli SA MP): Yes
Checking license agreement acceptance: Success
Installing: BASE_CLIENT_R
Installing: DB2_PRODUCT_MESSAGES_EN
Installing: BASE_CLIENT
Installing: JAVA_RUNTIME_SUPPORT
Installing: DB2_JAVA_HELP_EN
Installing: BASE_DB2_ENGINE_R
Installing: GSK
Installing: JAVA_SUPPORT
Installing: SQL_PROCEDURES
Installing: ICU_SUP
Installing: JAVA_COMMON_FILES
Installing: BASE_DB2_ENGINE
Installing: DB2_CONTROL_CENTER_HELP_EN
Installing: CONNECT_SUPPORT
Installing: RELATIONAL_WRAPPERS_COMMON
Installing: DB2_DATA_SOURCE_SUPPORT
Installing: SPATIAL_EXTENDER_SERVER_SUPPORT
Installing: JDK
Installing: LDAP_EXPLOITATION
Installing: INSTANCE_SETUP_SUPPORT
Installing: ACS
Installing: SPATIAL_EXTENDER_CLIENT_SUPPORT
Installing: COMMUNICATION_SUPPORT_TCPIP
Installing: TSAMP

WARNING: DBI20105E An error occurred while installing the following file set: "TSAMP". Because these files were not successfully installed, functionality that depends on these files might not work as expected.

Installing: APPLICATION_Development_TOOLS
Installing: DB2_UPDATE_SERVICE
Installing: DATABASE_PARTITIONING_SUPPORT
Installing: EDB
Installing: REPL_CLIENT
Installing: DB2_SAMPLE_DATABASE
Installing: ITLM
Installing: TEXT_SEARCH
Installing: CLPPLUS
Installing: INFORMIX_DATA_SOURCE_SUPPORT
Installing: ORACLE_DATA_SOURCE_SUPPORT
Installing: FIRST_StepS
Installing: ESE_PRODUCT_SIGNATURE
Installing: GUARDIUM_INST_MNGR_CLIENT
Installing DB2 file sets :.......Success

DBI1514I The DB2 High Availability (HA) scripts for the IBM Tivoli System Automation for Multiplatforms (SA MP) were successfully installed.

You need DB2 HA scripts to use SA MP with the DB2 HA feature.

These DB2 HA scripts are located at /usr/sbin/rsct/sapolicies/db2. The DB2 installer detects whether these DB2 HA scripts need to be installed or updated.

User response:
No action is required.

Installing or updating DB2 HA scripts for IBM Tivoli System Automation for Multiplatforms (Tivoli SA MP) :.......Success
Executing control tasks :.......Success
Updating registry :.......Success
Starting DB2 Fault Monitor :.......Success
Updating the db2is link :.......Success
Registering DB2 licenses :.......Success
Setting default global profile registry variables :.......Success
Initializing instance list :.......Success
Registering DB2 Update Service :.......Success
Updating global profile registry :.......Success
6 Post install recommendations

**Required steps:**
Set up a DB2 instance to work with DB2.

**Optional steps:**
To validate your installation files, instance, and database functionality, run the Validation Tool, /opt/ibm/db2/V10.5/bin/db2val. For more information, see "db2val" in the DB2 Information Center.

Open First Steps by running "db2fs" using a valid user ID such as the DB2 instance owner's ID. You will need to have DISPLAY set and a supported web browser in the path of this user ID.

Verify that you have access to the DB2 Information Center based on the choices you made during this installation. If you performed a typical or a compact installation, verify that you can access the IBM Web site using the internet. If you performed a custom installation, verify that you can access the DB2 Information Center location specified during the installation.

Ensure that you have the correct license entitlements for DB2 products and features installed on this machine. Each DB2 product or feature comes with a license certificate file (also referred to as a license key) that is distributed on an Activation CD, which also includes instructions for applying the license file. If you purchased a base DB2 product, as well as, separately priced features, you might need to install more than one license certificate. The Activation CD for your product or feature can be downloaded from Passport Advantage if it is not part of the physical media pack you received from IBM. For more information about licensing, search the Information Center (http://publib.boulder.ibm.com/infocenter/db2luw/v10r5/index.jsp) using terms such as "license compliance", "licensing" or "db2licm".

To use your DB2 database product, you must have a valid license. For information about obtaining and applying DB2 license files, see http://pic.dhe.ibm.com/infocenter/db2luw/v10r5/topic/com.ibm.db2.luw.qb.server.doc/doc/c0061199.html

7 DB2 validation

```
[root@netcool-server1 ~]# /opt/ibm/db2/V10.5/bin/db2val
DBI1379I  The db2val command is running. This can take several minutes.
DBI1335I  Installation file validation for the DB2 copy installed at
          /opt/ibm/db2/V10.5 was successful.
DBI1343I  The db2val command completed successfully. For details, see
          the log file /tmp/db2val-170201_072546.log.
```

8 Users and Groups creations

**Create Groups**
groupadd -g 994 db2iadmn1
groupadd -g 993 db2fadm1
groupadd -g 992 dasadm1

**Create users for each group:**
useradd -u 1004 -g db2iadmn1 -m -d /home/db2inst1 db2inst1
useradd -u 1003 -g db2fadm1 -m -d /home/db2fenc1 db2fenc1
useradd -u 1002 -g dasadm1 -m -d /home/dasusr1 dasusr1
<table>
<thead>
<tr>
<th>9</th>
<th>Create a DB2 administration server (DAS)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Set password</td>
</tr>
<tr>
<td></td>
<td>passwd db2inst1</td>
</tr>
<tr>
<td></td>
<td>passwd db2fenc1</td>
</tr>
<tr>
<td></td>
<td>passwd dasusr1</td>
</tr>
<tr>
<td></td>
<td>/opt/ibm/db2/V10.5/instance/dascrt -u dasusr1</td>
</tr>
<tr>
<td></td>
<td>/opt/ibm/db2/V10.5/instance/db2icrt -a server -u db2fenc1 db2inst1</td>
</tr>
<tr>
<td></td>
<td>[root@netcool-server1 instance]# ./dascrt -u dasusr1</td>
</tr>
<tr>
<td></td>
<td>DBI1070I  Program dascrt completed successfully.</td>
</tr>
<tr>
<td></td>
<td>[root@netcool-server1 instance]# ./db2icrt -a server -u db2fenc1 db2inst1</td>
</tr>
<tr>
<td></td>
<td>DBI1446I  The db2icrt command is running.</td>
</tr>
<tr>
<td></td>
<td>DB2 installation is being initialized.</td>
</tr>
<tr>
<td></td>
<td>Total number of tasks to be performed: 4</td>
</tr>
<tr>
<td></td>
<td>Total estimated time for all tasks to be performed: 309 second(s)</td>
</tr>
<tr>
<td></td>
<td>Task #1 start</td>
</tr>
<tr>
<td></td>
<td>Description: Setting default global profile registry variables</td>
</tr>
<tr>
<td></td>
<td>Estimated time 1 second(s)</td>
</tr>
<tr>
<td></td>
<td>Task #1 end</td>
</tr>
<tr>
<td></td>
<td>Task #2 start</td>
</tr>
<tr>
<td></td>
<td>Description: Initializing instance list</td>
</tr>
<tr>
<td></td>
<td>Estimated time 5 second(s)</td>
</tr>
<tr>
<td></td>
<td>Task #2 end</td>
</tr>
<tr>
<td></td>
<td>Task #3 start</td>
</tr>
<tr>
<td></td>
<td>Description: Configuring DB2 instances</td>
</tr>
<tr>
<td></td>
<td>Estimated time 300 second(s)</td>
</tr>
<tr>
<td></td>
<td>Task #3 end</td>
</tr>
<tr>
<td></td>
<td>Task #4 start</td>
</tr>
<tr>
<td></td>
<td>Description: Updating global profile registry</td>
</tr>
<tr>
<td></td>
<td>Estimated time 3 second(s)</td>
</tr>
<tr>
<td></td>
<td>Task #4 end</td>
</tr>
<tr>
<td></td>
<td>The execution completed successfully.</td>
</tr>
<tr>
<td></td>
<td>For more information see the DB2 installation log at &quot;/tmp/db2icrt.log.3746&quot;.</td>
</tr>
<tr>
<td></td>
<td>Required: Review the following log file also for warnings or errors:</td>
</tr>
<tr>
<td></td>
<td>&quot;/tmp/db2icrt_local.log **&quot;</td>
</tr>
<tr>
<td></td>
<td>DBI1070I  Program db2icrt completed successfully.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>10</th>
<th>Troubleshooting - Missing libaio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>In case of error</td>
</tr>
<tr>
<td></td>
<td>db2start: error while loading shared libraries: libaio.so.1: cannot open shared object file: No such file or directory</td>
</tr>
<tr>
<td></td>
<td>Solution</td>
</tr>
<tr>
<td></td>
<td>Install libaio:</td>
</tr>
<tr>
<td></td>
<td>sudo yum install libaio</td>
</tr>
<tr>
<td></td>
<td>libaio  x86_64  0.3.109-13.el7  rhel-7-server-rpms</td>
</tr>
<tr>
<td></td>
<td>Install 1 Package</td>
</tr>
<tr>
<td></td>
<td>Total download size: 24 k</td>
</tr>
<tr>
<td></td>
<td>Installed size: 38 k</td>
</tr>
<tr>
<td></td>
<td>Is this ok [y/d/N]: y</td>
</tr>
<tr>
<td></td>
<td>Downloading packages:</td>
</tr>
<tr>
<td></td>
<td>libaio-0.3.109-13.el7.x86_64.rpm</td>
</tr>
<tr>
<td></td>
<td>Running transaction check</td>
</tr>
<tr>
<td></td>
<td>Running transaction test</td>
</tr>
<tr>
<td></td>
<td>Transaction test succeeded</td>
</tr>
</tbody>
</table>
### 9. DB2 troubleshooting (Event Analytics - Impact Data Model cannot connect to DB2 port 50000)

<table>
<thead>
<tr>
<th>Step</th>
<th>Detail</th>
</tr>
</thead>
</table>
### 10. REPORTER database creation (Historical database for Event Analytics)

<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong> Update schema db2.reporting.sql</td>
<td><strong>Uncomment following lines</strong>&lt;br&gt;# Sets the default username and password&lt;br&gt;CREATE DATABASE reporter @ CONNECT TO reporter USER db2inst1 USING password @&lt;br&gt;# Any associated journal and details rows are deleted from the database when the corresponding alerts are deleted.&lt;br&gt;, CONSTRAINT eventref FOREIGN KEY (SERVERNAME, SERVERSERIAL) REFERENCES REPORTER_STATUS(SERVERNAME, SERVERSERIAL) ON DELETE CASCADE</td>
</tr>
</tbody>
</table>
| **2** Create database structure | **Commands**<br>

```
$OMNIHOME/gates/reporting/db2/db2.reporting.sql
```

```
CREATE DATABASE reporter
```

```
DB20000I The CREATE DATABASE command completed successfully.
```

```
CONNECT TO reporter USER db2inst1 USING
```

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CREATE TABLE REPORTER_JOURNAL ( SERIAL INTEGER NOT NULL, USERID INTEGER NOT NULL, CHRONO TIMESTAMP NOT NULL, TEXT1 VARCHAR (255), TEXT2 VARCHAR (255), TEXT3 VARCHAR (255), TEXT4 VARCHAR (255), TEXT5 VARCHAR (255), TEXT6 VARCHAR (255), TEXT7 VARCHAR (255), TEXT8 VARCHAR (255), TEXT9 VARCHAR (255), TEXT10 VARCHAR (255), TEXT11 VARCHAR (255), TEXT12 VARCHAR (255), TEXT13 VARCHAR (255), TEXT14 VARCHAR (255), TEXT15 VARCHAR (255), TEXT16 VARCHAR (255), SERVERNAME VARCHAR (64) NOT NULL, SERVERSERIAL INTEGER NOT NULL, CONSTRAINT eventref FOREIGN KEY (SERVERNAME, SERVERSERIAL) REFERENCES REPORTER_STATUS(SERVERNAME, SERVERSERIAL) ON DELETE CASCADE ) DATA CAPTURE NONE

DB20000I  The SQL command completed successfully.

........

COMMIT WORK
DB20000I  The SQL command completed successfully.
### 11. Installation Manager 1.8.6

<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
</table>
| 1    | **Note to this Installation type**  
ID Knowledge Center - Installing or updating Installation Manager  
Installation Manager can be installed in different ways. It is often packaged with the product and can be directly installed with the product installer.  
This document describes stand-alone installation of Installation Manager with no files installed in the user default directory. This type of installation is mandatory when the NOI machines are sharing same home directory. |
| 2    | **Install Installation manager in non-default location - Console Mode / Group Mode**  
`cd $SW_Repository/IM186`  
`.groupinstc -dataLocation /opt/IBM/IM/var -installationDirectory /opt/IBM/IM/InstallationManager -configuration /opt/IBM/IM/etc -acceptLicense`  
```
[netcool@netcool-server1 IM186]$ ./groupinstc -dataLocation /opt/IBM/IM/var -installationDirectory /home/netcool/IBM/IM/InstallationManager -configuration /home/netcool/IBM/IM/etc -acceptLicense  
Installed com.ibm.cic.agent_1.8.6000.20161118_1611 to the /opt/IBM/IM/InstallationManager/eclipse directory.
```
| **Installation Time ~ 30-60 Seconds** |
| 3    | **Install Installation manager in non-default location - Console Mode / User Mode (for LA machine)**  
`cd $SW_Repository/IM186`  
`.userinstc -dataLocation /opt/IBM/IM/var -installationDirectory /opt/IBM/IM/InstallationManager -configuration /opt/IBM/IM/etc -acceptLicense`  
Note  
Log Analysis (SCA-LA) cannot be installed with Installation Manager installed in Group Mode |
| 4    | **Verification step: start Installation Manager**  
`/opt/IBM/IM/InstallationManager/eclipse/tools/imcl -c`  
```
=====> IBM Installation Manager  
Select:
1. Install - Install software packages  
2. Update - Find and install updates and fixes to installed software packages  
3. Modify - Change installed software packages  
4. Roll Back - Revert to an earlier version of installed software packages  
5. Uninstall - Remove installed software packages  
Other Options:
L. View Logs  
S. View Installation History  
V. View Installed Packages  
------------------------
P. Preferences  
------------------------
A. About IBM Installation Manager
```
### 12. OMNIbus Core 8.1.0.12 – Console mode installation

<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1  Create Repositories</strong></td>
<td><strong>Start Installation Manager in Console Mode</strong>&lt;br&gt; <code>/opt/IBM/IM/InstallationManager/eclipse/tools/imcl -c</code>&lt;br&gt;</td>
</tr>
</tbody>
</table>
| **2  Console Mode Installation** | **Application**<br> => IBM Installation Manager<br> Select packages to install:<br> 1. [X] IBM Tivoli Netcool/OMNIbus 8.1.0.10 <------ SELECT PRODUCT<br> **Example**<br> => IBM Installation Manager > Install > Licenses > Shared Directory<br> Shared Resources Directory:<br> /opt/IBM/IBMIMShared<br> **Example**<br> => IBM Installation Manager > Install > Licenses > Shared Directory > Location<br> New package group:<br> 1. [X] IBM Netcool Core Components<br> Selected group id: "IBM Netcool Core Components"
10. [X] Probe support
11. [X] Gateway support
12. [X] Netcool MIB Manager
13. [X] Extensions

=====> IBM Installation Manager> Install> Licenses> Shared Directory>
Location> Features> Configurations> Summary
Target Location:
  Package Group Name : IBM Netcool Core Components
  Installation Directory : /opt/IBM/tivoli/netcool
  Shared Resources Directory : /opt/IBM/IBMIMShared
Translations:
  English
Packages to be installed:
  IBM Tivoli Netcool/OMNIbus 8.1.0.10

=====> IBM Installation Manager> Save response file
Response file was generated successfully: /opt/Core8110-response-file.xml

-----> [I]
  25%    50%    75%     100%  
  ====================================================================

3  Verification point: OMNIbus Core in Installed Packages

Start Installation Manager
/opt/IBM/IM/InstallationManager/eclipse/tools/imcl -c
  > V. View installed Packages

=====> IBM Installation Manager> Installed Packages
  1-. IBM Netcool Core Components
  2. IBM Tivoli Netcool/OMNIbus 8.1.0.10
## 13. OMNibus Core 8.1 – Object Server migration from 7.x (Optional)

<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1 Export from OMNibus 7.x</strong></td>
<td><strong>On Source System (7.x)</strong>&lt;br&gt;cd $NCHOME/omnibus/bin&lt;br&gt;./nco_osreport -dbinit -server PRIMARY -user root -password &lt; customer password&gt;</td>
</tr>
<tr>
<td><strong>2 Migrate OMNibus 7.x to Object Server to 8.1.0.11</strong></td>
<td><strong>On Destination system (8.1) - Create Migrated Object Server</strong>&lt;br&gt;cd $NCHOME/omnibus/bin&lt;br&gt;./nco_dbinit -force -server NOI_AGG_P -systemfile system.sql -applicationfile application.sql -alertsdatafile alertsdata.sql -desktopfile desktop.sql -automationfile automation.sql -securityfile security.sql</td>
</tr>
<tr>
<td><strong>3 Update Interface and start Object Server</strong></td>
<td><strong>Add Interface example</strong>&lt;br&gt;[NOI_AGG_P]&lt;br&gt;Primary: netcool1-server 4100&lt;br&gt;{&lt;br&gt;Primary: netcool1-server 4100&lt;br&gt;}&lt;br&gt;<strong>Apply modification</strong>&lt;br&gt;$NCHOME/bin/nco_igen&lt;br&gt;<strong>Start Object Server</strong>&lt;br&gt;$NCHOME/bin/nco_objserv – name NOI_AGG_P</td>
</tr>
<tr>
<td><strong>4 Verification point: login Object Server SQL</strong></td>
<td><strong>Example 7.4 to 8.1 FP8</strong>&lt;br&gt;cd $OMNIHOME/bin&lt;br&gt;./nco_sql -user root -password &quot; -server NOI_AGG_P &lt; $OMNIHOME/etc/update74to74fp3.sql&lt;br&gt;./nco_sql -user root -password &quot; -server NOI_AGG_P &lt; $OMNIHOME/etc/update74fp3to81.sql&lt;br&gt;./nco_sql -user root -password &quot; -server NOI_AGG_P &lt; $OMNIHOME/etc/update81to81fp5.sql&lt;br&gt;./nco_sql -user root -password &quot; -server NOI_AGG_P &lt; $OMNIHOME/etc/update81fp5to81fp7.sql&lt;br&gt;./nco_sql -user root -password &quot; -server NOI_AGG_P &lt; $OMNIHOME/etc/update74to74fp3.sql&lt;br&gt;./nco_sql -user root -password &quot; -server NOI_AGG_P &lt; $OMNIHOME/etc/update74fp3to81.sql&lt;br&gt;./nco_sql -user root -password &quot; -server NOI_AGG_P &lt; $OMNIHOME/etc/update81to81fp5.sql&lt;br&gt;./nco_sql -user root -password &quot; -server NOI_AGG_P &lt; $OMNIHOME/etc/update81fp5to81fp7.sql</td>
</tr>
<tr>
<td><strong>5 Update Schema</strong></td>
<td><strong>Select SQL file depending on migration path ($OMNIHOME/etc)</strong>&lt;br&gt;-rw-r--r-- 1 root root 14983 Sep 28 2016 update70to71.sql&lt;br&gt;-rw-r--r-- 1 root root 28553 Sep 28 2016 update71to72.sql&lt;br&gt;-rw-r--r-- 1 root root 15093 Sep 28 2016 update72to73.sql</td>
</tr>
<tr>
<td>File Name</td>
<td>Size</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>update73to74.sql</td>
<td>15899 B</td>
</tr>
<tr>
<td>update73to731.sql</td>
<td>7753 B</td>
</tr>
<tr>
<td>update74to81.sql</td>
<td>81450 B</td>
</tr>
<tr>
<td>update74to74fp3.sql</td>
<td>10902 B</td>
</tr>
<tr>
<td>update81fp5to81fp7.sql</td>
<td>17221 B</td>
</tr>
<tr>
<td>update81fp7to81fp8.sql</td>
<td>2153 B</td>
</tr>
<tr>
<td>update81to81fp5.sql</td>
<td>2226 B</td>
</tr>
</tbody>
</table>

```bash
./nco_sql -user root -password " -server NOI_AGG_P < $OMNIHOME/etc/update81fp7to81fp8.sql
```
## 14. Object Server – Configuration options

<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong></td>
<td><strong>Option A: Manual Object Server configuration</strong>&lt;br&gt;Creating and running an Object Server&lt;br&gt;<a href="https://www.ibm.com/support/knowledgecenter/en/SSSHTQ_7.4.0/com.ibm.netcool_OMNibus.doc_7.4.0/omnibus/wip/install/task/omn_con_os_creatingobjserv.html">https://www.ibm.com/support/knowledgecenter/en/SSSHTQ_7.4.0/com.ibm.netcool_OMNibus.doc_7.4.0/omnibus/wip/install/task/omn_con_os_creatingobjserv.html</a></td>
</tr>
<tr>
<td><strong>3</strong></td>
<td><strong>Option C: Object Server configuration using SMAC</strong>&lt;br&gt;SMAC = Standard Multitier Architecture Configuration&lt;br&gt;Best practices recommendation&lt;br&gt;<a href="http://www.ibm.com/support/knowledgecenter/SSSHTQ_8.1.0/com.ibm.netcool_OMNibus.doc_8.1.0/omnibus/wip/install/concept/omn_esf_configuringdeploymultitieredarch.html">http://www.ibm.com/support/knowledgecenter/SSSHTQ_8.1.0/com.ibm.netcool_OMNibus.doc_8.1.0/omnibus/wip/install/concept/omn_esf_configuringdeploymultitieredarch.html</a> &lt;br&gt;<strong>Installing the primary aggregation ObjectServer</strong>&lt;br&gt;Use the following steps to install the primary aggregation ObjectServer AGG_P, and apply the SQL customization. If the ObjectServer is already installed and running, you can apply the SQL customization to the ObjectServer by using the aggregation SQL file provided.&lt;br&gt;<strong>Installing the backup aggregation ObjectServer</strong>&lt;br&gt;Use the following steps to install the backup aggregation ObjectServer AGG_B, and apply the SQL customization. If the ObjectServer is already installed and running, you can apply the SQL customization to the ObjectServer by using the aggregation SQL file provided.&lt;br&gt;<strong>Configuring the bidirectional aggregation ObjectServer Gateway</strong>&lt;br&gt;Use the following steps to configure the bidirectional aggregation ObjectServer Gateway AGG_GATE. Note that installation of Tivoli Netcool/OMNibus is not necessary because the gateway is configured on the same host computer as the backup aggregation ObjectServer AGG_B.</td>
</tr>
</tbody>
</table>
## 15. Object Server Manual configuration

<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
</table>
| 1. Add interface | **Add interface example**

- **vi $NCHOME/etc/omni.dat**
- **Apply modification**
  - vi $NCHOME/bin/nco igen

<table>
<thead>
<tr>
<th>2. Create Object Server</th>
<th>$NCHOME/bin/nco_dbinit -server NOI_AGG_P</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Start Object Server</td>
<td>$NCHOME/bin/nco_objserv -name NOI_AGG_P</td>
</tr>
</tbody>
</table>
| 4. Initialize root password (optional) | $OMNIHOME/bin/nco_sql -server NOI_AGG_P -user root
  > alter user 'root' set password 'netcool';
  > go; |
| 5. Verification point: Object Server running | ps -ef | grep objserv

- root 2485 9841 0 2016 ? 17:01:44 /opt/IBM/tivoli/netcool/omnibus/platform/linux2x86/bin64/nco_objserv -name NOI_AGG_P |
## 16. Object Server configuration with ICW

<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1 Create Object Server with Installation wizard</strong></td>
<td><strong>Create one single object server</strong></td>
</tr>
</tbody>
</table>

### Command

`$NCHOME/omnibus/bin/nco_icw -console`

---

### Step 1: Create Object Server with Installation wizard

**Initial Configuration Wizard**

The wizard will guide you through creating your configuration for your Tivoli Netcool/OMNibus environment.

1. **What you want to do:**
   - Create a new configuration **SELECT**
   - Edit an existing configuration.
   - Apply an existing configuration on this computer.

**Multitier ObjectServers**

1. **Aggregation backup:** No **SET**
2. **Primary Collection ObjectServers:** 0
3. **Collection backup:** No **SET**
4. **Display ObjectServers:** 0

**Define host computers**

1. **Host:** `netcool-server1.ibm.com` **SET**
2. **NCHOME:** `/opt/IBM/tivoli/netcool` **SET**
3. **Add** **ADD**
4. **Computers:**
   - `netcool-server1.ibm.com` - `/opt/IBM/tivoli/netcool` **RESULT**

### Step 2: Process Agent configuration

**Process Agent on netcool-server1.ibm.com**

**Process Agent on netcool-server1.ibm.com**

1. **Name prefix:** `NOIPOC`
2. **PA port:** 4200

### Step 3: Aggregation layer configuration

**Primary Aggregate**

1. **Primary Aggregate** **SELECT**
Primary Aggregate
---------------
ObjectServer name: NOI_AGG_P
[2] Name prefix: NOI
[3] * Server port: 4100
[4] IDUC port: 0

Configuration summary
---------------------
ObjectServers
Aggregation layer
NOI_AGG_P
   Computer: netcool-server1.ibm.com
   Path: /opt/IBM/tivoli/netcool
   Server port: 4100
   IDUC port: 0
Process agents
NCO_PA
   Computer: netcool-server1.ibm.com
   Path: /opt/IBM/tivoli/netcool
   PA port: 4200

Save configuration
------------------
[1] * Descriptor file: /opt/IBM/tivoli/netcool/omnibus/etc/deployment_descriptor.xml

Apply the configuration
-----------------------
Component: Interfaces file
Action: Update /opt/IBM/tivoli/netcool/etc/omni.dat and run nco igen

Component: Process agent
Action: Create configuration for this computer

Component: Process agent
Action: Add entry for ObjectServer NOI_AGG_P

Component: ObjectServer
Action: Create properties file and database for NOI_AGG_P

Successful application
----------------------
2  Start Process Agent & Object Server

Update PA configuration file
vi $NCHOME/omnibus/etc/nco_pa.conf

Find netcool user ID
more /etc/passwd | grep netcool
netcool:x:10802:501::/opt/netcool:/bin/bash
In this example, the UID for the netcool user is 10802

Locate the following line:
Command '$OMNIHOME/bin/nco_objserv -name NOI_AGG_P -pa NCO_PA ' run as 0
Change run as 0 to run as 10802.
Command '$OMNIHOME/bin/nco_objserv -name NOI_AGG_P -pa NCO_PA ' run as 10802
Start PA
$NCHOME/omnibus/bin/nco_pad -name NCO_PA

3  Verification point: Process Agent status and Object Server login

$NCHOME/omnibus/bin/nco_pa_status -server NCO_PA
Check PA log
more $NCHOME/omnibus/log/NOIPOC_PA.log

Test Object Server SQL login
$OMNIHOME/bin/nco_sql -server NOI_AGG_P -user root
<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
</table>
| 1. Set Interfaces on Primary | PRIMARY Interfaces example

Set Interfaces
vi $NCHOME/etc/omni.dat

Apply Interfaces
SNCHOME/bin/nco_igen

- **AGG_P**
  - Primary: netcool-server1 4100

- **AGG_B**
  - Primary: netcool-server2 4110

- **AGG_GATE**
  - Primary: netcool-server1 4300

- **NCO_PA**
  - Primary: netcool-server1 4200

| 2. Set Interfaces on Backup | BACKUP Interfaces example

Set Interfaces
vi $NCHOME/etc/omni.dat

Apply Interfaces
SNCHOME/bin/nco_igen

- **AGG_P**
  - Primary: netcool-server1 4100

- **AGG_B**
  - Primary: netcool-server2 4110

- **AGG_GATE**
  - Primary: netcool-server1 4300

- **NCO_PA**
  - Primary: netcool-server1 4200

- **JDBC_GATE**
<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
</tr>
</thead>
</table>
| 3 | **Installing AGG_P on Primary**  
   Initialize the ObjectServer AGG_P  
   `$NCHOME/omnibus/bin/nco_dbinit -server AGG_P -customconfigfile`  
   Apply SQL import file  
   `$NCHOME/omnibus/extensions/multitier/objectserver/aggregation.sql`  
   Start the ObjectServer AGG_P  
   `$NCHOME/omnibus/bin/nco_objserv -name AGG_P &`  
   Verification point: est SQL login  
   `$NCHOME/omnibus/bin/nco_sql -server AGG_P -user root` |
| 4 | **Installing AGG_B on Backup**  
   Initialize the ObjectServer AGG_B  
   `$NCHOME/omnibus/bin/nco_dbinit -server AGG_B -customconfigfile`  
   Apply SQL import file  
   `$NCHOME/omnibus/extensions/multitier/objectserver/aggregation.sql`  
   Start the ObjectServer AGG_B  
   `$NCHOME/omnibus/bin/nco_objserv -name AGG_B &`  
   Verification point: test SQL login  
   `$NCHOME/omnibus/bin/nco_sql -server AGG_B -user root` |
| 5 | **Installing AGG_GATE on Primary**  
   Copy the multitiered property gateway files for the gateway  
   `cp $NCHOME/omnibus/extensions/multitier/gateway/AGG_GATE.* $NCHOME/omnibus/etc/`  
   AGG_GATE.map  
   AGG_GATE.props  
   AGG_GATE.tblrep.def  
   Start the gateway AGG_GATE  
   `$NCHOME/omnibus/bin/nco_g_objserv_bi -propsfile $NCHOME/omnibus/etc/AGG_GATE.props &`  
   Verification point: check Log File  
   `more $NCHOME/omnibus/log/AGG_GATE.log` |
## 18. JDBC Gateway installation – Console mode

### Step 1: Install JDBC gateway

**Start Installation Manager**

/opt/IBM/IM/InstallationManager/eclipse/tools/imcl -c

**Add Repository (Example)**

```
=====> IBM Installation Manager> Preferences> Repositories
$SW_Repository/JDBC-gate/NCOMNI_GTW_JDBC.zip

Install gateway
```

**Select:**

1. Install - Install software packages <------ INSTALL

**Packages to be installed:**
Netcool/OMNibus Gateway nco-g-jdbc 1.6.0.0

**Options:**
G. Generate an Installation Response File
B. Back, I. Install, C. Cancel

```
       ---> [I]
       25%                50%                75%                100%
       ------------------|------------------|------------------|------------------|
       ............................................................................

=====> IBM Installation Manager> Install> Licenses> Location> Summary> Completion

The install completed successfully.

**Options:**
F. Finish

### Step 2: Configure JDBC gateway props

**Copy**

```
cd $OMNIHOME/gates/jdbc
cp reporting.jdbc.map $OMNIHOME/etc/JDBC_GATE.map
cp reporting.G_JDBC.props $OMNIHOME/etc/JDBC_GATE.props
cp jdbc.rdrwtr.tblrep.def $OMNIHOME/etc/JDBC_GATE.rdrwtr.tblrep.def
cp jdbc.startup.cmd $OMNIHOME/etc/JDBC_GATE.startup.cmd
```

**Verify**

```
cd $OMNIHOME/etc
JDBC_GATE.map
JDBC_GATE.props
JDBC_GATE.rdrwtr.tblrep.def
JDBC_GATE.startup.cmd
```

**Modify props**

```
vi JDBC_GATE.props
```

```properties
# JDBC Connection properties
Gate.Jdbc.Driver: 'com.ibm.db2.jcc.DB2Driver'
Gate.Jdbc.Username: 'db2inst1'
Gate.Jdbc.Password: '<password>'
Gate.Jdbc.ReconnectTimeout: 30
Gate.Jdbc.InitializationString: "

Comment following lines
# ObjectServer Connection properties
# Gate.RdrWtr.Username: 'root'
# Gate.RdrWtr.Password: "

Add lines
MessageLog : '$OMNIHOME/log/JDBC_GATE.log'
Name : 'JDBC_GATE'
PropsFile : '$OMNIHOME/etc/JDBC_GATE.props'
Gate.MapFile : '$OMNIHOME/etc/JDBC_GATE.map'
Gate.RdrWtr.Server : 'AGG_B'
Gate.RdrWtr.TblReplicateDefFile : '$OMNIHOME/etc/JDBC_GATE.rdrwtr.tblrep.def'
Gate.StartupCmdFile : '$OMNIHOME/etc/JDBC_GATE.startup.cmd'
```
### 3 Configure JDBC gateway startup.cmd

- vi `JDBC_GATE.startup.cmd`
- Remove comment
- TRANSFER FROM 'alerts.conversions' TO 'REPORTER_CONVERSIONS' DELETE USING TRANSFER_MAP `ConversionsMap`;
- TRANSFER FROM 'alerts.objclass' TO 'REPORTER_CLASSES' DELETE USING TRANSFER_MAP `ObjectClassesMap`;
- TRANSFER FROM 'master.groups' TO 'REPORTER_GROUPS' DELETE USING TRANSFER_MAP `GroupsMap`;
- TRANSFER FROM 'master.members' TO 'REPORTER_MEMBERS' DELETE USING TRANSFER_MAP `MembersMap`;
- TRANSFER FROM 'master.names' TO 'REPORTER_NAMES' DELETE USING TRANSFER_MAP `NamesMap`;

### 4 Install the DB2 JDBC driver files

- cd /opt/ibm/db2/V10.5/java
- cp `db2jcc.jar` `$OMNIHOME/gates/java`
- cp `db2jcc_license_cu.jar` `$OMNIHOME/gates/java`

### 5 Start Gateway

- `$OMNIHOME/bin/nco_g_jdbc -name JDBC_GATE &`
- No errors in Log File
- more `$OMNIHOME/log/JDBC_GATE.log`

### 6 Verification point: gateway operation

- `su - db2inst1`
- `db2 connect to reporter`
- `db2 select node from reporter_status`
- `db2 select name from reporter_classes`
- `db2 select column_name from reporter_conversions`
- `db2 select name from reporter_names`
- `db2 select name from reporter_groups`
- `db2 select owneruid from reporter_members`

### 7 Setup JDBC cold stand-by configuration

- Update script `nco_test_gateway.sh`
  ```
  # ObjectServer Gateway names
  PRIMARY_GATEWAY='GATE_P'
  SECONDARY_GATEWAY='GATE_B'
  PA_NAME='NCO_PA'
  BACKUP_GATEWAY_PROCESS_NAME='BackupGateway'
  NCO_USER='ncouser'
  ```

- https://www.ibm.com/developerworks/community/blogs/cdd16df5-7bb8-4ef1-bcb9-cefb1dd40581/entry/setting_up_a_cold_standby_netcool_gateway_on_unix24?lang=en

How it works
It works by using nco_ping to monitor the primary Gateway. If it fails an nco_ping more than RETRIES number of times (modifiable parameter in the script), then it makes a call to nco_pa_start to start up the cold standby Gateway. After this point, it continues to try to nco_ping the primary Gateway. Once it receives a positive response, it makes a call to nco_pa_stop to stop the cold standby Gateway and returns to its original state of monitoring the primary Gateway's availability.

Note
A username and password needs to be included in the script to enable the calls to the Process Agent. For this reason, this script should have its file permissions modified to only be readable by the Netcool user. (ie. chmod 711 nco_test_gateway.sh)

NCO_PASS='netcool'
## 19. Message Probe installation – Console mode

<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
</table>
| **1 Install Message Probe** | Start Installation Manager  
/\opt/IBM/IM\InstallationManager\eclipse\tools\imcl -c  
Add Repository (Example)  
======> IBM Installation Manager> Preferences> Repositories  
\$SW_Repository/MsgBus-probe/Im-nco-p-message-bus-5_0.zip  
Install gateway  
======> IBM Installation Manager  
Select:  
1. Install - Install software packages <-------- INSTALL  
Repository (Example)  
Packages to be installed:  
Netcool/OMNIbus Probe nco-p-message-bus 1.5.0.0  
Options:  
G. Generate an Installation Response File  
B. Back, I. Install, C. Cancel  
----> [I]  
25% 50% 75% 100%  
------------------|------------------|------------------|------------------|  
............................................................................  
======> IBM Installation Manager> Install> Licenses> Location> Summary>  
Completion  
The install completed successfully.  
Options:  
F. Finish |
| **2 Configure probes in master/slave mode** | vi \$OMNIHOME/probes/linux2x86/xml.props  
Master on Primary  
Server : 'AGG_P'  
PeerPort: 9999  
PeerHost: 'netcool-server2'  
Mode: 'master'  
Slave on Backup  
Server : 'AGG_B'  
PeerPort: 9999  
PeerHost: 'netcool-server1'  
Mode: 'slave'  
Two instances of a probe can run simultaneously in a peer-to-peer failover relationship. One instance is designated as the master. The other instance acts as a slave and is on hot standby. If the master instance fails, the slave instance is activated. |
| **3 Start Message Probe on Primary and Backup** | Start Probe  
\$OMNIHOME/probes/nco_p_message_bus  
## 20. Process Agent configuration

<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1  PA configuration on Primary</strong></td>
<td><strong>nco_process 'MasterObjectServerPrimary'</strong>&lt;br&gt;<strong>nco_process 'MessageProbe'</strong>&lt;br&gt;<strong>nco_routing</strong></td>
</tr>
<tr>
<td>Update configuration as netcool user</td>
<td>Update configuration as netcool user&lt;br&gt;<code>vi $OMNIHOME/etc/nco_pa.conf</code></td>
</tr>
<tr>
<td>Start PA as root user</td>
<td>Start PA as root user&lt;br&gt;<code>$NCHOME/omnibus/bin/nco_pad -name NCO_PA -authenticate none</code></td>
</tr>
<tr>
<td>Verification Point &gt; PA Status</td>
<td>Verification Point &gt; PA Status&lt;br&gt;<code>$NCHOME/omnibus/bin/nco_pa_status -server NCO_PA</code></td>
</tr>
<tr>
<td></td>
<td>Service Name</td>
</tr>
<tr>
<td></td>
<td>Core</td>
</tr>
<tr>
<td>Verification Point: Test SQL Object Server access</td>
<td>Verification Point: Test SQL Object Server access&lt;br&gt;<code>$OMNIHOME/bin/nco_sql -server AGG_P -user root</code></td>
</tr>
<tr>
<td>PA Stop (info)</td>
<td>PA Stop (info)&lt;br&gt;<code>$NCHOME/omnibus/bin/nco_pa_shutdown -server NCO_PA</code></td>
</tr>
<tr>
<td><strong>2  Add Message Probe to PA on Primary</strong></td>
<td><strong>nco_process 'MessageProbe'</strong>&lt;br&gt;<strong>nco_routing</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Add Message Probe to PA on Primary</strong>&lt;br&gt;<code>nco_process 'MessageProbe'</code>&lt;br&gt;<code>nco_routing</code></td>
</tr>
</tbody>
</table>
### 3 PA configuration on Backup

**Update configuration as netcool user**
```
vi $OMNIHOME/etc/nco_pa.conf
```

**Start PA as root user**
```
$NCHOME/omnibus/bin/nco_pad -name NCO_PA -authenticate none
```

**Verification Point > PA Status**
```
$NCHOME/omnibus/bin/nco_pa_status -server NCO_PA
```

<table>
<thead>
<tr>
<th>Service Name</th>
<th>Process Name</th>
<th>Hostname</th>
<th>User</th>
<th>Status</th>
<th>PID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core</td>
<td>MasterObjectServerBackup</td>
<td>netcool-server2</td>
<td>netcool</td>
<td>RUNNING</td>
<td>31079</td>
</tr>
</tbody>
</table>

**Verification Point: Test SQL Object Server access**
```
$OMNIHOME/bin/nco_sql -server AGG_P -user root
```

**PA Stop (info)**
```
$NCHOME/omnibus/bin/nco_pa_shutdown -server NCO_PA
```

### 4 Add Message Probe to PA on Backup

**nco_process 'MessageProbe'**
```
{   Command '$OMNIHOME/probes/nco_p_message_bus' run as 1000
    Host = 'netcool-server2'
    Managed = True
    RestartMsg = '${NAME} running as ${EUID} has been restored on ${HOST}.'
    AlertMsg = '${NAME} running as ${EUID} has died on ${HOST}.'
    RetryCount = 0
    ProcessType = PaPA_AWARE
}
```

**process 'MessageProbe' 'MasterObjectServerBackup'**

**nco_process 'MasterObjectServerBackup'**
```
{   Command '$OMNIHOME/bin/nco_objserv -name AGG_B -pa NCO_PA -propsfile $OMNIHOME/etc/AGG_B.props' run as 1000
    Host = 'netcool-server2'
    Managed = True
    RestartMsg = '${NAME} running as ${EUID} has been restored on ${HOST}.'
    AlertMsg = '${NAME} running as ${EUID} has died on ${HOST}.'
    RetryCount = 0
    ProcessType = PaPA_AWARE
}
```

**nco_service 'Core'**
```
{   ServiceType = Master  
    ServiceStart = Auto 
    process 'MasterObjectServerBackup' NONE
}
```

**nco_routing**
```
{   host 'netcool-server2' 'NCO_PA'
}
```

### 5 Add JDBC Gateway to PA on Backup

**nco_process 'JDBCArchiveGateway'**
```
{   Command '$OMNIHOME/bin/nco_gjdbc -name JDBC_GATE' run as 1000
    Host='netcool-server2'
    Managed=True
    RestartMsg='$(NAME) running as $(EUID) has been restored on $(HOST).'
}
```

**nco_process 'MasterObjectServerBackup'**
```
{   Command '$OMNIHOME/bin/nco_objserv -name AGG_B -pa NCO_PA -propsfile $OMNIHOME/etc/AGG_B.props' run as 1000
    Host = 'netcool-server2'
    Managed = True
    RestartMsg = '${NAME} running as ${EUID} has been restored on ${HOST}.'
    AlertMsg = '${NAME} running as ${EUID} has died on ${HOST}.'
    RetryCount = 0
    ProcessType = PaPA_AWARE
}
```

**process 'JDBCArchiveGateway' 'MasterObjectServerBackup'**
### 6 Run PA start-up script on Primary and Backup

Installing UNIX start-up scripts to automatically start PA


```bash
sudo -i
$NCHOME/omnibus/install/startup/linux2x86install
```

**Notes**
- linux2x86install needs to be run as the root user - because it has to create files in /etc/init.d and elsewhere.
- netcool user must belong to ncoadmin group

---

AlertMsg=${NAME} running as ${EUID} has died on ${HOST}.
RetryCount=0
ProcessType=PaPA_AWARE
}

process 'JDBCArchiveGateway' 20

[root@netcool-server1 ~]# $NCHOME/omnibus/install/startup/linux2x86install
This script copies a startup script into the /etc/init.d directory to enable you to automatically start and stop Netcool/OMNIbus processes.
It does this by:
- Copying linux2x86/etc/rc.d/init.d/nco to /etc/init.d/nco
- Running "/sbin/chkconfig --add nco"
Do you wish to continue (y/n)? [y] y
Name of the Process Agent Daemon [NCO_PA]:
Should NCO_PA run in secure mode (y/n)? [y] n
Enter value for environment variable NETCOOL_LICENSE_FILE if required [27000@localhost]:
Scripts installed.
<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong> Option A: GUI Mode Installation</td>
<td>GUI / export display must be available on NOI machines.</td>
</tr>
<tr>
<td><strong>2</strong> Option B: Silent Mode Installation</td>
<td>If GUI / export display is not available on NOI machines DASH must be installed in Silent mode (DASH cannot be installed in Console mode)</td>
</tr>
</tbody>
</table>
**21. DASH 3.1.3.0 GUI Mode Installation**

**1 Create Repositories**

**Unzip**

- unzip CNC1PML IBM_jazzsm_v1300 Linux64.zip
- unzip CNC1ZML IBM-was-8.5.5.9 Linux64.zip
- unzip 7.1.3.10_0001-WS-IBMWASJAVA-part1.zip
- unzip 7.1.3.10_0001-WS-IBMWASJAVA-part2.zip

(SDK files can be unzipped under same directory)

**Start Installation Manager**

```
/opt/IBM/IM/InstallationManager/eclipse/tools/imcl -c
```

**Add Repository**

```
========> IBM Installation Manager> Preferences> Repositories
```

**Repositories**

- $SW-Repository/DASH3130/JazzSM1130/JazzSMRepository/disk1/diskTag.inf
- $SW-Repository/DASH3130/WAS8559/WASRepository/disk1/diskTag.inf
- $SW-Repository/DASH3130/SDK/repository.xml

**2 DASH 3130 GUI Mode Installation (with Response File generation)**

**Start Installation Manager in GUI mode**

```
/opt/IBM/IM/InstallationManager/eclipse/IBMIM
```

**Start Installation Manager with Record option**

```
/opt/IBM/IM/InstallationManager/eclipse/IBMIM -record /opt//DASH-Install-ResponseFile.xml
```

**Note**

This is useful to create a Response File that can be later used for Silent install.

**3 GUI panel 1: Installation packages selection**

<table>
<thead>
<tr>
<th>Installation Packages</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM WebSphere Application Server V8.5</td>
<td></td>
</tr>
<tr>
<td>&gt; IBM WebSphere Application Server 8.5.5.9</td>
<td></td>
</tr>
<tr>
<td>IBM WebSphere SDK Java Technology Edition</td>
<td></td>
</tr>
<tr>
<td>&gt; 7.0.9.30</td>
<td></td>
</tr>
<tr>
<td>Jazz for Service Management extension for IBM WebSphere</td>
<td></td>
</tr>
<tr>
<td>&gt; 8.5.1.2.1</td>
<td></td>
</tr>
<tr>
<td>Core services in Jazz for Service Management</td>
<td></td>
</tr>
<tr>
<td>&gt; IBM Dashboard Application Services Hub 3.1.3.0</td>
<td></td>
</tr>
</tbody>
</table>

- **will be installed**
### GUI panel 2: Features to install

- **IBM WebSphere Application Server 8.5.5.9**
- **IBM WebSphere SDK Java Technology Edition (Optional) 7.0.9.30**
- **Jazz for Service Management extension for IBM WebSphere 8.5 1.1.2.1**
  - Install JazzSM WebSphere Extension
- **IBM Dashboard Application Services Hub 3.1.3.0**

### GUI panel 3: Select installation directory

**Installation Time**

~15 minutes

<table>
<thead>
<tr>
<th>Package Group Name</th>
<th>Installation Directory</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM WebSphere Application Server V8.5</td>
<td>/opt/IBM/WebSphere/AppServer</td>
</tr>
<tr>
<td>IBM WebSphere Application Server 8.5.5.9</td>
<td>/opt/IBM/WebSphere/AppServer</td>
</tr>
<tr>
<td>IBM WebSphere SDK Java Technology Edition (Optional)</td>
<td>/opt/IBM/WebSphere/AppServer</td>
</tr>
<tr>
<td>Jazz for Service Management extension for IBM WebSphere 8.5 1.1.2.1</td>
<td>/opt/IBM/WebSphere/AppServer</td>
</tr>
<tr>
<td><strong>Core services in Jazz for Service Management</strong></td>
<td>/opt/IBM/JazzSM</td>
</tr>
<tr>
<td>IBM Dashboard Application Services Hub 3.1.3.0</td>
<td>/opt/IBM/JazzSM</td>
</tr>
</tbody>
</table>
### Common Configurations

**WebSphere Configuration**

<table>
<thead>
<tr>
<th>WebSphere installation location</th>
<th>[opt]/[BM]/WebSphere/AppServer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profile deployment type</td>
<td>Create WebSphere profile</td>
</tr>
</tbody>
</table>

**Profile details**

<table>
<thead>
<tr>
<th>Profile location</th>
<th>[opt]/[BM]/jazzSM/profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profile name</td>
<td>jazzSMProfile</td>
</tr>
<tr>
<td>Node name</td>
<td>jazzSMNode01</td>
</tr>
<tr>
<td>Server name</td>
<td>server1</td>
</tr>
<tr>
<td>User name</td>
<td>smadmin</td>
</tr>
<tr>
<td>Password</td>
<td>..........................</td>
</tr>
<tr>
<td>Password confirmation</td>
<td>..........................</td>
</tr>
</tbody>
</table>

**Validate...**

---

### 6 Verification point: Login DASH

Login DASH smadmin / < password >
[https://netcool1-server:16311/ibm/console/logon.jsp](https://netcool1-server:16311/ibm/console/logon.jsp)

(This URL works only on VM browser)
## 22. DASH 3.1.3.0 Silent mode installation

<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
</table>
| 1 Create Repositories | **Add Repository**  
===> IBM Installation Manager> Preferences> Repositories  
**Repositories (Example)**  
$SW_Repository/DASH/JazzSM1300/JazzSMRepository/disk1/diskTag.inf  
$SW_Repository/DASH/WAS8559/WASRepository/disk1/diskTag.inf  
$SW_Repository//DASH/SDK/repository.xml  
**Start Installation Manager**  
/opt/IBM/IM/InstallationManager/eclipse/tools/imcl -c |
| 2 Encrypt Password in Response File |  
**Response File**  
vi DASH-Install-ResponseFile.xml  
**Password Encryption**  
Response file requires DASH admin password to be encrypted  
**Example**  
root@test:/opt/IM/InstallationManager/eclipse/tools # /opt/IM/InstallationManager/eclipse/tools/imutilsc encryptString < password >  
hi0uX5JGlycJzyiXd6Q9gw== |
| 3 DASH-Install-ResponseFile.xml | See response file at the end of this chapter |
| 4 DASH Installation in Silent Mode |  
**Example**  
/opt/IBM/IM/InstallationManager/eclipse/tools/imcl input  
$SW_Repository/ResponseFiles/DASH-Install-ResponseFile.xml -log $SW_Repository/DASH-install.log -acceptLicense  
Installed com.ibm.websphere.BASE.v85_8.5.5009.20160225_0435 to the /opt/IBM/WebSphere/AppServer directory.  
Installed com.ibm.websphere.IBMJAVA.v70_7.0.9030.20160224_1826 to the /opt/IBM/WebSphere/AppServer directory.  
Installed com.ibm.tivoli.tacct.psc.install.was85.extension_1.1.2001.20160606-1749 to the  
/opt/IBM/WebSphere/AppServer directory.  
Installed com.ibm.tivoli.tacct.psc.tip.install_3.1.3000.20160606-1749 to the  
/opt/IBM/JazzSM directory.  
/netcool@netcool-server1 ResponseFiles]/ /opt/IBM/IM/InstallationManager/eclipse/tools/imcl input  
~/ResponseFiles/DASH-Install-ResponseFile.xml -log $SW_Repository/DASH-install.log -acceptLicense |
| 5 Verification point: check Installed packages on Installation Manager |  
3-. IBM WebSphere Application Server V8.5  
4. IBM WebSphere Application Server 8.5.5.9  
5. IBM WebSphere SDK Java Technology Edition (Optional) 7.0.9.30  
6. Jazz for Service Management extension for IBM WebSphere 8.5 1.1.2.1  
7-. Core services in Jazz for Service Management |
<table>
<thead>
<tr>
<th>6</th>
<th>Verification point: Login DASH</th>
</tr>
</thead>
<tbody>
<tr>
<td>No errors in Log file</td>
<td></td>
</tr>
<tr>
<td>$SW_Repository/DASH/DASH-install.log</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>7</th>
<th>DASH restart (info)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stop DASH</td>
<td></td>
</tr>
<tr>
<td>$JAZZSM_HOME/profile/bin/stopServer.sh server1 -username smadmin -password &lt; password &gt;</td>
<td></td>
</tr>
<tr>
<td>Start DASH</td>
<td></td>
</tr>
<tr>
<td>$JAZZSM_HOME/profile/bin/startServer.sh server1</td>
<td></td>
</tr>
</tbody>
</table>

(*) DASH INSTALL RESPONSE FILE

```xml
<?xml version='1.0' encoding='UTF-8'?>
<agent-input>
  <variables>
    <variable name='sharedLocation' value='~/home/netcool/IBM/IBMIMShared'/>
  </variables>

  <server>
    <repository location='~/DASH3130/SDK'/>
    <repository location='~/DASH3130/WAS8559/WASRepository/disk1'/>
    <repository location='~/DASH3130/JazzSM1130/JazzSMRepository/disk1'/>
  </server>

  <profile id='IBM WebSphere Application Server V8.5' installLocation='~/opt/IBM/WebSphere/AppServer'>
    <data key='cic.selector.arch' value='x86'/>
  </profile>

  <install>
    <!-- IBM WebSphere Application Server 8.5.5.9 -->
    <offering profile='IBM WebSphere Application Server V8.5' id='com.ibm.webSphere.BASE.v85' version='8.5.5009.20160225_0435' features='core.feature,ejbdeploy,thinclient,embeddablecontainer,com.ibm.sdk.6_64bit'/>
    <!-- IBM WebSphere SDK Java Technology Edition (Optional) 7.0.9.30 -->
    <offering profile='IBM WebSphere Application Server V8.5' id='com.ibm.webSphere.IBMJAVA.v70' version='7.0.9030.20160224_1826' features='com.ibm.sdk.7'/>
    <!-- Jazz for Service Management extension for IBM WebSphere 8.5 1.1.2.1 -->
    <offering profile='IBM WebSphere Application Server V8.5' id='com.ibm.tivoli.tacct.psc.install.was85.extension' version='1.1.2001.20160606-1749' features='main.feature'/>
  </install>

  <profile id='Core services in Jazz for Service Management' installLocation='~/opt/IBM/JazzSM'>
    <data key='cic.selector.arch' value='x86_64'/>
    <data key='user.BOOTSTRAP_ADDRESS' value='16312'/>
    <data key='user.SOAP_CONNECTOR_ADDRESS' value='16313'/>
    <data key='user.CSIV2_SSL_MUTUALAUTH_LISTENER_ADDRESS' value='16322'/>
    <data key='user.CSIV2_SSL_SERVERAUTH_LISTENER_ADDRESS' value='16323'/>
  </profile>
</agent-input>
```
<data key='user.DCS_UNICAST_ADDRESS' value='16318'/>
<data key='user.IPC_CONNECTOR_ADDRESS' value='16314'/>
<data key='user.ORB_LISTENER_ADDRESS' value='16320'/>
<data key='user.WC_defaulthost_secure' value='16311'/>
<data key='user.REST_NOTIFICATION_PORT' value='16324'/>
<data key='user.WC_defaulthost' value='16310'/>
<data key='user.WC_adminhost_secure' value='16316'/>
<data key='user.SAS_SSL_SERVERAUTH_LISTENER_ADDRESS' value='16321'/>
<data key='user.WC_adminhost' value='16315'/>
<data key='user.TIP_CONTEXT_ROOT' value='/ibm/console'/>
<data key='user.WAS_HOME' value='opt/IBM/WebSphere/AppServer'/>
<data key='user.CREATE_NEW_WAS_PROFILE' value='true'/>
<data key='user.WAS_PROFILE_PATH' value='opt/IBM/JazzSM/profile'/>
<data key='user.WAS_PROFILE_NAME' value='JazzSMProfile'/>
<data key='user.WAS_HOST_NAME' value='netcool1-server.ibm.com'/>
<data key='user.WAS_SERVER_NAME' value='server1'/>
<data key='user.WAS_NODE' value='JazzSMNode01'/>
<data key='user.WAS_USER_NAME' value='smadmin'/>
<data key='user.WAS_PASSWORD' value='oPqzSarG5305fWMlcLEmiQ=='/>
<data key='user.WAS_CELL' value='JazzSMNode01Cell'/>
</profile>
</install>

<-- IBM Dashboard Application Services Hub 3.1.3.0 -->
<install>

<preference name='com.ibm.cic.common.core.preferences.eclipseCache' value='$(sharedLocation)'/>
<preference name='offering.service.repositories.areUsed' value='false'/>
</agent-input>
## 23. WebGUI 8.1.0.9 installation – Console mode

<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1 Create repositories</strong></td>
<td><strong>Repositories (Example)</strong>&lt;br&gt;$SW_Repository/WebGUI/WebGUI8104/OMNIbusWebGUI_NOIExtensionsRepository/repository.xml&lt;br&gt;$SW_Repository/WebGUI/WebGUI8104/OMNIbusWebGUIRepository/repository.xml&lt;br&gt;$SW_Repository/WebGUI/WebGUI8109/OMNIbusWebGUIRepository/composite/repository.xml&lt;br&gt;$SW_Repository/WebGUI/WebGUI8109/OMNIbusWebGUI_NOIExtensionsRepository/composite/repository.xml</td>
</tr>
<tr>
<td><strong>8104 Refresh Version</strong>&lt;br&gt;unzip OMNIbus-v8.1.0-WebGUI-FP4-IM-Extensions-linux64.zip</td>
<td><strong>Start Installation Manager</strong>&lt;br&gt;/opt/IBM/IM/InstallationManager/eclipse/tools/imcl -c</td>
</tr>
<tr>
<td><strong>8109 Fix Pack</strong>&lt;br&gt;unzip OMNIbus-v8.1.0-WebGUI-FP9-IM-Extensions-linux64-UpdatePack.zip</td>
<td><strong>Add Repositories</strong>&lt;br&gt;=====&gt; IBM Installation Manager&gt; Preferences&gt; Repositories</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2 Install WebGUI Console Mode</strong></td>
<td><strong>=====&gt; IBM Installation Manager&gt; Install</strong>&lt;br&gt;Select packages to install:&lt;br&gt;1. [X] IBM Tivoli Netcool/OMNIbus Web GUI 8.1.0.9 &lt;---- SELECT PACKAGE&lt;br&gt;2. [X] Netcool Operations Insight Extensions for IBM Tivoli Netcool/OMNIbus Web GUI 1.4.0.4 &lt;---- SELECT PACKAGE&lt;br&gt;3. [X] IBM Tivoli Netcool/OMNIbus Web GUI 8.1.0.9&gt; Integrate with IBM Operations Analytics - Log Analysis&lt;br&gt;URL protocol type : https&lt;br&gt;URL host name : analysis-server1&lt;br&gt;URL port number : 9987&lt;br&gt;URL context root : Unity&lt;br&gt;Data source name : omnibus&lt;br&gt;User name : unityadmin&lt;br&gt;Password : **********</td>
</tr>
<tr>
<td><strong>Installation Time</strong></td>
<td>15-20 minutes</td>
</tr>
</tbody>
</table>
### 3 Verification point: Login WebGUI

Login DASH smadmin / < password >
https://netcool-server1:16311/ibm/console/logon.jsp

### 4 Configure OS authentication

#### Note

In GUI Mode this operation can be performed with WebGUI Post Config Tool:
> `$WEBGUI_HOME/configtool/linux.gtk.x86_64/ncwConfigUI` -WASUserID smadmin -WASPassword < password >

**Set Properties**

```
vi $WEBGUI_HOME/bin/OMNibusWebGUI.properties
```

WASUserID=smadmin
WASPassword=< password >

**CONFIGURATION_TOKEN_OBJECTSERVER_USER=root**

**CONFIGURATION_TOKEN_OBJECTSERVER_PASSWORD=**

**Primary**

```
CONFIGURATION_TOKEN_OBJECTSERVER_PRIMARY_HOST=netcool-server1
CONFIGURATION_TOKEN_OBJECTSERVER_PRIMARY_PORT=4100
```

**Backup**

```
```

---

**setWebGUIHome:**

```
[echo] Set Web GUI for script installation
OMNIBUS_WEBGUI_HOME=/opt/IBM/netcool/omnibus_webgui/bin/..
```

**setWebGUIProps:**

```
[echo] Read WebGUI properties file:
/opt/IBM/netcool/omnibus_webgui/bin/..bin/OMNibusWebGUI.properties
```

**setWebTopContextRoot**

```
[echo] Initialise conditions: Web GUI base version 8.1.0.10
[echo] Or Web GUI extension (NOI Event Analytics) version 8.1.0.10
[echo] WAS_HOMEJAVA=/opt/IBM/WebSphere/AppServer/java_1.7_64
[echo] OMNIBUS_WEBGUI_HOME=/opt/IBM/netcool/omnibus_webgui/bin/..
[echo] OMNIBUS_WEBGUI_IM_JAR=/opt/IBM/netcool/omnibus_webgui/bin/..bin/OMNibusWebGUI_IM.jar
```

**init_vmm:**

```
[echo] USER_REGISTRY_OBJECTSERVER_SELECTED=true
[echo] DEFAULT_USER_REGISTRY_SELECTION=OBJECT_SERVER
[echo] registerNCOSVMM=true
[echo] setNCOSVMMAsDefaultUserRepo=true
```

**registerNCOSVMMInWAS:**

```
```
CONFIGURATION_TOKEN_OBJECTSERVER_PRIMARY_HOST=netcool-server2
CONFIGURATION_TOKEN_OBJECTSERVER_PRIMARY_PORT=4110

Command Configure OS

cd $WEBGUI_HOME/bin/
$JAZZSM_HOME/profile/bin/ws_ant.sh configureOS

createObjectServerProperties:
[echo] Creating objectserver.properties
[propertyfile] Updating property file: /opt/IBM/JazzSM/profile/properties/objectserver.properties

dataSourceWithTokensFile:
[echo] Get ncwDataSourceDefinitions.xml with tokens for configuration
[copy] Copying 1 file to /opt/IBM/netcool/gui/omnibus_webgui/etc/datasources

checkFailoverConfiguration:
[echo] OBJECTSERVER_ENABLE_SECONDARY_SERVER=false

isObjectServerStandard:
[echo] isObjectServerStandardConfiguration=true

setRepoProps:
[echo] Default realm in winconfig.xml: repoForDefaultUsersGroups=netcoolObjectServerRepository

checkDefaultUsersAndGroupsProps:
[echo] CREATE_DEFAULT_USERSANDGROUPS=true

createDefaultUsersAndGroups:
[echo] user name is smadmin
[echo] userRegistryRealm: netcoolObjectServerRepository
[echo] Create default users and groups result: 0 <==== ZERO MEANS COMMAND WAS SUCCESSFUL
[echo] Assign roles result: 0 <==== ZERO MEANS COMMAND WAS SUCCESSFUL

BUILD SUCCESSFUL
Total time: 1 minute 11 seconds

5 Restart DASH

$JAZZSM_HOME/profile/bin/stopServer.sh server1 -username smadmin -password <password>
$JAZZSM_HOME/profile/bin/startServer.sh server1

6 Verification point: OS authentication

Login DASH ncoadmin / < password > (use same smadmin password)
https://netcool-server1:16311.ibm/console/logon.jsp
> ncoadmin login is successful
> Event Viewer and AEL are properly displayed

7 Configuring DASH / Web GUI to start at boot

sudo i

JAZZ_HOME="/opt/IBM/JazzSM/profile"
case "$1" in
  'start')
Copy init.d file
  cd $SW_Repository/tools/etc/init.d
  cp jazz /etc/init.d

Change file permissions
  cd /etc/init.d chmod +x jazz

Create the logical links to enable auto-start
  chkconfig jazz on

# start Jazz SM
  su - netcool -c "JAZZ_HOME/bin/startServer.sh server1"
  ;;
  'stop')
  # Stop Jazz SM
  su - netcool -c "JAZZ_HOME/bin/stopServer.sh server1 -username smadmin -password object00"
  ;;
  'status')
  # Status Jazz SM
  su - netcool -c "JAZZ_HOME/bin/serverStatus.sh server1 -username smadmin -password object00"
  ;;
  esac
  exit 0
### 24. WebGUI / DASH migration from WebGUI 7.3.1 / 7.4 (Optional)

<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Export from WebGUI 7.3.1-7.4 (Source machine)</td>
<td></td>
</tr>
<tr>
<td>Properties update</td>
<td>vi $WEBGUI_HOME/integration/plugins/OMNibusWebGUI_clone_settings.properties&lt;br&gt;product.home=/opt/IBM/tivoli/netcool/omnibus_webgui</td>
</tr>
<tr>
<td>Export script</td>
<td>cd $TIPHOME/profiles/TIPProfile/bin&lt;br&gt;.tipcli.sh Export --username tipadmin --password yyyy --settingFile&lt;br&gt;$WEBGUI_HOME/integration/plugins/OMNibusWebGUI_TIP_clone.properties</td>
</tr>
<tr>
<td>Check Log File</td>
<td>more $TIPHOME/profiles/TIPProfile/logs/tipcli.log</td>
</tr>
<tr>
<td>Check data.zip (exported content)</td>
<td>cd $TIPHOME/profiles/TIPProfile/output/&lt;br&gt;-rw-r--r-- 1 root root 745836 Jan 8 12:15 data.zip</td>
</tr>
<tr>
<td>Copy data.zip to target system</td>
<td>cd $TIPHOME/profiles/TIPProfile/output/br&lt;br&gt;data.zip</td>
</tr>
<tr>
<td>3. Import in WebGUI 8.1 (Destination machine)</td>
<td></td>
</tr>
<tr>
<td>Properties update</td>
<td>vi $WEBGUI_HOME/integration/plugins/OMNibusWebGUI_clone_settings.properties&lt;br&gt;product.home=/opt/IBM/netcool/omnibus_webgui</td>
</tr>
<tr>
<td>Import Script</td>
<td>cd $JAZZSM_HOME/ui/bin/&lt;br&gt;.consolecli.sh Import --username smadmin --password ... --settingFile&lt;br&gt;$WEBGUI_HOME/integration/plugins/OMNibusWebGUI_DASH_clone.properties</td>
</tr>
<tr>
<td>Check Log File</td>
<td>more $JAZZSM_HOME/ui/logs/consolecli.log</td>
</tr>
<tr>
<td>Stop &amp; Restart DASH server</td>
<td>$JAZZSM_HOME/profile/bin/stopServer.sh server1 -username smadmin -password &lt; password &gt;&lt;br&gt;$JAZZSM_HOME/profile/bin/startServer.sh server1</td>
</tr>
</tbody>
</table>
## 25. Impact 7.1.0.9 Cluster installation – Console Mode (OS Authentication)

<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
</table>
| **2** Create repositories | **Repositories (Example)**  
$OMNIHOME/bin/nco_sql -server NOI_AGG_P -user root 
> create user 'impactadmin' full name 'impactadmin' PASSWORD 'netcool' 
> go 
Impact user for OS authentication 
impactadmin/netcool created 
**IM start**  
/opt/IBM/IM/InstallationManager/eclipse/tools/imcl -c 
**Add repositories**  
======> IBM Installation Manager> Preferences> Repositories  
$SW-Repository/Impact7104-Refresh/ImpactRepository/disk1/diskTag.inf  
$SW-Repository/Impact7104-Refresh/ImpactExtRepository/disk1/diskTag.inf  
$SW-Repository/Impact7110/ImpactRepository/repository.xml  
$SW-Repository/Impact7110/ImpactExtRepository/repository.xml |
| **3** Install Impact Primary | **Select packages to install:**  
1. [X] IBM Tivoli Netcool/Impact GUI Server 7.1.0.9  
2. [X] IBM Tivoli Netcool/Impact Server 7.1.0.9  
3. [X] IBM Tivoli Netcool/Impact Server Extensions for Netcool Operations Insight 7.1.0.9  
**OMNibus ObjectServer**  
The OMNibus ObjectServer Super User must exist and the OMNibus ObjectServer must be configured and running. 
Primary Host : netcool-server1  
Primary Port : 4100  
Backup Host (Optional) : netcool-server2  
Backup Port (Optional) : 4100  
Super or Administrator User ID: root  
Super or Administrator User Password:  
Confirm Password :  
**---- Common Configurations> Profile Ports**  
Impact requires a range of ports to run. Specify the starting port of the range. |

---

58 / 94
Starting port number for Impact Server
9080
Starting port number for GUI Server
17310

---- Common Configurations> Nameserver
Nameserver
The installed server uses the Impact Nameserver to publish its services. When Impact runs inside a cluster, the Impact Nameserver list must be the same on each Impact server so that each Nameserver can participate in cluster management.

Primary Nameserver Host    :  netcool-server1
Primary Nameserver Port    :  9080

Secondary Nameserver Host  :  netcool-server2
Secondary Nameserver Port  :  9080

---- IBM Tivoli Netcool/Impact Server 7.1.0.4> Impact Server
The instance name will act as a unique identifier for the server instance and the cluster name defines which cluster the instance belongs to.

The command line port is used by Impact for its command line service.

Instance Name
NCI
Cluster Name
NCICLUSTER
Command Line Port
2000

Select the Derby Type.
1. [ ] PrimaryStandAlone - An Impact Server with no other cluster members. No need to define a Backup Database.
2. [X] Primary - Database on this machine which also functions in a clustered environment and needs a Backup Database defined.
3. [ ] Backup - Database on this machine which also functions in a clustered environment and needs a Primary Database defined.
4. [ ] Neither - A cluster member which will point to a Primary and Backup Database.

Derby Primary Host
netcool-server1
Derby Primary Port
1527

Derby Backup Host
netcool-server2
Derby Backup Port
1527

Derby Replication Port
4851
4 Install Impact Backup

Select the Derby Type.
1. [ ] PrimaryStandAlone - An Impact Server with no other cluster members. No need to define a Backup Database.
2. [ ] Primary - Database on this machine which also functions in a clustered environment and needs a Backup Database defined.
3. [X] Backup - Database on this machine which also functions in a clustered environment and needs a Primary Database defined.
4. [ ] Neither - A cluster member which will point to a Primary and Backup Database.

Derby Primary Host
netcool-server1
Derby Primary Port
1527
Derby Backup Host
netcool-server2
Derby Backup Port
1527
Derby Replication Port
4851

5 Start Impact cluster

Start commands
$IMPACT_HOME/bin/startImpactServer.sh
$IMPACT_HOME/bin/startGUIServer.sh

Stop commands
> Stop the secondary Impact Server after the installation is completed.
> Start the primary Impact Server.
> Start the secondary Impact Server

The install completed successfully.
## 6 Verification point: Impact logins

- **Impact Primary**
  - https://netcool-server1:17311/ibm/console/logon.jsp
- **Impact Backup**
  - (impactadmin/< password>)

## 7 Verification point: cluster status in the browser

- Check the status of the server cluster in the configuration documenter.
- Check the cluster status in the Name Server browser frontend
  - http://netcool-server1:9080/nameserver/services

## 8 Configure Impact to start at Boot

```bash
sudo -i

Copy start script
```
estore repository tools/etc/init.d
```bash
cp impact /etc/init.d
  cp impact_gui /etc/init.d
```

```bash
Change file permissions
```
estore /etc/init.d
```bash
chmod +x impact
  chmod +x impact_gui
```

```bash
Create the logical links to enable auto-start
```
estore chkconfig impact on
  chkconfig impact_gui on
```

```bash
impact
```
estore IMPACT_HOME="/opt/IBM/tivoli/impact"
```bash
case "$1" in
  'start')
    # start Impact Server
    su - netcool -c "$IMPACT_HOME/bin/startImpactServer.sh "
    ;;
  'stop')
    # Stop Impact Server
    su - netcool -c "$IMPACT_HOME/bin/stopImpactServer.sh "
    ;;
  esac
exit 0
```bash

```bash
impact_gui
```
estore IMPACT_HOME="/opt/IBM/tivoli/impact"
```bash
case "$1" in
  'start')
    # start Impact GUI Server
    su - netcool -c "$IMPACT_HOME/bin/startGUIServer.sh "
    ;;
  'stop')
    # Stop Impact GUI Server
    su - netcool -c "$IMPACT_HOME/bin/stopGUIServer.sh "
    ;;
  esac
exit 0
```bash
### 27. Impact migration to 7.1

<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong> Impact migration (Knowledge centre link)</td>
<td>You can migrate from Netcool/Impact versions 6.1.1, or 6.1, or 5.1.1 to Netcool/Impact version 7.1, on any combination of the following configurations. <a href="http://www-01.ibm.com/support/knowledgecenter/SSSHYH_7.1.0/com.ibm.netcoolimpact.doc_7.1/admin/migrating_intro_c.html">http://www-01.ibm.com/support/knowledgecenter/SSSHYH_7.1.0/com.ibm.netcoolimpact.doc_7.1/admin/migrating_intro_c.html</a></td>
</tr>
</tbody>
</table>
| **2** Migration notes | **Name Servers and Derby configurations**
Configure the Name Servers and Derby configurations appropriately because these configurations are not migrated from the previous installation of Netcool/Impact.

**Cluster Migration**
If you are installing a cluster of 7.1 you must stop the secondary server, migrate the primary server, then restart the secondary server. |
| **3** Install and Migration sequence | > Install Impact 7104 Refresh
> Configure the Name Servers and Derby configurations as in previous version
> Perform Migration
> Update to Fix Pack |
| **4** Impact Server migration | **Source machine (export)**
./migrate.sh -exportImpactServer511to71 <old NCHOME directory> <export directory> -password511 <Impact 5.1.1 password>

Copy the contents from the temporary directory to destination machine

**Destination machine (import)**
./migrate.sh -importImpactServer511to71 <new IMPACT_HOME directory> <import directory> -password71 <Impact 7.1 password> [-reports <ALL|NONE>]

Example
./migrate.sh -importImpactServer611to71 /opt/IBM/tivoli/impact /home/impact/tmp -password71 netcool |
| **5** Impact GUI migration | **Source machine (export)**
./migrate.sh -exportGUIServer511to71 <old NCHOME directory> <export directory> -password511 <Impact 5.1.1 password>

Copy the contents from the temporary directory to destination machine

**Destination machine (import)**
./migrate.sh -importGUIServer511to71 <new IMPACT_HOME directory> <import directory> -password71 <Impact 7.1 password>

Example
./migrate.sh -importGUIServer611to71 /opt/IBM/tivoli/impact /home/impact/tmp -password71 netcool |
### 28. Impact – Single sign-on configuration (DASH integration)

<table>
<thead>
<tr>
<th>Step</th>
<th>Expected Result</th>
</tr>
</thead>
</table>

#### Parameters setting

- Log in DASH
- Console Settings and WebSphere Administrative Console
- Launch WebSphere Administrative Console
- Security > Global Security (defaultWIMFileBasedRealm)
- Authentication > Web and SIP security > SSO

**Example**

- Domain name > hursley.ibm.com
- LTPA cookie name > LtpaToken2 (as default)

#### Add Impact SSL certificate to DASH truststore

- Log in DASH
- Console Settings and WebSphere Administrative Console
- Launch WebSphere Administrative Console
- Security
  - SSL certificate and key management link
  - Related Items > Key stores and certificates
  - NodeDefaultTrustStore > Additional Properties > Signer Certificates
  - Retrieve from port

**Enter GUI Server details (Example)**

- Host test.hursley.ibm.com
- Port 17311
- Alias impact
- Retrieve signer information.
- Ok and save

#### Export ltpa.keys from DASH

- Log in DASH
- Console Settings and WebSphere Administrative Console.
- WebSphere Administrative Console.
- Security
  - Global security.
  - LTPA

**Password > set password**

- Fully qualified key file name > /tmp/ltpa.keys
- Select Export Keys.

#### Copy exported ltpa.keys file into Impact Server and GUI

Copy ltpa.keys to:

- **Server**
  - `$IMPACT_HOME/wlp/usr/servers/NCI/resources/security`
- **GUI Server**
  - `$IMPACT_HOME/wlp/usr/servers/ImpactUI/resources/security/`
6 Run script configImpactSSO.sh

cd /$IMPACT_HOME/install/security/

configImpactSSO.sh <realmname> <LTPA cookie name> <Domain name> <LTPA key password> <Admin password>

Example

cd /opt/IBM/tivoli/impact/install/security/./configImpactSSO.sh defaultWIMFileBasedRealm LtpaToken2 hursley.ibm.com netcool netcool

Buildfile: /opt/IBM/tivoli/impact/install/security/cfg_scripts/configImpactSSO.xml

init:
  [echo] Creating backup directory: /opt/IBM/tivoli/impact/install/../backup

enableSSO:
  [echo] Encrypted LTPA key password: {xor}MTorPDAwMw==
  [move] Moving 1 file to /opt/IBM/tivoli/impact/install/security/backup
  [xslt] Loading stylesheet /opt/IBM/tivoli/impact/install/security/cfg_scripts/configImpactSSO-enable.xsl
  [move] Moving 1 file to /opt/IBM/tivoli/impact/install/security/backup
  [xslt] Loading stylesheet /opt/IBM/tivoli/impact/install/security/cfg_scripts/configImpactSSO-enable.xsl
  [move] Moving 1 file to /opt/IBM/tivoli/impact/install/security/backup
  [xslt] Processing /opt/IBM/tivoli/impact/install/security/backup/basicRegistry.xml.04102017115313 to /opt/IBM/tivoli/impact/install/security/basicRegistry.xml
  [xslt] Loading stylesheet /opt/IBM/tivoli/impact/install/security/cfg_scripts/configImpactSSO-enable.xsl

guiServerAvailable:

updateCOOKIE:
  [echo] Updating REST API with cookie name
  [echo] Run command java -jar /opt/IBM/tivoli/impact/install/../cli/cli.jar -addCustomCookieName "LtpaToken2"
  -consoleRest https://localhost:17311/ibm/console/rest -username impactadmin -password yyyyy
  [java] Authenticating against REST with username:impactadmin Password: ********
  [java] {"resultLabel":"Success","result":0}
  [java] Command completed successfully.

BUILD SUCCESSFUL
Total time: 2 minutes 5 seconds

7 Create Console Integration

IBM Knowledge Center Link - Impact 7.1
Integrating IBM Dashboard Applications Services Hub

Note - Add User Roles to impactadmin
with smadmin add netcool roles to impactadmin to have also all WebGUI features under same login

Example

> Login DASH with Impactadmin
> Console Integration
> Create New
> Console Integration Name > Impact71
> Console Integration URL > https://netcool-server1:17311/ibm/console/rest
> Test Connection
> Save
| Verification point: Login DASH with impactadmin | Impact is available in DASH |
## Configure Event Analytics

<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong> ObjectServer configuration - Update schema</td>
<td><strong>Update Schema 1 (Related Events)</strong> $\text{OMNIHOME/bin/nco_sql -server NOI_AGG_P -user root -password &lt;password&gt;} &lt; /opt/IBM/tivoli/impact/add-ons/RelatedEvents/db/relatedevents_objectserver.sql&lt;br&gt;&lt;br&gt;<strong>Update Schema 2 (Related Events FP5)</strong> $\text{OMNIHOME/bin/nco_sql -user root -password &lt;password&gt; -server NOI_AGG_P} &lt; /opt/IBM/tivoli/impact/add-ons/RelatedEvents/db/relatedevents_objectserver_update_fp5.sql</td>
</tr>
<tr>
<td><strong>2</strong> Impact configuration - Data Model:ObjectServerForNOI</td>
<td><strong>Verification Point</strong> Click Test Connection &gt; Connection OK</td>
</tr>
</tbody>
</table>

> Click tab Data Model<br> > Double click **ObjectServerForNOI**<br> > Click the pencil icon to open the data source definition<br> > Set Primary Source Object Server details (Hostname, Port ,root password)<br> > Set Disable Backup<br> > Save
3 Impact configuration - AlertsForNOI - Refresh Table

AlertsForNOI Refresh Table
> Click the twisty sign to expand ObjectServerForNOI.
> Double click AlertsForNOI Table to select it.
> Click Table Description > Refresh Fields
> Save

Verification Point
Scroll down the Table Description
Field called ParentIdentifier is listed

AlertsForNOI Refresh Table
> Click the plus sign to expand ObjectServerForNOI.
> Click AlertsForNOI Table to select it.
> Click the magnifying glass icon and select View Data Items

Verification Point
OMNibus Event List is displayed

4 Impact configuration - AlertsForNOI - View Data Items

AlertsForNOI Refresh Table
> Click the plus sign to expand ObjectServerForNOI.
> Click AlertsForNOI Table to select it.
> Click the magnifying glass icon and select View Data Items

Verification Point
OMNibus Event List is displayed
5  Impact configuration - Data Model: ObjectServerHistoryDB2ForNOI

Note
For Oracle > ObjectServerHistoryOrclForNOI
For MSSQL > ObjectServerHistoryMSSQLForNOI

> Click tab Data Model
> Double click ObjectServerHistoryDB2ForNOI
> Enter DB2 details (DB2 Host, credentials, port)
> Save

Verification Point
Click Test Connection > Connection OK

6  Impact configuration - AlertsHistoryDB2Table - Refresh Fields

> Click the plus sign to expand ObjectServerHistoryDB2ForNOI.
> Click AlertsHistoryDB2Table
> Select Schema and Table REPORTER_STATUS
> Click Table Description > Refresh Fields
> Save

> Click the plus sign to expand ObjectServerHistoryDB2ForNOI
> Click AlertsHistoryDB2 to select it.
> Click the magnifying glass icon and select View Data Items

Verification Point
Verify that you are able to see records from the DB table

Note
Error for max rows exceeded is also positive results.

7  Impact configuration - Start Events Analytics Services

> Select Service
> Edit
> Click on > Starts automatically when server starts
<table>
<thead>
<tr>
<th><strong>8 DASH configuration - Create Connection to Impact</strong></th>
<th><strong>Verification Point</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; Settings &gt; Connections &gt; Create</td>
<td>Login DASH/WebGUI with ncoadmin</td>
</tr>
<tr>
<td>&gt; Set the protocol to HTTPS-TLS</td>
<td>Open page &gt; Configure Analytics page is displayed with no error</td>
</tr>
<tr>
<td>&gt; Enter Impact hostname &gt; netcool-server1</td>
<td></td>
</tr>
<tr>
<td>&gt; Enter the port &gt; 17311</td>
<td></td>
</tr>
<tr>
<td>&gt; Enter Impact credentials &gt; impactadmin / &lt; password &gt;</td>
<td></td>
</tr>
<tr>
<td>&gt; Click Search</td>
<td></td>
</tr>
<tr>
<td>&gt; Netcool/Impact connection appears in the bottom of the window.</td>
<td></td>
</tr>
<tr>
<td>&gt; Select the cluster and click OK to save the connection</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>9 WebGUI configuration - Add ncw_analytics_admin to user</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; Login DASH with smadmin user</td>
<td></td>
</tr>
<tr>
<td>&gt; User Roles</td>
<td></td>
</tr>
<tr>
<td>&gt; Select ncoadmin</td>
<td></td>
</tr>
<tr>
<td>&gt; Add Role: ncw_analytics_admin</td>
<td></td>
</tr>
<tr>
<td><img src="image" alt="Configure Analytics" /></td>
<td></td>
</tr>
</tbody>
</table>
### 30. Event Analytics – Configure types for Pattern Generation

<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1 Configuring the type properties (Knowledge center)</strong></td>
<td><strong>Why this step is needed</strong>&lt;br&gt;System need to understand where to extract the type information from, so it can compute patterns etc. As every customer is different and store there event type in a different places with there schema. For example, by the schema definition the “eventid” column in omnibus is where the “type” of the event should be stored. But not even the ALL the ibm probes obey this rule, and either does most customer, we even see customer where the type is different in different area of the org.&lt;br&gt;&lt;br&gt;<strong>How to choose the type.default.eventtype</strong>&lt;br&gt;You choose the related events type values based on the fields for which you want to create a generalized pattern. For example, if you want to create a pattern and generalize it based on the EVENTID for an event, you would specify that value in this property.&lt;br&gt;&lt;br&gt;When the related events configuration completes and you create a pattern for generalization, the pattern generalization screen will contain a drop down menu that lists all of the EVENTIDs found in the Event History database. You can then create a pattern/rule that will be applied to all EVENTIDs selected for that pattern. This means that you can expand the definition of the pattern to include all types, not just the types in the Related Events Group.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Export Configuration and Update Types</th>
<th>Update Types (default example)</th>
</tr>
</thead>
</table>
| **Export Configuration and Update Types** | **Update Types (default example)**<br>`vi /tmp/EA.props`
| | **Default**<br>`#type.resourcelist=NODE`
| | `#type.default.eventid=IDENTIFIER`
| | `#type.default.eventtype=EVENTID`
| | `#type.servername.column=SERVERNAME`
| | `#type.serverserial.column=SERVERSERIAL`
| | `#type_number_of_type_configurations=0`
| | **Update to (example)**
| | `type.resourcelist=NODE`
| | `type.default.eventid=ALERTGROUP`
| | `type.default.eventtype=EVENTID`
| | `type.servername.column=SERVERNAME`
| | `type.serverserial.column=SERVERSERIAL`
<p>| | <code>type_number_of_type_configurations=1</code> |</p>
<table>
<thead>
<tr>
<th>2</th>
<th>Configure Types</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image.png" alt="Image" /></td>
<td></td>
</tr>
</tbody>
</table>

```
$IMPACT_HOME/bin/nci_trigger NCI impactadmin/netcool
NOI_DefaultValues_Configure FILENAME /tmp/EA.props
```

```
[netcool@netcool-server1 tmp]$ $IMPACT_HOME/bin/nci_trigger NCI impactadmin/netcool
NOI_DefaultValues_Configure FILENAME /tmp/EA.props
NOI_DefaultValues_Configure Policy completed successfully
```
## Event Analytics – Tuning and troubleshooting

### Step 1  Impact time-out tuning

**Troubleshooting** - Time-out exceptions in
$IMPACT_HOME/logs/impactserver.log

<table>
<thead>
<tr>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Extend Impact time-out (example)</strong></td>
</tr>
<tr>
<td>vi $IMPACT_HOME/etc/NCI_server.props</td>
</tr>
<tr>
<td>impact.server.timeout=600000</td>
</tr>
<tr>
<td>(Value in milliseconds)</td>
</tr>
</tbody>
</table>

**Stop Impact**
$IMPACT_HOME/bin/stopImpactServer.sh
$IMPACT_HOME/bin/stopGUIServer.sh

**Start Impact**
$IMPACT_HOME/bin/startImpactServer.sh
$IMPACT_HOME/bin/startGUIServer.sh

### Step 2  Impact JVM tuning for OutOfMemory exceptions

**Troubleshooting** - OutOfMemory exceptions in
$IMPACT_HOME/wlp/usr/servers/NCI/logs/messages.log

<table>
<thead>
<tr>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Extend JVM (example change Xmx from 1200 to 4800)</strong></td>
</tr>
<tr>
<td>vi $IMPACT_HOME/wlp/usr/servers/NCI/jvm.options</td>
</tr>
<tr>
<td># JVM Options for Libery Profile</td>
</tr>
<tr>
<td># Default -Xms 512MB and -Xmx 2400MB</td>
</tr>
<tr>
<td>-Xms512M</td>
</tr>
<tr>
<td>-Xmx4800M</td>
</tr>
<tr>
<td>-Dclient.encoding.override=UTF-8</td>
</tr>
<tr>
<td>-Dhttps.protocols=SSL_TLSv2</td>
</tr>
<tr>
<td># -Xgc:classUnloadingKickoffThreshold=100</td>
</tr>
</tbody>
</table>

**Note**
For customer using large databases could be need to set Xmx value up to 16000

### Step 3  Impact tuning – Change JVM parameter to force garbage collection on Derby database.

For each sql query, Derby creates a Java object.
These objects keep accumulating unless you set a parameter to force every 100 thread to do unlocking. This setting frees of memory and system locking threads. class loading, etc. This setting has a big effect on swap memory.

<table>
<thead>
<tr>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>vi $IMPACT_HOME/wlp/usr/servers/NCI/jvm.options</td>
</tr>
<tr>
<td># -Xgc:classUnloadingKickoffThreshold=100</td>
</tr>
<tr>
<td>to</td>
</tr>
<tr>
<td>-Xgc:classUnloadingKickoffThreshold=100</td>
</tr>
</tbody>
</table>

### Step 4  Impact tuning – Thread Count optimization

**Speed up the process by increasing the number of threads**
Set value to number of cores in the machine

<table>
<thead>
<tr>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RE_CONSTANTS policy update</strong></td>
</tr>
<tr>
<td>RE_PERF_COMPUTE_THREAD_COUNT = Int(5)</td>
</tr>
<tr>
<td>to</td>
</tr>
<tr>
<td>RE_PERF_COMPUTE_THREAD_COUNT = Int(16) &lt; EXAMPLE TUNING x 16 CORES</td>
</tr>
<tr>
<td><strong>Check number of Cores</strong></td>
</tr>
<tr>
<td>---------------------------</td>
</tr>
<tr>
<td>cat /proc/cpuinfo</td>
</tr>
</tbody>
</table>

**5 Restart Impact (after tuning)**

<table>
<thead>
<tr>
<th>Stop Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>$IMPACT_HOME/bin/stopImpactServer.sh</td>
</tr>
<tr>
<td>$IMPACT_HOME/bin/stopGUIServer.sh</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Start Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>$IMPACT_HOME/bin/startImpactServer.sh</td>
</tr>
<tr>
<td>$IMPACT_HOME/bin/startGUIServer.sh</td>
</tr>
</tbody>
</table>

**6 Impact debug items**

<table>
<thead>
<tr>
<th>Troubleshooting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact hanging or shutting down</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Space on tmp</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check /var/tmp and /tmp not filled up</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Check no heapdump or javacore is produced</th>
</tr>
</thead>
<tbody>
<tr>
<td>ls -l $IMPACT_HOME/wlp/usr/servers/NCI</td>
</tr>
<tr>
<td>-rw-r-----    1 netcool  ncoadmin 1610735399 Jul 12 08:59 heapdump.20160712.085009.6357164.0002.</td>
</tr>
<tr>
<td>-rw-r-----    1 netcool  ncoadmin 2983524 Jul 12 08:59 javacore.20160712.085009.6357164.0003.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Monitor system during EA configuration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check system memory and page space</td>
</tr>
<tr>
<td>svmon -G -O unit=MB</td>
</tr>
</tbody>
</table>

**7 Impact debug – Turn on Self-monitoring**

<table>
<thead>
<tr>
<th>Log</th>
</tr>
</thead>
<tbody>
<tr>
<td>tail -f $IMPACT_HOME/logs/NCI_selfmonitoring.log</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Example</th>
</tr>
</thead>
</table>

**8 Impact debug - Activation Log Files**

<table>
<thead>
<tr>
<th>Related Events activation</th>
</tr>
</thead>
<tbody>
<tr>
<td>tail -f /opt/IBM/tivoli/impact1/logs/NCI_policylogger_RE_PROCESSEVENT.log</td>
</tr>
<tr>
<td>Seasonal Events Historical Events</td>
</tr>
<tr>
<td>tail -f /opt/IBM/tivoli/impact1/logs/NCI_policylogger_SE_GETHISTORICALEVENTS.log</td>
</tr>
<tr>
<td>Seasonal Events Rules Activation</td>
</tr>
<tr>
<td>tail -f /opt/IBM/tivoli/impact1/logs/NCI_policylogger_SE_PROCESSEVENT.log</td>
</tr>
<tr>
<td>Impact debug - Collecting Log Files for Debugging</td>
</tr>
<tr>
<td>------------------------------------------------</td>
</tr>
</tbody>
</table>
### 32. Event Search – Install SCA-LA 1.3.5.1 with OMNibus Insight Pack

<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>2 Summary or required preconditions</th>
<th>Examples</th>
</tr>
</thead>
</table>
| > Install with Non-root user | **SELINUX must be disabled**  
> hostname fully qualified  
> Redhat 5 or 6 or 7  
> KornShell  
> Python Version 2.6.6. or later (RHEL v6, SLES v11).  
> Perl Version 5.8.8 or later (Required to load sample data)  
> Number of concurrent files: 4096 (ulimit -n).  
> Virtual memory: Unlimited Use (ulimit -v).  
> Recommended library installers: YUM (Yellow dog update, modified) for RHEL.  
> Recommended library installers: YaST (Yet another Setup Tool) for SLES.  
> 64-bit library requirement: 64-bit compat-libstdc++ library is required  
> Disabled Security-Enhanced Linux (SELinux)  
> unzip utility | **Python must be 2.6 or 2.7**  
**Verify KornShell**  
**Number of open files and virtual memory limits** |
| > 64-bit library requirement: 64-bit compat-libstdc++ library is required | **RPm -qa | grep **python-2****  
```  
python-2.6.6-64.el6.x86_64  
```
| > Disabled Security-Enhanced Linux (SELinux) | **SELINUX= can take one of these three values:**  
```  
# enforcing - SELinux security policy is enforced.  
# permissive - SELinux prints warnings instead of enforcing.  
# disabled - No SELinux policy is loaded.  
SELINUX=enforcing <<<< SET IT TO 'disabled'  
# SELINUXTYPE= can take one of these two values:  
# targeted - Targeted processes are protected;  
# mls - Multi Level Security protection.  
SELINUXTYPE=targeted  
``` |
| > Recommended library installers: YaST (Yet another Setup Tool) for SLES. | **Python** must be 2.6 or 2.7  
**Verify KornShell**  
**Number of open files and virtual memory limits** |
| > Disabled Security-Enhanced Linux (SELinux) | **SELINUX must be disabled**  
more /etc/selinux/config  
```  
# This file controls the state of SELinux on the system.  
# SELINUX= can take one of these three values:  
# enforcing - SELinux security policy is enforced.  
# permissive - SELinux prints warnings instead of enforcing.  
# disabled - No SELinux policy is loaded.  
SELINUX=enforcing <<<< SET IT TO 'disabled'  
# SELINUXTYPE= can take one of these two values:  
# targeted - Targeted processes are protected;  
# mls - Multi Level Security protection.  
SELINUXTYPE=targeted  
``` |
| > Unzip utility | **Python** must be 2.6 or 2.7  
**Verify KornShell**  
**Number of open files and virtual memory limits** |
| > Recommended library installers: YaST (Yet another Setup Tool) for SLES. | **Python** must be 2.6 or 2.7  
**Verify KornShell**  
**Number of open files and virtual memory limits** |

**Examples**

**Hostname**

```  
hostname -f  
```

analysis-server1.ibm.com

**Libraries Check**

```  
rpm -qa | grep compat-libstdc++  
```

compat-libstdc++-33-3.2.3-69.el6.x86_64  
compat-libstdc++-33-3.2.3-69.el6.i686  
compat-libstdc++-296-2.96-144.el6.i686

**OS Version**

```  
cat /etc/redhat-release  
```

Red Hat Enterprise Linux Server release 6.7 (Santiago)
### 3 Install Installation manager in non-default location - Console Mode / User Mode (for LA machine)

**Note**
Log Analysis (SCA-LA) cannot be installed with Installation Manager installed in Group Mode

```bash
<user-id> hard nofile 4096
<user-id> soft nofile 4096
for all users
* hard nofile 4096
* soft nofile 4096

cd $SW_Repository/IM186
./userinstc -dataLocation /opt/IBM/IM/var -installationDirectory /opt/IBM/IM/InstallationManager -configuration /opt/IBM/IM/etc -acceptLicense
```

### 4 Install SCA-LA 1.3.5.1

**Start Installation Manager**
/opt/IBM/IM/InstallationManager/eclipse/tools/imcl -c

**Add repository**

```bash
=====> IBM Installation Manager> Preferences> Repositories
$SW_Repos/SCALA1351/diskTag.inf
```

```bash
=====> IBM Installation Manager
```

**Select:**

1. **Install - Install software packages**  
   2. **Update** - Find and install updates and fixes to installed software packages  
   3. **Modify** - Change installed software packages  
   4. **Roll Back** - Revert to an earlier version of installed software packages  
   5. **Uninstall** - Remove installed software packages

```bash
=====> IBM Installation Manager> Install
Select packages to install:
  1. [ ] IBM Operations Analytics - Log Analysis 1.3.5.1
```

```bash
=====> IBM Installation Manager> Install> Licenses> Shared Directory
Shared Resources Directory:
  /opt/scala/IBM/IBMIMShared
```

```bash
=====> IBM Installation Manager> Install> Licenses> Shared Directory> Location
New package group:
  1. [X] IBM Operations Analytics - Log Analysis
Selected group id: "IBM Operations Analytics - Log Analysis"
Selected location: "/opt/scala/IBM/LogAnalysis"  
Selected architecture: 64-bit
```

```bash
=====> IBM Installation Manager> Install> Licenses> Shared Directory> Location> Features
IBM Operations Analytics - Log Analysis
  1. [X] IBM Operations Analytics - Log Analysis 1.3.5.1  
  2. [X] Apache Solr 5.2.1
  3. [X] IBM Tivoli Log File Agent 06.30.00.04
```

```bash
=====> IBM Installation Manager> Install> Licenses> Shared Directory> Location> Features> Custom panels
---- Configuration for IBM Operations Analytics - Log Analysis 1.3.5.1
Application WebConsole Port: ----- [9988]  
Application WebConsole Secure Port:----- [987]
Database Server Port: ---> [1627]
EIF Receiver Port: ---> [5529]
ZooKeeper Port: ---> [12181]
Apache Solr Search Port: ---> [8983]
Apache Solr Stop Port: ---> [7205]

===> IBM Installation Manager> Custom panels> Summary
Target Location:
  Package Group Name          :  IBM Operations Analytics - Log Analysis
  Installation Directory      :  /opt/scala/IBM/LogAnalysis
  Shared Resources Directory  :  /opt/scala/IBM/IBMIMShared

Packages to be installed:
  IBM Operations Analytics - Log Analysis  1.3.5.1

  B. Back,   I. Install,   C. Cancel
  ---> [I]

  25%        50%        75%        100%
  ---------------------------------------------------------------
  ............................................................................

The install completed successfully.

5  Verification point: SCA-LA login

https://analysis-server1:9987/Unity/login.jsp
unityadmin/unityadmin

6  Verification point: SCA-LA status

$UNITY_HOME/utilities/unity.sh -status
IBM Operations Analytics - Log Analysis v1.3.3.0 ENTRY EDITION Application Services Status:
La Stop (info)
$UNITY_HOME/utilities/unity.sh -stop

La Start (info)
$UNITY_HOME/utilities/unity.sh -start

---------------------------------------------------
<table>
<thead>
<tr>
<th>No.</th>
<th>Service</th>
<th>Status</th>
<th>Process ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Derby Network Server</td>
<td>UP</td>
<td>25320</td>
</tr>
<tr>
<td>2</td>
<td>ZooKeeper</td>
<td>UP</td>
<td>25160</td>
</tr>
<tr>
<td>3</td>
<td>Websphere Liberty Profile</td>
<td>UP</td>
<td>25826</td>
</tr>
<tr>
<td>4</td>
<td>EIF Receiver</td>
<td>UP</td>
<td>26437</td>
</tr>
<tr>
<td>5</td>
<td>Log File Agent instance</td>
<td>UP</td>
<td>4201</td>
</tr>
</tbody>
</table>

Getting status of Solr on netcool-server1

Status of Solr Nodes:

<table>
<thead>
<tr>
<th>No.</th>
<th>Instance Name</th>
<th>Host</th>
<th>Status</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>SOLR_NODE_LOCAL</td>
<td>netcool-server1</td>
<td>UP</td>
<td>ACTIVE</td>
</tr>
</tbody>
</table>

All Application Services are in Running State

Checking server initialization status: Server has initialized!

7 Install OMNibus insight pack

cd $UNITY_HOME/unity_content
mkdir OMNibus

Copy OMNibusInsightPack_v1.3.0.2.zip to
$UNITY_HOME/unity_content/OMNibus/

cd $UNITY_HOME/unity_content/OMNibus/

$UNITY_HOME/utilities/pkg_mgmt.sh -install OMNibusInsightPack_v1.3.0.2.zip

main:

(packagemanager) 07/19/17 13:37:58:076 BST [main] INFO - PrerequisitesManager : CTGLC0044I : Running prerequisite checks...
(packagemanager) 07/19/17 13:37:59:747 BST [main] INFO - PrerequisitesManager : CTGLC0045I : Prerequisite checks passed
(packagemanager) 07/19/17 13:37:59:748 BST [main] INFO - ContentPackManager : CTGLC0022I : Install of OMNibusInsightPack_v1.3.1.0 started...
(packagemanager) 07/19/17 13:38:00:087 BST [main] INFO - ContentPack : CTGLC0002I : Installing RuleSets ...
(packagemanager) 07/19/17 13:38:00:088 BST [main] INFO - RuleSetArtifact : CTGLC0002I : Installing OMNibus1100-Annotate ...
(packagemanager) 07/19/17 13:38:00:112 BST [main] INFO - RuleSetArtifact : CTGLC0002I : Installing OMNibus1100-Split ...
(packagemanager) 07/19/17 13:38:00:125 BST [main] INFO - ContentPack : CTGLC0003I : Successfully installed RuleSets
(packagemanager) 07/19/17 13:38:00:126 BST [main] INFO - ContentPack : CTGLC0002I : Installing FileSets ...
(packagemanager) 07/19/17 13:38:00:127 BST [main] INFO - ContentPack : CTGLC0003I : Successfully installed FileSets
(packagemanager) 07/19/17 13:38:00:128 BST [main] INFO - ContentPack : CTGLC0002I : Installing SourceTypes ...
(packagemanager) 07/19/17 13:38:00:130 BST [main] INFO - SourceTypeArtifact : CTGLC0002I : Installing OMNibus1100 ...
(packagemanager) 07/19/17 13:38:00:224 BST [main] INFO - ContentPack : CTGLC0003I : Successfully installed SourceTypes
(packagemanager) 07/19/17 13:38:00:226 BST [main] INFO - ContentPack : CTGLC0002I : Installing Collections ...
8 Verification point: Insight Pack custom Apps available on LA UI

Login LA
https://analysis-server1:9987/Unity/login.jsp
unityadmin/unityadmin

9 Create Log Analysis data source

Reference to scalaTransport.properties
See Chapter 33.7 Configure XML gateway - Transport & Transformer

Log in SCA-LA with user unityadmin/unityadmin
> Administrative Settings > Datasources > Select Custom
> Hostname > netcool-server.1 (should match value in scalaTransport.properties)
> Enter NOI_AGG_P for File Path (should match value in scalaTransport.properties)
> select OMNibus1100 for Type.
> select OMNibus1100-Collection for Collection
> Enter omnibus for Name > Finish
10 **Configure Log Analysis to start at boot**

```bash
sudo -i

Copy start script
```n
```bash
cd $SW_Repository/tools/etc/init.d
cp iola /etc/init.d
```

**Change file permissions**

```bash
cd /etc/init.d
chmod +x iola
```

Create logical links to enable auto-start

```bash
chkconfig iola on
```

```bash
LA_HOME="/home/netcool/IBM/LogAnalysis"
case "$1" in
 'start')
 # start SCALA
 su - netcool -c "$LA_HOME/utilities/unity.sh -start"
 ;;
 'stop')
 # Stop SCALA
 su - netcool -c "$LA_HOME/utilities/unity.sh -stop"
 ;;
 'status')
 # Status SCALA
 su - netcool -c "$LA_HOME/utilities/unity.sh -status"
 ;;
 esac
exit 0
```

11 **Check Insight Packs list and versions (info)**

```bash
cd $UNITY_HOME/utilities
./pkg_mgmt.sh -list
```

```
[packagemanager] GAInsightPack_v1.1.1.3 - /space/franrina/IBM/LogAnalysis/unity_content
[packagemanager] DB2InsightPack_v1.1.0.2 - /space/franrina/IBM/LogAnalysis/unity_content
[packagemanager] DB2AppInsightPack_v1.1.0.3 - /space/franrina/IBM/LogAnalysis/unity_content
[packagemanager] OMNIbusInsightPack_v1.3.1.0 - /space/franrina/IBM/LogAnalysis/unity_content
[packagemanager] WASAppInsightPack_v1.1.0.3 - /space/franrina/IBM/LogAnalysis/unity_content
[packagemanager] WebViewInsightPack_v1.1.0.2 - /space/franrina/IBM/LogAnalysis/unity_content
```

12 **How to remove an OMNIbus Insight Pack (info)**

**ID Link**


1) Stop XML Gateway data feed

```bash
cd $UNITY_HOME/utilities/deleteUtility
vi delete.properties
useCaseNumber = useCase_1
```

2) Delete data

```bash
cd $UNITY_HOME/utilities/deleteUtility
```

Data Deletion

```
root@gallia:/space/franrina/IBM/LogAnalysis/utilities/deleteUtility # python deleteUtility.py unityadmin
*************** starting delete utility ***************
deleteUtility execution completed.
Check DeleteApplication.log file for further details.
```

**Insight Pack removal**

```bash
[packagemanager] 07/26/17 10:40:09:788 BST [main] INFO - PrerequisitesManager : CTGLC0044I : Running prerequisite checks...
[packagemanager] 07/26/17 10:40:10:639 BST [main] INFO - PrerequisitesManager : CTGLC0045I : Prerequisite checks passed
[packagemanager] 07/26/17 10:40:10:643 BST [main] INFO - ContentPackManager : CTGLC0024I : Uninstall of OMNIbusInsightPack_v1.3.1.0 started...
```

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<table>
<thead>
<tr>
<th>Step</th>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3)</td>
<td>Execute deletion script</td>
<td>python deleteUtility.py unityadmin</td>
</tr>
<tr>
<td>4)</td>
<td>Delete manually datasource from SCALA GUI</td>
<td></td>
</tr>
<tr>
<td>5)</td>
<td>Uninstall Insight Pack</td>
<td>cd $UNITY_HOME/utilities/.pkg_mgmt.sh -uninstall SUNITY_HOME/unity_content/OMNIbus/OMNIbusInsightPack_v1.3.1.0 -U unityadmin -P unityadmin -f</td>
</tr>
</tbody>
</table>

---

```bash
[packagemanager] 07/26/17 10:40:11:149 BST [main] INFO  - ContentPack : CTGLC0004I : Uninstalling SourceTypes ...
[packagemanager] 07/26/17 10:40:11:149 BST [main] INFO  - SourceTypeArtifact : CTGLC0004I : Uninstalling OMNIbus1100 ...
[packagemanager] 07/26/17 10:40:11:358 BST [main] INFO  - UnityAppManager : CTGLC0048I : Unity apps undeployment for insight pack OMNIbusInsightPack_v1.3.1.0 started...

BUILD SUCCESSFUL
Total time: 4 seconds
```
### INFORMATION
Why configure SSL between LA and XML gateway

See Event Search configuration on Knowledge center

### Configuring event search
How to configure the integration of the Tivoli Netcool/OMNIbus and SmartCloud Analytics - Log Analysis products. Events are forwarded from Tivoli Netcool/OMNIbus to SmartCloud Analytics - Log Analysis by the Message Bus Gateway.

https://www.ibm.com/support/knowledgecenter/en/SSTPTP_1.2.0/com.ibm.netcool_ops.doc_1.2.0/soc/event_search/task/soc_es_config_scala_omnibus.html

### Step Details

<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Install XML Gateway</strong></td>
</tr>
</tbody>
</table>
|      | **Start Installation Manager**  
/\opt/IM/installationManager/eclipse/tools/imcl -c |
|      | **Add Repository**  
======> IBM Installation Manager> Preferences> Repositories |
|      | **Repositories (Example)**  
$SW_Repository/xml-gate/omnibus-gateway-nco-g-xml-1.7.0.10.zip |
|      | =====> IBM Installation Manager> Install  
Select packages to install:  
1. [X] Netcool/OMNIbus Gateway nco-g-xml 1.7.0.0 |
|      | Existing package groups:  
1. [X] IBM Netcool Core Components |
|      | =====> IBM Installation Manager> Install> Licenses> Location> Summary  
Target Location:  
Package Group Name : IBM Netcool Core Components  
Installation Directory : /opt/IBM/tivoli/netcool  
Shared Resources Directory : /root/IBM/IBMIMShared |
|      | Packages to be installed:  
Netcool/OMNIbus Gateway nco-g-xml 1.7.0.0 |
|      | Options:  
G. Generate an Installation Response File  
B. Back, I. Install, C. Cancel  
-----> [I]  
25% 50% 75% 100%  
---------------------------------------------------------------------  
83/94 |
|      | =====> IBM Installation Manager> Install> Licenses> Location> Summary> |
## XML Gateway - Configure SSL

### Create Truststore

```bash
mkdir $NCHOME/omnibus/java/security
cd $NCHOME/platform/linux2x86/jre64_1.7.0/jre/bin/
./keytool -genkey -alias host1key -keystore $NCHOME/omnibus/java/security/client.jks
```

**Password**

```
netcool
```

**How to delete a truststore (info)**

```bash
cd $NCHOME/platform/linux2x86/jre_1.7.0/jre/bin
./keytool -delete -alias loganalysis -keystore $OMNIHOME/java/security/cacerts.jks
```

---

## Verification point: check Truststore

```bash
../keytool -genkey -alias host1key -keystore /opt/IBM/tivoli/netcool/omnibus/java/security/client.jks
```

**Password**

```
netcool
```

**Verification point: check Truststore**

```bash
./keytool -list -keystore /opt/IBM/tivoli/netcool/omnibus/java/security/client.jks
```

**Password**

```
RETURN if same as keystore password:
```

---

The install completed successfully.
4 Export Server Certificate from LA server

> Open a Firefox browser  
> Type LA URL: https://analysis-server1:9987/Unity  
> Click the padlock icon and click More Information.  
> Click Security and click View Certificate.  
> Select the Details tab.  
> Scroll to the bottom of the page and click Export.  
> Enter host1.cert and save  
> Copy host1.cert to machine where XML gateway is running

Alternative method (to get the certificate) - Example
openssl x509 -in <(openssl s_client -connect analysis-server1:9987 -prexit 2>/dev/null

5 Import Server Certificate

cd $NCHOME/platform/linux2x86/jre64_1.7.0/jre/bin/  
./keytool -import -keystore $OMNIHOME/java/security/cacerts.jks -file /opt/host1.cert -alias loganalysis  
./keytool -import -keystore $OMNIHOME/java/security/cacerts.jks -file /opt/IBM/host1.cert -alias loganalysis  
Enter keystore password:  
Re-enter new password:  
Owner: CN=netcool-server1.ibm.com, OU=IT, O=IBM, C=US  
Issuer: CN=netcool-server1.ibm.com, OU=IT, O=IBM, C=US  
Serial number: c263e3  
Valid from: 10/10/16 15:41 until: 10/10/18 15:41  
Certificate fingerprints:  
Signature algorithm name: SHA1withRSA  
Version: 3  
#1: ObjectId: 2.5.29.17 Criticality=false  
SubjectAlternativeName [  
[DNSName: localhost, DNSName: netcool-server1.ibm.com, DNSName: netcool-server1, DNSName: localhost.localdomain, IPAddress: ...]]  
#2: ObjectId: 2.5.29.14 Criticality=false  
SubjectKeyIdentifier [ }
### 6 Configure XML gateway - Props File

**Copy props files**
```
cd $OMNIHOME/gates/xml/scala
cp xml1302.map $OMNIHOME/etc/LA_GATE.1302.map
cp G_SCALA.props $OMNIHOME/etc/LA_GATE.props
cp xml.reader.tblrep.def $OMNIHOME/etc/LA_GATE.reader.tblrep.def
cp xml.startup.cmd $OMNIHOME/etc/LA_GATE.startup.cmd
```

**Update Props files**
```
cd $OMNIHOME/etc
vi LA_GATE.props
```

Locate the following lines near the top of the file:
```
MessageLog : '$OMNIHOME/log/G_SCALA.log'
Name : 'G_SCALA'
```

Comment out these lines as shown:
```
#MessageLog : '$OMNIHOME/log/G_SCALA.log'
#Name : 'G_SCALA'
```

Locate following lines near the bottom of the file:
```
#############################################################
# SCALA configuration
##############################################################
```

Add following lines
```
Gate.Reader.Description : 'SCALA Gateway Reader'
Gate.Reader.Server : 'NOI_AGG_P'
Gate.Reader.Username : 'root'
Gate.Reader.Password : ''
```

Note (in case of password different from null)
```
Gate.Reader.Password : 'EDEAAPAIANFMCHCB'
```

EDEAAPAIANFMCHCB is the output from: nco_g_crypt < password >

Comment
```
# Gate.Reader.TblReplicateDefFile: '$OMNIHOME/gates/xml/scala/xml.reader.tblrep.def'
# Gate.MapFile: '$OMNIHOME/gates/xml/scala/xml.map'
# Gate.StartupCmdFile: '$OMNIHOME/gates/xml/scala/xml.startup.cmd'
```

Add
```
Gate.Reader.TblReplicateDefFile: '$OMNIHOME/etc/LA_GATE.reader.tblrep.def'
Gate.MapFile: '$OMNIHOME/etc/LA_GATE.1302.map'
Gate.StartupCmdFile: '$OMNIHOME/etc/LA_GATE.startup.cmd'
```

### 7 Configure XML gateway - Transport & Transformer

**Copy files**
```
cd $OMNIHOME/gates/xml/scala
cp scalaTransport.properties $OMNIHOME/java/conf/
```

**Transport file**
```
cd $OMNIHOME/java/conf/
vi scalaTransport.properties
```

**Example**
8 XML Gateway - Configure Replication

Knowledge Center Link
IBM Tivoli Netcool/OMNIbus Gateway for Message Bus
Integrating with IBM Operations Analytics - Log Analysis
Configuring event forwarding using AEN


cd $OMNIHOME/etc
vi LA_GATE.reader.tblrep.def
Locate the following line:
REPLICATE INSERT FROM TABLE 'alerts.status'
Change as follows (Suggested setting)
REPLICATE FT_INSERT,FT_UPDATE FROM TABLE 'alerts.status'

9 Configure OMNIbus Object Server triggers

$NCHOME/omnibus/bin/nco_sql -server NOI_AGG_P -user root

How to check trigger status
User can check if the triggers are installed and enabled on the ObjectServer using the
GUI tool or via SQL command

1> alter trigger group scala_triggers set enabled true;
2> go
(0 rows affected)
1> alter trigger scala_reinsert set enabled true;
2> go
(0 rows affected)
1> alter trigger scala_insert set enabled true;
2> go
(0 rows affected)

10 Verification step: OMNIbus WebGUI server.init

vi $WEBGUI_HOME/etc/server.init
scala.datasource=omnibus
scala.integratedsearch.enabled=true
scala.user=unityadmin
scala.password=unityadmin

Note
#scala.app.keyword=OMNIbus_SetSearchFilter
scala.app.keyword=OMNIbus_Keyword_Search

#scala.app.static.dashboard=OMNIbus_Event_Distribution
scala.app.static.dashboard=OMNIbus_Static_Dashboard

#scala.version=1.2.0.2
scala.version=1.2.0.3

########################################################################
This values should be set by the WebGUI installer (if the user selected the proper values). If needed they can be manually updated. (after update DASH must be restarted)

**Restart DASH (info)**

```
$JAZZSM_HOME/profile/bin/stopServer.sh server1 -username smadmin -password <
password >
$JAZZSM_HOME/profile/bin/startServer.sh server1
```

<table>
<thead>
<tr>
<th>11</th>
<th>Configure WebGUI – LA SSL Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>(needed for WebGUI Event Search – Event Info Tab)</td>
<td></td>
</tr>
<tr>
<td>&gt; Login WebGUI with smadmin</td>
<td></td>
</tr>
<tr>
<td>&gt; Settings &gt; Websphere Admin Console</td>
<td></td>
</tr>
<tr>
<td>&gt; Security &gt; SSL certificate and key management</td>
<td></td>
</tr>
<tr>
<td>&gt; Key stores and certificates &gt; NodeDefaultTrustStore</td>
<td></td>
</tr>
<tr>
<td>&gt; Signer certificates &gt; Retrieve from port.</td>
<td></td>
</tr>
<tr>
<td>&gt; Enter LA Host &gt; analysis-server1</td>
<td></td>
</tr>
<tr>
<td>&gt; Enter LA Host &gt; 9987</td>
<td></td>
</tr>
<tr>
<td>&gt; Set alias &gt; scala</td>
<td></td>
</tr>
<tr>
<td>&gt; Retrieve signer information. &gt; Apply &gt; OK</td>
<td></td>
</tr>
</tbody>
</table>

The signer information is retrieved and stored.

<table>
<thead>
<tr>
<th>12</th>
<th>Start XML gateway</th>
</tr>
</thead>
<tbody>
<tr>
<td>Update Interface</td>
<td></td>
</tr>
<tr>
<td>vi $NCHOME/etc/omni.dat</td>
<td></td>
</tr>
<tr>
<td>[LA_GATE]</td>
<td></td>
</tr>
<tr>
<td>{</td>
<td></td>
</tr>
<tr>
<td>Primary: netcool-server1 4300</td>
<td></td>
</tr>
<tr>
<td>}</td>
<td></td>
</tr>
<tr>
<td>Apply Interface</td>
<td></td>
</tr>
<tr>
<td>$NCHOME/bin/nco_igen</td>
<td></td>
</tr>
</tbody>
</table>

Start the gateway in debug mode.

```
$OMNIHOME/bin/nco_g_xml -name LA_GATE -messagelevel debug &
```

<table>
<thead>
<tr>
<th>13</th>
<th>Add XML Gateway to PA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Update PA configuration file</td>
<td></td>
</tr>
<tr>
<td>vi $NCHOME/omnibus/etc/nco_pa.conf</td>
<td></td>
</tr>
</tbody>
</table>

nco_process 'XMLGateway'

```
{
Command '$OMNIHOME/bin/nco_g_xml -name LA_GATE' run as 1001
Host = 'noipoc.ibm.com'
Managed = True
RestartMsg = '$(NAME) running as $(EUID) has been restored on $(HOST).' AlertMsg = '$(NAME) running as $(EUID) has died on $(HOST).' RetryCount = 0
ProcessType = PaPA_AWARE
}
......
```

```
 process 'XMLGateway' 'MasterObjectServerPrimary'
```
# 34. Event Search Verifications

<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong> Check OMNIbus log file</td>
<td>Expected to find 2015-04-21T15:07:13: Debug: D-GOB-105-147: [ngobjserv]: Mapper: Sending '1' mapped insert table item(s) from 'NOI_AGG_P', table 'alerts.status', to table 'alerts.status', to writer.</td>
</tr>
<tr>
<td>tail -f $NCHOME/omnibus/log/LA_GATE.log</td>
<td></td>
</tr>
<tr>
<td><strong>2</strong> Check LA log file</td>
<td>Expected to find 04/21/15 15:13:45:954 UTC [Thread-63] INFO - IndexStatusChecker : Updating statistics for data source [omnibus], stream [_unity_default_stream], ingested bytes [44155], write date [Tue Apr 21 15:13:45 UTC 2015].</td>
</tr>
<tr>
<td>tail -f $UNITY_HOME/logs/GenericReceiver.log</td>
<td></td>
</tr>
<tr>
<td><strong>3</strong> Verify OMNIbus data ingestion into LA</td>
<td>Simnet Events from object Server are ingested into LA</td>
</tr>
<tr>
<td>Start Simnet probe to produce some test event records</td>
<td></td>
</tr>
<tr>
<td>$OMNIHOME/probes/nco_p_simnet -server NOI_AGG_P &amp;</td>
<td></td>
</tr>
<tr>
<td>Login SCA-LA</td>
<td></td>
</tr>
<tr>
<td>Perform Search *</td>
<td></td>
</tr>
</tbody>
</table>
4 Verify OMNIbus WebGUI Event Search Menu

- Login WebGUI
  - `https://netcool-server1:16311/ibm/console/logon.jsp`
  - ncoadmin / < password >
- Event Viewer
- Select an Event
- Right-click

WebGUI shows Event Search menu

5 Verify OMNIbus WebGUI Event Search Tools

Execute Tools
- Show event distribution by node
- Search for similar events
- Search for events by node
- Show keywords and event count

LA opens in new tab and show contextual search results

6 Verify Event Information - Event Search Tab

- Event Viewer
- Right Click Event
- Information
- Event Search Tab

Window opens showing LA Event Search result
Operations Analytics Log Analysis - Troubleshooting summary

Troubleshooting Event Search


- You must log in each time you switch between interfaces
- SmartCloud Analytics - Log Analysis session times out after 2 hours
- Launch to SmartCloud Analytics - Log Analysis fails on Firefox in non-English locales
- Right-click tool fail to start SmartCloud Analytics - Log Analysis from event lists
- Error message displayed when dynamic dashboard is run
- Error message displayed on "Show event dashboard by node" tool from event lists
- No results found by "Search for similar events" tool
- Chart display in SmartCloud Analytics - Log Analysis changes without warning
- Keyword searches return 0 results

Logs to check

- `$UNITY_HOME/logs/UnityApplication.log`
- `$UNITY_HOME/wlp/usr/servers/Unity/logs/console.log`

Operations Analytics Log Analysis - Troubleshooting: cannot login into LA

Too many events have been inserted in LA. DB is full

Example

```
useCase_3
startTime = <11/21/2013 14:00:00>
endTime = <11/25/2013 09:00:00>
```
### Event Search - Log Analysis how to delete data

<table>
<thead>
<tr>
<th>Step Number 1: SCA-LA Delete Utility</th>
<th>Expected Result</th>
<th>Status</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Step Number 2: Update delete.properties</th>
<th>Expected Result</th>
<th>Status</th>
</tr>
</thead>
</table>
| Step Number 2: Update delete.properties | [useCase]
useCaseNumber = useCase_4
# useCase_4 Use this use case to delete data before the retention period
# Retention period is specified in days (d) or hours (h).
# This should be an integer greater and a multiple of COLLECTION_ASYNC_WINDOW specified in the unitysetup.properties file
useCase_4 retentionPeriod=120d
unitysetup.properties
# Async time window for creating new time based collection. This value should NOT be modified by the user
# It can be only an Integer value in hours or days ( < 365 ). If in hours it has to be a factor of 24 greater than or equal to 6.
# It is specified as nh (n hours) or nd (n days); units being h (hour), or d (day)
COLLECTION_ASYNC_WINDOW = 1d | PASSED |

<table>
<thead>
<tr>
<th>Step Number 3: Run Utility in Cron mode</th>
<th>Expected Result</th>
<th>Status</th>
</tr>
</thead>
</table>
| Step Number 3: Run Utility in Cron mode | After the script runs, an entry is created in the cron file
| | crontab -l | PASSED |
| | [netcool@analysis-server1 deleteUtility]$ crontab -l
0 0 */*1 **/home/netcool/IBM/LogAnalysis/utilities/deleteUtility/callDeleteUtility.sh | 

<table>
<thead>
<tr>
<th>Run the utility</th>
<th>Expected Result</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Run the utility</td>
<td>cd $SCALA_HOME/utilities/deleteUtility</td>
<td></td>
</tr>
<tr>
<td>sh ./createCron.sh</td>
<td>$LA_HOME/logs/DeleteApplication.log is created</td>
<td></td>
</tr>
<tr>
<td></td>
<td>06/05/17 00:00:03:575 CDT [main] INFO - CommonUtil : Executing GET request on <a href="https://analysis-server1.bluemix.net:9987/Unity/UnityConfigs/Properties?all_properties=delete">https://analysis-server1.bluemix.net:9987/Unity/UnityConfigs/Properties?all_properties=delete</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td>06/05/17 00:00:03:996 CDT [main] INFO - CommonUtil : Successfully executed GET request.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>06/05/17 00:00:03:999 CDT [main] INFO - DeleteManager : Starting delete operation for usecase 4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>06/05/17 00:00:04:010 CDT [main] INFO - CommonUtil : 1 Executing DELETE request on <a href="https://analysis-server1.bluemix.net:9987/Unity/dataDelete">https://analysis-server1.bluemix.net:9987/Unity/dataDelete</a> n?deleteAll=true&amp;endDate=02/05/2017%2005:00:03%20+0000&amp;deleteTarget=solr</td>
<td></td>
</tr>
<tr>
<td></td>
<td>06/05/17 00:00:04:011 CDT [main] INFO - deleteUtility(Unknown Source) :</td>
<td></td>
</tr>
</tbody>
</table>

---

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## 36. Operations Analytics Log Analysis - Backup/Restore (information)

<table>
<thead>
<tr>
<th>Step</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong> Upgrading, backing up, and migrating data (Knowledge center link)</td>
<td><a href="https://www-03preprod.ibm.com/support/knowledgecenter/SSPFMY_1.3.5/com.ibm.scala.doc/admin/iwa_admin_backup_restore.html">https://www-03preprod.ibm.com/support/knowledgecenter/SSPFMY_1.3.5/com.ibm.scala.doc/admin/iwa_admin_backup_restore.html</a></td>
</tr>
</tbody>
</table>
| **2** LA Backup | INFO : Backup home specified: /tmp/SCALA133-Backup  
INFO : Getting status of Solr on analysis-server1.bluemix.net  
INFO : Performing backup...  
INFO : 826.06 MBs of data to be copied from Log Analysis server  2850201.133 MBs of disk space available  
Do you wish to continue (Y/N)? [N]:Y  
INFO : Archiving backup-only data from Log Analysis server  
Done  
INFO : Archiving restorable data from Log Analysis server  
Done  
INFO : Starting to archive data from Solr nodes  
INFO : Backing up Solr index data of SOLR_NODE_LOCAL on analysis-server1.bluemix.net  
INFO : Archiving data on analysis-server1.bluemix.net  
Done  
INFO : Copying logs from analysis-server1.bluemix.net  
INFO : Copying archived data from analysis-server1.bluemix.net  
INFO : Finished backing up Solr data of SOLR_NODE_LOCAL on analysis-server1.bluemix.net  
INFO : Performing cleanup on analysis-server1.bluemix.net  
INFO : Finished archiving data from Solr nodes  
INFO : Log Analysis data has been backed up from /home/netcool/IBM/LogAnalysis to /tmp/SCALA133-Backup as zip files  
INFO : Finished performing backup  
Is -l $SW_Repository/SCALA133-Backup  
-rw-rw-r--. 1 netcool netcool 2595653 May 2 03:10 LogAnalysis_02May2017_BackupOnly_001.zip  
-rw-rw-r--. 1 netcool netcool 17320513 May 2 03:11 LogAnalysis_02May2017_Restore_001.zip  
-rw-rw-r--. 1 netcool netcool 196916650 May 2 03:11 LogAnalysis_Solr_Node_1_02May2017_Restore_001.zip |
| **3** LA Restore | [netcool@analysis-server2 migration]$ ./backup_restore.sh $SW_Repository/SCALA133-Backup restore  
INFO : Backup home specified: ~/SCALA133-Backup  
INFO : Getting status of Solr on analysis-server2.bluemix.net  
INFO : Performing restore...  
WARN : The open files limit, ulimit -n value on analysis-server2.bluemix.net(1024) is less than the recommended value of 4096  
WARN : The ulimit values for one or more Solr nodes are not set to the recommended values. If you continue without correcting this,  
then these nodes may not start properly after the backed up data is restored, in which case you will need to correct |

Stop SCALA  
$LA_HOME/utilities//unity.sh -stop  
Create Backup directory  
mkdir $SW_Repository/SCALA135-Backup  
Backup  

cd $LA_HOME/utilities/migration  
./backup_restore.sh $SW_Repository/SCALA133-Backup backup  

Stop LA  
$LA_HOME/utilities//unity.sh -stop  
Restore  

cd $UNITY_HOME/utilities/migration  
./backup_restore.sh $SW_Repository/SCALA133-Backup restore
INFO: Performing restore...

for all such nodes and restart Log Analysis

WARN: Before continuing with restoring backed up data, confirm:
- All archived files created during 'backup' step are present in the specified backup directory
- This server is able to connect to all remote Solr nodes if any, with or without passwords
- This server and the remote Solr nodes have enough disk space for restoring the backed up data
- If the backed up data contains sample scenarios, the same will be restored
- Restore process may take a long time, depending on amount of backed up data and must not be interrupted

Failure to ensure these may lead to partial restoration of data, rendering the system unusable

Do you wish to continue (Y/N)? [N]: Y

INFO: Backed up data version: 1.3.3.0.201512140347
INFO: Restoring configuration data for Log Analysis
INFO: Extracting ~/SCALA133-Backup/LogAnalysis_02May2017_Restore_001.zip
Done
INFO: Restoring backed up Solr data on analysis-server2.bluemix.net
Done
INFO: Performing cleanup on analysis-server2.bluemix.net
INFO: Finished restoring Solr data on analysis-server2.bluemix.net
INFO: Finished performing restore
INFO: Restore was successful, removing temporary directories
INFO: Configuring properties files...
INFO: Configuring Log File Agent...
INFO: Finished configuring Log File Agent...
encrypting the unityadmin and unityusers
INFO: Log Analysis data have been restored from the backup in ~/SCALA133-Backup.
Make sure that Log Analysis is running fine before deleting the backed up data. Note that some data (e.g. batch uploaded log files) have been backed up but not restored as they are not needed any more
INFO: Restoring of IBM Operations Analytics - Log Analysis data is complete.