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For details, visit: http://www.intellicus.com/acknowledgements.htm
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1 Introduction

You need to implement Clustering and Load Balancing in the following situations:

- When Intellicus server has to handle significantly heavy load
- To create server failure and recovery mechanism

Clustering

This is a mechanism through which multiple instances of Intellicus server are run and maintained on multiple systems. All these systems form what is known as a Cluster.

Load Balancing

This is a process of balancing load among servers in a cluster. A component known as Load Balancer takes care of this activity.

How it works

Multiple machines are networked to form a cluster. Cluster Report Server is installed and run on all the machines. Load Balancers are installed on one or multiple Machines of network. Load Balancer keeps track of load that each of the cluster report server is having.

Report client first communicates with the Load Balancer. Load Balancer keeps track of loads on each of the cluster server instances. So, based on the Load Balancing algorithms it finds the appropriate cluster server on which request should be forwarded, then it sends the IP of the cluster server to the client. Report client sends request to that cluster report server. This process is repeated for every client request.

This way, load is spread across multiple cluster report servers.
2 Installation and Configuration

Before going ahead with installation and configuration of load balancing and clustering, you need to:

Install Intellicus.

**Note:**
Machine Sharability: This machine needs to be sharable for all machines running server instances.
Repository Database: HSQLDB is not used as repository when Intellicus runs in cluster environment.

Decide the machines on which Load Balancers will be installed.

Decide the machines on which Cluster Node (to run Intellicus server instance) will be installed.

Make sure all the machines are on network.

Architecture

A Cluster with Shared Server and Nodes is depicted in the below diagram:

![Architecture Diagram](image)
Install Load Balancer

Setup of Load Balancer needs to be installed on each of the machine allocated to run Load Balancer.

A double-click on setup icon will launch the installer.

![Figure 2: Launching installer](image)

**Note:** Load Balancer 6.x is compatible with 7.x as well.
Figure 3: Ready to start

Click Next to proceed.

Figure 4: Accepting license agreement

To proceed, click Next to accept the agreement.
Specify names, select the right option and click Next to continue.

Select this option to install all the components and at default location.

Select this option to specify components to install and location of installation.

Select this option to install all the components and at default location.

Select which program features you want installed. Recommended for advanced users.

Click Next to continue.
Figure 7: Custom setup: Specifying destination

Click **Next** to continue.

Figure 8: Custom setup > Select the components to install

Click **OK** to return to Custom Setup page.

Click here to specify location for installation.

Select the components to install.

Click **Next** to proceed.

102.98 MB of space required on the C drive
40342.25 MB of space available on the C drive
Figure 9: Ready to Install

Click Install to begin the installation.

If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.

Click Install to start installation.

Figure 10: Installation in progress

Click Cancel at any point in time to abandon installation.
Figure 11: Installation complete

Adding Load Balancer Server to Intellicus Service

Adding a load balancer to the Service Manager helps the load balancer to start automatically when a windows machine boots up. Service Manager also helps in automatically re-starting a load balancer if it gets down un-expectedly.

Open Intellicus Service Manager Dialog from the Start menu:
Click Add button to add a new server:

![Service Manager](image1)

**Figure 12: Service Manager**

You need to provide the following information while adding a Load Balancer:

![Add New Server](image2)

**Figure 13: Service Manager: Add New Server (Load Balancer)**
### Load balancer properties for Service Manager Add dialog:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Server Type</strong></td>
<td>Report Server, Load Balance Server</td>
<td>Load Balance server = To add a Load balancer to this Service Manager</td>
</tr>
<tr>
<td><strong>Server Name</strong></td>
<td>Type in Name</td>
<td>A unique name for Service Manager to identify this Load Balancer</td>
</tr>
<tr>
<td><strong>Executable file to run the Load Balancer</strong></td>
<td>File path</td>
<td>File that the service will execute to startup the Load Balancer. &lt;installPath&gt;\IntellicusLoadBalancer\LoadBalancer\bin\runLB</td>
</tr>
<tr>
<td><strong>Executable file path to stop the Load Balancer</strong></td>
<td>File path</td>
<td>File that the service will execute to stop (shutdown) the Load Balancer. &lt;installPath&gt;\IntellicusLoadBalancer\LoadBalancer\bin\shutdownLB</td>
</tr>
<tr>
<td><strong>Property file path of the Load Balancer</strong></td>
<td>File Path</td>
<td>Property file to load during start of this load balancer. &lt;installPath&gt;\IntellicusLoadBalancer\LoadBalancer\config\RegistryConfig.properties</td>
</tr>
</tbody>
</table>

Specify the information and click “OK”.

To save the changes, click “Save” button on Service Manager Dialog.

### Configure Load Balancer

In multiple Load Balancer setup, one of the Load Balancers will act as the primary load balancer. All other Load Balancers will act as secondary load balancers.

In the event of failure of the primary load balancer one of the secondary load balancers will take the charge of the primary one.

For all the load balancers, carry out the following configuration tasks:

Specify Cluster Node and Load Balancer related details in RegistryInfo.xml file.
Setup port of the Load Balancer in RegistryConfig.properties file

Configure report engine

Configurations in RegistryInfo.xml file

Load Balancer setup places file RegistryInfo.xml in \LoadBalancer\Config folder.

```xml
<REGISTRYINFO>
  <REGISTRIES>
    <REGISTRY IP="192.168.33.115" PORT="50001"/>
    <REGISTRY IP="192.168.33.115" PORT="60000"/>
  </REGISTRIES>
  <SERVER>
    <SERVER IP="192.168.33.115" PORT="50003" TASK_PRIORITY="0" TASK_TYPE="ALL" WEIGHTAGE="30"/>
    <SERVER IP="192.168.33.115" PORT="50001" TASK_PRIORITY="2" TASK_TYPE="ALL" WEIGHTAGE="30"/>
    <SERVER IP="192.168.33.115" PORT="50002" TASK_PRIORITY="4" TASK_TYPE="ALL" WEIGHTAGE="30"/>
    <SERVER IP="192.168.33.115" PORT="50000" TASK_PRIORITY="5" TASK_TYPE="ALL" WEIGHTAGE="30"/>
  </SERVER>
</REGISTRYINFO>
```

Figure 14: Snapshot of RegistryInfo.xml file

You need to specify the following information in this file:

- Specify details of all cluster nodes
- Specify details of this and other load balancers

Cluster Node related information

You need to specify the following information about all the cluster nodes in the cluster:

- SERVER IP: The IP address of the cluster node.
- PORT: The port at which the cluster node will listen.
- TASK_PRIORITY: Specify a positive integer between 1 and 6 both inclusive. Priority 1, 2 is for Low; 3, 4 is for Medium and 5, 6 is for High.
- TASK_TYPE: Specify the option ‘All’.
- WEIGHTAGE: Specify percentage of the load that this cluster node should take.

This information needs to be provided as an entry under SERVER tag. Example:

```xml
<SERVER IP="192.168.33.115" PORT="50003" TASK_PRIORITY="0" TASK_TYPE="ALL" WEIGHTAGE="30"/>
```

Specify this information for all the cluster nodes.

Load Balancer related information

You need to specify IP and port of all the load balancers.

- REGISTRY IP: IP of the machine where Load Balancer is installed.
- PORT: Port at which Load Balancer will listen.

This information needs to be provided as an entry in REGISTRIES tag. Example:
Configurations in RegistryConfig.properties file

Load Balancer setup places file RegistryConfig.properties in \LoadBalancer\Config folder.

Load Balancer reads value stored in REGISTRY_LISTENER_PORT property in RegistryConfig.properties file to know the listener port.

Example: REGISTRY_LISTENER_PORT=60000

Modify values of following properties

EMAIL_TO_ADDRESS

An alert through e-mail will be automatically be sent in error conditions like the server shuts down, it reaches not responding state, or goes out of memory. Specify the email ID where the mail should be sent.

EMAIL_FROM_ADDRESS

An alert through e-mail will be automatically be sent in error conditions like the server shuts down, it reaches not responding state, or goes out of memory. Specify the email ID that should appear as “from” in the mail sent.

SMTP_SERVER

An alert through e-mail will be automatically be sent in error conditions like the server shuts down, it reaches not responding state, or goes out of memory. Specify the IP of the SMTP server used to send the mail.
Install Shared Report Server setup

Setup of Shared needs to be installed on the machine allocated to run Shared Node (where the folder has read/write permissions).

Figure 15: Launching installer

Figure 16: Ready to start
Figure 17: Accepting license agreement

Figure 18: User Information

To proceed, click Yes.

Specify names, select the right option and click Next to continue.
Figure 19: Decide setup type

Select the setup type to install.

- **Complete**: Install all program features (requires the most disk space).
- **Custom**: Select specific program features to install (recommended for advanced users).

Select this option to install all the components and at default location.
Select this option to specify components to install and location of installation.

Click **Next** to continue.

---

Figure 20: Custom setup > Select the components to install

- **Shared Report Server**: Select the components to install.

25.24 MB of space required on the C drive
33059541 MB of space available on the C drive

Click **Next** to proceed.
Figure 21: Custom Setup: Click **Browse** to get Choose Folder dialog

![Choose Destination Location dialog](image1)

Setup will install Intellicus Shared 7.0 SP2 in the following folder.

To install to this folder, click **Next**. To install to a different folder, click **Browse** and select another folder.

Figure 22: Custom setup: Specifying destination on Choose Folder dialog

![Choose Folder dialog](image2)

Click here to specify location for installation.

Click **OK**.
Click **Install** to start installation.

If you want to review or change any of your installation settings, click **Back**. Click **Cancel** to exit the wizard.

---

**Figure 23: Ready to Install**

---

**InstallShield Wizard Complete**

Setup has finished installing Intellicus Shared 7.0 SP2 on your computer.

Click **Finish**. You may be prompted to re-start the computer.

---

**Figure 24: Installation complete**
Install Web Portal setup

Figure 25: Launching installer

Figure 26: Ready to start
To proceed, click **Yes**.

To install Intellicus Portal 7.0 SP2 (64 Bit), you must accept this agreement.

**Figure 27: Accepting license agreement**

Specify names, select the right option and click **Next** to continue.

**Figure 28: User Information**
Figure 29: Decide setup type

- **Complete**: All program features will be installed. (Requires the most disk space)
- **Custom**: Select which program features you want installed. Recommended for advanced users.

Select this option to specify components to install and location of installation.

Select this option to install all the components and at default location.

Click Next to continue.

Figure 30: Custom Setup: Click **Browse** to get Choose Folder dialog

Setup will install Intellicus Portal 7.0 SP2 (64 Bit) in the following folder.

To install to this folder, click Next. To install to a different folder, click Browse and select another folder.

Click **Browse** to get Choose Folder dialog.
Click here to specify location for installation.

Click OK.

Select the components to install.

Click Next to proceed.

Figure 31: Custom setup: Specifying destination on Choose Folder dialog

Figure 32: Custom setup > Select the components to install
Click Install to begin the installation.

If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.

Click **Install** to start installation.

**Figure 33: Ready to Install**

---

Setup has finished installing Intellucis Portal 7.0 SP2 (64 Bit) on your computer.

Click **Finish**. You may be prompted to re-start the computer.

**Figure 34: Installation complete**
Install Cluster Report Server setup

Setup of Cluster Node needs to be installed on each of the machines allocated to run Cluster Node.

Figure 35: Launching installer
Figure 36: Ready to start

To proceed, click Yes.

Figure 37: Accepting license agreement
Specify names, select the right option and click Next to continue.

Select this option to install all the components and at default location.

Select this option to specify components to install and location of installation.

Click Next to continue.
Choose Destination Location
Select folder where setup will install files.

Setup will install Intellicus Cluster 7.0 SP2 (64 Bit) in the following folder.
To install to this folder, click Next. To install to a different folder, click Browse and select another folder.

Click Browse to get Choose Folder dialog.

Click here to specify location for installation.

Figure 40: Custom Setup: Click Browse to get Choose Folder dialog

Figure 41: Custom setup: Specifying destination on Choose Folder dialog
Select Features

Select the features setup will install.

Select the features you want to install and deselect the features you do not want to install.

- **Cluster Report Engine**

160.50 MB of space required on the C drive
291299.23 MB of space available on the C drive

Click **Next** to proceed.

Click **Install** to start installation.

---

**Figure 42: Custom setup > Select the components to install**

---

Ready to Install the Program

The wizard is ready to begin installation.

Click **Install** to begin the installation.

If you want to review or change any of your installation settings, click **Back**. Click **Cancel** to exit the wizard.

Click **Install** to start installation.

---

**Figure 43: Ready to Install**
Upon successful installation, the system prompts you to configure the cluster:

Figure 44: Installation complete

Click Finish. You may be prompted to re-start the computer.

Figure 45: Configure Cluster Report Engine
After entering “y”, you can then specify the path of shared location for successful configuration.

![Configuring Intellicus Cluster Report Engine](image)

**Figure 46: Successful Configuration**

**Configure Cluster Node**

**Deploying License on a node**

Each node generates its license request file in the path:

\<ClusterInstalledPath\>\ClusterReportEngine\bin

A license file must be obtained by submitting this request file to your vendor. The obtained license must be deployed by manually copying to the license file in the path:

\<ClusterInstalledPath\>\ClusterReportEngine\bin

**Note:** Separate licenses should be purchased for each report server node

Restart after license deployment.

**Configure each of the Cluster Report Servers**

For all the cluster nodes, carry out the following configuration tasks:

- Set path of report server in cluster.properties file
- Set the port of the Cluster node in cluster.properties file
- Set schedule preferences in cluster.properties file
- Make changes in run.bat file

Path and IP information of Intellicus Report server is set in cluster.properties file. This file is at path IntellicusCluster\ClusterReportEngine\cluster folder.
Configurations in cluster.properties file


Modify values of following properties

REPORT_ENGINE_FOLDER

In REPORT_ENGINE_FOLDER property, specify the location where Shared Intellicus Report Server is installed.

For example:

REPORT_ENGINE_FOLDER=\servers\IntellicusShared\ReportEngine

Here, "servers" is machine name on which Intellicus Report Server is installed.

REPORT_ENGINE_FOLDER=\\192.168.33.65\\IntellicusShared\\ReportEngine

Here, 193.45.34.24 is IP on which Shared Intellicus Report Server is installed.

Port

In LISTENER_PORT property, specify the port at which this cluster node will listen.

For example:

LISTENER_PORT = 50001.

DEPLOYMENT_TYPE

Specify STANDALONE if Intellicus is running as standalone. Specify CLUSTERED if Intellicus is running in the form of a cluster.

Default: CLUSTERED

Example: DEPLOYMENT_TYPE=CLUSTERED

Making changes in run.bat

In run.bat file specify the path where Shared Intellicus Report Server is installed. This is set in line under REPORT_ENGINE_FOLDER. For example,

REPORT_ENGINE_FOLDER=\servers\ReportEngine

Here, "servers" is machine name on which Shared Intellicus Report Server is installed.
For example, REPORT_ENGINE_FOLDER=\\193.45.34.24\Shared\IntellicusShared\ReportEngine

Here, 193.45.34.24 is IP on which Intellicus Report Server is installed.

Making changes in shutdown.bat

In shutdown.bat file specify the path where Shared Intellicus Report Server is installed. This is set in line under REPORT_ENGINE_FOLDER. For example,

REPORT_ENGINE_FOLDER=//servers/ReportEngine

Here, "servers" is machine name on which Shared Intellicus Report Server is installed.

For example, REPORT_ENGINE_FOLDER=\\193.45.34.24\Shared\IntellicusShared\ReportEngine

Here, 193.45.34.24 is IP on which Intellicus Report Server is installed.

Configure each of the Cluster Web Servers

For all the cluster web server nodes, carry out the following configuration tasks:

- Set path of report server in ReportClient.properties file
- Make changes in run.bat file

Configure portal Property file

When clustering and load balancing is installed, portal needs to point to load balancers instead of pointing to report server.

This change is made in ReportClient.properties file available on machine on which Shared Intellicus Client (portal) is installed.

When Intellicus is installed in Jakarta, this file is placed at path:

IntellicusShared\Jakarta\webapps\intellicus\client\config\ReportClient.properties

Change values of following properties:

REGISTRY_ENABLED

Set this property to TRUE. For example:

REGISTRY_ENABLED=TRUE
REGISTRIES

Specify all IP and port of all the load balancers separated only by semi colon (no space).

Example:

REGISTRIES=201.90.56.23:60000; 201.90.88.95:60002; *

Save the file after making changes.

Configure run.bat file

Modify run.bat file (IntellicusCluster\Jakarta\bin) to set the path to read ReportClient.properties

set PROPERTY_FILENAME="D:\Intellicus.propertyfilepath=\192.168.33.65\Shared\IntellicusShared\jakarta\webapps\intellicus\client\config\ReportClient.properties"

How Property values are used

When value of REGISTRY_ENABLED is FALSE, it is assumed that clustering does not exist and client sends request to the IP specified in REPORT_ENGINE_IP property.

When value of REGISTRY_ENABLED is set to TRUE, client sends request to the 1st load balancer IP specified in REGISTRIES property.

If that load balancer is not available, client sends request to next load balancer in the list.

At a time multiple load balancers may be active. IP needs to be specified only by primary load balancer.

If the load balancer that client communicates with is not the primary load balancer, then it provides IP of the primary load balancer to the client. (So that from next time all the client requests should go to primary load balancer).

The client then checks if the load balancer IP provided exists in the list specified in REGISTRIES property.

**Note:** If the IP exists or it does not exist but list also has *, client sends the request to that load balancer. If it does not exist in the list; and list does not have *, then the client falls back to the IP specified in REPORT_ENGINE_IP property.

When client sends request to the primary load balancer, it provides IP of the server where the client should send this request.

Now that the client know server IP, it sends the request to that server.
Run sequence

There is no predefined running sequence. Any of the components can be started or stopped at any time.

To run load balancer

If the machine is re-started after setup and service was also installed during installation, it will automatically start the load balancer.

As one of the results of successful installation, the setup creates a short cut in the start menu:

Start > Programs > Intellicus > Start Load Balancer

Follow this path to click Start Load Balancer to launch the Load Balancer.

Note: The load balancer that boots first, becomes primary load balancer. If primary load balancer fails, any of the secondary load balancers will become primary load balancer.

To stop load balancer

From Start menu

As one of the results of successful installation, the setup creates a short cut in start menu:

Start > Programs > Intellicus > Stop Load Balancer

Click Stop Load Balancer to stop the Load Balancer.

From Service Icon

This is applicable when Service was also installed during installation, is currently running and Load Balancer was started by Service.

1. Right-click the Service icon. A context-menu appears.
2. Click the Stop Load Balancer option.

Service will stop the Load Balancer.

To run Cluster node

As one of the results of successful installation, the setup creates a short cut in the start menu:

- Start > Programs > Intellicus > Start Cluster Report Server
- Follow this path to click Start Cluster Report Server to launch the Load Balancer.

To stop cluster node

From Start menu
As one of the results of successful installation, the setup creates a short cut in the start menu:

- Start > Programs > Intellicus > Stop Cluster Report Server
- Click *Stop Cluster Report Server* to stop the cluster report server.
3 Load Balancer page on Portal

When Intellicus deployed in a cluster is up and running, all further changes can be made in the environment from the Cluster page on Portal.

To get the Cluster page, click Administration menu pad > Configure option > Cluster tab.

![Cluster page on Portal](image)

**Figure 47: Cluster page on Portal**

Use this page to Configure

- Cluster nodes (Report Servers)
- Load Balancers
- Settings

The information being set here is updated in the respective files on all cluster nodes, load balancers and client machines at a regular interval.

**Cluster Nodes (Report Servers)**

You can do following activities related to report servers:

- Add a server
- Remove a server
- Change server properties

**Adding a server**

1. Click icon appearing on the right side of the tab header.
2. Specify values in the empty row that is added at the end of the list.
3. Click **Save** button to save the information.

![Figure 48: Adding a server in cluster](image)

**Details on Report Servers tab**

- **Report Servers**: IP of the server.
- **Port**: Port at which the server is running.
- **Task Priority**: Set a value among **High**, **Medium** and **Low**.
- **Task Type**: In present version of Intellicus it is set at **ALL** and cannot be changed.
- **Weightage**: A positive integer indicating the number of tasks (out of all the requests) that should be allocated to this server.
- **%**: Weightage is auto-converted into percent and placed here.
- **Status**: A red icon indicates that that the server is presently down. A green icon indicates that the server is presently up.
- **Remove**: Click the button to remove this server.

**Changing properties of server**

To change any of the information, replace the existing values with new values for a server and click **Save** button.

**Removing a server**

1. Click the **X** button on respective server row.
2. To proceed with the deletion, click **OK**.
3. Click **Save**.

Selected server is removed.

**Load Balancers**

You can do following activities related to load balancers:

- Add a load balancer
- Remove a load balancer
- Change load balancer properties

**Adding a load balancer**

1. Click **+** icon appearing on the right side of the tab header.
2. Specify values in the empty row that is added at the end of the list.
3. Click **Save** button to save the information.
Figure 49: Adding a Load Balancer

Details on Load Balancer tab

- **Load Balancer:** IP of load balancer.
- **Port:** Port at which the load balancer is running.
- **Status:** A red icon indicates that the load balancer is presently down. A green icon indicates that the load balancer is presently up.
- **Remove:** Click the button to remove this load balancer.

Changing properties of load balancer

To change any of the information, replace the existing values with new values for a load balancer and click **Save** button.

Deleting load balancer

1. Click the **X** button on respective load balancer row.
2. To proceed with the deletion, click **OK**.
3. Click **Save**.

Selected load balancer is removed.

Settings

These settings are applicable to all Load balancers and Cluster nodes. The values set here decides the way load balancing will take place in this deployment.

Figure 50: Settings on Cluster page

Details on Settings tab

- **Server Health Refresh Rate:** The time interval after which primary load balancer will check if all the servers are in running state or not and the load that they are handling.
- **Load Balancer Refresh Rate:** The time interval after which load balancer will check if all the load balancers are up or not.
• **Servers: At:** Check this check box and select *Exact Priority* to allocate tasks set for respective server. Select *Upto Priority* to allocate tasks set for the set category and higher.

• **Weightage: Use:** Select this checkbox and select *Specified Weight Only* to allocate tasks as per set weightage. Select *Server Health Only* to allocate tasks based on server health (actual load on respective server).

• **Allocation:** Select the way tasks should be allocated to servers. Select *Random* to allocate tasks as per random logic. Select *Round robin scheduling* to allocate tasks one by one to servers.

After making changes click **Save** button to save the changes.
4 Upgrade Cluster from 5.x to 7.x

The upgrade process consists of 3 steps:

1. Backup required files and folders
2. Un-install previous version of Cluster
3. Install and start new version of Cluster

Note that you must take full backup of Intellicus Cluster installation folder and of the Intellicus repository database before starting step 2. Intellicus repository database stores all the reports, query objects and other user preference information.

Uninstall process retains few files, and does not delete them unless specifically mentioned in respective install document.

Ensure that newly installed Intellicus Cluster points to the same old repository database as its repository. During its first boot up, the new version of Intellicus report server automatically upgrades the repository schema and also upgrades all the objects to makes them compatible with new Intellicus Cluster. This is a non-reversible action. In case you decide to go back to previous version you must use the backed up repository database.

Backup System Files

License

Intellicus license is placed at

<installation folder>\IntellicusCluster\ClusterReportEngine\bin\n
When you upgrade to new major you will need to upgrade your license too. You may need to send your old license to your Intellicus sales representative to request a new upgraded license file.

Connection Configurations

Intellicus connection configurations file encr_reportengine.dat is placed at

<installation folder>\IntellicusShared\ReportEngine\Config\n
Do not overwrite this file during installation or restore from your backup. Using the old file report server will connect to all the databases that were configured earlier.

In case this file reportengine.dat file (apart from encr_reportengine.dat) exists in the same folder you must delete and destroy reportengine.dat for data security purposes.
Backup Folders and Files

The following folders and files should be backed up for any case of recovery. Each folder location and purpose of the files is mentioned below. There are no changes in these folders unless specified.

**RPG**

Purpose: Retains all saved report snapshots

Path: `<installation folder>\Intellicus\ReportEngine\rpg`

**DATA**

Purpose: Retains H2 database content. In case repository is set to HSQLDB or H2, then this folder contains all your repository content including reports and query object definitions.

Path: `<installation folder>\Intellicus\ReportEngine\data`

**MAILS**

Purpose: Stores mailer templates

Path: `<installation folder>\Intellicus\ReportEngine\mails`

**ADHOC TEMPLATES**

Purpose: Stores Ad hoc template files

Path: `<installation folder>\Intellicus\ReportEngine\templates\adhoc`

**REPORT ENGINE PROPERTY FILE**

Purpose: Stores Report Server Boot Up

Configurations

Path: `<installation folder>\Intellicus\ReportEngine\config\reportengine.properties`

Method: Take a backup of previous version reportengine.properties. Installing new Intellicus Cluster allows it to overwrite this file.

Merge the property values of which you have made any changes specifically in your installation.

**LANGUAGE BUNDLES**

Path: `IntellicusPortal\Jakarta\webapps\intellicus\client\lang`

File: You may need to merge your customized en_US.xls entries into the newly installed file.

**CONFIGURATION FILES**

Purpose: Configuring behaviour of respective areas

Extended Input Validation configuration

Path: `<installation folder>\Intellicus\ReportEngine\config`
Backup these files, if exists, in case you have customized this file
File: exin_validations.xls

**Formatting**
Path: `<installation folder>\IntellicusShared\ReportEngine\config`
Backup these files, if exists, in case you have customized this file
File: formatmapping.xls

**Database mapping**
Path: `<installation folder>\IntellicusShared\ReportEngine\config`

**Uninstall Intellicus Cluster 5.x**

**Windows**
Here are the steps to uninstall Intellicus Cluster 5.x installed on Windows:

**Stop Intellicus Cluster services**
Stop Cluster Report Server and Web Portal from All Programs > Intellicus> IntellicusCluster.
Next click Uninstall Cluster Report Server.
You also need to uninstall Shared Report Server from Control Panel > Programs and Features.

**Delete files and folders**

**Files**
Uninstall program may not delete some of the files and folders. Delete following files:

For Windows XP / Windows 2003:
- C:\WINOWS\system32\IntellicusEngineService.exe
- C:\WINOWS\system32\IntellicusEngineService.ini

For Windows 2000:
- C:\WINNT\system32\IntellicusEngineService.exe
- C:\WINNT\system32\IntellicusEngineService.ini

**Folders**
- IntellicusPortal\Jakarta folder contains old compiled class files and old tomcat server. If this folder is not removed, Intellicus may continue using old files to give un-expcted results or errors.

Delete **IntellicusPortal\Jakarta** folder. Path of this folder is:

<installation folder>\IntellicusPortal\Jakarta\
• IntellicusPortal\jre folder contains java runtime. If this folder is not removed, Intellicus may continue using old files to give un-expected results or errors.

Delete IntellicusPortal\jre folder, if exists. Path of this folder is:

<installation folder>\IntellicusPortal\jre\n
• IntellicusCluster\ReportEngine folder contains old log files and other property files. If this folder is not removed, Intellicus may give un-expected results or errors.

Delete IntellicusCluster\ReportEngine folder. Path of this folder is:

<installation folder>\IntellicusCluster\ClusterReportEngine\bin\n
Install Intellicus Cluster 7.x

Steps to Install Intellicus Cluster are provided in this document under section “Installation and Configuration”.

Restore 5.x configurations

After installing Intellicus Cluster 7.x, take these steps to re-apply old Intellicus Cluster custom configurations.

**Note: Please stop Cluster Report Server and Web Portal before restoring the configuration.**

Restoration points and Restore types

<table>
<thead>
<tr>
<th>Configuration/Files</th>
<th>Type of restoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encr_reportengine.dat</td>
<td>Restore old file</td>
</tr>
<tr>
<td>RPG folder</td>
<td>Restore old folder</td>
</tr>
<tr>
<td>Data folder</td>
<td>Restore old folder (See warnings below)</td>
</tr>
<tr>
<td>Mails</td>
<td>Restore old folder</td>
</tr>
<tr>
<td>Template files</td>
<td>Merge custom changes into newly installed templates (See warnings below)</td>
</tr>
<tr>
<td>Resource bundler files</td>
<td>Merge custom changes into newly installed bundler files (See warnings below)</td>
</tr>
<tr>
<td>File Name</td>
<td>Description</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>ReportEngine.properties</td>
<td>Merge custom changes into newly installed report engine properties file</td>
</tr>
<tr>
<td>CategoryPropertiesInfo.xml</td>
<td>Ensure Newly installed file prevails</td>
</tr>
<tr>
<td>QOPropertiesInfo.xml</td>
<td>Ensure Newly installed file prevails</td>
</tr>
<tr>
<td>ReportPropertiesInfo.xml</td>
<td>Ensure Newly installed file prevails</td>
</tr>
<tr>
<td>exin_validations.xls</td>
<td>Merge custom changes into newly installed validations file</td>
</tr>
<tr>
<td>FormatMapping.xls</td>
<td>Merge custom changes into newly installed format mapping file</td>
</tr>
<tr>
<td>databaseMapping.xls</td>
<td>Merge custom changes into newly installed database mapping file</td>
</tr>
<tr>
<td>ReportClient.properties</td>
<td>Merge custom changes into newly installed report client properties file</td>
</tr>
</tbody>
</table>

Replace the contents of “data” folder

Place the backed up contents of “data” folder at path:

Windows

<installation folder>\IntellicusShared\ReportEngine\data

Replace the modified template files

Templates files are available at path (on server):

Windows

<installation folder>\IntellicusShared\ReportEngine\templates\adhoc

Restoring resource bundles

Restore the resource bundles folder at following location:

Windows

This folder is placed at path:

<installation folder>\IntellicusShared\ReportEngine

Restoring en_US.xls

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If you have modified “en_US.xls” language bundler file then you need to merge those changes in latest language bundler file present at path:

Windows

This folder is placed at path:

IntellicusPortal\Jakarta\webapps\intellicus\client\lang

**Start new Intellicus Cluster**

**Windows**

To start Cluster Report Server, click Start > All Programs > Intellicus > IntellicusCluster and then click respective shortcut.

To start Web Portal, click Start > All Programs > Intellicus > IntellicusPortal and then click respective shortcut.