Progress®
Kemp® LoadMaster®

Deployment Guide Oracle JD Edwards

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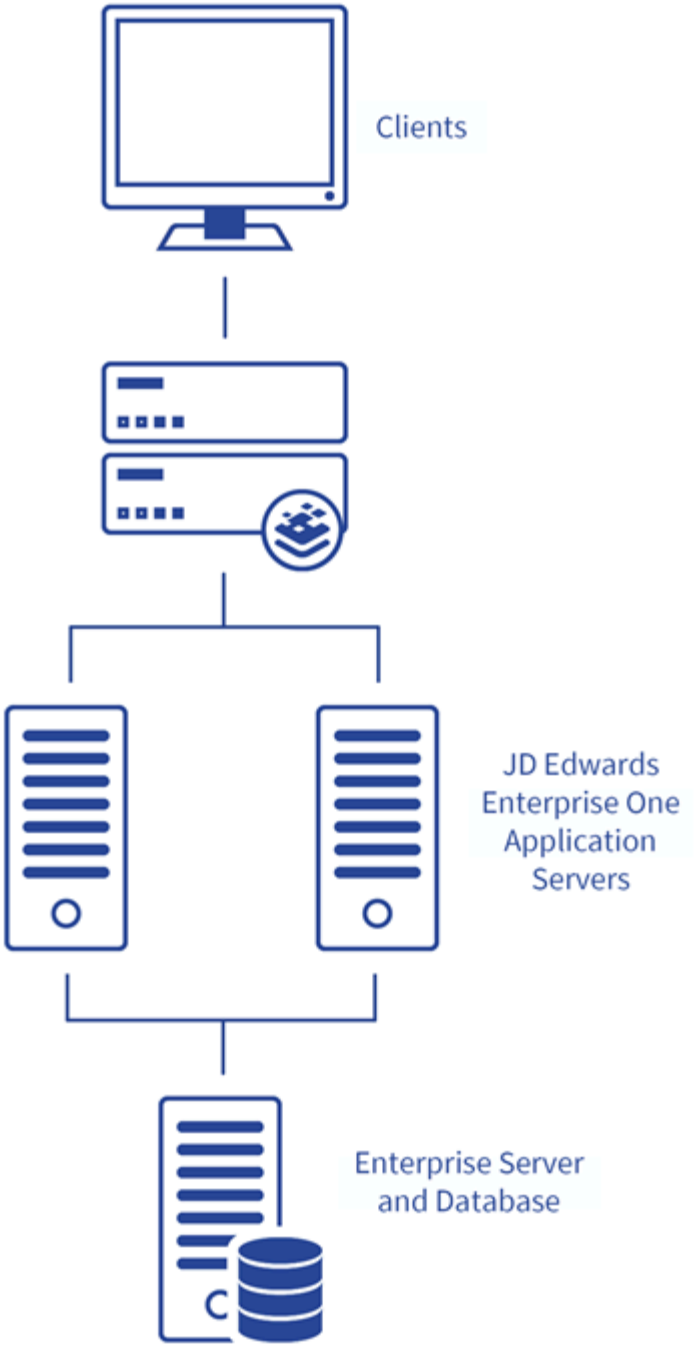
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Introduction

Oracle’s JD Edwards EnterpriseOne is an integrated applications suite of comprehensive enterprise resource planning software that combines business value, standards-based technology and deep industry experience into a business solution with a low total cost of ownership.

JD Edwards EnterpriseOne offers a choice of databases, operating systems and hardware to build and expand an IT solution to meet business requirements. JD Edwards delivers over 80 application modules to support a diverse set of business processes and key industry solutions such as Consumer Package Goods, Manufacturing, Asset Intensive and Projects and Services.



The LoadMaster can be used to enable scalability, load balancing and High Availability (HA) for JD Edwards environments. The diagram above shows an example network architecture where the LoadMaster is balancing traffic between two application servers.

Related Links

For details, see the following topics:

- Document Purpose

- Intended Audience
- Prerequisites

Document Purpose

The purpose of this document is to explain how to add and configure a Virtual Service in the LoadMaster to load balance JD Edwards traffic. For further information and step-by-step instructions on LoadMaster functionality in general, such as HA, please refer to the Progress Kemp documentation web page: https://docs.progress.com/.

Intended Audience

This document is intended to be used by anyone who is interested in finding out how to use a LoadMaster to load balance the Oracle JD Edwards EnterpriseOne workload.

Prerequisites

LoadMaster firmware version 7.16 or above should be installed.

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Template

Progress Kemp has developed a template containing our recommended settings for this workload. You can install this template to help create Virtual Services (VSs) because it automatically populates the settings. You can use the template to easily create the required VSs with the recommended settings. For some workloads, additional manual steps may be required such as assigning a certificate or applying port following. These steps are covered in the document, if needed.

You can remove templates after use and this will not affect deployed services. If needed, you can make changes to any of the VS settings after using the template.

Download released templates from the following page: LoadMaster Templates.

For more information and steps on how to import and use templates, refer to the Virtual Services and Templates, Feature Description.

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Configure the LoadMaster

Refer to the following sections for details on configuring the LoadMaster using the recommended settings for Oracle JD Edwards.

Related Links

For details, see the following topics:

- Enable Subnet Originating Requests Globally
- Create a Content Rule (Header Modification)
- Configure the Virtual Service

Enable Subnet Originating Requests Globally

It is best practice to enable the **Subnet Originating Requests** option globally.

In a one-armed setup (where the Virtual Service and Real Servers are on the same network/subnet) **Subnet Originating Requests** is usually not needed. However, enabling **Subnet Originating Requests** should not affect the routing in a one-armed setup.

In a two-armed setup where the Virtual Service is on network/subnet A, for example, and the Real Servers are on network B, **Subnet Originating Requests** should be enabled on LoadMasters with firmware version 7.1-16 and above.



When **Subnet Originating Requests** is enabled, the Real Server sees traffic originating from 10.20.20.21 (LoadMaster eth1 address) and responds correctly in most scenarios.

With **Subnet Originating Requests** disabled, the Real Server sees traffic originating from 10.0.0.15 (LoadMaster Virtual Service address on **eth0**) and responds to **eth0** which could cause asymmetric routing.

When **Subnet Originating Requests** is enabled globally, it is automatically enabled on all Virtual Services. If the **Subnet Originating Requests** option is disabled globally, you can choose whether to enable **Subnet Originating Requests** on a per-Virtual Service basis.

To enable **Subnet Originating Requests** globally, follow the steps below:

1. In the main menu of the LoadMaster User Interface (UI), go to **System Configuration > Miscellaneous Options > Network Options**.
2. Select the **Subnet Originating Requests** check box.

Create a Content Rule (Header Modification)

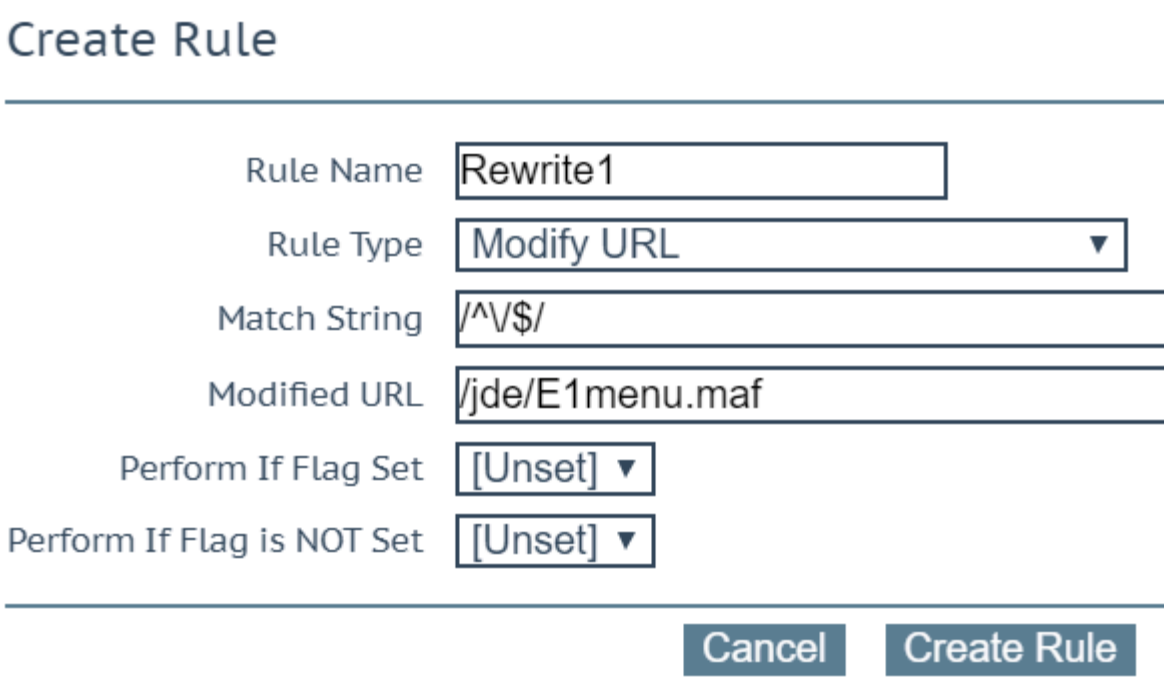
The LoadMaster supports content switching, sometimes referred to as URL switching. This allows the LoadMaster to direct specific requests to specific Real Servers based on the contents of the requested URL.

Content switching can be very useful if there are dedicated server types that perform different functions such as image servers, static content servers, mapping servers, specialized content servers, application servers and media servers, that all need to be served from the same general hostname, for example www.mysite.com. Content switching also allows for hostname-specific servers and source IP-specific servers.

Content rules give the ability to:

- Strip out server information
- Redirect requests for the root of a server
- Rewrite redirections from HTTP to HTTPS
- Force connections to close
- Secure cookies

The following content rule, which can be used when configuring a Virtual Service with or without SSL offloading, writes the URL so that users are sent to the domain.com/JDE_Hompage rather than the default homepage of the server:



1. In the main menu, select **Content Rules** > **Create New**.
2. Enter a recognisable **Rule Name** in the text box.
3. Select **Modify URL** from the **Rule Type** drop-down list.
4. Enter **/^\/$/** in the **Match String** text box.
5. Enter **/jde/E1menu.maf** in the **Modified URL** text box.
6. Select **[Unset]** from the **Perform If Flag Set** drop-down list.
7. Click the **Create Rule** button.

Configure the Virtual Service

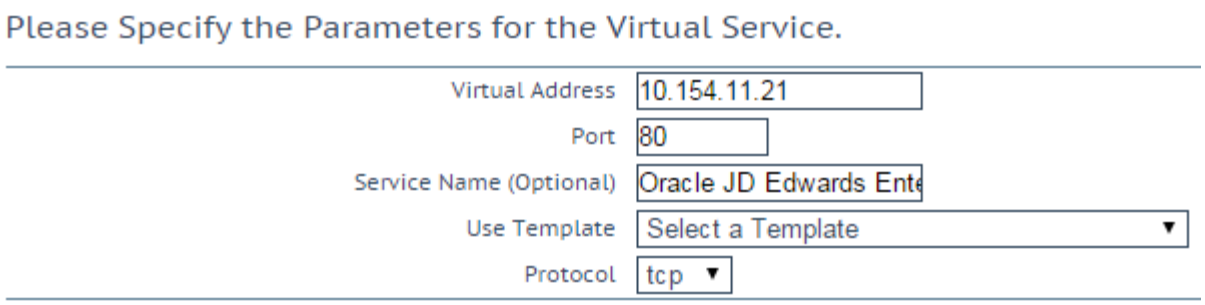
Refer to the following sections for details on configuring the Virtual Services for Oracle JD Edwards.

Configure the Virtual Service without SSL Offloading for Oracle JD Edwards

Note: This example configuration assumes that one Virtual Service and one Real Server are being set up. In a real situation, users may need to configure more.

To add and configure the Oracle JD Edwards without SSL Offloading Virtual Service, follow the steps below in the LoadMaster Web User Interface (WUI):

1. Add a Virtual Service:



2. In the main menu, go to **Virtual Services > Add New**.
3. Enter a valid IP address in the **Virtual Address** text box.
4. Enter **80** as the **Port**.
5. Enter a recognizable **Service Name**, such as **Oracle JD Edwards EnterpriseOne HTTP**.
6. Ensure **tcp** is selected as the **Protocol**.
7. Click **Add this Virtual Service**.
8. Add the **Content Rule** to the Virtual Service.
9. Expand the **Advanced Properties** section.
10. Click the **Show Header Rules** button.
11. From the drop-down list in the **Request Rules** section of the **HTTP header modification Rule Management** screen, select the rule you created, and click the **Add** button.
12. Click the **Back** button.
13. Configure the settings as shown in the following table:

Section	Option	Value	Comments
Standard Options	Transparency	Disabled	
	Persistence Mode	Active Cookie	
	Persistence Timeout	1 Hour	
	Cookie name	EnterpriseOne-Cookie	Click **Set Cookie**.
	Scheduling Method	least connection	
	Idle Connection Timeout	1800	Click **Set Idle Timeout**.
Real Servers	Real Server Check Method	HTTP Protocol	
	URL	/jde/index.jsp	Click **Set URL**.
	HTTP Method	GET	
	Reply 200 Pattern	<html>	Click **Set Pattern**.

14. Add a Real Server.

1. Click the **Add New** button.
2. Enter the **Real Server Address**.
3. Enter the correct **Port**.
4. Click the **Add This Real Server** button.

Note: Steps b) and c) use the IP Address and Port of the backend server.

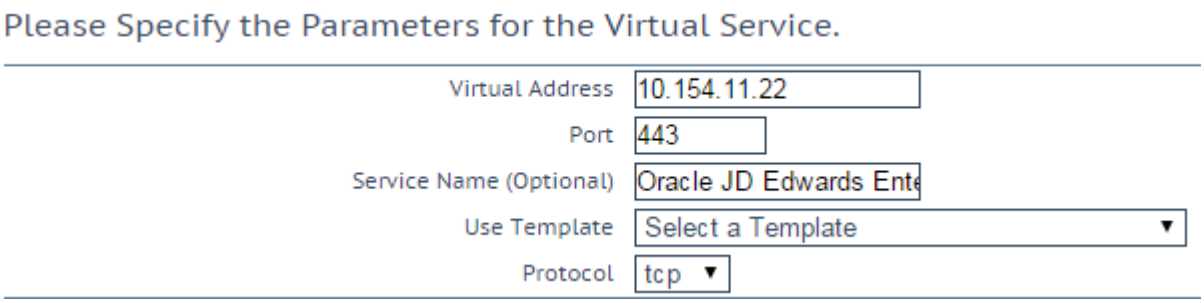
Note: The **Forwarding method** and the **Weight** values are set, by default. If required these settings may be altered.

Configure the Virtual Service with SSL Offloading for Oracle JD Edwards

Note: This example configuration assumes that one Virtual Service and one Real Server are being set up. In a real situation, users may need to configure more.

To add and configure the Oracle JD Edwards with SSL Offloading Virtual Service, follow the steps below in the LoadMaster Web User Interface (WUI):

1. Add a Virtual Service.



2. In the main menu, go to **Virtual Services > Add New**.
3. Enter a valid IP address in the **Virtual Address** text box.
4. Enter **443** as the **Port**.
5. Enter a recognizable **Service Name**, such as **Oracle JD Edwards EnterpriseOne HTTPS**.
6. Ensure **tcp** is selected as the **Protocol**.
7. Click **Add this Virtual Service**.
8. Add the Content Rule to the Virtual Service.
9. Expand the **Advanced Properties** section.
10. Click the **Show Header Rules** button.
11. From the drop-down list in the **Request Rules** section of the **HTTP header modification Rule Management** screen, select the rule you created then click the **Add** button.
12. Click the **Back** button.
13. Configure the settings as shown in the following table:

Section	Option	Value	Comments
Standard Options	Transparency	Disabled	
	Persistence Mode	Active Cookie	
	Persistence Timeout	1 Hour	
	Cookie name	EnterpriseOne-Cookie	Click **Set Cookie**.
	Scheduling Method	least connection	
	Idle Connection Timeout	1800	Click **Set Idle Timeout**.
	Quality of Service	Normal-Service	
SSL Properties	SSL Acceleration	Enabled	
	Supported Protocols	TLS1.0;TLS1.1;TLS1.2;TLS1.3	While this workload may not support TLS1.3 yet, we recommend enabling it for future proofing.
	Client Certificates	No Client Certificates required	
Real Servers	Real Server Check Method	HTTP Protocol	
	URL	/jde/index.jsp	Click **Set URL**.
	HTTP Method	GET	
	Reply 200 Pattern	<html>	Click **Set Pattern**.

14. Add a Real Server.
   1. Click the **Add New** button.
   2. Enter the **Real Server Address**.
   3. Enter the correct **Port**.
   4. Click the **Add This Real Server** button.

Note: Steps b) and c) use the IP Address and Port of the backend server.

Note: The **Forwarding method** and the **Weight** values are set, by default. If required these settings may be altered.

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References

Unless otherwise specified, the following documents can be found at https://docs.progress.com.

Virtual Services and Templates, Feature Description