Progress®
Kemp® LoadMaster®

Deployment Guide Microsoft Dynamics AX

Generated on: 18 December 2024

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Table of Contents

Chapter 1: Introduction 4

Document Purpose 4

Intended Audience 5

Chapter 2: Microsoft Dynamics Template 6

Chapter 3: Architecture 7

Chapter 4: Configure Microsoft Dynamics Virtual Services. 9

Enable Subnet Originating Requests Globally 9

Microsoft Dynamics AX ERP Portal Virtual Service 10

Microsoft Dynamics AX HTTP (Redirect) Virtual Service 13

Microsoft Dynamics AX AOS Virtual Service 13

Chapter 5: References 15

1

Introduction

Microsoft Dynamics AX is an Enterprise Resource Planning (ERP) software package developed for businesses. It aims to drive sales, productivity and marketing effectiveness through social insights, business intelligence and campaign management in the cloud, on-premises or with a hybrid combination of both.

Such a powerful tool requires reliable and powerful support. The LoadMaster delivers an exceptional, cost-effective and easy to use solution which, by employing Adaptive Load Balancing, balances requests across Microsoft Dynamics.

When deployed as a pair, two LoadMasters give the security of High Availability (HA). HA allows two physical or virtual machines to become one logical device. Only one of these units is ever handling traffic at any particular moment. One unit is active and the other is a hot standby (passive). This provides redundancy and resiliency, meaning if one LoadMaster goes down for any reason, the hot standby can become active, therefore avoiding any downtime. For more information on HA please refer to: High Availability (HA), Feature Description.

Related Links

For details, see the following topics:

- Document Purpose
- Intended Audience

Document Purpose

This document is intended to provide guidance on how to deploy Microsoft Dynamics AX with a LoadMaster.

The Progress Kemp Support Team is available to provide solutions for scenarios not explicitly defined. For further details, refer to the: LoadMaster Support and Learning Hub.

Intended Audience

This document is intended to be used by anyone deploying Microsoft Dynamics AX with a LoadMaster.

2

Microsoft Dynamics Template

Progress Kemp has developed a template containing our recommended settings for Microsoft Dynamics AX. This template can be installed on the LoadMaster and used when creating Virtual Services. Using a template automatically populates the settings in the Virtual Services. This is quicker and easier than manually configuring each Virtual Service. If needed, changes can be made to any of the Virtual Service settings after using the template.

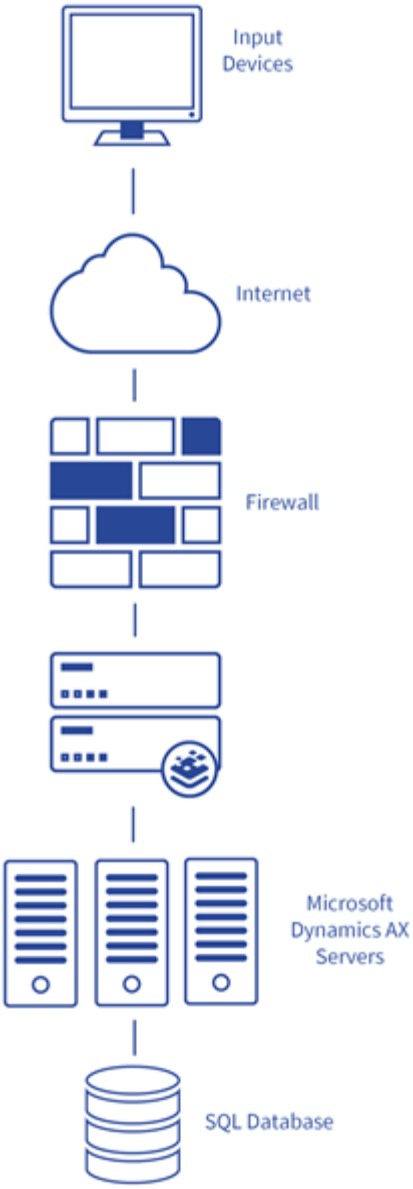
Download released templates from the following page: LoadMaster Templates.

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

For steps on how to manually add and configure each of the Virtual Services, refer to the Configure Microsoft Dynamics Virtual Services section of this document.

3

Architecture


Input
Devices
Internet
Firewall
Microsoft
Dynamics AX
Servers
SQL Database

4

Configure Microsoft Dynamics Virtual Services

Note: The environment in which Microsoft Dynamics AX is deployed determines which of the following set-ups should be used.

Related Links

For details, see the following topics:

- Enable Subnet Originating Requests Globally
- Microsoft Dynamics AX ERP Portal Virtual Service
- Microsoft Dynamics AX HTTP (Redirect) Virtual Service
- Microsoft Dynamics AX AOS 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.

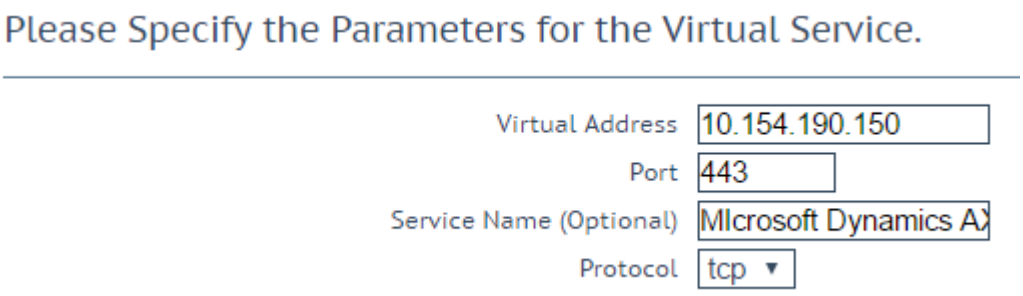
To enable **Subnet Originating Requests** globally, follow the steps below:

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.

Microsoft Dynamics AX ERP Portal Virtual Service

The following are the steps involved and the recommended settings to configure the Microsoft Dynamics HTTPS Virtual Service:

1. In the main menu of the LoadMaster Web User Interface (WUI), go to **Virtual Services > Add New**.



2. Enter a valid IP address in the **Virtual Address** text box.
3. Enter **443** in the **Port** text box.
4. Enter a recognizable **Service Name**, for example **MS Dynamic AX**.
5. Ensure **tcp** is selected as the **Protocol**.
6. Click **Add this Virtual Service**.

7. Enter the details shown in the following table:

   Users should note that clicking the **Add HTTP Redirector** button, automatically creates a redirect Virtual Service on Port **80**. This option will only appear if a port HTTP redirect does not already exist:

Section	Option	Value	Comment
Standard Options	Transparency	Disabled	
	Persistence Mode	Source IP Address	
	Persistence Timeout	30 Minutes	
	Scheduling Method	least connection	
	Idle Connection Timeout	660	
SSL Properties	SSL Acceleration	Enabled Reencrypt	A wildcard certificate allows secure connections to be established with a request URL in the format of *.example.com. With this approach, a single certificate secures traffic for all clients in a multi-tenant environment.
	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.
	Cipher Set	Best Practices	For further information on cipher sets, please refer to the SSL Accelerated Services, Feature Description.

Section	Option	Value	Comment
Advanced Properties	Content Switching	Disabled	
	Add HTTP Headers	Legacy Operation (X-ClientSide)	
	Redirection URL	https://%h%s	Click **Add HTTP Redirector**. This option will only appear if port 80 is free.
Real Servers	Real Server Check Method	HTTPS Protocol	
	Checked Port	443	
	Use HTTP/1.1	Selected	
	HTTP/1.1 Host	ax.example.com	
	HTTP Method	GET	

8. Add the Real Servers:
   1. Click the **Add New** button.
   2. Enter the IP address of the **AX Server**.
   3. Enter **443** as the **Port**.

      Note: The Real Server **Port** should match the Virtual Service **Port**.

      Note: The **Forwarding method** and **Weight** values are set by default. An administrator can change these.
   4. Click **Add this Real Server**. Click **OK** to the pop-up message.
   5. Repeat the steps above to add more Real Servers as needed, based on the environment.

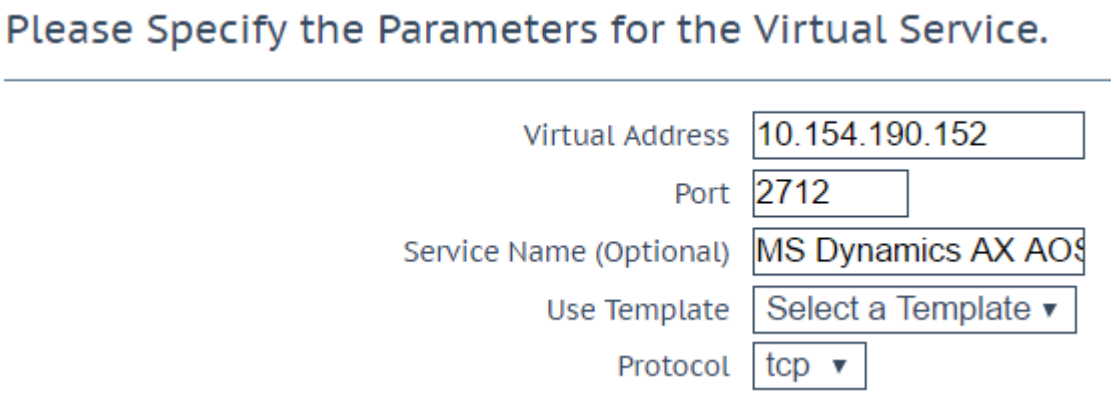
Microsoft Dynamics AX HTTP (Redirect) Virtual Service

This Virtual Service is automatically created when users click the **Add HTTP Redirector** button while configuring the **Microsoft Dynamics AX ERP Portal** Virtual Service in the Microsoft Dynamics AX ERP Portal Virtual Service section.

Microsoft Dynamics AX AOS Virtual Service

The following are the steps involved and the values required to configure the Microsoft Dynamics AX AOS Virtual Service:

1. In the main menu of the LoadMaster Web User Interface (WUI), go to **Virtual Services > Add New**.



2. Enter a valid IP address in the **Virtual Address** text box.
3. Enter **2712** in the **Port** text box.
4. Enter a recognizable **Service Name**, for example **MS Dynamic AX AOS**.
5. Ensure **tcp** is selected as the **Protocol**.
6. Click **Add this Virtual Service**.
7. Enter the details shown in the following table:

Section	Option	Value	Comment
Standard Options	Transparency	Deselected	
	Extra Ports	1433,1812,1814,8101,8201,8202	Click Set Extra Ports

Section	Option	Value	Comment
	Persistence Mode	Source IP Address	
	Persistence Timeout	30 Minutes	
	Scheduling Method	least connection	
	Idle Connection Timeout	660	
Real Servers	Real Server Check Method	TCP Connection Only	
	Checked Port	2712	

8. Add the Real Servers:
   1. Click the **Add New** button.
   2. Enter the IP address of the **AX Server**.
   3. Enter **2712** as the **Port**.

      Note: The Real Server **Port** should match the Virtual Service **Port**.

      Note: The **Forwarding method** and **Weight** values are set by default. An administrator can change these.

   4. Click **Add this Real Server**. Click **OK** to the pop-up message.
   5. Repeat the steps above to add more Real Servers as needed, based on the environment.

5

References

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

Virtual Services and Templates, Feature Description.

High Availability (HA), Feature Description

SSL Accelerated Services, Feature Description