EN-NODE RESTFUL WEB SERVICE INSTALLATION GUIDE (.NET VERSION)

Version: 1.0

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Revision History

Version	Date	Created By	Reviewed By	Description
1.0	10/30/2013	Charlie Tsai		Initial Draft

Tables of Contents

1   Purpose of Document

This document was created to provide instructions for installing and configuring the EN-Node RESTful Web service application.

The EN-Node RESTful Web service application is an extension to the EN-Node software, which enables data providers to publishing their existing query services as REST services. If the data providers choose to publishing their existing query services as REST services, the new REST services will not replace or override the data provider's original query services. Both types of services will coexist in the EN-Node.

This document covers the following topics:

- **Package Overview:** Provides an overview of the objects included in the installation package.
- **Hardware/Software Requirements:** Identifies the hardware and software components that are needed to run the EN-Node RESTful Web service application.
- **Installation Instructions:** Provides step-by-step instructions for installing the EN-Node RESTful Web service software and necessary DB objects (e.g. views, tables, functions, etc.)

2 Package Overview

The following files are included in this package:

File Name	Purpose
Node.RESTful.zip	Application package.
RESTful_DB.zip	DB script package contains the following files: • ORA_DDL_20131104_ALL_NODE_OPERATION-001_TSAIC.sql • SQL_DDL_20131104_ALL_NODE_OPERATION-001_TSAIC.sql
ORA_DDL_20131104_ALL_NODE_OPERATION-001_TSAIC.sql	SQL Script to add a new column called REST_IND in the NODE_OPERATION table, and to set the default value as 'N'
SQL_DDL_20131104_ALL_NODE_OPERATION-001_TSAIC.sql	SQL Script to add a new column called REST_IND in the NODE_OPERATION table, and to set the default value as 'N'

3 Hardware / Software Requirements

This section identifies the hardware and software required to run EN-Node. The specific requirements for memory, disk space, and load balancing are simply guidelines, as the exact requirements may vary widely depending on a number of factors such as:

- The number of data flows expected to be supported
- The volume, frequency, and/or complexity of data processing
- Server uptime requirements (e.g. 24/7)
- Mission critical nature of node data flows
- Whether Node is dedicated or shares server resources
- Network latency

With those caveats, here are the hardware requirements and recommendations:

Web / App Server(s):

Table 1: Web/Application Server Hardware Requirements and Recommendations

	Minimum Requirements	Recommended System
Load Balancing	Not Required	Network Load Balancing Recommended
Processor	Pentium IV 2.4 GHz or higher	Pentium IV 2.8 GHz or higher
Memory	1 GB of RAM	2 to 4 GB of RAM or higher
Disk Space	20 GB free hard disk space	40 GB free hard disk space or higher

Node Database Server:

Table 2: Node Database Server Hardware Requirements and Recommendations

	Minimum Requirements	Recommended System
Cluster Server	Not Required	Cluster Server with RAID 5 Storage Array
Processor	Pentium IV 2.4 GHz or higher	Pentium IV 2.8 GHz or higher
Memory	1 GB of RAM	4 GB of RAM or higher
Disk Space	40 GB free hard disk space	80 GB free hard disk space or higher

Server Software / Operating System Recommendations:

- **All Servers:**
  - Windows Server 2003 R2 or Windows Server 2008 (64 bit editions are supported)
- **Web / Application Server:**
  - Internet Information Services 5, 6, 7, or 7.5
  - ASP.NET 4.0
  - Microsoft .NET Framework .NET framework 4.0
- **Database Server:**
  - Microsoft SQL Server 2000 or later (including Express Editions)
    -or-
    Oracle Database Server 9i or later
- **Prerequisites software:**
  - ENNode Application has been installed.

4 RESTful Web Service Database Object Installation Instructions

Note: these installation instructions assume that the reader is experienced in deploying web applications on application servers and also experienced in managing databases in Oracle or MS SQL server

All database object files are stored in the RESTful_DB.zip file.

4.1 Apply DB Scripts to the existing ENNode Database

To install the database scripts the following steps should be followed:

1. Extract scripts from the ZIP file into one directory.
2. Run the scripts "ORA_DDL_20131104_ALL_NODE_OPERATION-001_TSAIC.sql" for oracle database.
3. Run the scripts "SQL_DDL_20131104_ALL_NODE_OPERATION-001_TSAIC.sql" for MS SQL database.

5 EN-Node RESTful Web Service Installation Instructions

Although the EN-Node RESTful Web Service is designed for deploying the applications across multiple physical machines in an Enterprise environment, for clarity, this guideline assume that all modules will be installed on a single machine.
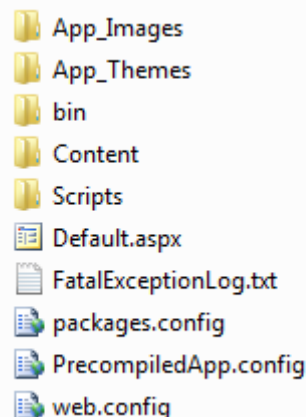
5.1 Preparation for Software Installation

The following are conditions that need to be checked before deployment of the RESTful Web Service:

- The server on which the RESTful Web Service is deployed is accessible via the public Internet over a defined URL, which either has a registered domain name address, or is defined by an IP address and port number.
- The RESTful Web Service Server has access to the data source(s) that house any data to be accessed by the RESTful Web Service.
- The RESTful Web Service should be hosted in a Demilitarized Zone (DMZ) or secured layer.
- It is strongly recommended to use 128-bit Security Socket Layer (SSL) on the web server.
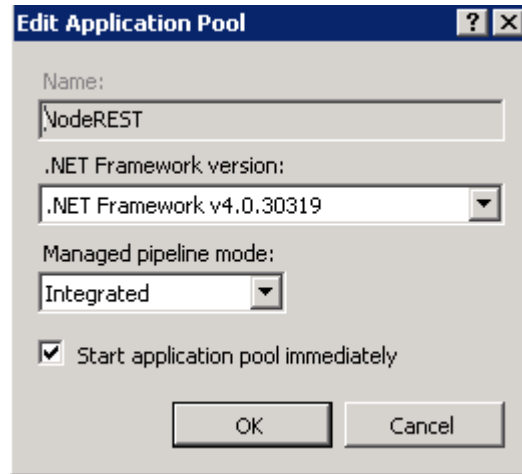
5.2 Deployment Structure

A description of the **Node.RESTful.zip** package files structure and directory contents are provided below. Please note that the deployment package should be downloaded to the local drive on the Node server (and/or Node database server) and accessible to the Administrator.
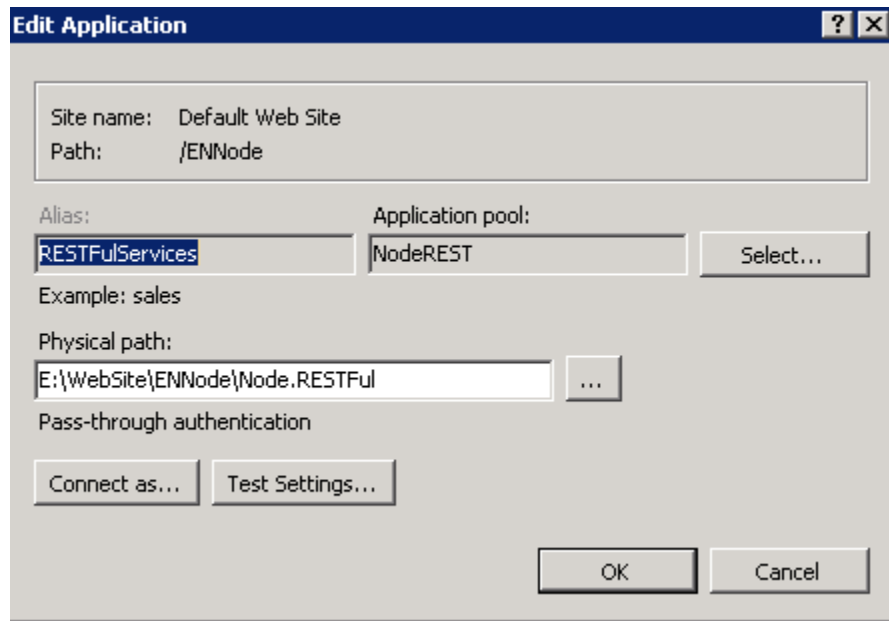
5.3 RESTful Web Service Application Installation

1. Install .NET Framework 4.0 if the web server does not have it installed. You should be able to download it from Microsoft web site. (http://www.microsoft.com/en-us/download/details.aspx?id=17851)

2. Unzipped the file "**Node.RESTful.zip"** to desired location on the web server. It is recommended to group all ENNode applications to the same folder for easy management.

3. Launch Internet Information Services (IIS) Manager.

4. Create application pool for RESTful Web Services application.

   4.1. In IIS, create one application pools for the Node RESTful web services application.

   4.2. While creating the application pool, please set .Net Framework **Version to v.4.***

   4.3. Set Managed pipeline mode to **Integrated**. Please use following illustration as guideline.

5. Please following step to create application
   5.1. Create Application with application name **RESTFulServices**
   5.2. Set the application pool to the one created in the step 4
   5.3. Point the Physical path to desired location specify in step 2. Please use the following illustration as guideline.

6. Update database connection in the Web.config file.
   6.1. Find the web.config file in the root of the desired location in step 1.
   6.2. Modify the "connectionString" attribute with the correct Node database connection information. The "providerName" attribute should be "System.Data.OracleClient" if the node database is Oracle or "System.Data.SqlClient" if the node database is SQL Server.

   i.e. `<add name="node" connectionString="Server=enfo_001;Database=node2008;UID=nodeuser;PWD=nodepassword" providerName="System.Data.SqlClient"/>`

7. Restart the application pool created in step 4.
8. Browsing the default.aspx in the root of **RESTFulServices** application from Browser. If you can see the following page displayed, you have successfully installed the RESTful web services.

5.4 Technical Support

Note, if you have any additional questions, you may contact Charlie Tsai for technical support:

Email: charlie_tsai@enfotech.com

Phone: 732-839-1688 Ext. 114