

1 Integrate

Installation Guide

Oracle WebLogic Server

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1 Introduction

This guide explains how to install 1Integrate.

The procedures apply to both Windows and Linux environments, unless specifically indicated.

For more information about new features and changes in this release, and hardware and software requirements, refer to the *1Integrate Release Notes*.

Audience

This guide is intended for personnel responsible for the installation, configuration, and administration of software.

The procedures detailed in the guide should be performed by a system administrator who is familiar with the application environment of the organisation.

Licenses

1Integrate licences will be issued via email.

1Spatial Product Support

If assistance is required while installing 1Integrate, please call 1Spatial support on +44 (0)1223 423069, or visit the support section of the 1Spatial website via the Services menu at www.1spatial.com.

2 Prerequisites

Before installing 1Integrate, please ensure you have met all system requirements and installed all necessary prerequisite components:

- ▶ Check "System Requirements" below (including the version of Java required)
- ▶ "Microsoft Visual C++ Redistributable (Windows only)" on the next page
- ▶ "Configuring the Database Server" on the next page
- ▶ "ICU Libraries (Linux only)" on page 9
- ▶ "Open Motif Libraries (Linux only)" on page 10
- ▶ "Loading Data Formats using FME" on page 22

System Requirements

Please see the *1Integrate Release Notes* for specific system requirements for this release.

Sizing a Server for 1Integrate

There are a number of minimum requirements for server size in order to install 1Integrate.

Depending on your intended configuration you will need, as a minimum:

- ▶ 1 core for interface
- ▶ 1 core per session queue
- ▶ 1 core 'spare'

This is on top of the requirements for your chosen operating system and any databases running on the same machines.

CPU

For CPUs you will require a minimum of 2gb per session queue, but to ensure best operation we recommend 4gb.

1Integrate is designed so that many features are not memory bound, instead swapping to disk when possible. Only the positional shifting built-ins and the network connectivity built-ins are memory-bound functions and thus disk speed and size are also important.

Disk space is used to store data by each session queue and the amount of disk space can vary greatly dependent on operation.

Example:

4 session queues on one machine, each doing national load, will need significantly more disk space than a number of sessions loading small amounts of data or sessions spread across multiple machines.

Storage

The amount of space required for storage can be estimated by the space used to store data in Oracle, or alternative file formats, this will give you the right order of magnitude. You will also require some space for the repository, but this will only be a significant proportion if you are creating millions of non-conformances. We recommend solid state disks (SSDs) for all storage to ensure data can be accessed quickly and effectively.

Example: For 2 session queues we would recommend:

- ▶ A minimum of 4 cores if there is no database on the machine, but ideally 8 or more
- ▶ No less than 8 cores if sharing with a database and other services
- ▶ At least 6gb memory, but ideally more if there is a database or other server present
- ▶ Enough disk space for all the data to be concurrently loaded
- ▶ Disk space for non-conformance reports

Microsoft Visual C++ Redistributable (Windows only)

Microsoft Visual C++ 2013 64-bit Redistributable packages are required for Windows installations of 1Integrate.

These can be downloaded from the Microsoft [website](#) (**vc redistrib_x64.exe**).

Configuring the Database Server

1Integrate requires access to an *Oracle* or *SQL Server* database to store configuration data such as rule and session definitions, and conformance results. This is referred to as the "1Integrate repository".



Note: Please refer to the relevant product documentation when installing your chosen database server.

 **Note:** If creating a SQL Server database, follow the process through Microsoft SQL Server Management Studio (MSSMS). The name should be "1Integrate" and all other defaults should be used.

Creating a Database User

A database user is required for the 1Integrate repository.

 **Note:** When deploying 1Integrate to multiple servers, one database user is required per environment.

Create an Oracle Database User:

To create a database user, run the following SQL*Plus commands and specify the location of the datafile (including the full file name and extension) as recommended by your Database Administrator:

```
Prompt:> sqlplus [your_system_user_name]/[your_
password]@[tnsname]

SQL> create tablespace [repository_tablespace_name]
datafile '[datafile_location]' size 10m reuse
autoextend on next 10m maxsize unlimited;

SQL> create user [repository_username] identified
by [repository_password] default tablespace
[repository_tablespace_name];

SQL> GRANT create procedure, create sequence,
create session, create table, create view, create
trigger, unlimited tablespace, create type TO
[repository_username];

SQL> ALTER user [repository_username] quota
unlimited on [repository_tablespace_name];
```

Create a SQL Server Database User:

1. Create a new user following the **New Login** process in MSSMS.
2. Set the login name to `rsuser`.
3. Select **SQL Server Authentication**, set the password to `rsuser` and de-select **Enforce Password Policy**.
4. Set the default database to 1Integrate.
5. In **User Mapping**, select 1Integrate.
6. Specify the user as `rsuser` and select all database role memberships except `db_denydatareader` and `db_denydatawriter`.
7. In the MSSMS, select the root node of SQL Server and change the

security authentication to **SQL Server and Windows Authentication mode**.

8. To grant permissions to ruser, right click on the root node of the SQL server. Then on the **Permissions** tab, grant all required permissions to ruser.

 **Note:** To allow the application server to log in to the database, the TCP/IP protocol must be enabled. You can enable this in the SQL Server Configuration Manager in the SQL Server Network Communication section.

ICU Libraries (Linux only)

ICU libraries are required for data and timestamp support in Linux.

A root user (or a user with root access privileges) is required to copy the files from the installation package and run the `ld_config` command.

Install the ICU libraries:

1. Run the `su` command to switch to the root user.
2. Copy the `.so` files from the installation folder (within the ICU folder) to the `/usr/local/lib64/` folder.
3. Create a new configuration file: `/etc/ld.so.conf.d/integrate.conf`

 **Note:** Both the `.so` files and the `.conf` file must have read permissions for all users.

4. Inside the configuration file, reference the location of the ICU libraries, for example: `/usr/local/lib64/*`
5. Enter the following `ld_config` command:

```
/sbin/ldconfig -v /usr/local/lib64/
```

Alternatively, edit `~/.bashrc` or similar for the user used to run 1Integrate to include `/usr/local/lib64` on the `LD_LIBRARY_PATH`, as in the following example:

```
# User specific
if [ -z "$LD_LIBRARY_PATH" ]; then
export LD_LIBRARY_PATH="/usr/local/lib64"
else
```

```
export LD_LIBRARY_PATH="/usr/local/lib64:$LD_
LIBRARY_PATH"
fi
```

Open Motif Libraries (Linux only)

The 64-bit Open Motif libraries are a prerequisite for Linux installations of 1Integrate.

The required Open Motif libraries are as follows:

- ▶ libX11.so.6
- ▶ libm.so.6
- ▶ libpthread.so.0
- ▶ libnsl.so.1
- ▶ libdl.so.2
- ▶ libc.so.6
- ▶ libcrypt.so.1
- ▶ libXau.so.6
- ▶ libXdmcp.so.6

Data Store Prerequisites

1Integrate supports the following types of data stores for [input](#) (reading) and [output](#) (writing), either as standard or using FME Desktop (which requires a licence). Pay particular attention to the prerequisites attached to certain data store types:

 **Note:** All formats listed below as using FME Desktop require FME Desktop Professional Edition, unless otherwise indicated.

Data Store Type	As standard		Using FME Desktop	
	Read	Write	Read	Write
Bentley Microstation Design (V8)	×	×	✓	✓
Comma Separated Value (CSV)	×	×	✓	✓

Data Store Type	As standard		Using FME Desktop	
	Read	Write	Read	Write
Autodesk AutoCAD DWG/DXF	✗	✗	✓	✓
Esri ArcGIS Server	✓	✓	✓	✓
Esri Enterprise Geodatabase	✗	✗	✓ ¹	✓ ²
Esri File Geodatabase	✓	✗	✓	✓
Esri Shapefile	✓	✓	✓	✓
MapInfo Tab	✓	✓	✓	✓
Microsoft SQL Server Spatial	✗	✗	✓ ³	✓ ⁴
Oracle	✓	✓	✗	✗
PostGIS	✓	✓	✓	✓
Google BigQuery	✓	✓	✗	✗

¹This format is only available on Windows. Requires FME Desktop (64-bit) Esri Edition, and ArcGIS Desktop, ArcGIS Desktop Background Processing (64-bit) and Database client (64-bit).

²This format is only available on Windows. Requires FME Desktop (64-bit) Esri Edition, and ArcGIS Desktop, ArcGIS Desktop Background Processing (64-bit) and Database client (64-bit).

³This format is only available on Windows. The Microsoft SQL Server 2012 Native Client must be installed.

⁴Windows only. Requires FME Desktop Database Edition. The Microsoft SQL Server 2012 Native Client must be installed.

3 Installing 1Integrate on WebLogic

 **Note:** Before proceeding, ensure you have completed all pre-requisite steps (see "Prerequisites" on page 6).

Installing 1Integrate on an Oracle WebLogic Server consists of the following tasks:

- ▶ Running the Installation Wizard using the "1Integrate Installation Wizard Parameters" on page 14
- ▶ "Configuring Users and Roles" on page 20
- ▶ "Testing the Installation" on page 29

1SMS Installation Wizard

The 1Spatial Management Suite Installation Wizard guides you through the product installation.

Launching the wizard

The wizard can be run on both Windows and Linux operating systems.

Launch the installation wizard on Windows:

1. Copy and unzip the installation folder on the target server machine.
2. Double-click the **1sms_installer-[version].jar** file.

Launch the installation wizard on Linux:

1. Copy and unzip the installation folder on the target server machine.
2. Run the **installer.jar** file using a Java 1.8 JVM.

For example, from the command line enter: `Java -jar ./1sms_installer-[version].jar`

Installation of 1Integrate

 **Note:** Ensure that the WebLogic Node Manager and Admin Server are running before proceeding with the installation.

 **Note:** If you have your own custom data stores or built-ins, you will need to add these to the installation directory before running the installation wizard.

 **Note:** If you are running the installation on an existing domain, roles and users may already exist in that domain. Only new users and new role mappings will be created in this situation. Existing mappings will be preserved.

Install 1Integrate using the Installation Wizard:

1. Launch the Installation Wizard (see "Launching the wizard" on the previous page).
2. Select **WebLogic Installation**, then click **Next**.
3. In the Product Selection page, tick **Install** for all components, then click **Next**.
4. Complete each page of the installation wizard, entering parameters as required.
5. On the Summary page, click **Next**, then click **Begin** to run the installation.

 **Note:** If you encounter the following when clicking **Begin** to run the installation, restart the Admin Server then re-run the installation wizard. All previously entered data will be preserved.

```
#####
###
# Server "AdminServer" must be restarted to
# activate all configuration changes.
#####
###
```

1Integrate Installation Wizard Parameters

The following parameters are given in the order displayed in the Installation Wizard, and split by the page within which they appear.

Common Settings

Parameter	Description	Typical Value
WebLogic		
WebLogic Home		C:/oracle/Middleware
WebLogic Domain Home	This can be an absolute directory or one relative to WebLogic home (relative directories will be converted into absolute directories automatically) .	user_project/domains
WebLogic 64-bit Domain With SOA Components		
Host	Host name	[machine name]
Port	Port number	7001
Protocol	Protocol type to use (t3 or t3s). <div style="border: 1px solid gray; padding: 5px; margin-top: 10px;">  Note: If using t3s, you must ensure that the server's certificate(s) are added to the cacerts trust store for the Java version used <i>when WebLogic was installed</i>. </div>	
Admin Username	Admin username for the WebLogic domain.	
Admin Password	Admin password for the WebLogic domain.	
Admin Server Name	Name of the WebLogic domain's Administration Server <div style="border: 1px solid gray; padding: 5px; margin-top: 10px;">  Note: This should be the same for each domain. </div>	AdminServer

Parameter	Description	Typical Value
Domain Name	Name of the domain	sms_domain
Node Manager Machine Name	Name of the node manager machine	[machine name]
Node Manager Host	Host of the node manager	localhost
Node Manager Port	Port of the node manager	5556
Node Manager Type	Type of node manager	ssl

1Integrate Interface

Item	Description	Typical Value
General		
Service Port	The port to use to host the 1Integrate interface web service	7004
Listen Address		[machine name]
Server Name	The name of the server to host the 1Integrate interface web service	[server name]
1Integrate Repository		
JDBC Connection string	The connection details of the schema in the form <code>jdbc:oracle:thin:@hostname:port/service_name</code> or <code>jdbc:oracle:thin:@hostname:port:sid</code>	
Username	User name for the schema	
Password	Password for the schema	

Item	Description	Typical Value
Cache Data		
Directory	<p>The location of the cache directory.</p> <p>When a session is run, a folder is created called "1Integratecache", within which the cache is stored.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p> Note: This stores the data cache from data read by 1Integrate. This may require large amounts of disk space depending on the size of data being read into sessions and the number of concurrent sessions.</p> </div> <p>For Linux, if left blank this will default to /tmp.</p> <p>For Windows, if left blank this will default to C:\Users\[user]\AppData\Local\Temp.</p>	C:/1spatial/data
License	The location of the provided product licence file	C:/1spatial/[licence name].lic
Interface JVM Settings		
Initial Heap Size		256MB
Maximum Heap Size		1024MB
Custom Extensions		
Include Custom Extensions	Tick this box to include custom extensions.	
Selected Custom Extensions	Browse for custom extensions to be included.	

1Integrate Session Queue

Parameter	Description	Typical Value
General		
Number of Nodes	Number of Session Queues to be created (limited by your licence agreement).	2
Service Port(s)	A list of ports that should be used to host the processing services. This can either be a comma separated list or a range, such as 8022, 8023, or 8024-8027. Ensure the ports are not already in use.	
Listen Address		
1Integrate Repository		
 Note: These settings must be entered the same as for the 1Integrate Interface.		
JDBC Connection String	The connection details of the schema in the form <code>jdbc:oracle:thin:@hostname:port/service_name</code> or <code>jdbc:oracle:thin:@hostname:port:sid</code>	
Username	User name for the schema	
Password	Password for the schema	

Parameter	Description	Typical Value
Cache Data		
Directory	<p>The location of the cache directory.</p> <p>When a session is run, a folder is created called "1Integratecache", within which the cache is stored.</p> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p> Note: This stores the data cache from data read by 1Integrate. This may require large amounts of disk space depending on the size of data being read into sessions and the number of concurrent sessions.</p> </div> <p>For Linux, if left blank this will default to /tmp.</p> <p>For Windows, if left blank this will default to C:\Users\[user]\AppData\Local\Temp.</p>	C:/1spatial/data
License	The location of the provided product licence file	C:/1spatial/[licence name].lic
Session Queue JVM Settings		
Initial Heap Size	<p>This Initial Heap Size value specifies how much memory a 1Integrate session queue node uses on startup.</p> <p>If it requires more memory, it will grow up to the Maximum Heap size.</p>	256MB

Parameter	Description	Typical Value
Maximum Heap Size	<p>This is the maximum amount of Java memory that can be allocated to the 1Integrate Session Queue node.</p> <p>If this number is too small then very complex or large processes may fail by running out of memory. The amount of memory is required not directly related to the amount of feature loaded (because they are cached to disk) but is related to the size of individual entities being handled, such as restoring large XML backups or processing very large geometries.</p>	1024MB
Custom Extensions		
Include Custom Extensions	Tick this box to include custom extensions.	
Selected Custom Extensions	Browse for custom extensions to be included.	
Clustering		
Clustered		
Cluster Name		
Cluster Address (optional)		
Cluster Load Algorithm		
Cluster Messaging Mode		
Cluster Broadcast Channel (optional)		

Configuring Users and Roles

Users and Roles can be edited within 1Integrate.

 **Note:** You will need to restart 1Integrate for any changes to user and roles to take effect.

By default, 1Integrate is deployed with example users and passwords included. This enables a quick set-up process, but for security reasons it is **HIGHLY RECOMMENDED** that:

- ▶ As a minimum, on installation, change all passwords from the default to unique values.
- ▶ change the user names to ones relevant to your organisation.

For stronger security and management, consider using other authentication mechanisms such as using your organisation's Lightweight Directory Access Protocol (LDAP) Service e.g. Microsoft Active Directory. This ensures that passwords and usernames are not stored in the application server but managed, as normal, by an IT department.

Roles

The following roles are available in 1Integrate:

Role	Description
rs_admins	<p>The administrator can set up system parameters and has all the privileges of the other roles.</p> <p>These include creating and modifying:</p> <ul style="list-style-type: none"> ▶ rules ▶ data stores ▶ sessions ▶ actions ▶ action maps <p>The administrator can also define sessions and upload files.</p>
rs_data_engineers	<p>A data engineer can:</p> <ul style="list-style-type: none"> ▶ create and modify actions ▶ create and modify action maps ▶ define and run sessions

Role	Description
rs_data_loaders	A data loader can upload files into 1Integrate on the Data Stores page only.
rs_data_quality_stewards	A data quality steward can define and run sessions only.
rs_rule_definers	A rule definer can create and modify: <ul style="list-style-type: none"> ▶ rules ▶ data stores ▶ sessions The rule definer can also run sessions.
rs_users	A user can only view data presented on the interface.
rswsuser	A web service user can use the web services.

Users

The following users and roles are created by default upon installation:

Username	Password	Assigned roles
INTFull	integrate1	rs_users rswsuser rs_rule_definers rs_data_loaders rs_data_engineers rs_data_quality_stewards
INTAdmin	integrate101	rs_admins rs_users rswsuser
INTUser	integrate102	rs_users
INTWSservice	integrate103	rswsuser
INTRule	integrate104	rs_rule_definers
INTLoader	integrate105	rs_data_loaders
INTEng	integrate106	rs_data_engineers

Username	Password	Assigned roles
INTQuality	integrate107	rs_data_quality_stewards

WebLogic Users

1Integrate users and roles should be configured using the WebLogic Server Administrator Console.

Role membership determines a user's access to application features.

1Integrate roles are created by default. However, unlike the default users that are created, the role names set up by installer must not be altered.

 **Note:** The default setup assigns the default users to some of the default roles, allowing you to log in and start using 1Integrate without having to change any of the security configuration. If you wish to customise the users, then role assignment can be altered.

LDAP

For stronger security and management, Consider using other authentication and authorisation mechanisms such as your organisation's Lightweight Directory Access Protocol (LDAP) Service e.g. Microsoft Active Directory. This ensures that passwords and usernames are not stored in the application server but managed, as normal, by an IT department.

Authenticate using LDAP

For information on configuring WebLogic in this way, please refer to the Oracle documentation:

<https://docs.oracle.com/middleware/12213/wls/SECMG/atn.htm#SECMG169>

Loading Data Formats using FME

1Integrate can handle spatial data from a number of sources such as an Oracle database, Esri Shapefiles or MapInfo Tab files.

 **Note:** For more details on the formats supported, please see the [1Integrate online help](#).

To access other formats such as DWG files or Esri Enterprise geodatabases, 1Integrate uses functionality from Safe Software's FME. To use this capability, you must have FME Desktop installed and available to 1Integrate, with an FME Desktop license available for use.

Note: In order to be editable, tables must have a primary key defined. You can read data from tables that do not have primary keys, but you will not be able to write data back to those tables.

To allow 1Integrate to access data that is only available via an FME license, use the following procedure, depending on your operating system:

Configure FME on Windows

Note: The following steps are only necessary if FME has not already been added to the system or user's PATH environment variable in Windows. However, when using WildFly with AdoptOpenJDK ensure the `plugins` path is defined, as detailed below.

1. Stop the WebLogic server(s).
2. Create a new file called **setUserOverrides.cmd** within the **bin** directory of your domain, if it does not already exist (i.e. **[domain name]/bin/setUserOverrides.cmd**).
3. Edit the contents of the file to contain the following:

```
@rem add FME to PATH
set PATH=[FME path];%PATH%
```

Where `[FME path]` is the location where FME is installed (e.g. `C:\PROGRA~1\FME`).

4. Alter the permissions on **setUserOverrides.cmd** to allow the WebLogic user to access the file.
5. Start the WebLogic server(s).

Configure FME on Linux

1. Stop the WebLogic server(s).
2. Create a new file called **setUserOverrides.sh** within the **bin** directory of your domain (i.e. **[domain name]/bin/setUserOverrides.sh**).
3. Edit the contents of the file to contain the following:

```
# add FME to LD_LIBRARY_PATH
export LD_LIBRARY_PATH="[FME_CORE_PATH]:$LD_
LIBRARY_PATH"
```

Where **[FME_CORE_PATH]** is the location of the **fme/fmecore/** directory.

4. Alter the permissions on **setUserOverrides.sh** to allow the WebLogic user to execute the file (e.g. `chmod 750 setUserOverrides.sh`).
5. Start the WebLogic server(s).

Esri Enterprise Geodatabase

The following changes need to be made to the **setUserOverrides.cmd** (Windows) or **setUserOverrides.sh** (Linux):

- ▶ Add the SDEHOME path variable
- ▶ Add the database client path to the PATH



Note:

SDEHOME must not contain spaces in the path. Make sure that short paths are enabled on the operating system (e.g. `PROGRA~2`) or copy the following dll files (from `C:\Program Files (x84)\ArcGIS\DesktopV\bin64`) to a location without spaces :

- ▶ sde.dll
- ▶ sg.dll
- ▶ pe.dll
- ▶ xerces_c3_1.dll

Example (Windows):

```
@rem set FME path
set
PATH=C:\PROGRA~1\FME\;C:\app\Administrator\product\
12.1.0\client_1;%PATH%
set SDEHOME=C:\PROGRA~2\ArcGIS\Desktop10.4\bin64
```

SQL Server Spatial Data

An additional driver is required in order for FME to read Microsoft SQL Server data on WebLogic 12.1.3.

Configure SQL Server for spatial data support:

1. Download the following driver from Microsoft, and place it in an accessible location: **sqljdbc4-4.0.2206.100.jar**
2. In the **bin** directory of the 1Integrate WebLogic domain, create a file called **setUserOverrides.cmd**
3. Edit the **setUserOverrides.cmd** file, adding the location of the sqljdbc driver as part of the PRE_CLASSPATH:

```
@rem include the sqljdbc driver as part of the
pre class path

set PRE_
CLASSPATH=%locationOfTheDriver%\sqljdbc4-
4.0.2206.100.jar

@rem set FME path as part of the path
set PATH=C:\PROGRA~1\FME\;%PATH%
```

4. Restart all servers, including Admin Server and Node Manager for the pre-class path to be loaded.

Additional Configuration

It is recommended that you carry out any additional configuration during the installation process to ensure that settings persist between 1Integrate installations and updates.

To do this, each additional parameter will need to be entered in the **config.properties** file under the user defined system parameter:

1Integrate_par_user_defined .

 **Note:** The 1Integrate_par_user_defined system parameter can only be entered once. Ensure all additional parameters are under this. Each should be entered as a space separated list of parameter=value pairs.

The **config.properties** file is generated when the installer file is opened.

Example: 1Integrate_par_user_defined=-
 DloginDanner=C:\\1Spatial\\loginBanner.html -
 Dgrid.local.address=[address location]

 **Note:** Colons and backslashes need to be prefixed with a \ character.

The following additional configuration should be carried out during installation to ensure settings persist between installs and upgrades:

- ▶ "Configuring Login Banner" below
- ▶ "NIC/Network Adaptor Configuration" on the next page
- ▶ "Offline Help" on page 28

 **Note:** Alternatively additional configuration can be implemented after installing 1Integrate by entering the parameters as JVM Arguments in the Server Start tab of your WebLogic console.

Configuring Login Banner

Optionally, you can configure a login banner to appear at the top of the Login page:

1. First, you must create a valid HTML file with plain text and optional heading tags. Text will be displayed as black.
2. In the **config.properties** file, add the following:

Parameter	Description
<pre>1Integrate_par_user_ defined=-DloginBanner</pre>	<p>Enter a file path to a HTML document you have defined e.g:</p> <pre>1Integrate_par_user_ defined=- DloginBanner= [Location]/ [File].html</pre> <div data-bbox="911 1570 1337 1827" style="border: 1px solid gray; padding: 5px;"> <p> Note: The HTML page must be placed on the same server as the one running the Interface(s).</p> </div>

Note: The `1Integrate_par_user_defined` system parameter can only be entered once. Ensure all additional parameters are under this. Each should be entered as a space separated list of `parameter=value` pairs. Colons and backslashes need to be prefixed with a `\` character.

NIC/Network Adaptor Configuration

The Grid discovery used to find session queues by default uses the first found non-loopback address, for example a machine with Ethernet adaptors "eth0" and "eth1" and Local Loopback "lo" will likely use "eth0".

Note: If you do not need to override the adaptor default behaviour, then the following properties do not need to be included.

Configure NIC/Network Adaptor :

Within the **config.properties** file, include the following in the parameters within the `1Integrate_par_user_defined` system parameter (see "Additional Configuration" on page 25 for more):

```
-Dgrid.local.address=[NIC Address] -
Dgrid.discovery.tcp.port=[default: 51300] -
Dgrid.communication.tcp.port=[default: 51401]
```

Note: Only one `1Integrate_par_user_defined` system parameter can be defined. Ensure all additionally configured parameters are under this. See "Additional Configuration" on page 25

Note: It is possible to configure the above by navigating to the WebLogic Server Administration Console and including the Server Start Arguments. This will have to be carried out after installation and will not persist between installations and upgrades.

Where:

- ▶ **Dgrid.local.address** - specifies the IP address of the network adaptor used for grid communication.
- ▶ **Dgrid.communication.tcp.port** and **Dgrid.discovery.tcp.port** - allows environments to specify known ports (for example, when using a firewall).

▶  **Note:** The communication port must be a minimum of 100 greater than the discovery port, in order to avoid conflict.

Offline Help

By default, clicking the Help button within 1Integrate opens the online WebHelp. However, this button can be configured to open local offline documentation instead.

 **Note:** The configuration of offline help is only advised for environments without access to the internet, as local help files will not receive updates as often as the online help.

Before performing the configuration, ensure your local help files are placed somewhere accessible on your local network. If the help files have not been provided with your release, please contact your vendor or 1Spatial Support.

Configure Offline Help :

To configure offline help, the `-Dhelp_base_url=[location of help files]` parameter will need to be entered in the **config.properties** file under the user defined system parameter: `1Integrate_par_user_defined`. Colons and backslashes need to be prefixed with a `\` character. For more, see "Additional Configuration" on page 25.

 **Note:** Alternatively, Offline Help configuration can be implemented after installing 1Integrate by entering the `-Dhelp_base_url=[location of help files]` parameter as JVM Arguments in the Server Start tab of your WebLogic console.

4 Testing the Installation

 **Note:** Empty your browser cache before testing your installation.

1Integrate can be accessed through the following site:

[http://\[machine\]:\[service_port\]/1Integrate](http://[machine]:[service_port]/1Integrate)

 **Note:** Use the port number specified during installation, by default this is 7004.

Log in as a user with administrator permissions.

To verify the session queue installations, click the **Admin** tab and check that the Grid Topology matches the number of interfaces and session queues installed.

If you need to access the 1Integrate Web Services API, then a web page with documentation and a link to the WSDL document can be found at:

[http://\[machine\]:\[service_port\]/soap](http://[machine]:[service_port]/soap)

5 Upgrading an Installation

 **Note:** Before performing an upgrade to an existing installation, ensure **all sessions are stopped** and perform a **backup** of your repository.

 **Note:** These instructions apply when upgrading from one version to the immediately subsequent release only (e.g. from 1.1 to 1.2). If you are performing an upgrade from any older version, please consult your release notes or contact 1Spatial Support.

Upgrade an Installation:

Upgrading an installation on WebLogic consists of un-installing your current product version, copying across your **config.properties** file, and then re-installing your new product version.

 **Note:** The following instructions use an example where currently version 1.A is installed, and we want to upgrade to 1.B. We have used **C:\Program Files\1Spatial** as a directory within which to store our installation package files, organised into **C:\Program Files\1Spatial\Product-1.A** and **C:\Program Files\1Spatial\Product-1.B**.

1. Launch the 1SMS Installation Wizard for your *current* installation (e.g. **C:\Program Files\1Spatial\Product-1.A\1sms_installer.jar**).
 - i. Select **WebLogic Installation**, then click **Next**.
 - ii. In the Product Selection page, tick **Uninstall** for the components to be upgraded, then click **Next**.
 - iii. On the Summary page, click **Next**, then click **Begin** to run the un-installation.
2. Copy the **config.properties** file from your old installation directory (e.g. **C:\Program Files\1Spatial\Product-1.A**) to your new installation directory (e.g. **C:\Program Files\1Spatial\Product-1.B**).
3. Launch the 1SMS Installation Wizard for the *new* product version (e.g. **C:\Program Files\1Spatial\Product-1.B\1sms_installer.jar**).

- i. Select **WebLogic Installation**, then click **Next**.
- ii. In the Product Selection page, tick **Install** for the components to be upgraded, then click **Next**.
- iii. Check the parameters on each page of the installation wizard. These will be pre-populated from the **config.properties** file that was copied from the previous installation.
- iv. On the Summary page, click **Next**, then click **Begin** to run the installation.