



BDNA Data Platform 5.5.0

Installation & Configuration Guide

Legal Information

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BDNA Data Platform Installation Overview

About Chapter 1

Welcome to the *BDNA Data Platform* Installation and Configuration Guide. This guide provides detailed instructions for installing, configuring, and integrating the *BDNA Data Platform*™ within your existing IT environment.



Note • This installation guide is intended as a the full installer guide for 5.5.0. There is a patch set option for upgrading to 5.5.0 as well. For further details on the patch set option, please see the 5.5.0 Data Platform Release Notes.

Intended Audience

This document is intended for those individuals responsible for server management and security, including application installations, configurations, and troubleshooting.

Document Organization

- Chapter 1 provides a conceptual and visual overview of the *BDNA Data Platform* architecture and data flow. It also lists the system and security requirements for installing and configuring the *BDNA Data Platform*.



Note • Instructions for installing the *BDNA User Console* are contained in the *BDNA User Console Installation Guide*. Additionally, when installing the User Console, please only use the latest 5.5 installer in order to properly integrate with the 5.5 Data Platform.

- Chapter 2 details the steps for installing the application, including any prerequisite software.
- Chapter 3 provides detailed steps for the following tasks:
 - Configuring the *BDNA Data Platform*
 - Registering the *BDNA Certificate* in ConfigMgr 2012 HTTP or HTTPS mode, as well as information on editing the .mof file.
- Appendix A lists all necessary prerequisite software and their offline locations.
- Appendix B provides instructions for uninstalling the *BDNA Data Platform* from the server automatically.
- Appendix C lists the minimum security requirements for installing *BDNA Data Platform*

- [Appendix D](#) provides step-by-step instructions for extracting data from a DB2 database
- [Appendix E](#) provides information about known issues in *BDNA Data Platform*.
- [Appendix F](#) provides additional information about modifying configuration file settings.
- [Appendix G](#) provides information about Oracle settings.

BDNA Data Platform Architecture and Data Flow

The *BDNA Data Platform* extracts data from a data source, normalizes it, and loads the results into a Publish database. From there, it can be output to CSV, and to analytical applications such as BDNA Analyze.

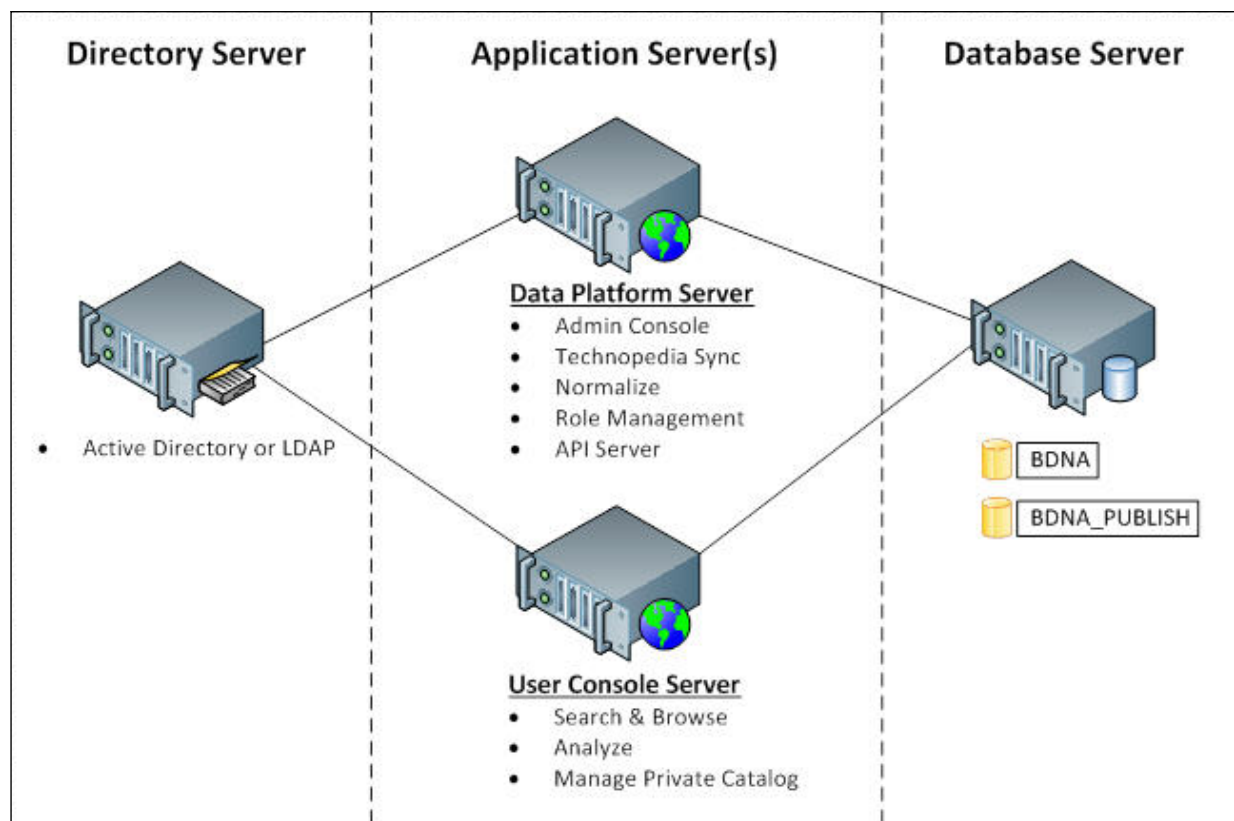


Figure 1-1: *BDNA Data Platform* Architecture




System Requirements

BDNA Data Platform 5.5.0 has the following system requirements.

Software

BDNA Data Platform 5.5.0 has the following software requirements.

Table 1-1 • Software

Category	Requirement
Operating Systems	<ul style="list-style-type: none"> Windows Server 2012 R2™ Windows Server 2016 R2™  <p>Note • Support for operating systems and databases in English language only.</p>
Databases	<ul style="list-style-type: none"> MS SQL Server 2012™ (Standard Edition) MS SQL Server 2014™ (Enterprise and Standard Editions) MS SQL Server 2016™ (Enterprise and Standard Editions) Oracle 11gR2 Enterprise Edition™ Oracle 12c Enterprise Edition™  <p>Note • Support for operating systems and databases in English language only.</p>  <p>Note • Oracle 12c has known issues when running in a Windows environment. As of the publish date of this document, Oracle has not provided a patch to correct the issues.</p>
Browsers	<ul style="list-style-type: none"> Windows Internet Explorer™ v11 Google Chrome™ v44 or later Mozilla Firefox™ v37 or later

Hardware

BDNA Data Platform 5.5.0 has the following hardware requirements.

Table 1-2 • Hardware

Environment	Data Platform Server	User Console Server	Database Server
Small (up to 2,000 devices)	<ul style="list-style-type: none"> ● CPU: Xeon ES-2630 or similar, 2 cores ● RAM: 4 GB ● Storage capacity: 20 GB free space ● Network connection: Gigabit ● Disk I/O: 80 MB/sec 	<ul style="list-style-type: none"> ● CPU: Xeon ES-2630 or similar, 2 cores ● RAM: 8 GB ● Storage capacity: 20 GB free space ● Network connection: Gigabit ● Disk I/O: 80 MB/sec 	<ul style="list-style-type: none"> ● CPU: Xeon ES-2630 or similar, 2 cores ● RAM: 16 GB ● Storage capacity: 50 GB free space ● Network connection: Gigabit ● Disk I/O: 80 MB/sec
Medium (up to 50,000 devices)	<ul style="list-style-type: none"> ● CPU: Xeon ES-2630 or similar, 4 cores ● RAM: 8 GB ● Storage capacity: 100 GB free space ● Network connection: Gigabit ● Disk I/O: 80 MB/sec 	<ul style="list-style-type: none"> ● CPU: Xeon ES-2630 or similar, 4 cores ● RAM: 16 GB ● Storage capacity: 100 GB free space ● Network connection: Gigabit ● Disk I/O: 80 MB/sec 	<ul style="list-style-type: none"> ● CPU: Xeon ES-2630 or similar, 4 cores ● RAM: 32 GB ● Storage capacity: 350 GB free space ● Network connection: Gigabit ● Disk I/O: 150 MB/sec
Large (up to 300,000 devices)	<ul style="list-style-type: none"> ● CPU: Xeon ES-2630 or similar, 8 cores ● RAM: 16 GB ● Storage capacity: 200 GB free space ● Network connection: Gigabit ● Disk I/O: 80 MB/sec 	<ul style="list-style-type: none"> ● CPU: Xeon ES-2630 or similar, 8 cores ● RAM: 32 GB ● Storage capacity: 200 GB free space ● Network connection: Gigabit ● Disk I/O: 80 MB/sec 	<ul style="list-style-type: none"> ● CPU: Xeon ES-2630 or similar, 8 cores ● RAM: 64 GB ● Storage capacity: 1.5 TB free space ● Network connection: Gigabit ● Disk I/O: 250 MB/sec



Note • For environments with more than 300,000 devices, please contact the BDNA Services team.

Network Ports and Protocols

BDNA Data Platform 5.5.0 has the following network ports and protocol requirements.

Table 1-3 • Network Ports and Protocols

Port	Server	Protocol	Usage
80 (default), 443	Application	HTTP, HTTPS	IIS (Administration Console)
8088 (default)	Application	TCP	Remote communication between BDNA application servers
1433 (typical)	Database	TCP	BDNA database (MSSQL)
1521 (typical)	Database	TCP	BDNA database (Oracle)



Note • If you use IIS Express, port 8080 is used by default.



Note • The actual port number used for data extraction from your source database (MSSQL, Oracle, DB2, etc.) to the Normalize Server is dependent on the site-specific configuration of your source database.

Installer File

A single installer file, Data_Platform_550_xxxx_x64.exe, installs the BDNA Data Platform, providing the core administrative, data processing, and back-end data components:

- [Administration Console](#)
- [BDNA Technopedia \(for synchronization\)](#)
- [BDNA Normalize \(additional license required\)](#)
- [Private Catalog \(additional license required\)](#)

Optional Software Packages

At your request, the following software packages can be installed by the installer during the installation process:

- [IIS Express](#)

Integrating BDNA Data Platform 5.5 with ServiceNow

If you want to integrate BDNA Data Platform 5.5 with your ServiceNow instance, make sure you have installed the following update sets:

- [Technopedia Normalize 4.4.9 or later](#)
- [Technopedia Catalog 3.5.0 or later](#)

BDNA Administration Console Operations

The BDNA Administration Console is installed during the install process. The Admin Console provides an easy-to-use interface for...

- [Normalizing data from an external data source.](#)
- [Synchronizing the Catalog.](#)
- [Creating a scheduled task for all primary functionality.](#)
- [Managing user and group authentication and authorization.](#)

Normalize System

- Local administrator privileges
- Full database privileges to database

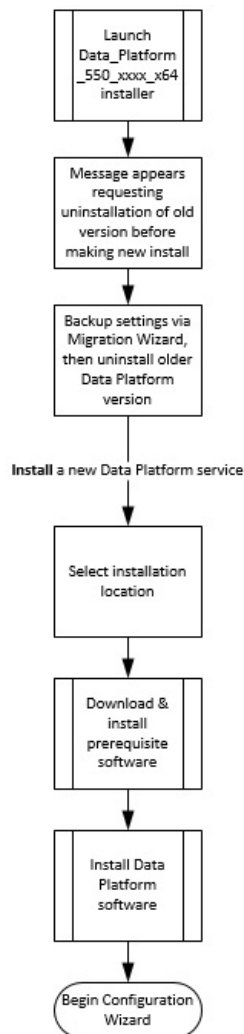
Installing the BDNA Data Platform

About Chapter 2

This chapter provides detailed instructions for installing BDNA Data Platform for the **first time**. Subsequent installations of the BDNA Data Platform bypass the initial download and installation of prerequisite software, proceeding directly to the Configuration Wizard as described in [Chapter 3, “.”](#).

If you are upgrading from a previous version to 5.5.0 (i.e. from 5.3x or 5.4x), please see the “[BDNA Normalize Migration Wizard Process](#)” first as you will have to backup your settings before making a fresh installation to 5.5.0. The BDNA Normalize Migration Wizard process also outlines how to restore backed up settings after completing your installation of 5.5.0. Learn more about the BDNA Normalization Wizard on page 83.

Figure 2-1: Installation Workflow



Overview of the Installation Process

The BDNA Data Platform installation is a two-part process. The first part of the process begins when you launch the installer. The installer determines the software packages that are necessary to proceed with the installation. The installer then downloads and installs the software packages. When this part of the process is complete, the Configuration Wizard takes over. The Configuration Wizard guides you step-by-step through a process that shows you how to configure the BDNA Data Platform.

Important facts to know before launching the installer:

- Download and installation of the prerequisite software packages can either be done automatically, provided you have Internet access, or manually, if the system you are using does not have Internet access. For more information about offline installation, see “[Offline Installation](#).”

For information on security requirements for installing and configuring Normalize CM, refer to [Appendix C](#), “.”

Catalog

The Catalog is hosted on the Technopedia Update Services web server and is downloaded during the BDNA Data Platform installation, provided you have Internet access. For offline installation of the Catalog, see “[Offline Installation](#).”

When you complete the BDNA Data Platform installation, you can use the BDNA Data Platform Console to schedule and automatically synchronize only the latest updates to the Catalog.

Offline Installation

For most installations, the BDNA Data Platform installer will download all necessary prerequisite software from the Internet. To accomplish this, the installer must have Internet access. If Internet access is not available, the installation process will abort.

If you do not have Internet access, you can download the necessary prerequisite software on a different system, and then copy it onto the BDNA Data Platform server. As long as the installer detects that the necessary software packages have been installed on the target system, the installation process will proceed to completion. A comprehensive list of prerequisite software can be found in [Appendix A](#) “.”

Downloading the Prerequisite Software Packages

The first time you launch the BDNA Data Platform installer, the installer determines the software packages that are necessary to proceed with the installation. For subsequent installations, this part of the install process is skipped, and you begin the process from the Configuration Wizard. For detailed information on using the Configuration Wizard, refer to [Chapter 3](#), “.”

Running the BDNA Data Platform Installer



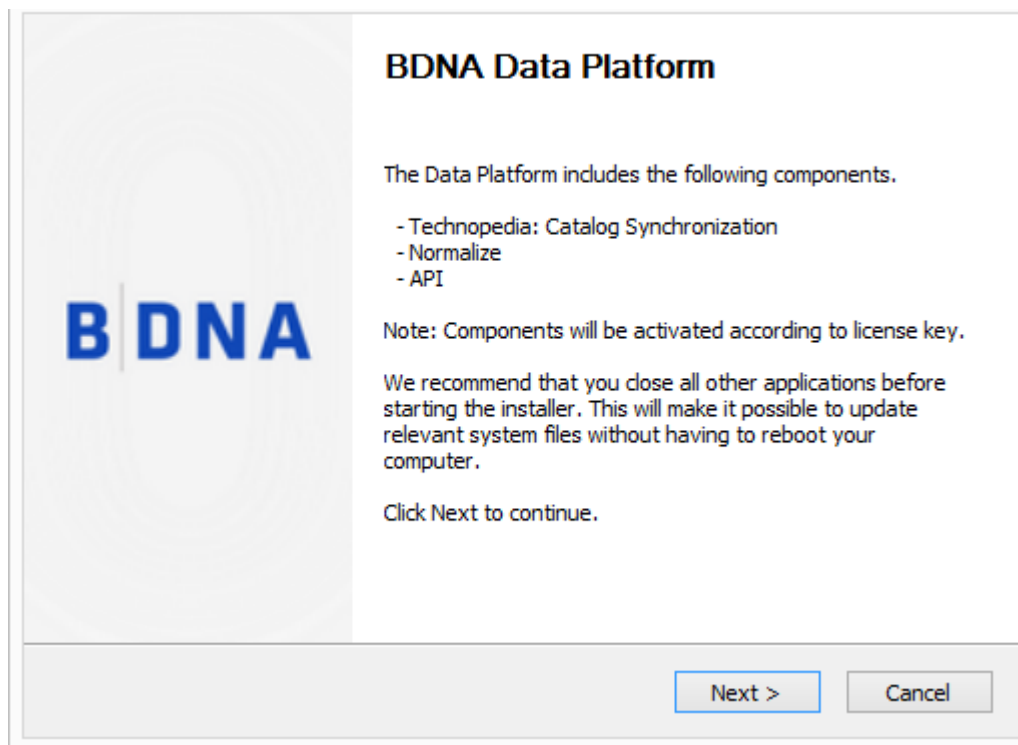
Task

To run the installer:

1. Log into the **Product Download** section of the **BDNA Support Service Portal**: (<https://bdna.service-now.com/support/downloads.do>) .
2. Download the BDNA Data Platform **Installer** that is appropriate for your environment.
3. Click the .exe file to launch the Installer.

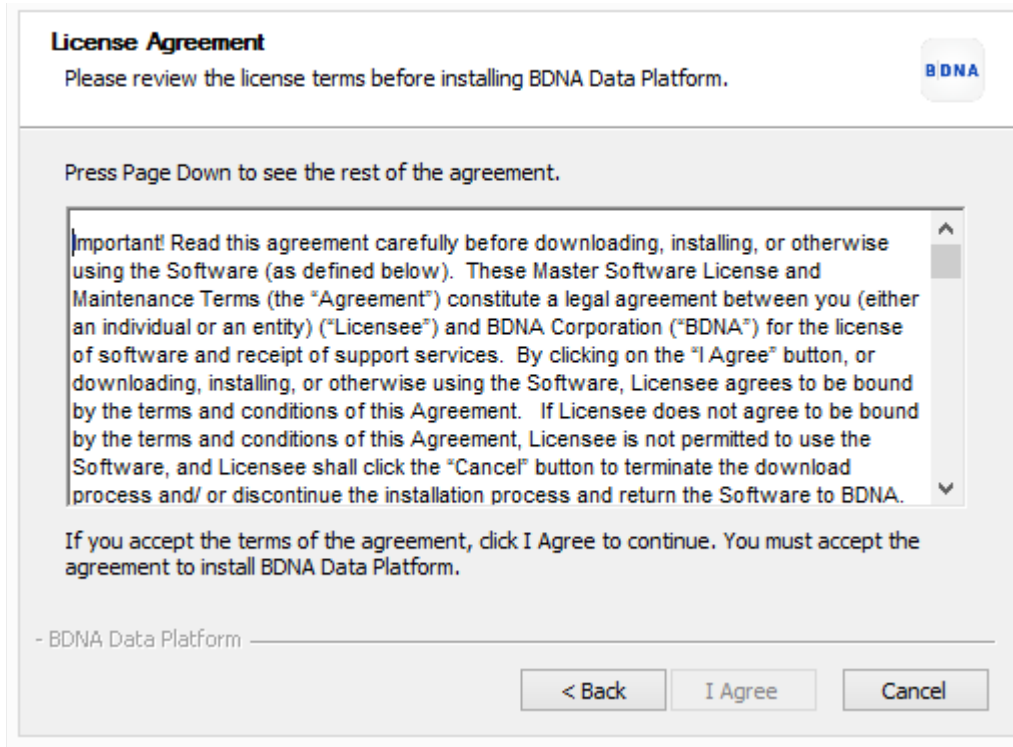
4. The Welcome screen opens. Click **Next** to continue.

Figure 2-2: Welcome screen



5. The next screen is the BDNA Data Platform End-user License Agreement. You must scroll through the entire license agreement to activate the I Agree button. If you agree with the License Agreement, click “I Agree” to continue the installation.

Figure 2-3: End-user License Agreement



6. The next screen allows you to specify the location of the installed files. You can accept the default location or specify a new location in the Destination Folder entry field. Click **Next** to continue the installation.

Figure 2-4: Install Location

Choose Install Location

Choose the folder in which to install BDNA Data Platform.

Setup will install BDNA Data Platform in the following folder. To install in a different folder, click Browse and select another folder. Click Next to continue.

Destination Folder

C:\Program Files\BDNA\Data Platform

Browse...

Space required: 3.0GB
Space available: 66.3GB

- BDNA Data Platform -

< Back Next > Cancel

7. The next screen is the Prerequisites dialog. It shows you the prerequisite software that is loaded by the installer. The installer will download any prerequisites that you do not already have installed.

Figure 2-5: Prerequisites

Prerequisites
Setup installs the required prerequisites as shown below.

Select the Database type.

☒ Existing SQL Server ☐ Existing Oracle

Windows Installer 4.5 Redistributable (Installed)
Microsoft .NET Framework 4.5.1 or greater (Installed)
Microsoft SQL Server 2014 Feature Pack (Installed)

Select the Web Server.

☒ Existing IIS ☐ IIS Express

Microsoft Internet Information Services (IIS) 8.5 (Installed)

- BDNA Data Platform -

< Back Next Cancel

- In the Prerequisites dialog, you can choose your existing SQL Server or Oracle instance.



Note • If you want to change to an Oracle database, you must uninstall and reinstall the Normalize server.

- If you choose your existing SQL Server or Oracle instance, you will be asked for connection information in the configuration portion of the install process.
 - Also in the Prerequisites dialog, you can choose to have IIS Express installed by default, or you can choose your existing IIS instance. If you choose your existing IIS instance, you will be asked for connection information in the configuration portion of the install process.
8. Click **Next** to open a ready status dialog.

9. The next screen prompts you to proceed with the installation. Clicking **Install** will immediately begin the download and installation of all prerequisites.

Figure 2-6: Ready to install

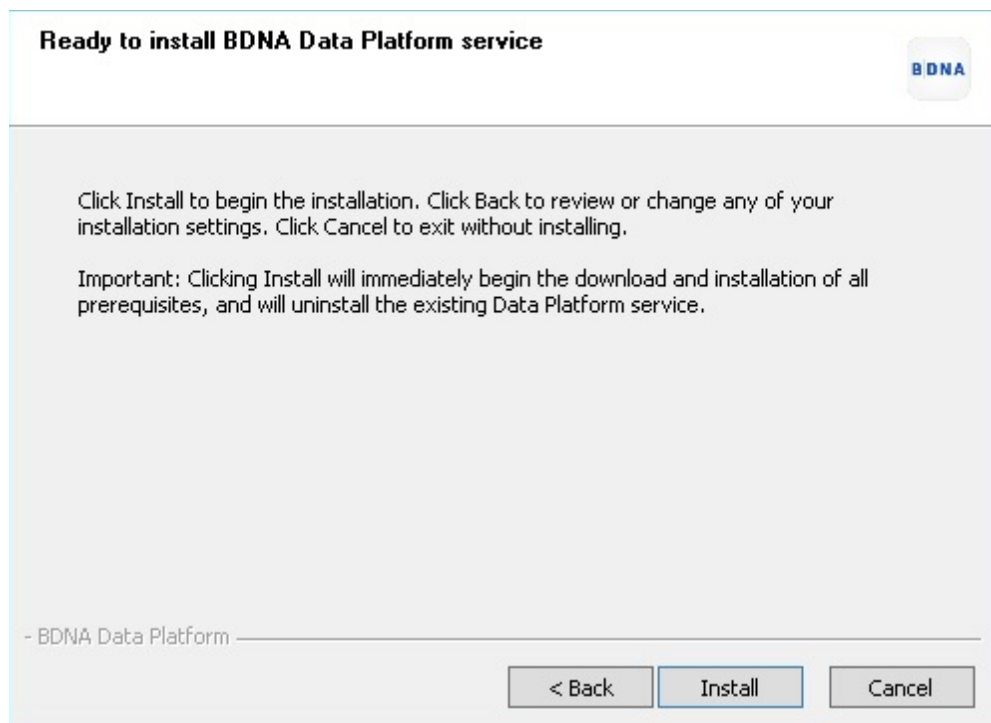
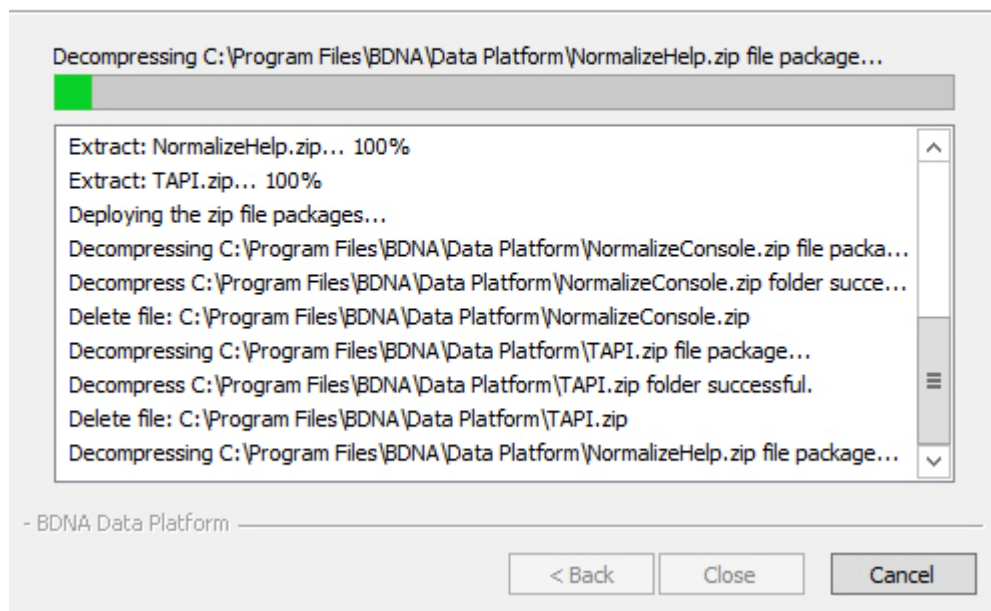


Figure 2-7: Install Progress Indicator

Installing

Please wait while BDNA Data Platform is being installed.



10. When the install portion of the process is complete, the BDNA Data Platform Configuration Wizard launches automatically. Proceed to [Chapter 3, "](#) for instructions on configuring BDNA Data Platform.

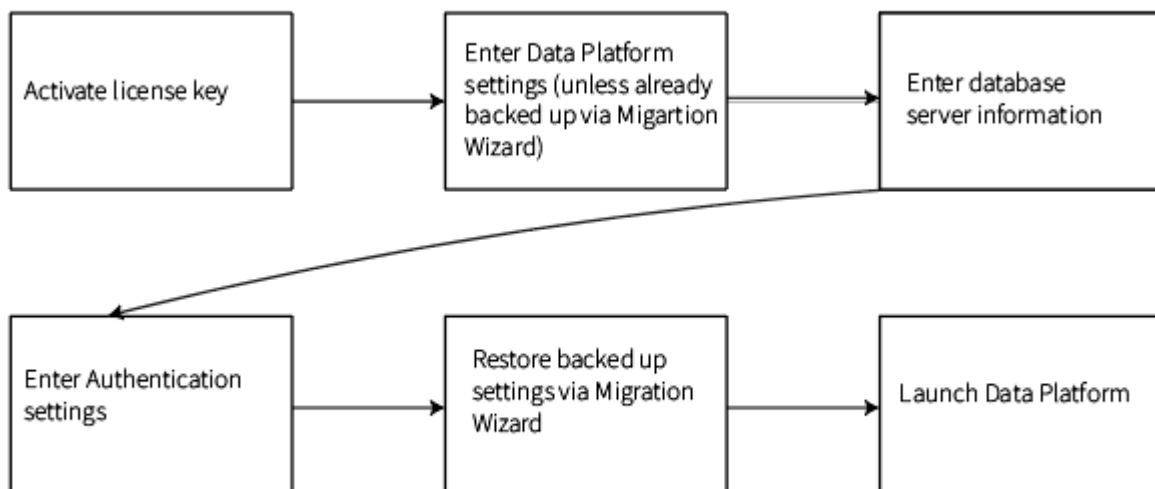
Configuring the BDNA Data Platform

About Chapter 3

When the installer finishes downloading and installing all the necessary software packages, the Configuration Wizard takes over the installation process. The sections that follow contain step-by-step instructions for:

- “Proceeding Step-by-Step through the Configuration Wizard”

Figure 3-1: Configuration Wizard Workflow



Configuration Wizard

The Configuration Wizard launches immediately after the initial installation is completed. The Configuration Wizard guides you step-by-step through the configuration of BDNA Data Platform.



Note • For subsequent re-configurations following an initial installation, you can proceed directly to the Configuration Wizard. Start the wizard from the Windows Start menu, or locate the `ConfigurationWizard.exe` file in the

BDNA\BDNA Data Platform\Bin installation folder. Double-click the `ConfigurationWizard.exe` file to launch the Configuration Wizard.



Note • For information on security requirements for installation and configuration, refer to [Appendix D, “”](#)

Table shows you what information/input you will need to provide, depending on which configuration path you choose.

Table 3-1 • Configuring BDNA Data Platform

Configuration Step	Description
1. Register license key.	Enter your license key or download a trial key.
2. Download and install catalog.	Download the catalog, or enter the location of a previously downloaded catalog.
3. Select a database option.	Applies only to creating a new BDNA Data Platform database or using an existing database.
4. Specify database information.	You must provide connection information for an existing or new database. Applies only to creating a new database or using an existing one.
5. Specify authentication type	Local user or AD/LDAP. If AD/LDAP, authentication settings dialog opens. Enter AD/LDAP settings.
6. Complete the installation and open the BDNA Data Platform Administration Console.	The Administration Console opens automatically after configuration is finished.

Proceeding Step-by-Step through the Configuration Wizard

After the initial installation is complete, the Configuration Wizard launches automatically. You can also launch the wizard at a later time from the Windows Start menu. Alternatively, you can locate the `ConfigurationWizard.exe` file in the BDNA\BDNA Data Platform\Bin installation folder, and double-click the `ConfigurationWizard.exe` file to launch the Configuration Wizard.



Task **To configure BDNA Data Platform using the Configuration Wizard:**

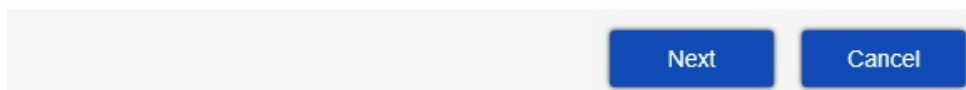
1. The first screen you see is the Welcome screen, which lists the tasks you will complete during the Configuration Wizard.

Figure 3-2: Welcome screen

Welcome to the BDNA Data Platform Configuration Wizard.

You will be able to complete the following tasks:

- Register your license.
- Download and install Technopedia
- Configure database server information
- Configure authentication
- Configure Normalize for CM (optional)



2. The next screen you see is the Activation Key screen. Enter your Company Name and Activation Key, and then click **Next** to activate your key and proceed with the installation.

Figure 3-3: Activation Key dialog

Activation Key

Enter your Company Name and Activation Key or request a free trial key.

Company Name:

Activation Key:

[Request a Free Trial Key.](#)

Previous

Next

Cancel

3. Enter your Data Platform settings or simply use the defaults already preselected, and click Next.
4. The Configuration Wizard opens a dialog in which you select database and IIS options.
Select one of these database options:
 - Create a new BDNA schema in an existing SQL Server instance (see [Figure](#)), or an existing Oracle instance (see [Figure](#))
 - Use an existing BDNA schemaSelect one of these IIS options: (available IIS options will vary depending on options selected during setup.)
 - Use Native IIS: (Select Web Site)
 - Use dedicated Normalize IIS Express on port: (Select Port number)



Note • The “Create a new BDNA Schema...” option requires two users: a DBA user that creates the databases, and a service user that runs the BDNA Data Platform service. We recommend using a “no expiration password” if you are using Windows Authentication.

Figure 3-4: Data Platform Settings

Data Platform Settings

Select the schema/database and IIS settings to be used by BDNA Data Platform.

Schema/Database

Select schema/database:

☒ Create a new BDNA schema in an existing SQL Server instance.

☐ Use an existing BDNA schema

IIS Page Settings

Select IIS services for Administration Console:

☒ Use Native IIS:

Default Web Site ▼

☐ Use dedicated IIS Express on port:

8080

Previous

Next

Cancel

5. On the Database server information screen, enter your server name and user (domain/password) information. You may select the “Test Connection” option if you wish to test that your settings work before committing them. When ready, click Next.

Figure 3-5: Database server information

Database server information.

Enter your database server information. (You must have dba permissions to create the BDNA database.) Click Test Connection to verify the connection.

The screenshot shows a configuration window titled "Microsoft SQL Server". It contains the following fields and options:

- Server Name:** A text input field with a red asterisk indicating it is required.
- Database Name:** A text input field containing the value "BDNA".
- Authentication:** Two radio buttons: "Windows Authentication" (selected) and "SQL Authentication".
- DBA Windows Account:** A section containing:
 - ☐ Use current logon user
 - User (domain\username):** A text input field with a red asterisk.
 - Password:** A text input field with a red asterisk.
- BDNA Data Platform Windows User:** A section containing:
 - User (domain\username):** A text input field with a red asterisk.
 - Password:** A text input field with a red asterisk.
- Test Connection:** A button located at the bottom right of the form.

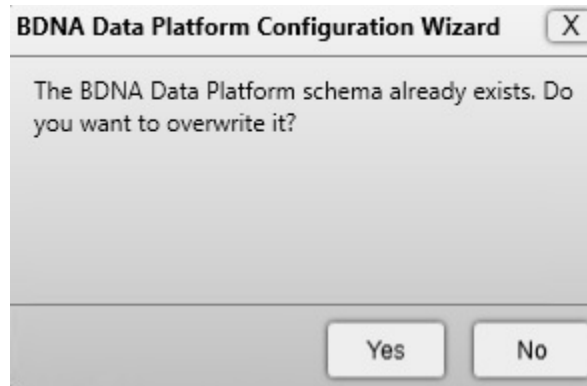
Previous

Next

Cancel

6. You may be prompted to overwrite an existing schema if one already exists. Click 'Yes' to proceed.

Figure 3-6: BDNA Schema



Note • If a DBA user cannot use the standard setup wizard, select “Use an Existing Schema” in order to install Normalize. Then continue to install Normalize as per usual.

7. If the Catalog has not been downloaded and installed, the next screen prompts you to download and install the catalog. Click **Download Catalog File** to download a new catalog file, or click **Browse** to locate a catalog file that has already been downloaded.

If you are using a system that does not have Internet access, you can download the catalog on a system that has Internet access, then copy the downloaded catalog to the Data Platform installation server. Click the question mark on the Catalog Download dialog to obtain the URL for locating and downloading the catalog.

If you choose to download the catalog file using Internet Explorer, you may see the error message, “Your current security settings do not allow this file to be downloaded.” To enable the download, use the following procedure to change your security settings:

- a. Launch Internet Explorer.
- b. Select **Tools -> Internet Options** from the menu bar.
- c. Go to the Security tab.
- d. Select **Trusted sites** under “Select a zone to view or change security settings.”
- e. Click the **Sites** button.
- f. Under “Add this website to the zone,” enter “http://tus50.bdna.com.” Click **Close**.
- g. Click **OK** to accept the changes.
- h. Download the partial catalog from Internet Explorer.

8. Click **Next** in the Catalog Download dialog.

Figure 3-7: Catalog Download

Catalog Download

Download and install the Technopedia catalog. This is a prerequisite for installation of the BDNA Data Platform.

Download Catalog File

?

Install Technopedia catalog from a local path

Browse


Previous

Next

Cancel

Field	Definition
Database Name	Name assigned to the database (default BDNA).
Windows Authentication (Windows Authentication is only available with SQL Server.)	<p>Method of authenticating to the database server. If you select this option, specify the following.</p> <p>DBA Windows Account (required only for a new database). This is the user who can create the BDNA database schema.</p> <ul style="list-style-type: none"> ● Use current logon user: Check to specify the user who is currently logged in as the database administrator. ● User: Username for the database administrator in the format <code>domain\username</code>. ● Password: Password for the database administrator. <p>BDNA Data Platform Windows User. This user can run Normalize processes but does not need the ability to create a new database schema.</p> <ul style="list-style-type: none"> ● User: Username for the BDNA Data Platform user (<code>domain\username</code>). ● Password: Password for the BDNA Data Platform user.
SQL Authentication	<p>Method of authenticating to the database server. If you select this option, specify the following:</p> <p>SQL Server DBA User (required only for a new database). This is the user who can create the BDNA database schema.</p> <ul style="list-style-type: none"> ● DBA User: Username for the database administrator. ● DBA Password: Password for the database administrator. <p>BDNA Data Platform User. This user can run BDNA Data Platform processes but does not need the ability to create a new database schema.</p> <ul style="list-style-type: none"> ● User: Username for the BDNA Data Platform user. ● Password: Password for the BDNA Data Platform user. ● Confirm Password: Verification of the user password (only required for a new database).
Oracle Authentication	<p>Method of authenticating to the database server. If you select this option, specify the following.</p> <p>Oracle DBA User (required only for a new database). This is the user who can create the BDNA database schema.</p> <ul style="list-style-type: none"> ● DBA User: Username for the database administrator. ● DBA Password: Password for the database administrator. <p>BDNA Data Platform Database User. This user can run BDNA Data Platform processes but does not need the ability to create a new database schema.</p> <ul style="list-style-type: none"> ● User: Username for the BDNA Data Platform user. ● Password: Password for the BDNA Data Platform user.

Table 3-2 • Use existing database fields and definitions

Field	Definition
Database Name	Name assigned to the database (default BDNA).
Windows Authentication (Windows Authentication is only available with SQL Server.)	<p>Method of authenticating to the database server. If you select this option, specify the following.</p> <p>BDNA Data Platform Windows User. This user can run BDNA Data Platform processes but does not need the ability to create a new database schema.</p> <ul style="list-style-type: none"> User: Username for the BDNA Data Platform user. Password: Password for the BDNA Data Platform user.
SQL Server Authentication	<p>Method of authenticating to the database server. If you select this option, specify the following:</p> <p>BDNA Data Platform Database User. This user can run BDNA Data Platform processes but does not need the ability to create a new database schema.</p> <ul style="list-style-type: none"> User: Username for the BDNA Data Platform user. Password: Password for the BDNA Data Platform user. Confirm Password: Verification of the user password.
Oracle Authentication	<p>Method of authenticating to the database server. If you select this option, specify the following.</p> <p>Oracle DBA User (required only for a new database). This is the user who can create the BDNA database schema.</p> <ul style="list-style-type: none"> DBA User: Username for the database administrator. DBA Password: Password for the database administrator. <p>BDNA Data Platform Database User. This user can run BDNA Data Platform processes but does not need the ability to create a new database schema.</p> <ul style="list-style-type: none"> User: Username for the BDNA Data Platform user. Password: Password for the BDNA Data Platform user.
Generate Scripts	<p>Generates scripts that can be used by a DBA to create the database schema, users, and in the case of Oracle, tablespaces. To enable the Generate Script button, you must enter connection information for the server on which the database is located, and the password you use for BDNA Data Platform authentication. Clicking Generate Scripts opens a Notepad file that contains a script which can be used by a DBA to create the database schema, users, and tablespaces.</p> <p>Generate Scripts creates only the db schema, users, and, for Oracle, the tablespace. The remainder of the objects (table, proc stock, etc.) are created by the BDNA Data Platform installer</p>  <p>Note • The password you enter in the Use existing database dialog is used for creating the database.</p>

9. The next screen that opens is the Authentication Settings dialog. You can select Local users or AD/LDAP. If you select Local user, the currently logged-on user will be the default login account for the Data Platform Administration Guide. If you select AD/LDAP, the Authentication Settings dialog opens when you click Next. The Bind Account you enter in Authentication Settings will be the default login account for the Data Platform Administration Console. If you select Local users, please proceed to **step 11**.



Caution • If you plan to install the **BDNA User Console** with the **BDNA Data Platform**, there is a known limitation regarding the User Console Local users authentication mechanism. Although Local users authentication mode supports mapping of **users** to BDNA roles, it does not support mapping of **groups** to BDNA roles. To map groups to BDNA roles, you must select AD/LDAP authentication mode instead.

Figure 3-8: Authentication Settings

Authentication Settings

☒ Local users

Select this option to grant access to all listed local users.
If you select this option, the currently logged-on user will be the default login account for the Data Platform Administrator Console.

☐ AD/LDAP

Select this option to grant access using AD/LDAP.
If you select this option, the Bind Account you enter in Authentication settings will be the default login account for the Data Platform Administrator Console.

Previous

Next

Cancel

If you selected AD/LDAP, the next screen that opens is the Authentication Settings dialog.

A detailed explanation of the settings required in the Authentication Settings dialog follows:

Active Directory drop-down:

Select Active Directory or LDAP

Bind Account panel:

Username and Password —Enter Username and Password for the user that has read access to the AD/LDAP tree and directories specified containing users and groups.

Directory Connection panel:

Provider URL—Server name and port in the format `abc.domain.com:389`.

SSL—Select if using SSL to encrypt communication between BDNA application servers.

Certificate—If using SSL, click to import a valid certificate so BDNA application servers can communicate via secure LDAP to LDAP/AD server.

Base DN—Used in conjunction with the Bind Account as the binding UserDN. It is also used to populate the Search Base (shown below).

User Search panel:

Search Base—Base directory within the AD/LDAP tree that contains all users for the BDNA Application. If users are located across several branches, this must be as inclusive as possible (e.g., the base DN).

User Attribute—This is the attribute name your LDAP/AD implementation uses for the user id and what will be passed for authentication (e.g., this is the attribute name for the field that users will use to log in with correct?)

Search Filter—Specify which users result from a search. If the LDAP directory is extensive, enter the specific group or groups that the necessary users belong to. (Wild card searching is not available.)

Authorities Search:

Search Base—Base directory within the AD/LDAP tree that contains all of the groups for the BDNA Application. If groups are located across several branches, this must be as inclusive as possible (e.g., the base DN).

Group Attribute—Attribute in LDAP that has group name.

Search Filter—Specify which groups result from a search and assign roles to the groups. (Wild card searching is not available.)

Populator:

Search Base—Base directory within the AD/LDAP tree that contains all of the groups for use in role assignments within the BDNA application.

Search Filter—Searches for the attribute name used in LDAP for group members.

Test User—Click to test if connection information is valid.

Convert to Upper Case—Indicates whether or not retrieved role names are converted to uppercase. Useful when Group Search and User Search are on different systems.

Subtree—Indicates whether or not the search includes the current object and all children. If not selected, the search includes the current object only.















o

10. Click **Next** to proceed with the installation. In the screen that opens, click **Execute**. The installation begins and the screen shows the progress.

Figure 3-9: Configuration Progress

Configuration Progress

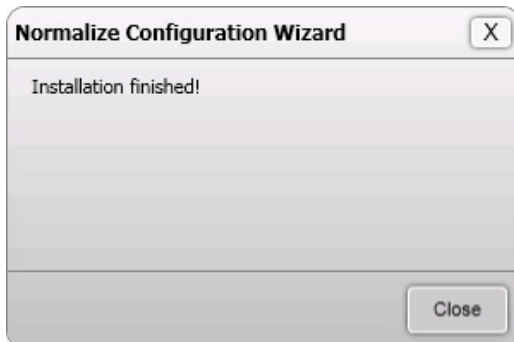
The table below shows the progress of the installation. Click **Execute** to begin.

	Step	Description	Status
	1	Stop BDNA Data Platform Service.	
	2	Begin initialization.	
	3	Create BDNA schema.	
	4	Create BDNA_PUBLISH schema.	
	5	Import Normalize objects.	
	6	Import Publish objects.	
	7	Import configurations.	
	8	Load Subscription.	
	9	Load Catalog.	
	10	Post processing.	
	11	Deploy BDNA Admin Console IIS.	
	12	Configure Authority.	
	13	Backup configuration to Database.	
	14	Start BDNA Data Platform Service.	



11. When the installation is complete, a confirmation message appears. Click **Close** to close the message and open the BDNA Data Platform Administration Console in a browser. [Figure](#) shows the BDNA Data Platform console.

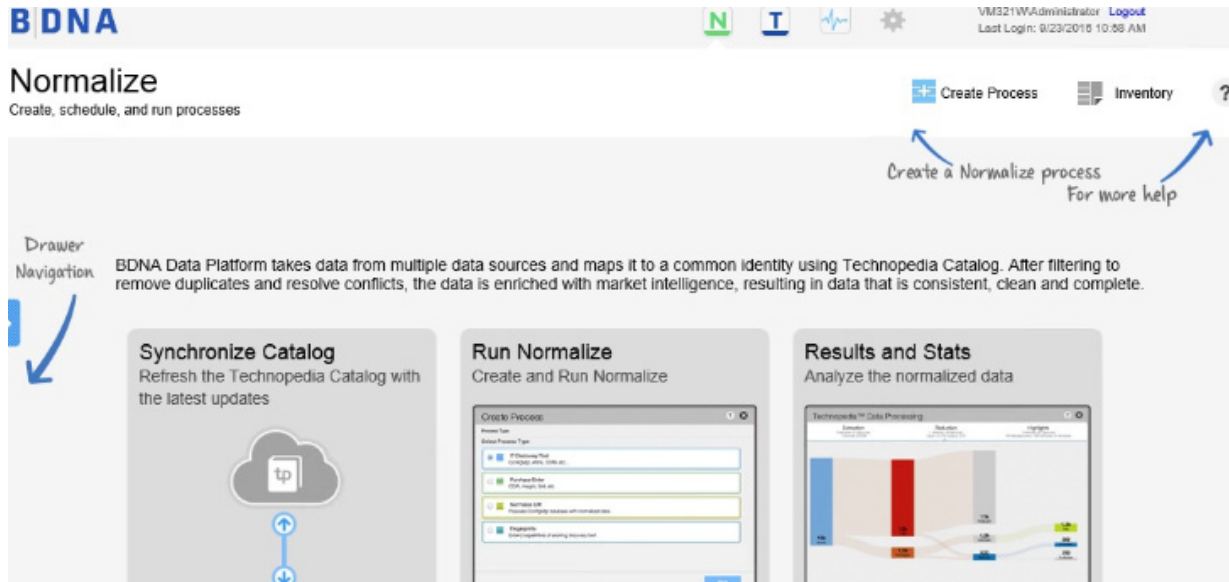
Figure 3-10: Installation finished





Note • The BDNA Data Platform Administration Console requires Windows authentication for login. By default, it will only open for the user who installed the BDNA Data Platform using their Windows username and password. See the BDNA Data Platform Administrator Guide for more information about granting console access to a new user.

Figure 3-11: Administration Console



BDNA Normalize Migration Wizard Process

The BDNA Normalize Migration Wizard Process is intended for customers who want to upgrade the Data Platform from a previous version (i.e. 5.3x or 5.4x) to the newest version of 5.5.0. The BDNA Migration Tool allows users to migrate existing settings and Private Catalog Data to their new 5.5.0 installation. These settings include Normalize configurations, integration setup, and Analyze custom reports. This migration method is used in lieu of the older patch set upgrade method. This is by design. It provides a clean way to migrate to 5.5.0 without having to go through a lengthy patch set upgrade.



Note • If 5.5.0 is installed on the same server as the old version, be sure to perform the backup before uninstalling the old version.



Caution • Existing Normalize data will not be migrated. It must be removed during 5.5.0 installation. All Data Platform and User Console configuration settings will be preserved.

There are two parts to the BDNA Normalize Migration Wizard: **Backup** and **Restore**. These operations allow you to backup settings on your previous version of the Data Platform and then restore those settings in your latest version of 5.5.0. The Backup Phase must be implemented *before* installing a fresh version of 5.5.0. The Restore Phase occurs *after* completing a fresh install of 5.5.0. At a high-level, upgrading your existing version of the Data Platform to 5.5.0 requires you to **backup**, **install**, and **restore** your settings as follows:

1. Using the BDNA Normalize Migration Wizard, **backup** your settings on your existing version of the Data Platform (i.e. 5.3x or 5.4x).
2. Completely **install** the new 5.5.0 Data Platform and complete the configuration wizard (as outlined above in Chapter 2 “Installing the BDNA Data Platform” and Chapter 3 “Configuring the BDNA Data Platform”).
3. Using the BDNA Normalize Migration Wizard, **restore** your previous settings in your newest version of the 5.5.0 Data Platform.

Migration Wizard Workflow

Backup Phase

The BDNA Normalize Migration Wizard allows customers to backup their settings on their previous version of the Data Platform (i.e. 5.3x or 5.4x) before upgrading to 5.5.0 via a fresh install. Below is a list of the many types of Data Platform settings that will be backed up when using the BDNA Normalize Migration Wizard:

- Normalize Settings, including history, metering, and output format.
- Technopedia Settings, including synchronization, web server, and lifecycle provisions.



Note • If your old Normalize version is deployed with a distributed configuration where the Data Platform and User Console are configured on separate systems, you will need to run the backup on each system separately then copy the backup files to the new environment.

When performing the Backup process during the Migration Wizard process, the following file types may contain some sensitive data:

- Data source files (IT sources, PO, and mashup)
- Norm.Configuration.config configuration file

If you wish to migrate the private catalog and private mapping, first create a backup from your 5.0x, 5.1x, or 5.2x setup that has private catalog. See the “[Restore Phase](#)” process below to see how to restore your private catalog and private mapping after the Backup processes.

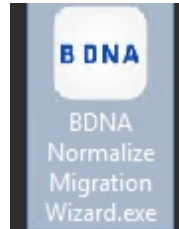


Note • Before starting backup, please ensure that there are no running Normalize processes or catalog syncs in progress.

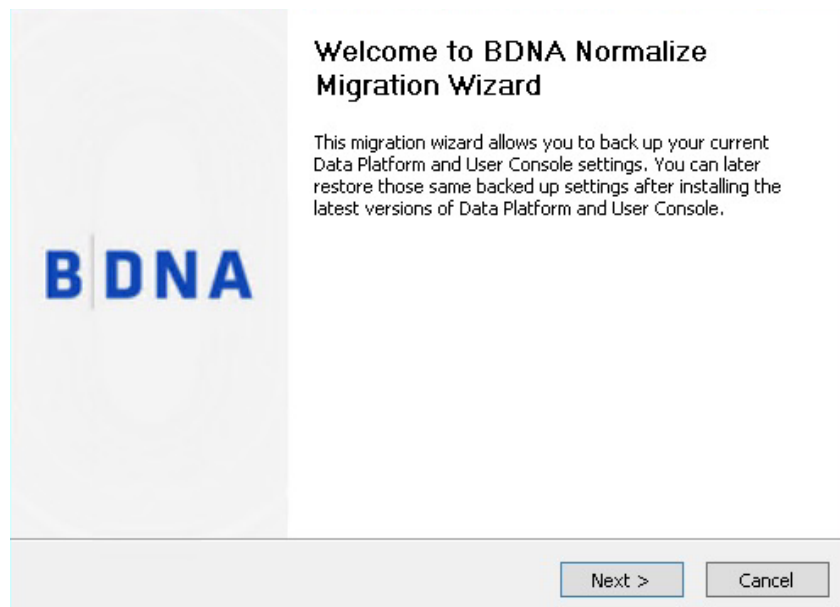
The Migration Wizard must be copied to the local file system on which you wish to perform your backup. If restoring to a different system than the one being backed up, the backup output folder must first be copied to the local file system of the target system on which it will eventually be restored.

To begin the Backup Phase of the installation process, please see the following steps:

1. Double-click the BDNA Normalize Migration Wizard icon on your desktop after downloading it from (<https://bdna.service-now.com/support/downloads.do>) .



2. Once the welcome screen appears, click Next.



3. On the BDNA Migration Options screen, select “Backup BDNA settings,” then select the checkboxes for BDNA Data Platform and/or BDNA User Console. Click Next.



Note • Under the Data Platform and User Console checkboxes, the last version number (i.e. 5.0x, 5.1x, 5.2x) must be showing and the status must register as “Running” in order to proceed.

BDNA Migration Options

Select the Backup or Restore options. The component service must be running before it can be selected. At least one component needs to be selected on this page.



☒ **Backup BDNA settings**

☐ **Restore BDNA settings**

Local BDNA Components

<input checked="" type="checkbox"/> BDNA Data Platform
Version: 5.2.0.
Status: Running
<input checked="" type="checkbox"/> BDNA User Console
Version: 5.2.0.
Status: Running

- BDNA Normalize Migration Wizard -

< Back Next Cancel

4. On the Database Information page, host, schema, and user information will be displayed. Click Next.

Database Information

The following displays local BDNA server database information.



Database Type: EXISTING_MSSQL

DB Information

DB Host: localhost

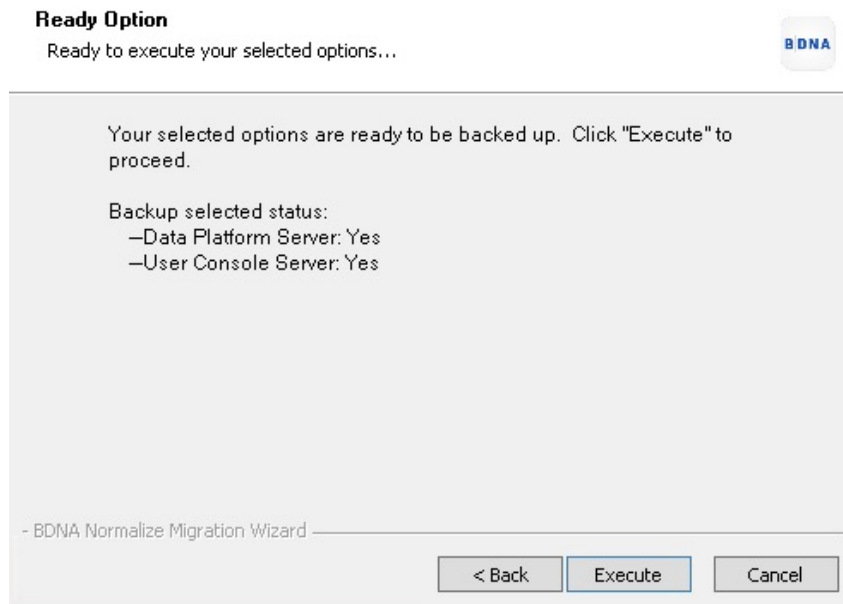
BDNA Schema: BDNA **Publish Schema:** BDNA_PUBLISH

BDNA User: BDNA **Publish User:** BDNA_PUBLISH

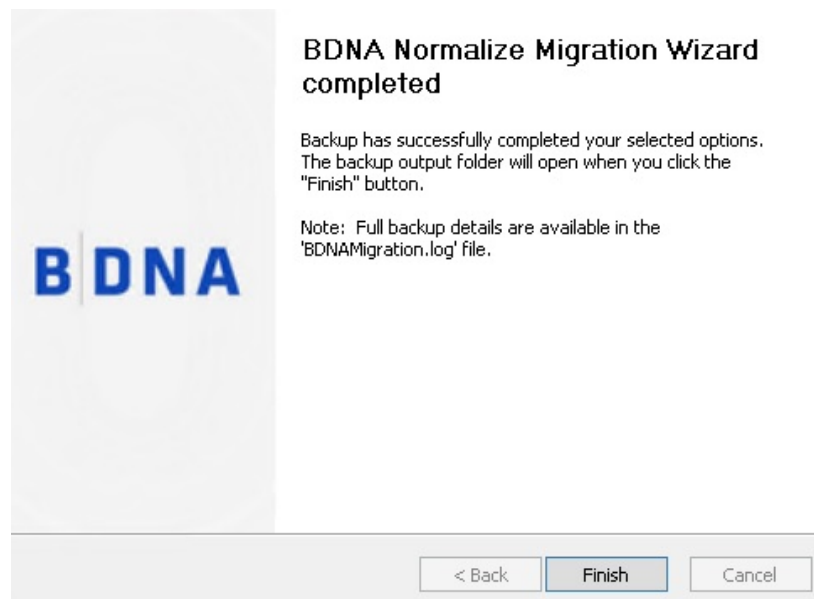
- BDNA Normalize Migration Wizard -

< Back Next Cancel

5. On the Ready page, if you are satisfied with your selections, please click Execute.



6. Click Finish when done.



7. After clicking the Finish button, the backup output folder will open. Copy the backup output folder to the new environment for the Restore process.

Restore Phase

The requirement for the Restore process is that you must start from a new 5.5.0 installation. This includes but is not limit to:

- No existing Normalize process running.
- No private catalog data created or previously restored.
- No custom reports.



Note • If you have TPC data on a 5.5.0 instance or previously restored private data on 5.5.0, you cannot restore TPC data from another source again.

If you want to restore the security settings and report ACLs, make sure to use the exact same Authentication mode when running a migration from an earlier version (i.e. 5.3.x) to 5.5. Use the same Binding user name and Base DN setting if using LDAP AD (if the user is using AD). After restoring the shared/saved reports and reports ACLs, reports may not show up in User Console until you re-run normalize task. When restoring reports ACL, make sure the Migration Tool restore has been performed on the Data Platform first.

For Windows Authentication backup, the restore can only be done on the same server from which the backup was created.

When restoring private catalog, make sure the User Console service is up and running. Also make sure to do the following:

- Restore the backup for your private catalog onto the new 5.5.0 system you have installed and wait for the search index to build.
- Run the Technopedia sync (without the sync, private data won't be visible in Technopedia reports).
- Rerun Normalize tasks (required if you have private mapping).



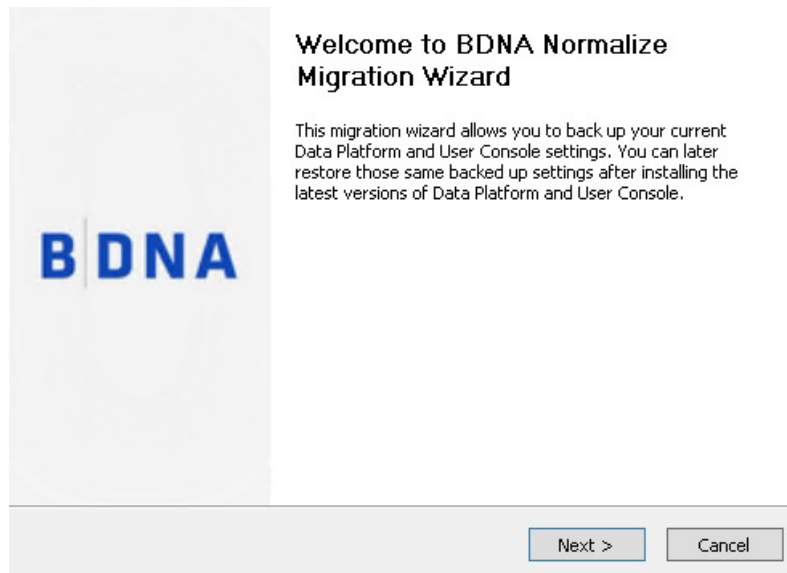
Note • If the catalog is already updated to the latest version at the time of the migration and Technopedia sync does not populate data in Technopedia reports, wait 24 hours and do a sync again in order to see private data in Technopedia reports. A quicker workaround to this known issue is also to use the Normalize command line to force the Analyze ETL as follows:
`<Data_Platform_Install_Directory>\Bin\NormalizeCMD.exe -ETLCATALOG.`

To begin the Restore Phase of the installation process, please see the following steps:

1. Double-click the BDNA Normalize Migration Wizard icon on your desktop.



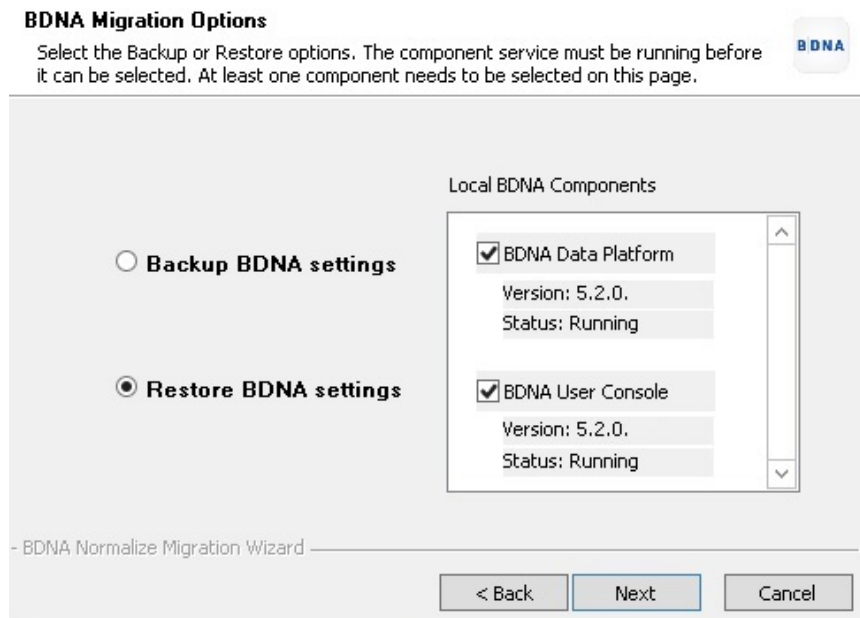
2. Once the welcome screen appears, click Next.



3. On the BDNA Migration Options screen, select “Restore BDNA settings,” then select the checkboxes for BDNA Data Platform and/or BDNA User Console. Click Next.



Note • Under the Data Platform and User Console checkboxes, the last version number (i.e. 5.2x, 5.3x, 5.4x) must be showing and the status must register as “Running” in order to proceed.



4. On the Restore BDNA settings page, browse for the Backup Output Folder you copied from the Backup process, then select the checkboxes of the setting types you eventually want restored. Click Next.

Restore BDNA settings

Prepare to restore your desired BDNA settings.

BDNA

Please select the directory that holds your backup files.

BDNA Data Platform Server:

☐ Normalization process settings

☐ Synchronize settings

☐ Security settings

☐ Private catalog settings

BDNA User Console Server:

☐ Custom reports

☐ Report ACL

- BDNA Normalize Migration Wizard -

5. On the “Ready Option” page select ‘Execute’ when ready.

Summary

Ready to execute your selected options...

BDNA

Restore selected status:

Data Platform Server:

- Normalization process settings: Yes
- Synchronize settings: Yes
- Security settings: Yes
- Private catalog settings: No

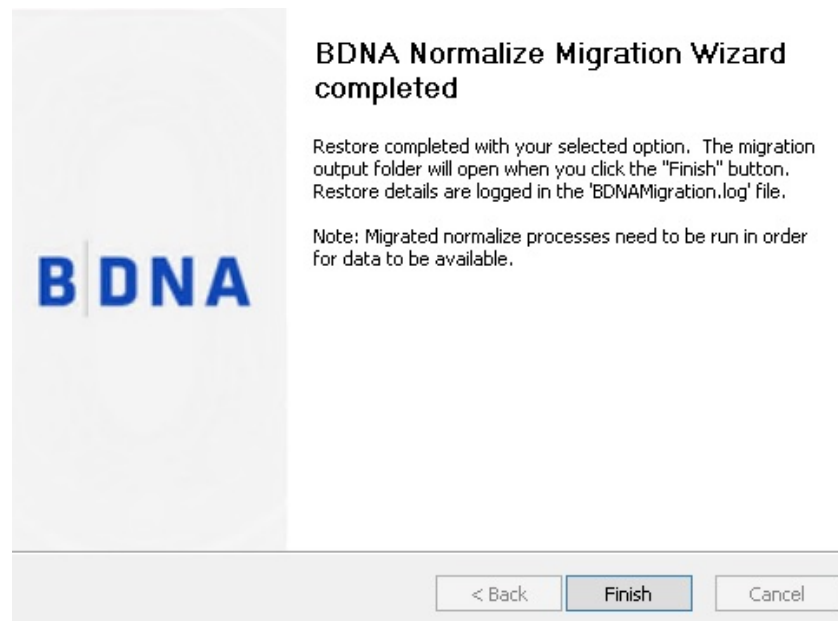
User Console Server:

- Custom reports: No
- Report ACL: No

Note: Restore will replace all existing settings listed above with settings from the backup. Click "Execute" to proceed.

- BDNA Normalize Migration Wizard -

6. Click Finish when done.



Note • After the migration, Normalize jobs must be rerun in order to produce the latest data.

Appendix A - Offline Installation of Prerequisites

About Appendix A

For most installations, the BDNA Data Platform installer will download all necessary prerequisite software from the Internet. To accomplish this, the installer must have Internet access. If Internet access is not available, the installation process will abort.

If you do not have Internet access, you can download the necessary prerequisite software on a different system, and then copy it onto the Normalize server. This appendix lists all necessary prerequisite software and their offline locations.

Downloading and Installing Prerequisite Software

All prerequisites are located on the Technopedia Update Services website. Here are the links to the prerequisites:

IIS

IIS Express

https://tus50.bdna.com/DownloadComponent.aspx?CName=URL_iisexpress_8_0_RTM_x64_en-US.msi

URL Scanner with IIS

BDNA strongly recommends that customers **do not** deploy a URL scanner on a system where the Data Platform or User Console will be configured. Failure to observe this precaution may result in incompatibility issues with verbs (such as DELETE or PUT), sequences (such as colons and percentages), URL paths, and content lengths.

Microsoft SQL Server

Microsoft System CLR Types for SQL Server 2014

https://tus50.bdna.com/DownloadComponent.aspx?CName=URL_SQL2014_SQLSysClrTypes_x64_ENU.msi

Microsoft SQL Server 2014 Shared Management Objects

https://tus50.bdna.com/DownloadComponent.aspx?CName=URL_SQL2014_SharedManagementObjects_x64_ENU.msi

Microsoft SQL Server 2012 Native Client

https://tus50.bdna.com/DownloadComponent.aspx?CName=URL_SQL2014_sqlIncli_x64_ENU.msi

Oracle

64-bit ODAC 12c Release 3 (12.1.0.2.1) Xcopy for Windows x64

https://tus50.bdna.com/DownloadComponent.aspx?CName=URL_ODAC121021Xcopy_x64.zip

ODP.NET, Managed Driver xcopy

https://tus50.bdna.com/DownloadComponent.aspx?CName=URL_ODP.NET_Managed121020.zip

Instant Client Package - SQL*Plus x64

https://tus50.bdna.com/DownloadComponent.aspx?CName=URL_instantclient-sqlplus-windows.x64-12.1.0.2.0.zip

If existing Oracle database is selected

https://tus50.bdna.com/DownloadComponent.aspx?CName=URL_vc2010redist_x64.exe

Appendix B - Uninstalling the BDNA Data Platform 5.5

About Appendix B

This appendix provides instructions for uninstalling BDNA Data Platform from the server automatically.

Windows Account Privileges

On the server running BDNA Data Platform Setup.exe, the user must be a member of the following group:

- Administrators

Uninstalling the BDNA Data Platform Server



Task

To remove the BDNA Data Platform server from its install location:

1. Launch the Uninstaller for BDNA Data Platform: Start > Program Files > BDNA > BDNA Data Platform > Uninstall
2. If you selected SQL Server during the BDNA Data Platform installation process:
 - a. For Windows Authentication:
 1. Drop the two databases: (e.g., BDNA and BDNA_PUBLISH)
 - b. For SQL Authentication:
 2. Drop the two databases: (e.g., BDNA and BDNA_PUBLISH)
 3. Drop the two users: (e.g., BDNA and BDNA_PUBLISH)
3. If you installed SQL Server Express during the Normalize process:
 - c. Uninstall SQL Server Express using the 'Program and Features' of the 'Control Panel'
4. If you installed IIS Express during the Normalize process:
 - d. Uninstall 'IIS Express' using 'Program and Features' of 'Control Panel'

Removing All Other Files

Uninstalling BDNA Data Platform does not remove certain files that are used by both applications. These files include:

- ODP.net—located in \program files\Common files\ODP.NET

Appendix C - Security Requirements for the BDNA Data Platform

About Appendix C

This appendix lists the minimal security requirements for installing BDNA Data Platform.

Windows Account Privileges

User Who Runs BDNA Data Platform Setup

On the server running BDNA Data Platform setup, the user must be a member of the following group:

- Local administrators

Windows Service Account Privilege

- Interactive Login is required for the Windows Services that access the BDNA Data Platform database server

Creating a New BDNA Data Platform Database

The following options are available to create a new BDNA Data Platform Database:

SQL Server

If you choose the “Create new BDNA Data Platform database automatically” option during installation, the SQL login user account that you specify must have the privileges described in this section.

When using SQL authentication for creating the BDNA/Publish database, the SQL user must be granted the following SQL Server roles:

- dbcreator
- securityadmin
- public

When using Windows authentication (SQL Server only) for creating the BDNA/Publish database, the Windows user must be granted the following SQL Server roles:

- dbcreator
- public

Oracle

If you choose the “Create new BDNA Data Platform database automatically” option during installation, the Oracle login user account that you specify must have the privileges described in this section.

Ideally, DBA privileges are required to create a new user. In lieu of DBA privileges, the user you are connecting AS, should have the following minimum roles/privileges, using the ADMIN OPTION.

- SELECT_CATALOG_ROLE
- RESOURCE
- CONNECT
- EXECUTE_CATALOG_ROLE
- GATHER_SYSTEM_STATISTICS
- SELECT ANY DICTIONARY
- CREATE TABLESPACE
- DROP TABLESPACE
- CREATE VIEW
- QUERY REWRITE
- CREATE DATABASE LINK
- ALTER SESSION
- CREATE ANY TABLE
- CREATE USER
- DROP USER
- EXECUTE PRIVILEGE (for `sys.dbms_obfuscation_toolkit.md5` function)

Using an Existing BDNA Data Platform Database

SQL Server

If you choose “Use existing BDNA Data Platform database” option during installation, the SQL login user account that you specified must have the privileges described in this section.

For server roles settings, the user must be granted the following server-wide security privileges:

- public

For user mapping settings, the user must have the following database role membership for the BDNA and BDNA_PUBLISH database:

- db_owner
- public

Oracle

If you choose the “Use existing BDNA Data Platform database” option during installation, the existing user should have the following minimum roles/privileges, using the ADMIN OPTION.

- CONNECT
- RESOURCE
- CREATE VIEW
- QUERY REWRITE
- CREATE DATABASE LINK
- ALTER SESSION
- CREATE ANY TABLE
- SELECT ANY DICTIONARY
- EXECUTE PRIVILEGE (for `sys.dbms_obfuscation_toolkit.md5` function)

Creating the BDNA Database

dbcreator database rights are required to create the BDNA and BDNA_PUBLISH databases.

When using SQL authentication, the SQL login user must have the **securityadmin** server role to create the BDNA and BDNA_PUBLISH databases. In addition, grant the following access rights (using the admin option) to the SQL login user:

- Connect
- Resource
- Create view
- Query rewrite
- Create database link
- Alter session
- Create any table to \${PUB_CATALOG_USERNAME}

If BDNA Data Platform is installed on a different machine other than the BDNA database server, the database server instance port (usually port 1433) must be opened if the firewall is enabled.

Connecting to Existing BDNA Database

The credential must have **db_owner** database role membership for both BDNA and BDNA_PUBLISH databases.



Note • If BDNA Data Platform is installed on a different machine other than the BDNA database server, the BDNA database server instance port (typically port 1433 for SQL Server, or port 1521 for Oracle), must be opened if the firewall is enabled.

Appendix D - Setting Up a DB2 Extractor

About Appendix D

This appendix provides step-by-step instructions for enabling `Extractor.exe`, the standalone BDNA Data Platform Extractor extractor, to extract data from a DB2 database using the IBM Native Provider rather than the default MS OLEDB Provider.

Extracting DB2 Data

The process described here requires modification of the `Normalize DatabaseProvider.config` file using a text editor such as Notepad.



Task

To extract data from a DB2 database:

1. Download the standalone BDNA Data Platform Extractor, `BDNA_Normalize_Extractor_YYY_x64.zip`
2. Unzip the file.
3. Open the `DatabaseProvider.config` file in a text editor.
4. By default, the standard BDNA Data Platform Extractor uses the MS OLEDB Provider for DB2, as shown in [Figure , "DatabaseProvider.config with DB2 MS OLEDB Provider activated."](#) You must edit the `DatabaseProvider.config` file so that it uses the IBM Native Provider for DB2 instead.



Note • Both the MS OLEDB and the IBM Native Provider are included in the `DatabaseProvider.config` file. Only the MS OLEDB provider is activated by default.

```
<!-- DB2 MS OLEDB Provider -->
<Provider DBType="DB2"
    Invariant="System.Data.OleDb"
    ConnectionStringBuilder="BDNA.DAC.BDNAConnectionStringBuilder">
    <ConnectionString>
        <![CDATA[Provider=DB2OLEDB;Network Transport Library=TCPIP;Network Address=
    </ConnectionString>
    <NotInstall>
        <Message>
            <![CDATA[The Normalize server requires the installation of Microsoft ODBC
        </Message>
        <URL_X86><![CDATA[http://tus41.bdna.com/DownloadComponent.aspx?CName=URL
        <URL_X64><![CDATA[http://tus41.bdna.com/DownloadComponent.aspx?CName=URL
    </NotInstall>
</Provider>
```

Figure A-1: DatabaseProvider.config with DB2 MS OLEDB Provider activated

5. You can make the modification to DatabaseProvider.config simply by commenting out the DB2 MS OLEDB Provider section and un-commenting the DB2 IBM Native Provider section as shown in [Figure](#) ,
"DatabaseProvider.config with DB2 IBM Native Provider activated."

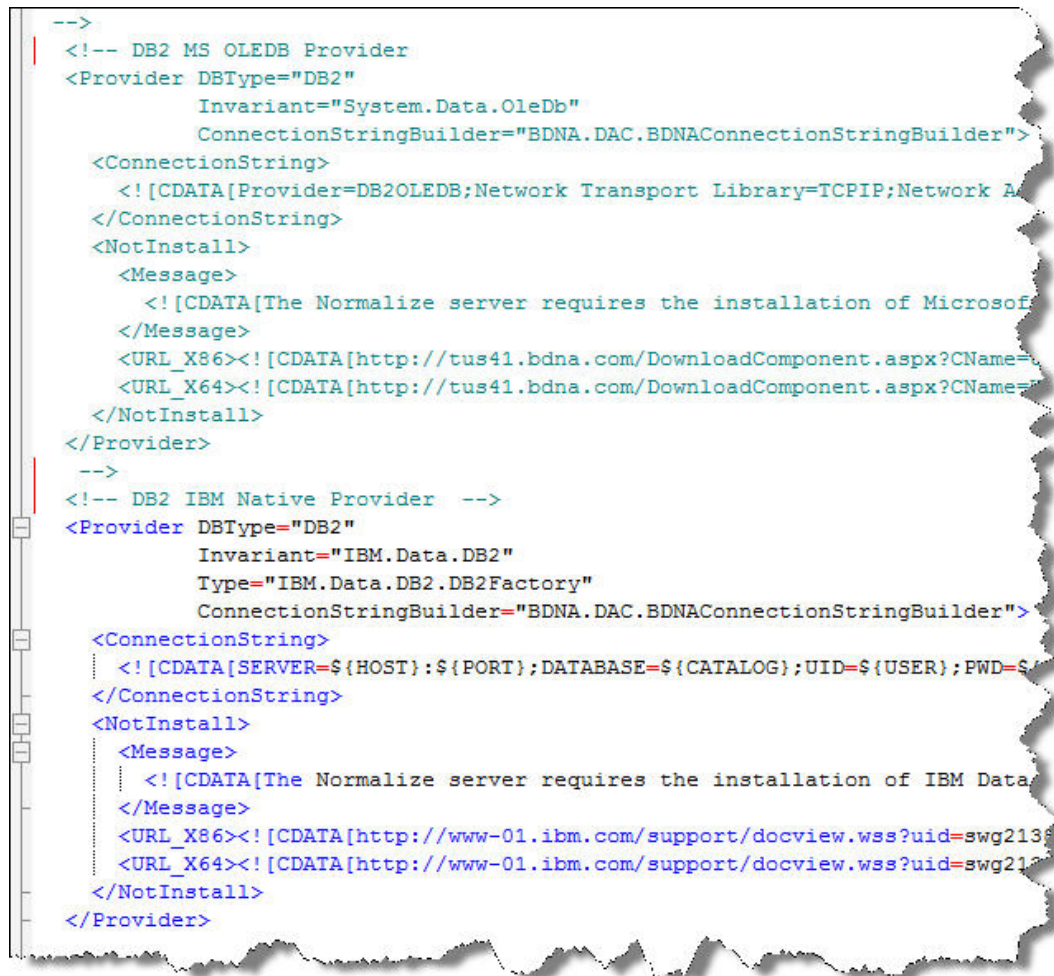


Figure A-2: DatabaseProvider.config with DB2 IBM Native Provider activated

6. Save the modified DatabasesaeProvider.config file.
7. Run the Extractor.exe, and re-try the connection to DB2. If you are able to connect successfully, the modification process is finished and you can proceed to [step 10](#).

If you see an error popup, as shown in [Figure](#) , "Extractor error," click OK and proceed to [step 8](#).

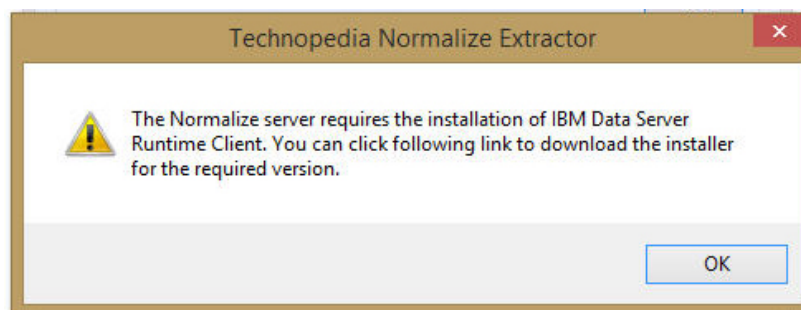


Figure A-3: Extractor error

- 8. If you need to install the IBM Data Server Runtime Client, use the link provided here: <http://www-01.ibm.com/support/docview.wss?uid=swg21385217>. Clicking the link opens the IBM Data Server Client Packages page.
- 9. On the IBM Data Server Client Packages page, click the IBM Data Server Runtime Client link.



Figure A-4: Link to IBM Data Server Runtime Client



Note • You are required to have an IBM ID to download the Data Server Runtime Client. First, select the appropriate download for your Normalize installation:

- **If you are running Normalize in 32-bit mode**—Select the IBM 32-bit Data Server Runtime Client
- **If you are running Normalize in 64-bit mode**—Select the IBM 64-bit Data Server Runtime Client

Then, download and install the IBM Data Server Runtime Client you selected.

- 10. Reboot your system if necessary, and re-launch the `Extractor.exe`.
- 11. Congratulations! You are now able to extract data from a DB2 database.



Note • If you encounter any additional problems, please contact BDNA Support.

Appendix E - Troubleshooting

About Appendix E

This appendix provides information about known issues in BDNA Data Platform. The information contained in this appendix provides a description of the behavior, and an explanation, solution, or workaround for the behavior.

BDNA Data Platform

The following list describes errors with descriptions:

Publish Step Fails Due to ERROR System.Exception: ORA-01403: no data found

Publish step returns error ORA-06512: at "BDNA_PUBLISH.PUBLISH_MATCHEDRESULTS_PKG", line 14595. This error can be traced to the Data Platform Configuration Wizard converting the DB schema name and/or user name to uppercase. The Configuration Wizard always converts username and schema name entries to uppercase, whether user input is lower or mixed case. BDNA recommends using uppercase only when entering this data in the Data Platform Configuration Wizard.

Running IT Process in Windows Environment Fails at ETL with Error '[ORA-00600:

This problem indicates a known Oracle internal bug specific to partitioned tables. Oracle has provided a patch for Oracle 12c on Linux, but as of the publish date of this document they have not yet provided a patch for Windows.

Data Platform initdb Fails with Error "Cannot load tapi web site"

This error may occur during the Data Platform Configuration Process. Typically, it occurs because ISAPI filter settings have not been removed properly during un-installation of a previous version of Normalize. If this error occurs, remove the ISAPI filter settings manually from IIS settings and re-run the Data Platform installation. The ISAPI settings will be restored during the Data Platform installation.

Upgrade from Normalize 5.0 to Data Platform 5.5 Fails on Existing Oracle Database

This error may occur during the upgrade process when your existing Oracle database contains insufficient tablespace to allow the BDNA databases to be created. BDNA recommends adding more tablespace using the following command:

```
ALTER TABLESPACE BDNA ADD DATAFILE '<file_path>\<file_name>.DBF' SIZE <n>G  
AUTOEXTEND ON MAXSIZE UNLIMITED;
```

For example:

BDNA DB:

```
ALTER TABLESPACE BDNA ADD DATAFILE 'C:\ORADATA\NORMALIZE_1307020913_03.DBF'  
SIZE 25G AUTOEXTEND ON MAXSIZE UNLIMITED;
```

Publish DB:

```
ALTER TABLESPACE BDNA_PUBLISH ADD DATAFILE  
'C:\ORADATA\BDNA_PUBLISH_1307020913_03.DBF' SIZE 25G AUTOEXTEND ON MAXSIZE  
UNLIMITED;
```

Normalize Upgrade Install Error (Oracle) ORA-01555

To avoid this error, modify the Oracle UNDO_RETENTION setting. This setting determines how long a query is kept in the UNDO segment. If this setting is low, the UNDO segment is overwritten, which results in ORA-01555.

The UNDO_RETENTION setting must be greater than the longest query (time) to be run by the system.

The following SQL query returns the current setting for UNDO_RETENTION.

```
select value as "undo_retention in secs"  
from v$parameter where name='undo_retention';
```

BDNA recommends setting the UNDO_RETENTION parameter to 180 minutes, using the following command:

```
ALTER SYSTEM SET UNDO_RETENTION = 10800 scope=both;
```



Note • BDNA also recommends the setting `UNDO_MANAGEMENT = AUTO`, which is the Oracle default.

IIS Shows 404.17 Error When Connecting to the Administrator Console

This error can be resolved in two steps. First, re-register .NET framework into IIS. Then, change two ASP.Net restrictions from “Not allowed” to “Allow”.



Task

To re-register .NET into IIS:

1. Open a command prompt with administrator privileges.
2. Type the command:

```
c:\Windows\Microsoft.NET\Framework\v4.0.30319\aspnet_regiis.exe -i
```



Note • The Framework version number may be different on your environment. Check the folder name to verify your version number, and modify the command accordingly.



Task

To change the ASP.net restrictions:

1. Open IIS Manager
2. Click the Server node, then double-click “ISAPI and CGI Restrictions”
3. Find the two ASP.Net v4.0 items and change the restriction from “Not allowed” to “Allowed”
4. In the Normalize Service Initialization dialog click Execute.

Decline in Performance After Several Normalizations

If the database is not indexed, after several normalizations (Normalize CM), there is a noticeable decline in performance.

BDNA recommends indexing database tables. This section provides instructions for:

- Manually creating indexes on BDNA ConfigMgr Tables

Appendix F - Additional Configuration and Information

About Appendix F

This appendix provides detailed information on how to modify BDNA Data Platform configuration file settings, as well as additional information about optimizing BDNA Data Platform operations for your specific environment.

Additional Configuration

This section contains a list of configuration properties that you can modify as required for your specific environment.

Modifying Configuration Properties

The configuration properties are contained in the `Norm.Configuration.config` file (located in `<Installpath>\BDNA\Data Platform\Conf\`). As with any configuration properties modified from their default settings, unexpected and possibly undesirable results may occur. Please be careful when modifying the default settings shown in the following tables, and always make a record of your modifications in case you need to contact the BDNA Support team.

Table A-1 • Performance Optimization



Property	Default Setting	Description
BatchCount	<pre><BatchCount> 100000 </BatchCount></pre>	Bulk import to BDNA DB.  Note • : Use carefully.
Configuration > ParallelCount	<pre><ParallelCount> 4 </ParallelCount></pre>	Number of parallel threads used during import.  Note • : Number of threads should be the same as the number of cores (across APP and DB servers).

Table A-1 • Performance Optimization (cont.)


Property	Default Setting	Description
MappingSp > ParallelCount	<ParallelCount> 4 </ParallelCount>	Number of parallel threads used during mapping.  Note • : Use carefully.
OraFetchSize	<OraFetchSize> 10000 </OraFetchSize>	You can modify the Fetch Size parameter in an Oracle environment to improve export performance. See “Recommended Settings for Oracle Fetch Size” for additional information.

Table A-2 • Catalog Synchronization

Property	Default Setting	Description
AUTO_UPDATE	<AUTO_UPDATE_SOFTWARE> OFF </AUTO_UPDATE_SOFTWARE>	ON: TUS downloads automatically. OFF: TUS prompts before downloading.
> AUTO_DELETE_UNMATCH	AUTO_DELETE_UNMATCH = true	Deletes the Unmatch file after the files are downloaded.
IncludeInstanceCount	<Report Name="" IncludeInstanceCount="true" >	Controls whether or not to generate an instance count with unmatched data sent to BDNA. See “Disabling Instance Count When Sending Unmatched Data” for additional information.

Table A-3 • Standalone Extractor


Property	Default Setting	Description
BatchCount	<BatchCount> 100000 </BatchCount>	Bulk import to BDNA DB.  Note • : Use carefully.

Table A-4 • Debugging

Property	Default Setting	Description
Log level	INFO	Sets level of information contained in log file. See “Changing Default Log Level in log.config File” for additional information.

Table A-5 • Installation

Property	Default Setting	Description
AUTO_UPDATE_SOFTWARE	<AUTO_UPDATE_SOFTWARE> OFF </AUTO_UPDATE_SOFTWARE>	Option for automatic updates of BDNA software. See “Changing the Default Setting for Automatically Updating BDNA Software” for additional information.
BI_CONFIG_NORMALIZE_BI_SERVE R_PORT	<string> 8084 </string>	Normalize server port for BDNA User Console. See “Changing the Normalize Server Port for BDNA User Console” for additional information.

Table A-6 • ServiceNow Process

Property	Default Setting	Description
ServiceNow > OperationTimeoutInMinute	<OperationTimeoutInMinute> 720 </OperationTimeoutInMinute>	Timeout from beginning to end.

Table A-6 • ServiceNow Process (cont.)

Property	Default Setting	Description
ServiceNow > CheckStatusTimeSpanInMinute	<CheckStatusTimeSpanInMinute> 1 </CheckStatusTimeSpanInMinute>	Normalize “pings” the SNOW server every x number of minutes for status.
ServiceNow > ConnectOpenTimeoutInMinute	<ConnectOpenTimeoutInMinute> 3 </ConnectOpenTimeoutInMinute>	
ServiceNow > ConnectCloseTimeoutInMinute	<ConnectCloseTimeoutInMinute> 3 </ConnectCloseTimeoutInMinute>	
ServiceNow > ConnectSendTimeoutInMinute	<ConnectSendTimeoutInMinute> 3 </ConnectSendTimeoutInMinute>	
ServiceNow > ConnectReceiveTimeoutInMinute	<ConnectReceiveTimeoutInMinute> 10 </ConnectReceiveTimeoutInMinute>	

Table A-7 •


Property	Default Setting	Description
DiscExe	<DiscExe> false </DiscExe>	true: DISC_EXE table is populated.
StatsKeywordExec	<StatsKeywordExec> false </StatsKeywordExec>	true: Tier1&2 statistics s are calculated for EXE.  Note • :Additional CSV files: PerExeManufacturer.csv, PerExeTier.csv
CSV Results	Predefined queries.	Predefined queries that generate CSV files are extensible and customizable. See “ Customizing CSV Results ” for additional information.

Table A-7 •

Property	Default Setting	Description
custom_view_mss.*	Contained in: custom_view_mss.sql custom_view_ora.sql	You can create a view on Normalize Publish dynamically by modifying the default files. See “Creating a View on Normalize Publish Dynamically” for additional information.
AUTO_DELETE_UNMATCH	<string> true </string>	By default, unmatched data is deleted from your Normalize server after it has been sent to BDNA. See “Changing the Default Setting for Automatically Updating BDNA Software” for additional information.
BANNER_STATUS	<string> 0 </string>	The Security Banner provided with the BDNA Data Platform Console is disabled by default. See “Enabling the Security Banner” for additional information.
BannerTitle BannerText	<div class="BannerTitle"> BDNA Normalize </div> <p> "Banner Text" </p>	You can customize the Security Banner so that it contains site-specific text. See “Customizing the Security Banner” for additional information.
ACTIVITY_DISPLAY_ROW	<string> 10 </string>	Number of events shown in the Activity Monitor. See “Changing the Number of Events Displayed in the Activity Monitor” for additional information.

Modifying Configuration to Extract and Process DB2 Data

This section provides step-by-step instructions for enabling the BDNA Data Platform DB2 Extractor to extract data from a DB2 database using the IBM Native Provider rather than the default MS OLEDB Provider.

The process described here requires modification to the `Normalize DatabasesProvider.config` file, located in `<Installpath>\BDNA\Data Platform\Conf`, using a text editor such as Notepad.



Task

To extract data from a DB2 database:

1. Open the DatabaseProvider.config file in a text editor.
2. By default, the BDNA Data Platform Extractor uses the MS OLEDB Provider for DB2, as shown in [Figure](#), "DatabaseProvider.config with DB2 MS OLEDB Provider activated." You must edit the DatabaseProvider.config file so that it uses the IBM Native Provider for DB2 instead.



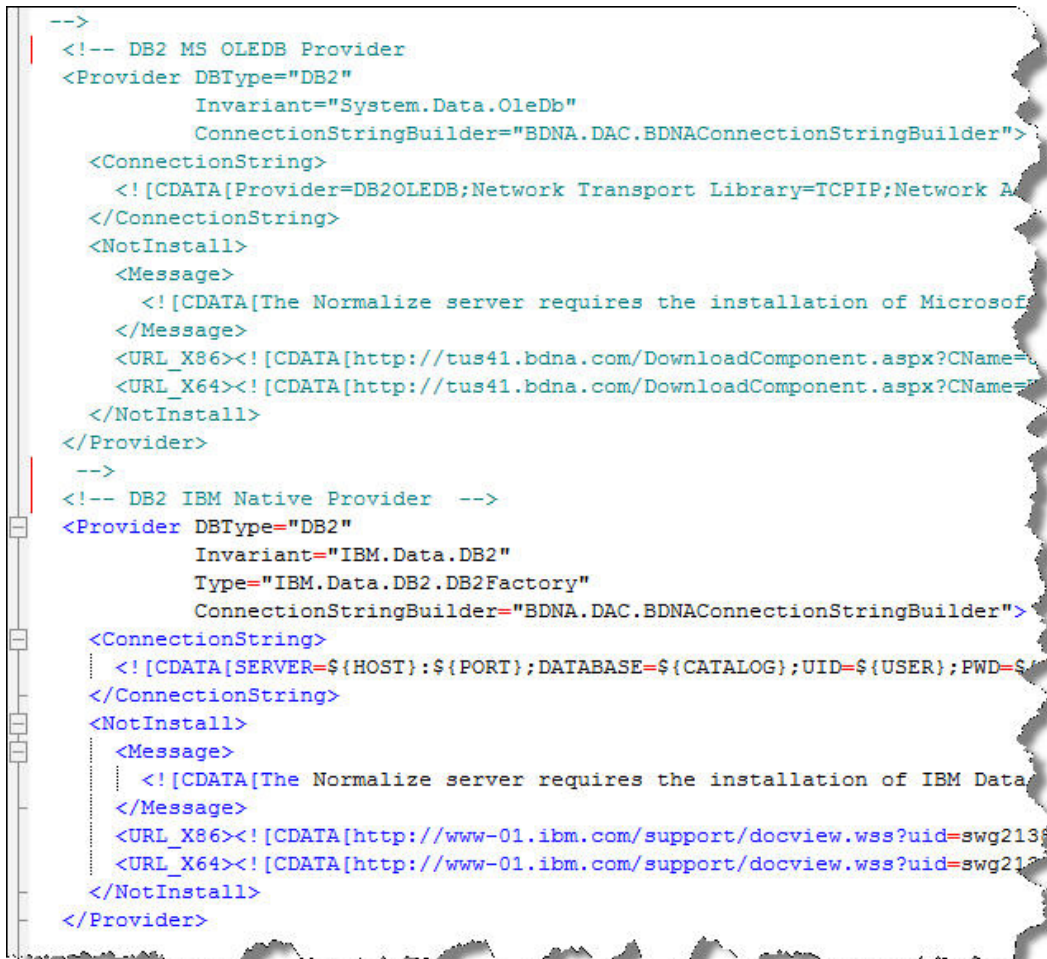
Note • Both the MS OLEDB and the IBM Native Provider are included in the DatabaseProvider.config file. Only the MS OLEDB provider is activated by default.

Figure A-1: DatabaseProvider.config with DB2 MS OLEDB Provider activated

```
<!-- DB2 MS OLEDB Provider -->
<Provider DBType="DB2"
  Invariant="System.Data.OleDb"
  ConnectionStringBuilder="BDNA.DAC.BDNAConnectionStringBuilder">
  <ConnectionString>
    <![CDATA[Provider=DB2OLEDB;Network Transport Library=TCPIP;Network Address=
  </ConnectionString>
  <NotInstall>
    <Message>
      <![CDATA[The Normalize server requires the installation of Microsoft ODBC
    </Message>
    <URL_X86><![CDATA[http://tus41.bdna.com/DownloadComponent.aspx?CName=URL
    <URL_X64><![CDATA[http://tus41.bdna.com/DownloadComponent.aspx?CName=URL
  </NotInstall>
</Provider>
```

3. You can make the modification to DatabaseProvider.config simply by commenting out the DB2 MS OLEDB Provider section and un-commenting the DB2 IBM Native Provider section as shown in Figure ,
"DatabaseProvider.config with DB2 IBM Native Provider activated."

Figure A-2: DatabaseProvider.config with DB2 IBM Native Provider activated

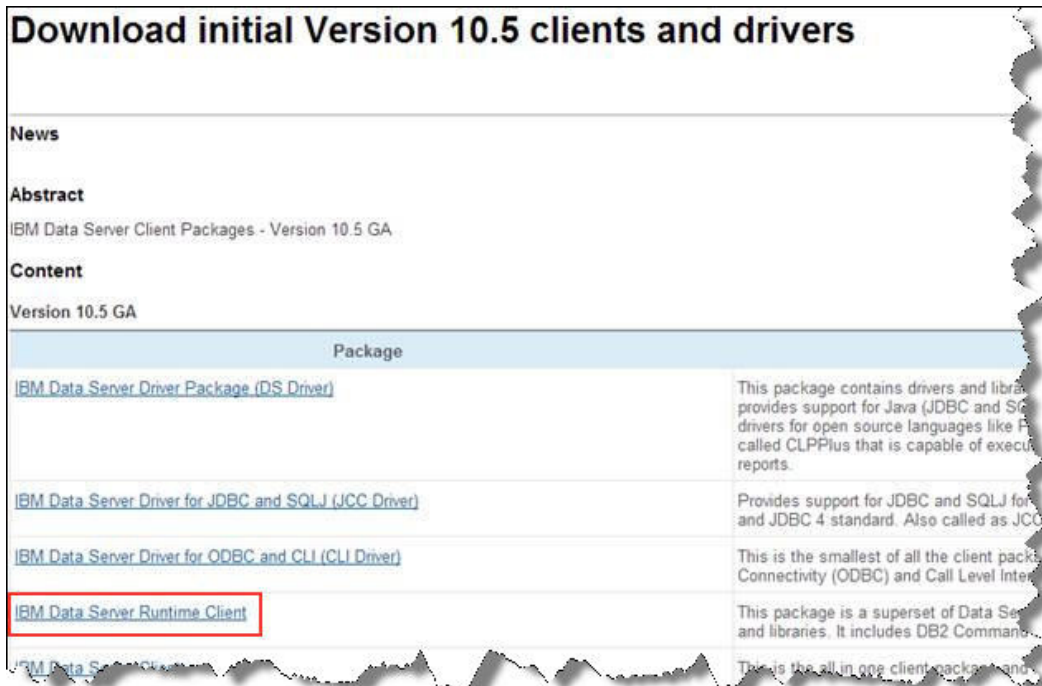


```
-->
<!-- DB2 MS OLEDB Provider
<Provider DBType="DB2"
    Invariant="System.Data.OleDb"
    ConnectionStringBuilder="BDNA.DAC.BDNAConnectionStringBuilder">
    <ConnectionString>
        <![CDATA[Provider=DB2OLEDB;Network Transport Library=TCPIP;Network A
    </ConnectionString>
    <NotInstall>
        <Message>
            <![CDATA[The Normalize server requires the installation of Microsoft
        </Message>
        <URL_X86><![CDATA[http://tus41.bdna.com/DownloadComponent.aspx?CName=
        <URL_X64><![CDATA[http://tus41.bdna.com/DownloadComponent.aspx?CName=
    </NotInstall>
</Provider>
-->
<!-- DB2 IBM Native Provider -->
<Provider DBType="DB2"
    Invariant="IBM.Data.DB2"
    Type="IBM.Data.DB2.DB2Factory"
    ConnectionStringBuilder="BDNA.DAC.BDNAConnectionStringBuilder">
    <ConnectionString>
        <![CDATA[SERVER=${HOST}:${PORT};DATABASE=${CATALOG};UID=${USER};PWD=${
    </ConnectionString>
    <NotInstall>
        <Message>
            <![CDATA[The Normalize server requires the installation of IBM Data
        </Message>
        <URL_X86><![CDATA[http://www-01.ibm.com/support/docview.wss?uid=swg213
        <URL_X64><![CDATA[http://www-01.ibm.com/support/docview.wss?uid=swg213
    </NotInstall>
</Provider>
```

4. Save the modified DatabaseProvider.config file.
5. Restart the Normalize service,
6. Test the connection to DB2.
 - a. If you see an error status about a required client at the bottom of the page, proceed to step 7.
 - b. If you are able to connect successfully, the modification process is finished. Proceed to step 8.
7. If you need to install the IBM Data Server Runtime Client, use the link provided here: <http://www-01.ibm.com/support/docview.wss?uid=swg21385217>. Clicking the link opens the IBM Data Server Client Packages page.

- c. On the IBM Data Server Client Packages page, click the IBM Data Server Runtime Client link, as shown in Figure , "Link to IBM Data Server Runtime Client."

Figure A-3: Link to IBM Data Server Runtime Client



Note • You are required to have an IBM ID to download the Data Server Runtime Client.

- d. Select the appropriate download for your Normalize installation:
 - Select the IBM 32-bit Data Server Runtime Client if you are running Normalize in 32-bit mode
 - Select the IBM 64-bit Data Server Runtime Client if you are running Normalize in 64-bit mode
 - e. Download and install the IBM Data Server Runtime Client you selected.
8. You have completed the modifications necessary to extract and process data from your DB2 database. Reboot your system if necessary.

Customizing CSV Results

The Normalize predefined queries that generate CSV files are both extensible and customizable.

The predefined SQLServer queries are located here:

```
<install location>:\Program Files\BDNA\Data  
Platform\Reports\Default\DISC\SQLSvr
```

```
<install location>:\Program Files\BDNA\Data  
Platform\Reports\Default\PO\SQLSvr
```

The predefined Oracle queries are located here:

```
<install location>:\Program Files\BDNA\Data  
Platform\Reports\Default\DISC\Oracle
```

```
<install location>:\Program Files\BDNA\Data  
Platform\Reports\Default\PO\Oracle
```



Task

To customize the queries:

1. Under the Reports folder, create a new folder named “BDNA”.
2. Under the BDNA folder, create a new folder named either “DISC” or “PO”, depending on the Normalize process.
3. Under the DISC or PO folder, create a new folder named either “Oracle” or “SQLSvr”, depending on your specific installation.
4. Save your customized SQL queries to the new folders you just created.



Note • If you overwrite the predefined queries, your changes will be lost with the next software upgrade.

SQLServer Queries

As shown in [Figure](#) , SQLServer queries begin with the entry “**USE \${PUB_CATALOG_NAME}**”. Including this entry in the query ensures that it will query the Publish database. If you remove this entry, the query will search the Normalize database instead.

SQLServer queries close with the entry “**WHERE DISC_ALL_OS.task_id = \$task_id\$**”, also shown in [Figure](#) . This entry limits the query to a specific Task ID. If you do not include this line, the query will search for all data for all Task IDs.

Figure A-4: Example of a SQLServer predefined query

```
USE ${PUB_CATALOG_NAME}
```

```
SELECT
```

```
DISC_ALL_OS.HOST_ID as 'MachineID',
```

```
DISC_ALL_OS.HOSTNAME as 'Hostname',
```

```
DISC_ALL_OS.SERIALNUMBER as 'Serial Number',
```

```
SW_MAN.MANUFACTURER as 'OS Manufacturer',
```

```
CAT_SW_PRODUCT.SOFTWARE as 'OS Name',
```

```
CAT_SW_VERSION.VERSION as 'OS Minor Version',
```

```
CAT_SW_VERSION_GROUP.VERSION_GROUP as 'OS Major Version',
```

```
CAT_SW_VERSION.PATCHLEVEL as 'OS Service Pack',
```

```
CAT_SW_EDITION.EDITION as 'OS Edition',
```

```
“
“

SELECT

DISC_CPUS.INVENTORY_ID,

DISC_CPUS.TASK_ID,

DISC_CPUS.OPERATINGSYSTEM_ID,

SUM(CAT_CPU_MODEL.CORES) as NUMCORES,

MAX(DISC_CPUS.MODEL) as DISCOVERED_CPU_MODEL,

MAX(CAT_CPU_MODEL.MODEL) as CAT_CPU_MODEL,

MAX(CAT_MANUFACTURER.MANUFACTURER) as CAT_CPU_MANUFACTURER

FROM DISC_CPUS

LEFT JOIN CAT_CPU_MODEL ON
DISC_CPUS.CAT_CPU_MODEL_ID=CAT_CPU_MODEL.CAT_CPU_MODEL_ID

LEFT JOIN CAT_MANUFACTURER ON
CAT_CPU_MODEL.CAT_MANUFACTURER_ID=CAT_MANUFACTURER.CAT_MANUFACTURER_ID

GROUP BY DISC_CPUS.INVENTORY_ID, DISC_CPUS.TASK_ID,
DISC_CPUS.OPERATINGSYSTEM_ID

) C1 ON C1.INVENTORY_ID=DISC_ALL_OS.INVENTORY_ID

AND C1.TASK_ID=DISC_ALL_OS.TASK_ID

AND C1.OPERATINGSYSTEM_ID=DISC_ALL_OS.OPERATINGSYSTEM_ID

WHERE DISC_ALL_OS.task_id = $task_id$
```

Oracle Queries

As shown in [Figure](#) , the entry “`${PUB_CATALOG_NAME}.`” must precede every table name in the query to ensure that it will query the Publish database. If you do not include this entry, the query will search the Normalize database instead.

Oracle queries close with the entry “`AND DISC_ALL_OS.task_id = $task_id$`”, also shown in [Figure](#) . This entry limits the query to a specific Task ID. If you do not include this line, the query will search for all data for all Task IDs.

Figure A-5: Example of an Oracle predefined query

```
SELECT

DISC_ALL_OS.HOST_ID "MachineID",

DISC_ALL_OS.HOSTNAME "Hostname",

DISC_ALL_OS.SERIALNUMBER "Serial Number",

SW_MAN.MANUFACTURER "OS Manufacturer",
```



```

CAT_SW_PRODUCT.SOFTWARE "OS Name",
CAT_SW_VERSION.VERSION "OS Minor Version",
CAT_SW_VERSION_GROUP.VERSION_GROUP "OS Major Version",
CAT_SW_VERSION.PATCHLEVEL "OS Service Pack",
CAT_SW_EDITION.EDITION "OS Edition"

FROM ${PUB_CATALOG_NAME}.DISC_ALL_OS

LEFT JOIN ${PUB_CATALOG_NAME}.DISC_OS_CAT_MAP ON
DISC_OS_CAT_MAP.INVENTORY_ID=DISC_ALL_OS.INVENTORY_ID

AND DISC_OS_CAT_MAP.TASK_ID=DISC_ALL_OS.TASK_ID

AND DISC_OS_CAT_MAP.OPERATINGSYSTEM_ID=DISC_ALL_OS.OPERATINGSYSTEM_ID

LEFT JOIN ${PUB_CATALOG_NAME}.CAT_SW_PRODUCT ON
DISC_OS_CAT_MAP.CAT_SW_PRODUCT_ID=CAT_SW_PRODUCT.CAT_SW_PRODUCT_ID

LEFT JOIN ${PUB_CATALOG_NAME}.CAT_SW_VERSION ON
DISC_OS_CAT_MAP.CAT_SW_VERSION_ID=CAT_SW_VERSION.CAT_SW_VERSION_ID

LEFT JOIN ${PUB_CATALOG_NAME}.CAT_SW_VERSION_GROUP ON
CAT_SW_VERSION.CAT_SW_VERSION_GROUP_ID=CAT_SW_VERSION_GROUP.CAT_SW_VERSION_
GROUP_ID

LEFT JOIN ${PUB_CATALOG_NAME}.CAT_SW_EDITION ON
DISC_OS_CAT_MAP.CAT_SW_EDITION_ID=CAT_SW_EDITION.CAT_SW_EDITION_ID

LEFT JOIN ${PUB_CATALOG_NAME}.CAT_SW_RELEASE ON
DISC_OS_CAT_MAP.CAT_SW_RELEASE_ID=CAT_SW_RELEASE.CAT_SW_RELEASE_ID

LEFT JOIN ${PUB_CATALOG_NAME}.CAT_MANUFACTURER SW_MAN ON
DISC_OS_CAT_MAP.CAT_MANUFACTURER_ID=SW_MAN.CAT_MANUFACTURER_ID

LEFT JOIN ${PUB_CATALOG_NAME}.DISC_CS_CAT_MAP ON
DISC_CS_CAT_MAP.INVENTORY_ID=DISC_ALL_OS.INVENTORY_ID

AND DISC_CS_CAT_MAP.TASK_ID=DISC_ALL_OS.TASK_ID

AND DISC_CS_CAT_MAP.COMPUTERSYSTEM_ID=DISC_ALL_OS.OPERATINGSYSTEM_ID

LEFT JOIN ${PUB_CATALOG_NAME}.CAT_HW_PRODUCT ON
DISC_CS_CAT_MAP.CAT_HW_PRODUCT_ID=CAT_HW_PRODUCT.CAT_HW_PRODUCT_ID

LEFT JOIN ${PUB_CATALOG_NAME}.CAT_TAXONOMY2012 SUBTAX ON
DISC_CS_CAT_MAP.CAT_TAXONOMY2012_ID=SUBTAX.CAT_TAXONOMY2012_ID

LEFT JOIN ${PUB_CATALOG_NAME}.CAT_TAXONOMY2012 TAX ON
SUBTAX.CAT_TAXONOMY2012_PARENT_ID=TAX.CAT_TAXONOMY2012_ID

LEFT JOIN ${PUB_CATALOG_NAME}.CAT_HW_MODEL ON
DISC_CS_CAT_MAP.CAT_HW_MODEL_ID=CAT_HW_MODEL.CAT_HW_MODEL_ID

```

```
LEFT JOIN ${PUB_CATALOG_NAME}.CAT_MANUFACTURER HW_MAN ON  
DISC_CS_CAT_MAP.CAT_MANUFACTURER_ID=HW_MAN.CAT_MANUFACTURER_ID  
  
LEFT JOIN ${PUB_CATALOG_NAME}.MATCH_HOST_CPU C1 ON  
  
C1.INVENTORY_ID=DISC_ALL_OS.INVENTORY_ID  
  
AND C1.TASK_ID=DISC_ALL_OS.TASK_ID  
  
AND C1.OPERATINGSYSTEM_ID=DISC_ALL_OS.OPERATINGSYSTEM_ID  
  
WHERE DISC_ALL_OS.INVENTORY_ID=$inventory_id$  
  
AND DISC_ALL_OS.task_id = $task_id$
```

Creating a View on Normalize Publish Dynamically

You can create a view on Normalize Publish dynamically by modifying the following files located in the \Program Files\BDNA\Data Platform\Custom Views\:

For MSSQL: custom_view_mss.sql

For Oracle: custom_view_ora.sql

After you have made the necessary modifications, you must run the following command from a system command line:

```
%bms_home%\bin\updater.exe /configfile=updater.config
```

Changing the Default Setting for Automatically Updating BDNA Software

The option for automatic updates of BDNA software is set to “OFF.” When the option is set to “OFF” the system displays a banner that requests you to confirm whether you want to download the update.

The setting is located in the Norm.configuration.config file located in your Normalize installation folder: \Program Files\BDNA\Data Platform\Conf\

The default option appears as follows:

```
<AUTO_UPDATE_SOFTWARE>OFF</AUTO_UPDATE_SOFTWARE>
```

To change this setting so that the update is downloaded automatically without user confirmation, make the following change to the AUTO_UPDATE_SOFTWARE option:

```
<AUTO_UPDATE_SOFTWARE>ON</AUTO_UPDATE_SOFTWARE>
```

Changing the Default Setting for Deleting Unmatched Data

By default, unmatched data is deleted from your BDNA Data Platform server after it has been sent to BDNA. If you want to retain the unmatched data, you must modify the Norm.configuration.config file located in your Normalize installation folder: \Program Files\BDNA\Data Platform\Conf\.

To modify the default setting, find the `AUTO_DELETE_UNMATCH` setting in the `Norm.configuration.config` file. The default value is set to “true” (deletes the unmatched data). To retain the data, change the value to “false”.

```
<key>

  <string>AUTO_DELETE_UNMATCH</string>

</key>

<value>

  <string>>true</string>

</value>
```

Enabling the Security Banner

A Security Banner provided with the Administration Console is disabled by default. To enable it, make a simple edit to the `Norm.Configuration.config` file.



Task

To enable the security banner:

1. Open the following file in a text editor:

```
<install location>:
\Program Files\BDNA\Data Platform\NormalizeConsole\App_Data\Template\Banner.html
```

2. Find the following entry:

```
<key>

  <string>BANNER_STATUS</string>

</key>

<value>

  <string>0</string>

</value>
```

3. Change the Banner Status value to 1:

```
<key>

  <string>BANNER_STATUS</string>

</key>

<value>

  <string>1</string>

</value>
```

4. Open IIS manager and enable Anonymous Authentication.

Customizing the Security Banner

You can customize the Security Banner so that it contains site-specific text.



Task

To customize the Security Banner:

1. Open the following file in a text editor:

```
<install location>:  
\Program Files\BDNA\Data Platform\NormalizeConsole\App_Data\Template\Banner.html
```

2. Find the following entry:

```
<div class="BannerTitle">Data Platform</div>  
  
    <div style="padding:20px;">  
        <p>"Banner Text"</p>  
  
    <br />  
  
    <div style="position:fixed;bottom:30px;width:100%;text-align:center;">  
        <button id="bannerAgree" style="margin-right:20px;" class="BannerButon"> I agree</button>  
  
        <button id="bannerDecline" class="BannerButon">I decline</button></div>  
  
    </div>  
  
</div>
```

3. Edit the banner title in the `<div class="BannerTitle">...</div>` text block.
4. Edit the banner content in the `<p>...</p>` text block.



Note • You need to restart the BDNA Data Platform service for these changes to take effect.

Changing the Number of Events Displayed in the Activity Monitor

The default number of events shown in the Activity Monitor is 10. You can change the number of events by modifying the file, `Norm.Configuration.config` located in `<installed path>:\Program Files\BDNA\Data Platform\Conf.`



Task

To change the number of events displayed in the Activity Monitor:

1. Open `Norm.Configuration.config` in a text editor.
2. Modify the value for `Activity_Display_Row`.
3. For example, to specify five rows:

```
<key>
<string>ACTIVITY_DISPLAY_ROW</string>
</key>
<value>
<string>5</string>
</value>
```

Changing the Normalize Server Port for BDNA User Console

If BDNA BDNA User Console does not use the standard port, you must configure the port on the Normalize server to enable communication. You can change the server port by modifying the value for the parameter `BI_CONFIG_NORMALIZE_BI_SERVER_PORT` in the `Norm.Configuration.config` file. In the example below, the default value of 8084 is shown. The file is located in the BDNA Data Platform installation directory:

```
<installed path>\Data Platform\Conf\
```

`BI_CONFIG_NORMALIZE_BI_SERVER_PORT` parameter:

```
<key>
<string>BI_CONFIG_NORMALIZE_BI_SERVER_PORT</string>
</key>
<value>
<string>8084</string>
</value>
```

Disabling Instance Count When Sending Unmatched Data



Task

Behavior:

A setting in the `norm.configuration.config` file controls whether or not to generate an instance count with unmatched data sent to BDNA as part of a gap-fill process. The default value is “true” (send the data). You can modify the parameter manually by changing its value to “false” (do not send the data), if that is a site-requirement.



Task

Solution:

In the `norm.configuration.config` file located in the `BDNA\Data Platform\conf\` folder, find the “Unmatch” section. Then, modify the “IncludeInstanceCount” parameter:

```
<Unmatch>

  <Report Name="addremove" IncludeInstanceCount="true" />

  <Report Name="exe" IncludeInstanceCount="true" />

</Unmatch>
```

Changing Default Log Level in `log.config` File

The default log level is set to “Info” in the `log.config` file in order to limit the size of the log files.

To generate a complete list of log entries, you can change the log level to “Debug” in the `log.config` file. Note that this will greatly increase the size of the log files. After changing the `log.config` file, you must restart the BDNA Data Platform Service in the Services control panel for the changes to take effect.

Recommended Settings for Oracle Fetch Size

If you are using BDNA Data Platform in an Oracle deployment, you can improve export performance by increasing the **Fetch Size** parameter in the `Norm.Configuration.config` file located in `<InstallPath>\Data Platform\Conf\`. The larger the **Fetch Size** you designate, the faster your export will finish. Bear in mind that an increase in **Fetch Size** requires more system memory on your BDNA Data Platform Server.

The parameter is set at the following default:

```
<OraFetchSize>10000</OraFetchSize>
```

Table A-8 • Fetch Size and Memory Requirements

Fetch Size	Normalize Server Memory
10000	4 GB (default setting)
20000	8 GB
50000	16 GB

Opening Default Ports

By default, the Administration Console uses port 8080 for IIS Express and port 80 for ISS. If your Windows firewall is enabled, you must open either port 8080 or 80 for the Administration Console to launch properly.

Default SQL Server Express Instance Name

If you choose to have SQL Server Express installed by default, Normalize uses the following instance name:

localhost\BDNANORMALIZE

Manually Removing Normalize Tablespace Files after Uninstall

The Normalize tablespace files use a date/time filename convention and in time can occupy a significant amount of disk drive capacity. The files are not removed by the uninstallation process, so you must remove them manually to free-up disk drive capacity.

Running the Extractor from the Command Line

The command line extractor uses a specific configuration file for your database. The database connection information required in the configuration file can be found in [Table , "Configuration File Headers."](#)



Note • Although the database connection can be defined in either the command line or in the header of the xml configuration file, the command line always takes precedence over the xml configuration settings.

Use the following command to run the Extractor from a command line:

```
extractor <option1> <option2> ...
```

For a description of the command options, see [Table , "Extractor command options."](#)

Table A-9 •

Option	Description/Example
[-X] <fullpath_xml_config_file>	Full path and file name for the configuration file. C:\sms2.extractor.config
[-O] <fullpath_output_directory>	Full path to the output directory. C:\test
[-O] <fullpath_output_directory>	Name for the .zip file. BDNA.zip
[-H] <database_host_name>	Host name or IP address of asset inventory database server. 192.168.8.8

Table A-9 •

Option	Description/Example
<code>[-PT] <database_port></code>	Port number for asset inventory database server. 1433
<code>[-C] <database_catalog_name></code>	Catalog name for Microsoft SQLServer or MySQL database. SMS_EUR
<code>[-U] <database_user_name></code>	Username of the asset inventory database owner. User
<code>[-P] <database_user_password></code>	Password of the asset inventory database owner. Password
<code>[-I] <use_windows_authentication></code>	Specifies whether or not to use Windows credentials. true false
<code>[-RS]</code>	Downloads all the files in your directory on the BDNA FTP site.
<code>[-UZ]</code>	Extracts the files from the .zip file.
<code>[-T] <FTP_transport_available></code>	Specifies to use FTP or SFTP. Note: The address of the BDNA SFTP site is ftp://ftp01.bdna.com , port:22. Verify that the address and the port can pass your firewall. FTP SFTP
<code>[-TU] <FTP_username></code>	Username for the FTP site.
<code>[-TP] <FTP_password></code>	Password for the FTP site user.
<code>[-?] <Help></code>	Outputs command help.

Table A-10 • Configuration File Headers

Database	Header
MSSQL	<pre><?xml version="1.0" encoding="utf-8" ?> <configuration LoaderConfig="" Disc_Source=""> <Connection Type="MSSQLSERVER"> <Property Name="Data Source" Value=""/> <Property Name="Initial Catalog" Value=""/> <Property Name="Persist Security Info" Value="True"/> <Property Name="User ID" Value=""/> <Property Name="Password" Value=""/> <Property Name="Integrated Security" Value="false"/> </Connection></pre>
Oracle	<pre><?xml version="1.0" encoding="utf-8" ?> <configuration LoaderConfig="" Disc_Source=""> <Connection Type="ORACLE"> <Property Name="Host" Value=""/> <Property Name="Service Name" Value=""/> <Property Name="User ID" Value=""/> <Property Name="Password" Value=""/> <Property Name="Port" Value="1521"/> </Connection></pre>

Table A-10 • Configuration File Headers (cont.)

Database	Header
DB2	<pre><?xml version="1.0" encoding="utf-8" ?> <configuration LoaderConfig="" Disc_Source=""> <Connection Type="DB2"> <Property Name="Data Source" Value=""/> <Property Name="Initial Catalog" Value=""/> <Property Name="Persist Security Info" Value="True"/> <Property Name="User ID" Value=""/> <Property Name="Password" Value=""/> <Property Name="Integrated Security" Value="false"/> </Connection></pre>
MySQL	<pre><?xml version="1.0" encoding="utf-8" ?> <configuration LoaderConfig="" Disc_Source=""> <Connection Type="MYSQL"> <Property Name="Data Source" Value=""/> <Property Name="Initial Catalog" Value=""/> <Property Name="User ID" Value=""/> <Property Name="Password" Value=""/> <Property Name="Port" Value=""/> <Property Name="Connect Timeout" Value="3600"/> </Connection></pre>

Table A-10 • Configuration File Headers (cont.)

Database	Header
Sybase	<pre><?xml version="1.0" encoding="utf-8" ?> <configuration LoaderConfig="" Disc_Source=""> <Connection Type="SYBASE"> <Property Name="Provider" Value="SAOLEDB"/> <Property Name="Data Source" Value=""/> <Property Name="Initial Catalog" Value=""/> <Property Name="User ID" Value=""/> <Property Name="Password" Value=""/> <Property Name="Port" Value="43455"/> </Connection></pre>

Example Commands



Task *To extract the data and create a .zip file:*

The following command is an example of using a Microsoft SQLServer database.

```
Extractor -X C:\sms2.extractor.config -O C:\test -H 192.168.8.8 -PT 1433 -
C SMS_EUR -U user -P password
```

It reads the C:\sms2.extractor.config file, connects to the SMS_EUR database on 192.168.8.8, uses a user ID of “user” and a password of “password”, and outputs the .zip file to the C:\test directory.



Task *To extract the data, create a .zip file, and send the file to BDNA Corporation:*

The following command is an example of using a Microsoft SQLServer database:

```
Extractor -X C:\sms2.extractor.config -O C:\test -H 192.168.8.8 -PT 1433 -C SMS_EUR -U user -P password -T FTP -TU
ftpuser -TP ftppassword
```

It reads the C:\sms2.extractor.config file, connects to the SMS_EUR database on 192.168.8.8, uses a user ID of “user” and a password of “password,” and outputs the .zip file to the C:\test directory. It then uploads the .zip file to the BDNA FTP site using the username of “ftpuser” and the password “ftppassword”.

Appendix G - Oracle Settings

About Appendix G

This appendix provides recommended initialization parameter settings for Oracle anytime a user plans to install the BDNA Data Platform. BDNA recommends that customers use Oracle Automatic Memory Management. It is strongly recommended that you contact BDNA support before changing any Oracle initialization parameters.

Database Version

Database version information is listed below:

- Oracle Database 12c Enterprise Edition Release 12.1.0.2.0 - 64bit Production
- PL/SQL Release 12.1.0.2.0 - Production
- CORE12.1.0.2.0Production
- TNS for Linux: 12.1.0.2.0 - Production
- NLSRTL Version 12.1.0.2.0 - Production

Initialization Parameters

Below is a table of recommended Initialization parameters for Oracle when installing the Data Platform:

Table A-1 • Initialization Parameters

Name	Display Value
DBFIPS_140	FALSE
CO7_DICTIONARY_ACCESSIBILITY	FALSE
active_instance_count	
aq_tm_processes	1
archive_lag_target	0

Table A-1 • Initialization Parameters

Name	Display Value
asm_diskgroups	
asm_diskstring	
asm_power_limit	1
asm_preferred_read_failure_groups	
audit_file_dest	/u01/app/oracle/admin/ora12c/adump
audit_sys_operations	TRUE
audit_syslog_level	
audit_trail	DB
awr_snapshot_time_offset	0
background_core_dump	PARTIALS
background_dump_dest	/u01/app/oracle/product/12.1.0/rdbms/log
backup_tape_io_slaves	FALSE
bitmap_merge_area_size	1048576
blank_trimming	FALSE
buffer_pool_keep	
buffer_pool_recycle	
cell_offload_compaction	ADAPTIVE
cell_offload_decryption	TRUE
cell_offload_parameters	
cell_offload_plan_display	AUTO
cell_offload_processing	TRUE
cell_offloadgroup_name	
circuits	
client_result_cache_lag	3000

Table A-1 • Initialization Parameters

Name	Display Value
client_result_cache_size	0
clonedb	FALSE
cluster_database	FALSE
cluster_database_instances	1
cluster_interconnects	
commit_logging	
commit_point_strength	1
commit_wait	
commit_write	
common_user_prefix	C##
compatible	12.1.0.2.0
connection_brokers	((TYPE=EMON)(BROKERS=1))
connection_brokers	((TYPE=DEDICATED)(BROKERS=1))
control_file_record_keep_time	7
control_files	/u01/app/oracle/fast_recovery_area/ora12c/ control02.ctl
control_files	/u01/app/oracle/oradata/ora12c/ control01.ctl
control_management_pack_access	DIAGNOSTIC+TUNING
core_dump_dest	/u01/app/oracle/diag/rdbms/ora12c/ora12c/ cdump
cpu_count	16
create_bitmap_area_size	8388608
create_stored_outlines	
cursor_bind_capture_destination	memory+disk

Table A-1 • Initialization Parameters

Name	Display Value
cursor_sharing	EXACT
cursor_space_for_time	FALSE
db_16k_cache_size	0
db_2k_cache_size	0
db_32k_cache_size	0
db_4k_cache_size	0
db_8k_cache_size	0
db_big_table_cache_percent_target	0
db_block_buffers	0
db_block_checking	FALSE
db_block_checksum	TYPICAL
db_block_size	8192
db_cache_advice	ON
db_cache_size	0
db_create_file_dest	
db_create_online_log_dest_1	
db_create_online_log_dest_2	
db_create_online_log_dest_3	
db_create_online_log_dest_4	
db_create_online_log_dest_5	
db_domain	
db_file_multiblock_read_count	128
db_file_name_convert	
db_files	200

Table A-1 • Initialization Parameters

Name	Display Value
db_flash_cache_file	
db_flash_cache_size	0
db_flashback_retention_target	1440
db_index_compression_inheritance	NONE
db_keep_cache_size	0
db_lost_write_protect	NONE
db_name	ora12c
db_performance_profile	
db_recovery_file_dest	/u01/app/oracle/fast_recovery_area
db_recovery_file_dest_size	4560M
db_recycle_cache_size	0
db_securefile	PREFERRED
db_ultra_safe	OFF
db_unique_name	ora12c
db_unrecoverable_scn_tracking	TRUE
db_writer_processes	2
dbwr_io_slaves	0
ddl_lock_timeout	0
deferred_segment_creation	TRUE
dg_broker_config_file1	/u01/app/oracle/product/12.1.0/dbs/dr1ora12c.dat
dg_broker_config_file2	/u01/app/oracle/product/12.1.0/dbs/dr2ora12c.dat
dg_broker_start	FALSE
diagnostic_dest	/u01/app/oracle

Table A-1 • Initialization Parameters

Name	Display Value
disk_asynch_io	TRUE
dispatchers	(PROTOCOL=TCP) (SERVICE=ora12cXDB)
distributed_lock_timeout	60
dml_locks	2112
dnfs_batch_size	4096
dst_upgrade_insert_conv	TRUE
enable_ddl_logging	FALSE
enable_goldengate_replication	FALSE
enable_pluggable_database	FALSE
event	
exclude_seed_cdb_view	TRUE
fal_client	
fal_server	
fast_start_io_target	0
fast_start_mttr_target	0
fast_start_parallel_rollback	LOW
file_mapping	FALSE
fileio_network_adapters	
filesystemio_options	NONE
fixed_date	
gcs_server_processes	0
global_context_pool_size	
global_names	FALSE
global_txn_processes	1

Table A-1 • Initialization Parameters

Name	Display Value
hash_area_size	131072
heat_map	OFF
hi_shared_memory_address	0
hs_autoregister	TRUE
ifile	
inmemory_clause_default	
inmemory_force	DEFAULT
inmemory_max_populate_servers	0
inmemory_query	ENABLE
inmemory_size	0
inmemory_trickle_repopulate_servers_percent	1
instance_groups	
instance_name	ora12c
instance_number	0
instance_type	RDBMS
instant_restore	FALSE
java_jit_enabled	TRUE
java_max_sessionspace_size	0
java_pool_size	0
java_restrict	none
java_soft_sessionspace_limit	0
job_queue_processes	1000
large_pool_size	0

Table A-1 • Initialization Parameters

Name	Display Value
ldap_directory_access	NONE
ldap_directory_sysauth	NO
license_max_sessions	0
license_max_users	0
license_sessions_warning	0
listener_networks	
local_listener	
lock_name_space	
lock_sga	FALSE
log_archive_config	
log_archive_dest	
log_archive_dest_1	
log_archive_dest_10	
log_archive_dest_11	
log_archive_dest_12	
log_archive_dest_13	
log_archive_dest_14	
log_archive_dest_15	
log_archive_dest_16	
log_archive_dest_17	
log_archive_dest_18	
log_archive_dest_19	
log_archive_dest_2	
log_archive_dest_20	

Table A-1 • Initialization Parameters

Name	Display Value
log_archive_dest_21	
log_archive_dest_22	
log_archive_dest_23	
log_archive_dest_24	
log_archive_dest_25	
log_archive_dest_26	
log_archive_dest_27	
log_archive_dest_28	
log_archive_dest_29	
log_archive_dest_3	
log_archive_dest_30	
log_archive_dest_31	
log_archive_dest_4	
log_archive_dest_5	
log_archive_dest_6	
log_archive_dest_7	
log_archive_dest_8	
log_archive_dest_9	
log_archive_dest_state_1	Enable
log_archive_dest_state_10	Enable
log_archive_dest_state_11	Enable
log_archive_dest_state_12	Enable
log_archive_dest_state_13	Enable
log_archive_dest_state_14	Enable

Table A-1 • Initialization Parameters

Name	Display Value
log_archive_dest_state_15	Enable
log_archive_dest_state_16	Enable
log_archive_dest_state_17	Enable
log_archive_dest_state_18	Enable
log_archive_dest_state_19	Enable
log_archive_dest_state_2	Enable
log_archive_dest_state_20	Enable
log_archive_dest_state_21	Enable
log_archive_dest_state_22	Enable
log_archive_dest_state_23	Enable
log_archive_dest_state_24	Enable
log_archive_dest_state_25	Enable
log_archive_dest_state_26	Enable
log_archive_dest_state_27	Enable
log_archive_dest_state_28	Enable
log_archive_dest_state_29	Enable
log_archive_dest_state_3	Enable
log_archive_dest_state_30	Enable
log_archive_dest_state_31	Enable
log_archive_dest_state_4	Enable
log_archive_dest_state_5	Enable
log_archive_dest_state_6	Enable
log_archive_dest_state_7	Enable
log_archive_dest_state_8	Enable

Table A-1 • Initialization Parameters

Name	Display Value
log_archive_dest_state_9	Enable
log_archive_duplex_dest	
log_archive_format	%t_%s_%r.dbf
log_archive_max_processes	4
log_archive_min_succeed_dest	1
log_archive_start	FALSE
log_archive_trace	0
log_buffer	58432K
log_checkpoint_interval	0
log_checkpoint_timeout	1800
log_checkpoints_to_alert	FALSE
log_file_name_convert	
max_dispatchers	
max_dump_file_size	Unlimited
max_enabled_roles	150
max_shared_servers	
max_string_size	STANDARD
memory_max_target	19328M
memory_target	19328M
nls_calendar	
nls_comp	BINARY
nls_currency	
nls_date_format	DD-MON-RR HH:MI:SS
nls_date_language	

Table A-1 • Initialization Parameters

Name	Display Value
nls_dual_currency	
nls_iso_currency	
nls_language	AMERICAN
nls_length_semantics	BYTE
nls_nchar_conv_excp	FALSE
nls_numeric_characters	
nls_sort	
nls_territory	AMERICA
nls_time_format	
nls_time_tz_format	
nls_timestamp_format	
nls_timestamp_tz_format	
noncdb_compatible	FALSE
object_cache_max_size_percent	10
object_cache_optimal_size	102400
olap_page_pool_size	0
open_cursors	300
open_links	4
open_links_per_instance	4
optimizer_adaptive_features	TRUE
optimizer_adaptive_reporting_only	FALSE
optimizer_capture_sql_plan_baselines	FALSE
optimizer_dynamic_sampling	2
optimizer_features_enable	12.1.0.2

Table A-1 • Initialization Parameters

Name	Display Value
optimizer_index_caching	0
optimizer_index_cost_adj	100
optimizer_inmemory_aware	TRUE
optimizer_mode	ALL_ROWS
optimizer_secure_view_merging	TRUE
optimizer_use_invisible_indexes	FALSE
optimizer_use_pending_statistics	FALSE
optimizer_use_sql_plan_baselines	TRUE
os_authent_prefix	ops\$\$
os_roles	FALSE
parallel_adaptive_multi_user	TRUE
parallel_automatic_tuning	FALSE
parallel_degree_level	100
parallel_degree_limit	CPU
parallel_degree_policy	MANUAL
parallel_execution_message_size	16384
parallel_force_local	FALSE
parallel_instance_group	
parallel_io_cap_enabled	FALSE
parallel_max_servers	221
parallel_min_percent	0
parallel_min_servers	64
parallel_min_time_threshold	AUTO
parallel_server	FALSE

Table A-1 • Initialization Parameters

Name	Display Value
parallel_server_instances	1
parallel_servers_target	256
parallel_threads_per_cpu	2
pdb_file_name_convert	
pdb_lockdown	
pdb_os_credential	
permit_92_wrap_format	TRUE
pga_aggregate_limit	24704M
pga_aggregate_target	0
plscope_settings	Identifiers:All
plsql_ccflags	
plsql_code_type	INTERPRETED
plsql_debug	FALSE
plsql_optimize_level	2
plsql_v2_compatibility	false
plsql_warnings	DISABLE:ALL
pre_page_sga	TRUE
processes	300
processor_group_name	
query_rewrite_enabled	TRUE
query_rewrite_integrity	Enforced
rdbms_server_dn	
read_only_open_delayed	FALSE
recovery_parallelism	0

Table A-1 • Initialization Parameters

Name	Display Value
recyclebin	On
redo_transport_user	
remote_dependencies_mode	TIMESTAMP
remote_listener	
remote_login_passwordfile	EXCLUSIVE
remote_os_authent	FALSE
remote_os_roles	FALSE
replication_dependency_tracking	TRUE
resource_limit	TRUE
resource_manager_cpu_allocation	16
resource_manager_plan	
result_cache_max_result	5
result_cache_max_size	49504K
result_cache_mode	MANUAL
result_cache_remote_expiration	0
resumable_timeout	0
rollback_segments	
sec_case_sensitive_logon	TRUE
sec_max_failed_login_attempts	3
sec_protocol_error_further_action	(DROP,3)
sec_protocol_error_trace_action	TRACE
sec_return_server_release_banner	FALSE
serial_reuse	Disable
service_names	ora12c

Table A-1 • Initialization Parameters

Name	Display Value
session_cached_cursors	50
session_max_open_files	10
sessions	480
sga_max_size	19328M
sga_target	0
shadow_core_dump	Partial
shared_memory_address	0
shared_pool_reserved_size	57042534
shared_pool_size	0
shared_server_sessions	
shared_servers	1
skip_unusable_indexes	TRUE
smtp_out_server	
sort_area_retained_size	0
sort_area_size	65536
spatial_vector_acceleration	FALSE
spfile	/u01/app/oracle/product/12.1.0/dbs/ spfileora12c.ora
sql92_security	FALSE
sql_trace	FALSE
sqltune_category	DEFAULT
standby_archive_dest	?/dbs/arch
standby_file_management	MANUAL
star_transformation_enabled	FALSE

Table A-1 • Initialization Parameters

Name	Display Value
statistics_level	TYPICAL
streams_pool_size	0
tape_asynch_io	TRUE
temp_undo_enabled	FALSE
thread	0
threaded_execution	FALSE
timed_os_statistics	0
timed_statistics	TRUE
trace_enabled	TRUE
tracefile_identifier	
transactions	528
transactions_per_rollback_segment	5
undo_management	AUTO
undo_retention	900
undo_tablespace	UNDOTBS1
unified_audit_sga_queue_size	1048576
use_dedicated_broker	FALSE
use_indirect_data_buffers	FALSE
use_large_pages	TRUE
user_dump_dest	/u01/app/oracle/product/12.1.0/rdbms/log
utl_file_dir	
workarea_size_policy	AUTO
xml_db_events	Enable
FORCE_LOGGING	NO

NLS Parameters

Below is a list of recommended NLS parameters for Oracle settings when installing the Data Platform:

Table A-2 • NLS Parameters

Parameter	Value
NLS_CALENDAR	GREGORIAN
NLS_CHARACTERSET	AL32UTF8
NLS_COMP	BINARY
NLS_CURRENCY	\$
NLS_DATE_FORMAT	DD-MON-RR
NLS_DATE_LANGUAGE	AMERICAN
NLS_DUAL_CURRENCY	\$
NLS_ISO_CURRENCY	AMERICA
NLS_LANGUAGE	AMERICAN
NLS_LENGTH_SEMANTICS	BYTE
NLS_NCHAR_CHARACTERSET	AL16UTF16
NLS_NCHAR_CONV_EXCP	FALSE
NLS_NUMERIC_CHARACTERS	.,
NLS_RDBMS_VERSION	12.1.0.2.0
NLS_SORT	BINARY
NLS_TERRITORY	AMERICA
NLS_TIMESTAMP_FORMAT	DD-MON-RR HH.MI.SSXFF AM

Table A-2 • NLS Parameters

Parameter	Value
NLS_TIMESTAMP_TZ_FORMAT	DD-MON-RR HH.MI.SSXFF AM TZR
NLS_TIME_FORMAT	HH.MI.SSXFF AM
NLS_TIME_TZ_FORMAT	HH.MI.SSXFF AM TZR

