

# xDB Data Migration Tool 2.1 Installation Guide

How upgrade xDB data to Sitecore 9.1 from Sitecore 8.0 or later using xDB Data Migration Tool 2.1

October 31, 2019



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# 1. Migrating Sitecore Experience Database

Sitecore xConnect introduces a new, omni-channel data model for Sitecore Experience Database. You must convert data collected in xDB into the new data model. You can use the Sitecore xDB Data Migration Tool to do this.

## 1.1. Overview

The xDB Data Migration Tool is built on the Sitecore Data Exchange Framework (DEF):

- DEF provides the ability to read from a MongoDB database (the source system) and write to an xConnect server (the target system), as well as the ability to configure mapping data from a source system to a target system.
- The xDB Data Migration Tool provides the preconfigured mapping of data from a MongoDB database to an xConnect server.

DEF is a Sitecore-based ETL tool. ETL stands for:

- Extract - reading data from a source system.
- Transform - converting data from the source system into a format that is compatible with a target system.
- Load - writing the converted data to the target system.

Being *Sitecore-based* means that Sitecore items are used to configure ETL processes. For example, the mapping rules that determine how data is transformed is controlled by Sitecore items. If a new mapping is needed, a new Sitecore item is created. If an existing mapping needs to be changed, the Sitecore item that represents the mapping is edited.

### 1.1.1. Supported data migration processes

The xDB Data Migration Tool includes two data migration processes.

- **MongoDB Contacts to xConnect Contacts** - Reads contact data - and related device and interaction data for each contact - from a MongoDB database and writes it to xConnect.
- **MongoDB Reference Data to xDB** - Reads geo IP and location data from a MongoDB database and writes it to xConnect.

#### NOTE

You can read details on precisely what data is mapped in the [xDB Data Migration Tool developer documentation](#).

### 1.1.2. When to use the xDB Data Migration Tool

You can use the xDB Data Migration Tool any time:

- Immediately after you upgrade your Sitecore server.
- After you have been running your upgraded Sitecore server for a period of time.

## 1.2. Prerequisites

The following are required in order to use the xDB Data Migration Tool 2.1:

- Sitecore 9.1 or higher
- MongoDB database that contains the xDB data

### NOTE

We recommend that you install the xDB Data Migration Tool on a content management (CM) server.

### 1.2.1. Determine whether to enable verification

The xDB Data Migration Tool has a verification feature. When this feature is enabled, information about each entity submitted to xConnect is stored in a dedicated database called the verification database. This database includes information such as:

- ID for the MongoDB document.
- ID for the entity in xDB.
- Hash of the data submitted to xConnect.
- Description of whether the entity was successfully submitted to xConnect.
- Description of whether the entity was created or updated.

The following is an example of the data that is captured in the verification database:

| id | Batchid | Threadid | DateTime | SourceIdentifier         | TargetIdentifier                     | Target Type                          | Hash          | Status          | OperationType | De     |  |
|----|---------|----------|----------|--------------------------|--------------------------------------|--------------------------------------|---------------|-----------------|---------------|--------|--|
| 1  | 33      | 3        | 0        | 2017-09-14 18:08:19.7347 | e5ec2e06-d5ca-4310-b714-3365567b387  | ebace53c-ab03-0000-0000-0514e3a932ea | Contact       | W/EBLmxAml3uY=" | Succeeded     | Create |  |
| 2  | 34      | 3        | 0        | 2017-09-14 18:08:19.8129 | e5ec2e06-d5ca-4310-b714-3365567b387  | ebace53c-ab03-0000-0000-0514e3a932ea | DeviceProfile | W/wNgDqYoy7Kq=" | Succeeded     | Create |  |
| 3  | 35      | 3        | 0        | 2017-09-14 18:08:19.8360 | 04cf9e4#60-498f-85ca-a2ed956067c3    | ebace53c-ab03-0000-0000-0514e3a932ea | Interaction   | W/PcWdcDh84k="  | Succeeded     | Create |  |
| 4  | 36      | 3        | 0        | 2017-09-14 18:08:19.8671 | 7d06402e-47ec-4bab-9ed6f2f3ae36b6fa  | ebace53c-ab03-0100-0000-0514e3a932ea | Contact       | W/JD4d4X+UJ="   | Succeeded     | Create |  |
| 5  | 37      | 3        | 0        | 2017-09-14 18:08:19.8791 | 7d06402e-47ec-4bab-9ed6f2f3ae36b6fa  | ebace53c-ab03-0100-0000-0514e3a932ea | DeviceProfile | W/47amxg+GZTw=" | Succeeded     | Create |  |
| 6  | 38      | 3        | 0        | 2017-09-14 18:08:19.8850 | 71182bba-9112-409b-94dd-3c12882ed7db | ebace53c-ab03-0100-0000-0514e3a932ea | Interaction   | W/916yz44QPB0=" | Succeeded     | Create |  |
| 7  | 39      | 3        | 0        | 2017-09-14 18:08:19.8890 | aef12b32-148f-41b6-b33d-1a695986ab3f | ebace53c-ab03-0200-0000-0514e3a932ea | Contact       | W/nmJGGPFGW0="  | Succeeded     | Create |  |
| 8  | 40      | 3        | 0        | 2017-09-14 18:08:19.9100 | aef12b32-148f-41b6-b33d-1a695986ab3f | ebace53c-ab03-0200-0000-0514e3a932ea | DeviceProfile | W/eqSzmKA1uGc=" | Succeeded     | Create |  |
| 9  | 41      | 3        | 0        | 2017-09-14 18:08:19.9166 | defa723c-b075-4eec-9b0f-acc52e8e45a7 | ebace53c-ab03-0200-0000-0514e3a932ea | Interaction   | W/M0qjN3aL7g="  | Succeeded     | Create |  |
| 10 | 42      | 3        | 0        | 2017-09-14 18:08:19.9201 | 2f8ca9a6-d9cb-4652-abe8-337b8f0c0276 | ebace53c-ab03-0300-0000-0514e3a932ea | Contact       | W/Fq5LAA2k8MM=" | Succeeded     | Create |  |
| 11 | 43      | 3        | 0        | 2017-09-14 18:08:19.9348 | 2f8ca9a6-d9cb-4652-abe8-337b8f0c0276 | ebace53c-ab03-0300-0000-0514e3a932ea | DeviceProfile | W/VbqxqaKHvI="  | Succeeded     | Create |  |
| 12 | 44      | 3        | 0        | 2017-09-14 18:08:19.9400 | c77e5df5-9bb8-4eff-a1e2-dc3511b651a0 | ebace53c-ab03-0300-0000-0514e3a932ea | Interaction   | W/mk5LcKGYFEB=" | Succeeded     | Create |  |
| 13 | 45      | 3        | 0        | 2017-09-14 18:08:19.9440 | a04a95e2-48c4-4eca-a67d-7b26df5d5ac6 | ebace53c-ab03-0400-0000-0514e3a932ea | Contact       | W/7KIBPZRapl="  | Succeeded     | Create |  |
| 14 | 46      | 3        | 0        | 2017-09-14 18:08:19.9551 | a04a95e2-48c4-4eca-a67d-7b26df5d5ac6 | ebace53c-ab03-0400-0000-0514e3a932ea | DeviceProfile | W//2HlJkXGezl=" | Succeeded     | Create |  |

The advantage of verification is that a record of the data migration process is captured. The disadvantage is that data migration process performance can be degraded.

### NOTE

Sitecore provides the verification database via a dacpac file. The dacpac file can be downloaded from the Sitecore Developer Portal, on the same page where the xDB Data Migration Tool is available.

### 1.2.2. Installing in multiserver environments

You only need to install the xDB Data Migration Tool on one Sitecore server. There is no value in installing it on multiple Sitecore servers because the data migration process can only run on one server at a time.

### 1.2.3. Add indexes to MongoDB collections

The xDB Data Migration Tool reads virtually all of the data in the MongoDB data for analytics from Sitecore 8.x. For the tool to do this efficiently, you must add a couple of indexes.

#### NOTE

Adding these indexes is optional. However, if you choose not to add these indexes, you should expect the data migration process to take longer to complete.

To add indexes to MongoDB collections:

1. Open a mongo shell.
2. Select the database with the xDB data that you plan to migrate to Sitecore 9.
3. Enter the following commands:

```
db.getCollection('Devices').createIndex({LastKnownContactId:1})
db.getCollection('Interactions').createIndex({ContactId:1})
```

#### NOTE

By default, the index creation process runs in the foreground. This means that it blocks reading and writing requests to the database while it is running. To run the index creation in the background, add the `{background: true}` parameter to the `createIndex` command.

### 1.2.4. Preventing IIS application pool shutdown/recycle

Depending on the amount of data you have in MongoDB, it can take hours - or even days - to migrate all of your data. The migration process runs asynchronously on the Sitecore server, so you can continue to use your Sitecore server during the migration process.

However, since the migration process runs asynchronously, it will not prevent the application pool from recycling. If the application pool recycles during the migration process, the migration process will stop and it will be necessary to restart the migration process manually.

Therefore, during the migration process, we recommend that you re-configure the following settings in the IIS application pool before you start the migration process:

| Setting       | Value | Description  |
|---------------|-------|--|
| Idle Time-out | 0     | <p>The default value is 20 minutes. This means that if the website does not receive any requests for 20 minutes, the app pool will shutdown or suspended.</p> <p>If the Sitecore client window is left open, this will periodically send a request to the Sitecore server, resetting the idle time-out timer. If you do not have a Sitecore client window open, eventually the app pool will time out.</p> |

|                       |   |   |
|-----------------------|---|---|
| Regular Time Interval | 0 | <p>The default value is 1740 minutes. This means that every 29 hours the application pool will recycle.</p> <p>In cases where MongoDB has millions of contacts, it is possible the data migration process will take more than 29 hours to complete.</p> |
|-----------------------|---|---|

**NOTE**

Remember to reset these settings to their original values after the data migration process is finished.

### 1.2.5. Setting the change tracking retention policy on the SQL Server

xConnect uses the SQL Server's change tracking features to know when new data is available to index. The SQL Server uses a hidden database to store this data for a specific amount of time. The amount of time that the data is stored in this hidden database is determined by the retention policy on the xConnect collection database.

In cases where a large amount of data is submitted to xConnect for an extended period of time (such as during a data migration process), the hidden database can become very large, which leads to a gradual but steady degradation of performance.

By default, the retention policy on the xConnect collection database is 5 days. We recommend that this value is decreased while the migration process is running.

**NOTE**

Do not forget to reset this value after the migration process has finished running.

### 1.2.6. Setting the maximum request size on the xConnect Server

By default, IIS limits the amount of data that can be accepted by the web server. This default setting reduces the effects of certain types of denial-of-service attacks.

This setting is configured in the HTTP runtime settings section in the `web.config` file. The property is `maxRequestLength`:

```
<system.web>
  <compilation debug="true" targetFramework="4.6.2" />
  <httpRuntime targetFramework="4.6.2"
    maxRequestLength="1048576"
    maxUrlLength="8192"
    maxQueryStringLength="8192"
    requestPathInvalidCharacters="" />
  <customErrors mode="RemoteOnly" />
</system.web>
```

We recommend that you increase this value to the maximum value `2147483647` while the migration process is running.

**NOTE**

Do not forget to reset this value after the migration process is finished running.

### 1.2.7. Data Exchange Framework 1.x

If you are installing the xDB Data Migration Tool on a Sitecore server that has Data Exchange Framework (DEF) 1.x already installed on it, you **must** uninstall DEF and all providers before you can install xDB Data Migration Tool.

#### NOTE

There is no upgrade path for tenants created for DEF 1.x to 2.x. You must recreate these tenants after you upgrade DEF.

An uninstaller for Data Exchange Framework 1.x is available on the [Sitecore Downloads page](#).

## 1.3. Install the xDB Data Migration Tool

This section describes how to install the xDB Data Migration Tool.

### 1.3.1. Install Sitecore installation packages

Installing xDB Data Migration involves installing several Sitecore installation packages.

#### NOTE

The order these packages are installed is significant. Certain installation packages include references to components that are installed by the other installation packages.

Download the following packages from the [Sitecore Downloads page](#):

- Data Exchange Framework 2.1
- MongoDB Provider for Data Exchange Framework 2.1
- xConnect Provider for Data Exchange Framework 2.1
- xDB Data Migration Tool for Data Exchange Framework 2.1

### 1.3.2. Install the verification database

The verification database is provided as a dacpac file. To install:

- [download](#) the Verification Database for Data Exchange Framework package, which contains the `Sitecore.DataExchange.Verification.dacpac` file.
- deploy the dacpac file to the SQL server.

## 1.4. Configure the xDB Data Migration Tool

This section describes how to configure the xDB Data Migration Tool.

### 1.4.1. Add connection strings

The data migration process involves reading data from a MongoDB database and writing the data to an xConnect server. You must specify the location of the following servers:

- MongoDB database - the xDB Data Migration Tool uses the MongoDB .NET Driver version 2.4.4. For details on how to build a connection string for this driver, see the driver documentation: <http://mongodb.github.io/mongo-csharp-driver/2.4/reference/driver/connecting/#connection-string>
- xConnect collection service - the Sitecore server comes with the connection strings needed to connect to the xConnect collection service. You can use the following values unless you want to specify a different xConnect collection service:
  - *xconnect.collection*
  - *xconnect.collection.certificate*
- xConnect reference data service - the Sitecore server comes with the connection strings needed to connect to the xConnect reference data service. You can use the following values unless you want to specify a different xConnect reference data service:
  - *xdb.referencedata.client*
  - *xdb.referencedata.client.certificate*
- Verification database (optional) - if you plan to [use the verification features](#), you must add a connection string for the xDB Data Migration Tool to use to connect to the verification database. The name of the connection string must be `def.verification`.

### 1.4.2. Set the interaction period for Experience Profile

Experience Profile uses a cache to determine which contacts to display. By default, only interactions that occurred within the past 30 days are added to the cache. You can change this setting on the xConnect server:

- File: `sc.XConnect.Collection.Model.Plugins.xml`
- Setting: `MaximumInteractionPeriod`

Set the period to an interval suitable for your installation before you run the migration.

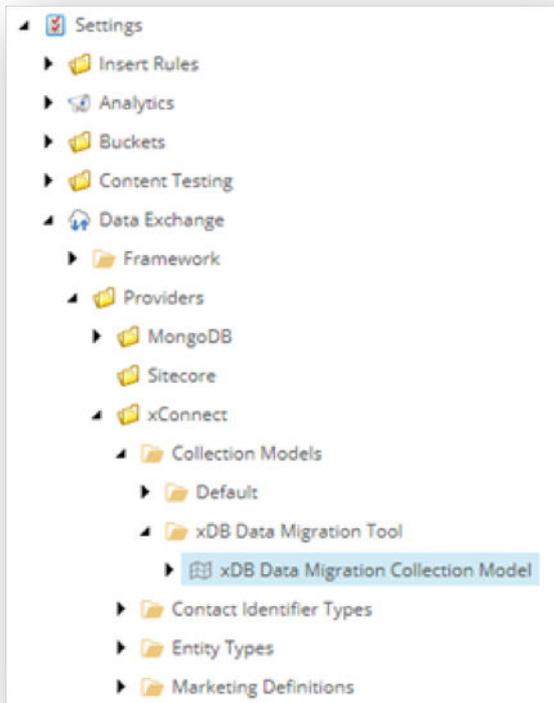
For more information, please refer to the Interactions Cache topic in the [xConnect documentation](#).

### 1.4.3. Deploy the collection model

The xDB Data Migration Tool uses a custom collection model that identifies the data that can be written to xConnect. You must deploy this custom collection model to both the xConnect service and the xConnect indexer service.

To deploy the collection model:

1. In the Content Editor, navigate to `sitecore/system/Settings/Data Exchange/Providers/xConnect/Collection Models/xDB Data Migration Tool/xDB Data Migration Collection Model`.

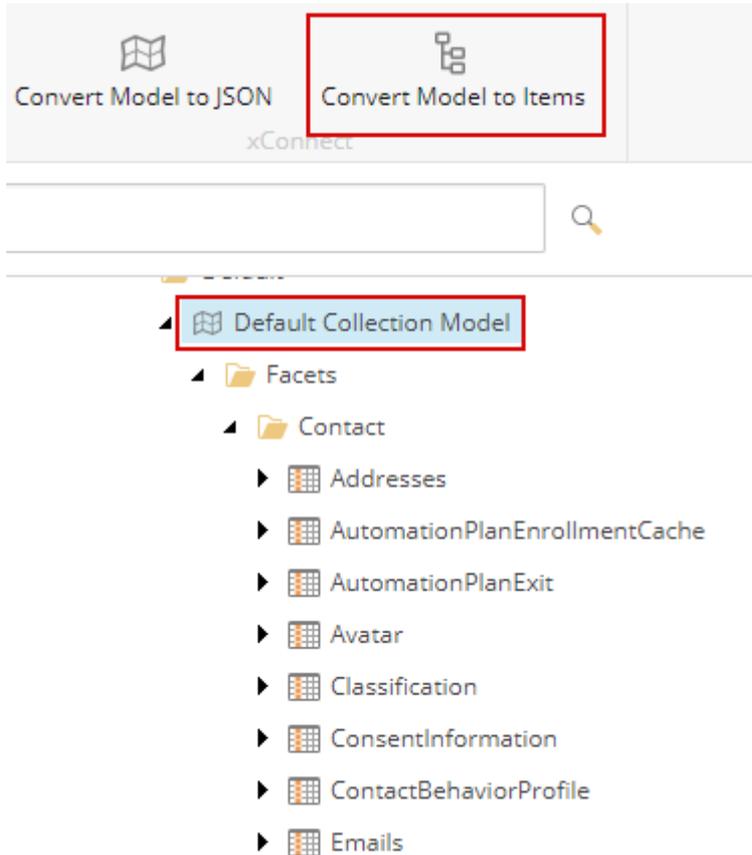


2. On the ribbon, click **Convert Model to JSON**.



3. Your browser prompts you to download a JSON file. Save the file.
4. In some versions of Sitecore Experience Platform 9.0, a bug results in an error in the JSON file. To fix this bug, open the JSON file in a text editor and change `"Name": "ContentTesting"` to `"Name": "Sitecore.XConnect.ContentTesting.Model"` and save the file.
5. Copy the JSON file to the following locations:
  - `[xConnect collection service root]\Website\App_data\Models`
  - `[xConnect indexer service root]\Website\App_data\Models`
6. In the content editor, select the item that corresponds to the xDB collection Model.

7. On the Data Exchange ribbon click **Convert Model To Items**.

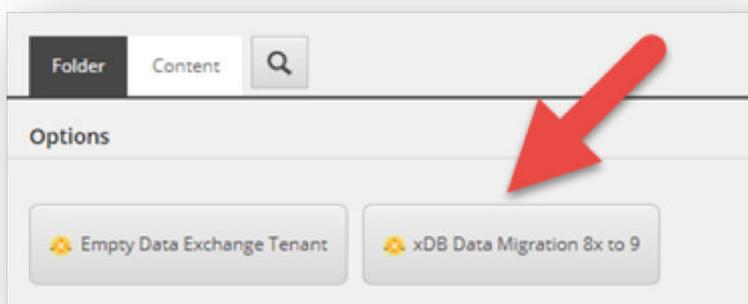


#### 1.4.4. Create a tenant

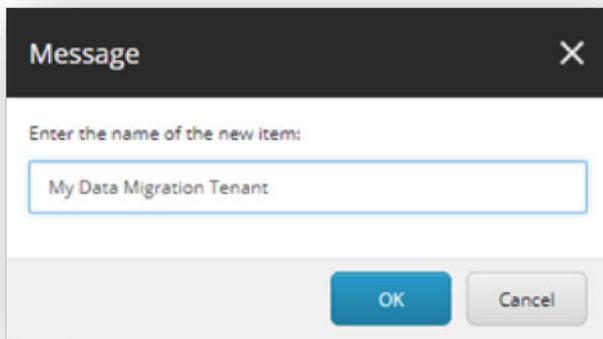
A tenant is an item that organizes all of the settings related to the data migration process.

To create a tenant:

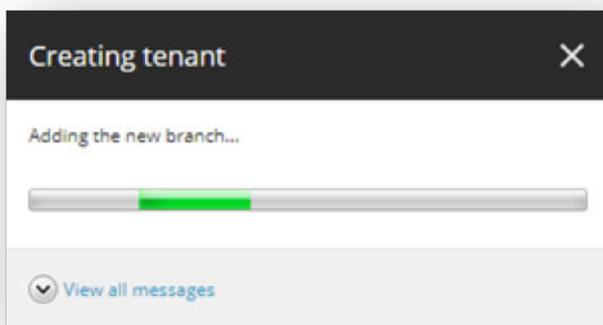
1. In the Content Editor, navigate to `sitecore/System/Data Exchange`.
2. To add a new item, click **xDB Data Migration 8x to 9**.



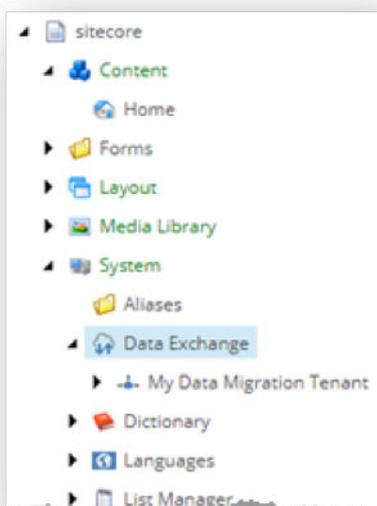
3. Enter a descriptive name for the tenant and click **OK**.



It can take a several minutes for the tenant to be created.



When the tenant is created, you can see it listed under: `sitecore/System/Data Exchange`.

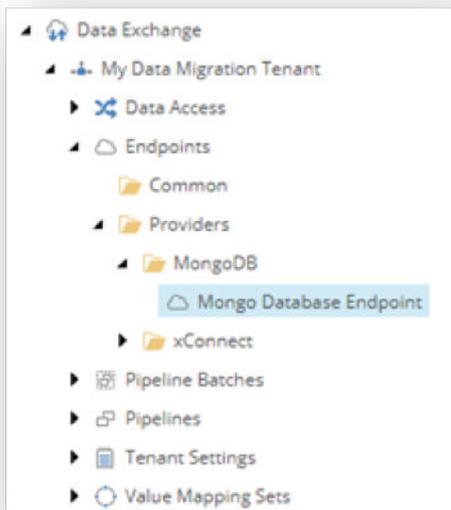


### 1.4.5. Configure an endpoint

An endpoint represents a system that data can be read from or written to.

To configure an endpoint:

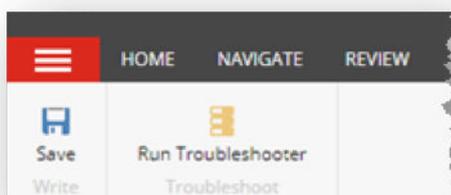
1. In the Content Editor, select your tenant and navigate to `Endpoints/Providers/MongoDB/Mongo Data Endpoint`.



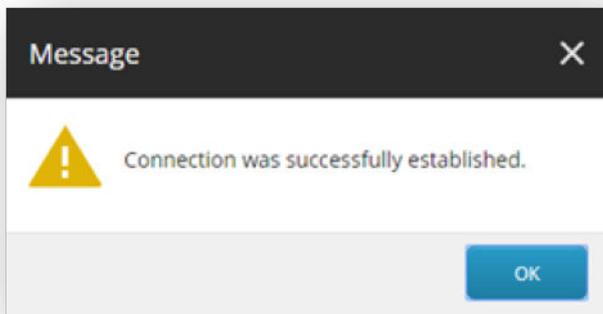
2. In the **Connection String Name** field, set the name of the connection string for the MongoDB database and save the item.



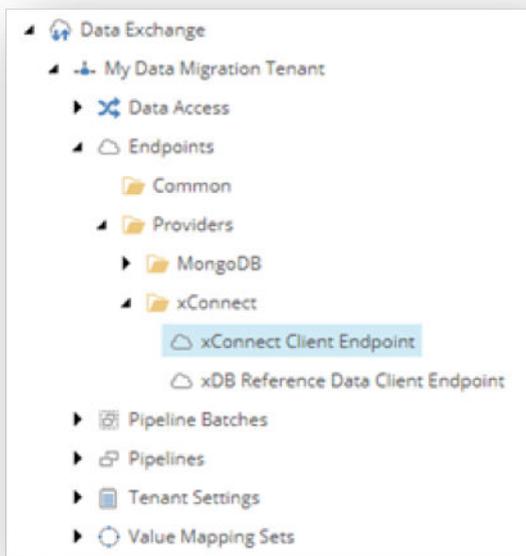
3. On the ribbon, click **Run Troubleshooter**.



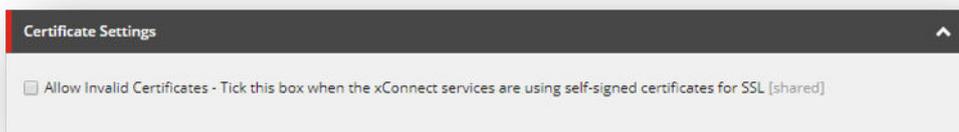
A message appears to indicate a connection could be made to the MongoDB database.



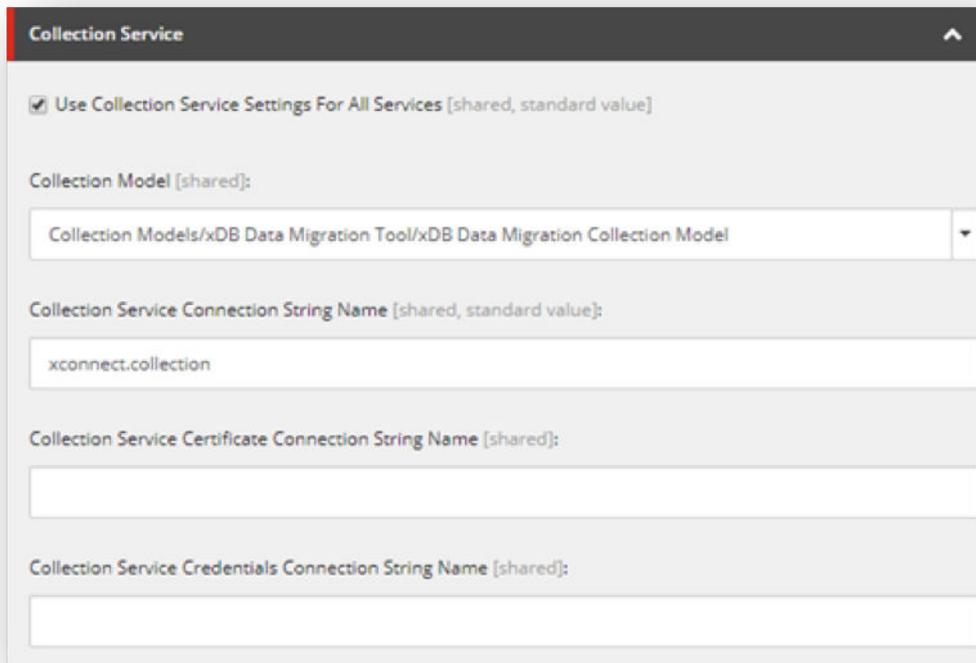
4. Under the tenant, navigate to Endpoints/Providers/xConnect/xConnect Client Endpoint.



5. If your xConnect server is using a self-signed certificate for SSL, select the **Allow Invalid Certificates** check box.

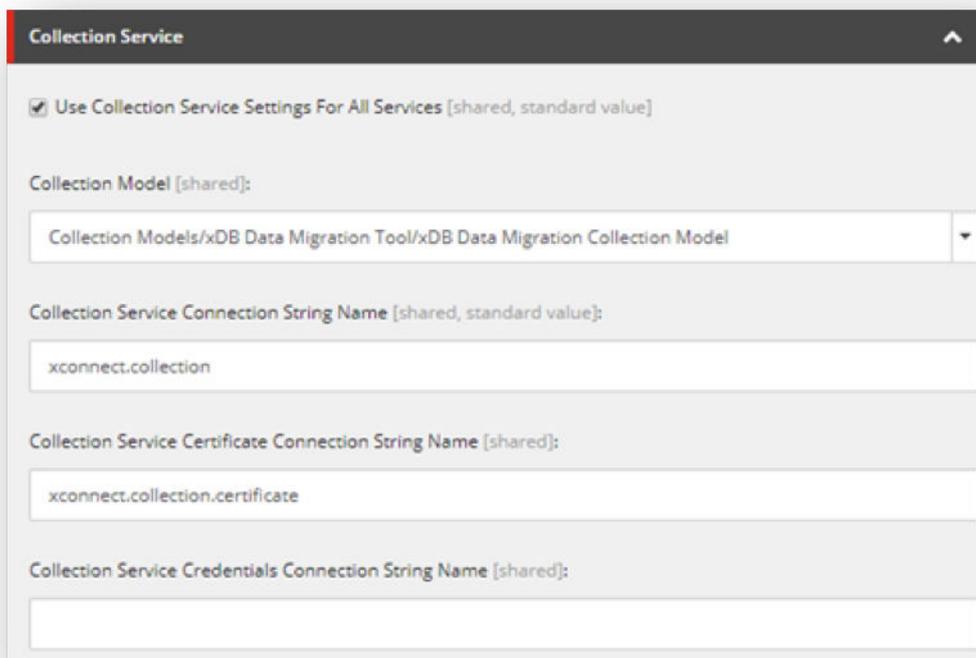


6. In the **Collection Service Connection String Name** field, specify the name of the connection string for the xConnect client service.



The screenshot shows the 'Collection Service' configuration window. It includes a checkbox for 'Use Collection Service Settings For All Services' which is checked. Below it is a dropdown menu for 'Collection Model' with the selected value 'Collection Models/xDB Data Migration Tool/xDB Data Migration Collection Model'. The 'Collection Service Connection String Name' field contains the text 'xconnect.collection'. The other fields, 'Collection Service Certificate Connection String Name' and 'Collection Service Credentials Connection String Name', are currently empty.

7. In the **Collection Service Certificate Connection String Name** field, specify the name of the connection string that describes the certificate used to connect to the xConnect client service.



This screenshot shows the same 'Collection Service' configuration window as above, but with the 'Collection Service Certificate Connection String Name' field now populated with the text 'xconnect.collection.certificate'. All other settings remain the same.

- On the ribbon, click **Run Troubleshooter**.



A message indicates that a connection could be made to the xConnect collection service.

- Under the tenant, navigate to `Endpoint/Providers/xConnect/ xDB Reference Data Client Endpoint`.
- If your xConnect server is using a self-signed certificate for SSL, select the **Allow Invalid Certificates** check box.
- In the **Client Connection String Name** field, specify the name of the connection string for the xConnect reference data service.



- In the **Client Certificate Connection String Name** field, specify the name of the connection string for the xConnect reference data service and save the item.



- On the ribbon, click **Run Troubleshooter**.

A message indicates that a connection could be made to the xConnect reference data service.

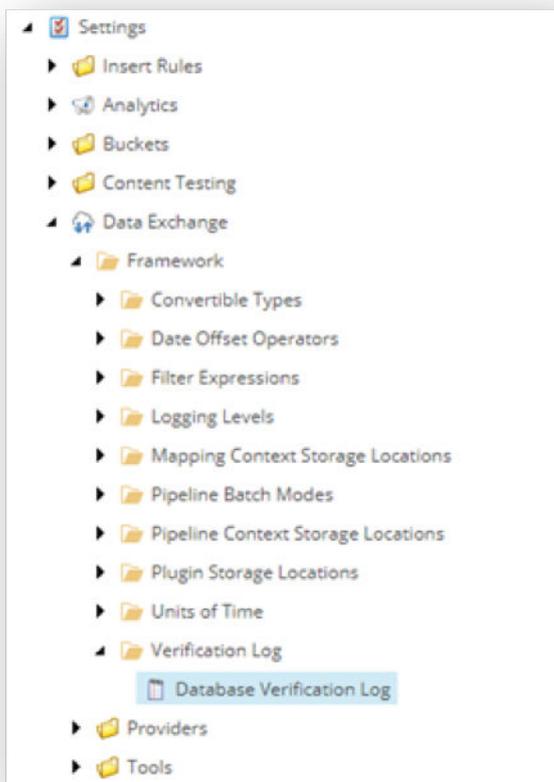
### 1.4.6. Configure the verification database

If you are using the verification feature, you must configure the tenant to use the [database you created](#).

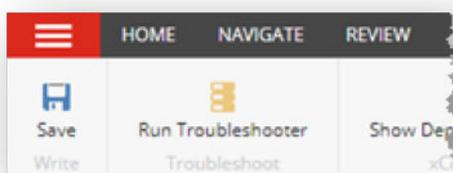
By default, the name of the connection string for the verification database is `def.verification`. If you used a different connection string name, you must set the correct connection string name.

To configure the verification database:

1. In the Content Editor, navigate to `sitecore/system/Settings/Data Exchange/Framework/Verification Log/Database Verification Log`.



2. In the **Connection String Name** field, specify the correct connection string name and save the item.
3. On the ribbon, click **Run Troubleshooter**.



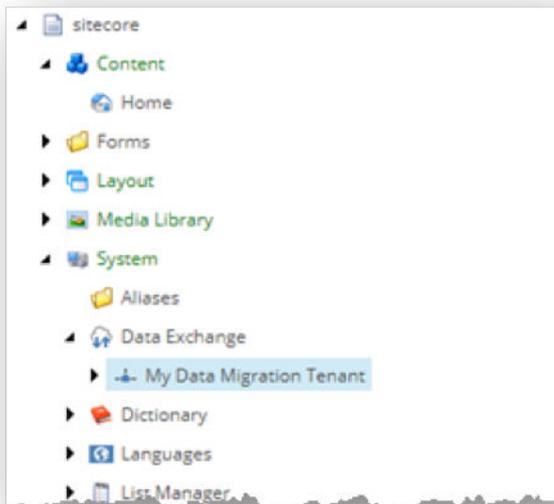
A message appears to indicate a connection could be made to the verification database.

### 1.4.7. Enable verification

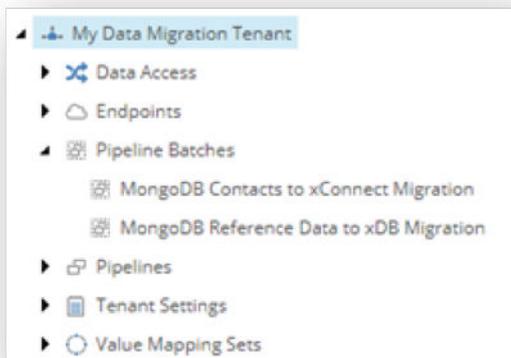
By default, verification is disabled on each pipeline batch.

To enable verification on a pipeline batch:

1. In the Content Editor, select your tenant.

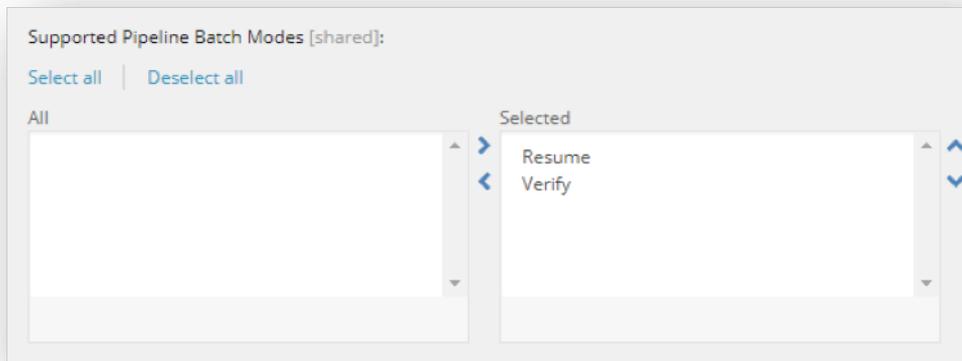


2. Expand Pipeline Batches.

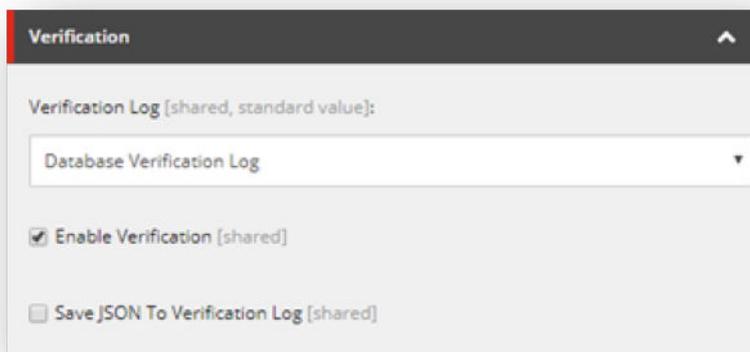


3. Select the pipeline batch that you want to enable verification on.

4. In the **Supported Pipeline Batch Modes** field, add *Verify*.



5. Select the **Enable Verification** check box.



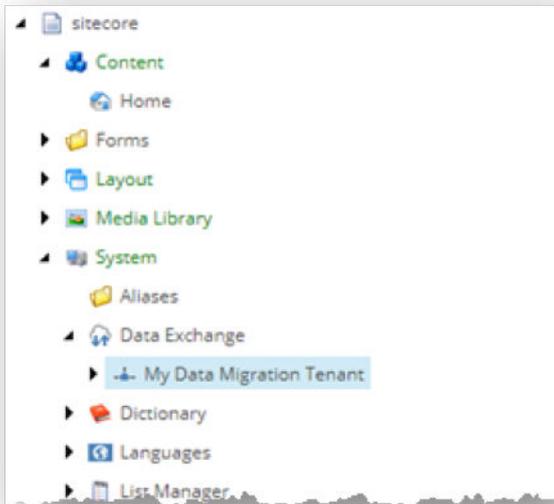
6. Save the item.

### 1.4.8. Enable the tenant

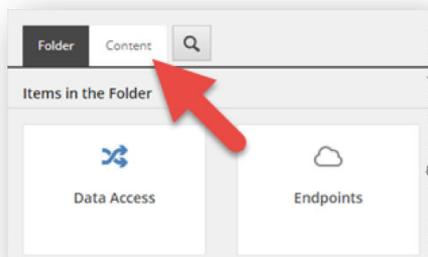
By default, the tenant is disabled. This is to ensure that the data migration process is not run accidentally before it has been properly configured.

To enable the tenant:

1. In the Content Editor, select your tenant.



2. On the **Content** tab, select the **Enabled** check box.



3. Save the item.

### 1.4.9. Configure pipeline resume mode

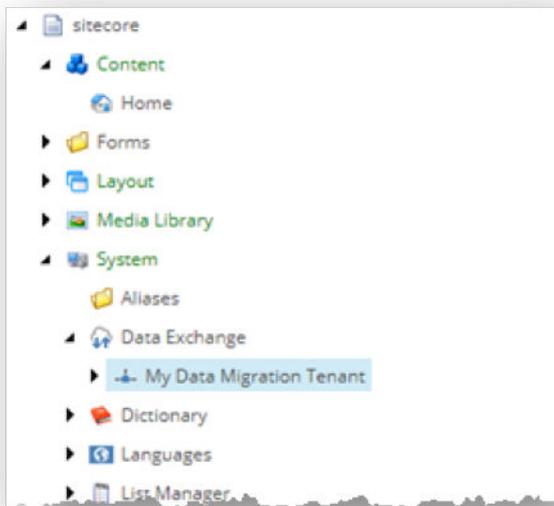
If data migration is interrupted, the next time it runs it will start at the beginning of the data set. This can lead to performance issues because some data will be processed twice. You can configure the migration tool to run in resume mode, which means that if a migration is run a second time after an interruption, it resumes at the point where it was interrupted.

#### NOTE

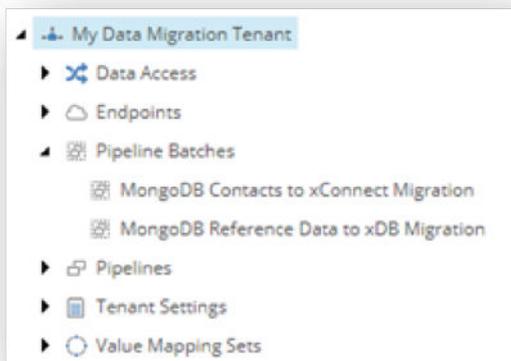
The resume mode stores the resume point in the verification database. You must set up and configure the verification database in order to use the resume mode.

To enable the resume mode:

1. In the Content Editor, select your tenant.

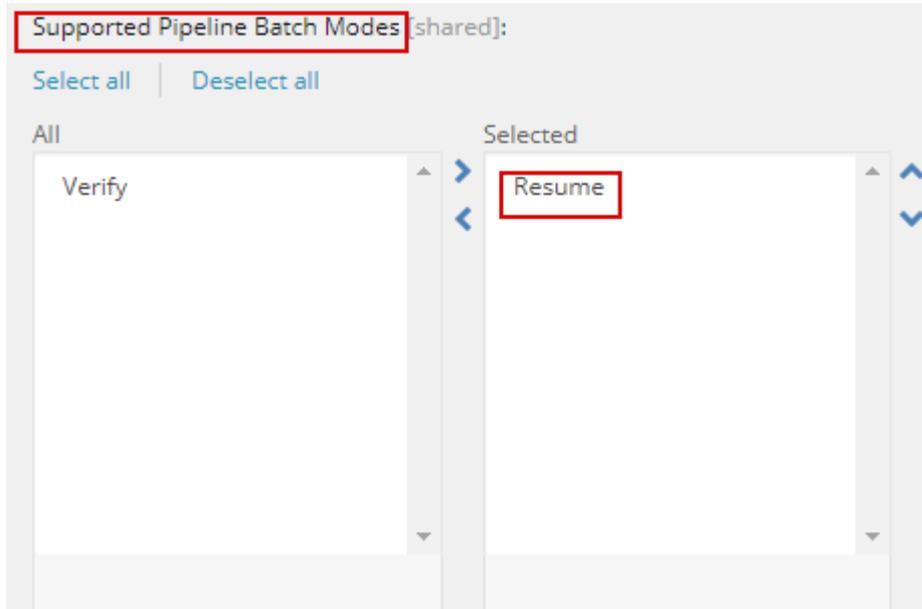


2. **Expand** Pipeline Batches.

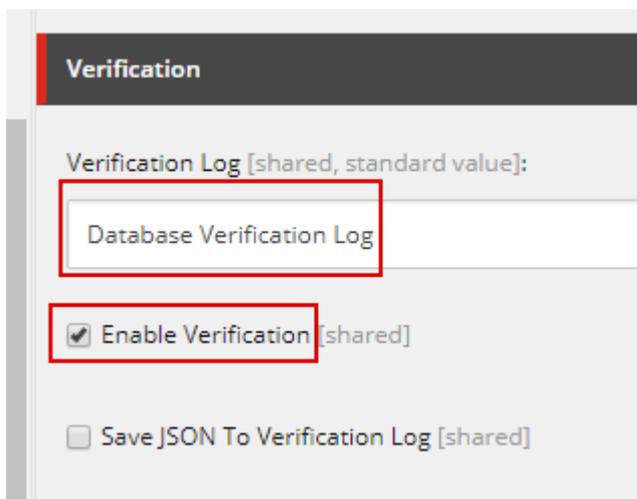


3. Select the pipeline batch you want to configure.

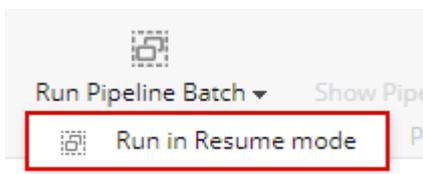
- In the **Supported Pipeline Batch Modes** field, add the *Resume* mode to the **Selected** column:



- In the **Verification** dialog box, use the following settings:



You can now choose to run the data migration in resume mode:



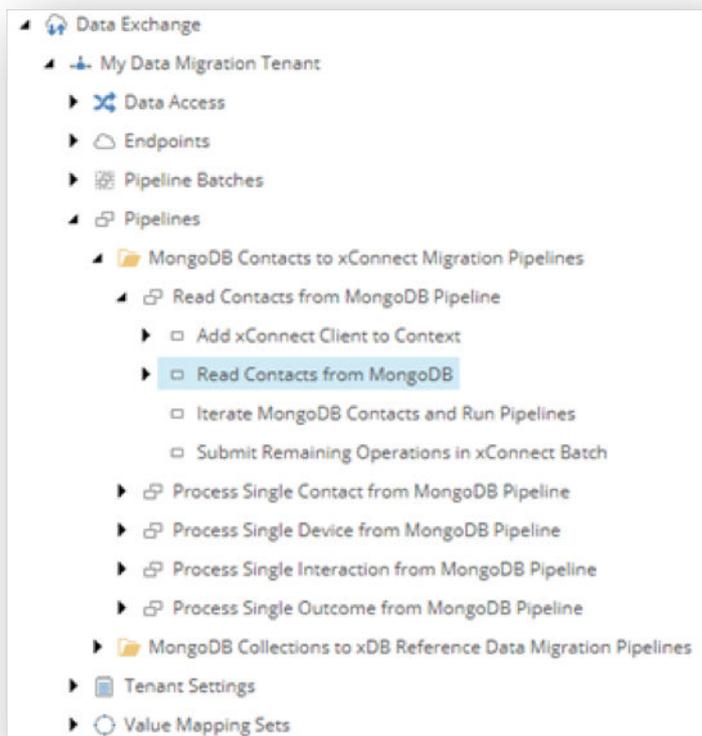
### 1.4.10. Test the configuration

We recommend that you try running the data migration process in a test environment before running it in a production environment.

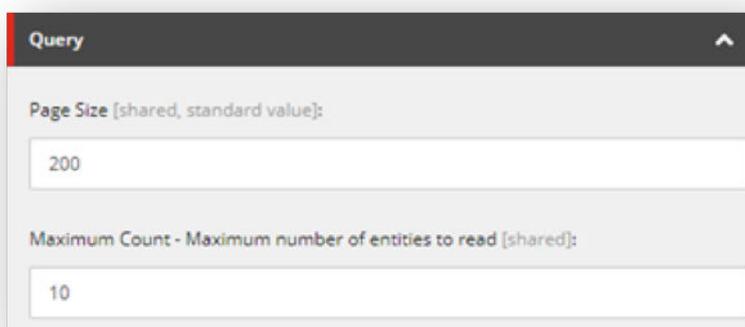
When running a test, it is often acceptable to read a limited amount of data from MongoDB. At this point, the goal is to determine whether or not the data migration process is working as you expect it to.

To limit the amount of data that is read from MongoDB to 10 contacts and test the configuration:

1. In Content Editor, select your tenant.
2. Navigate to Pipelines/MongoDB Contacts to xConnect Migration Pipelines/Read Contacts from MongoDB Pipeline/Read Contacts from MongoDB.

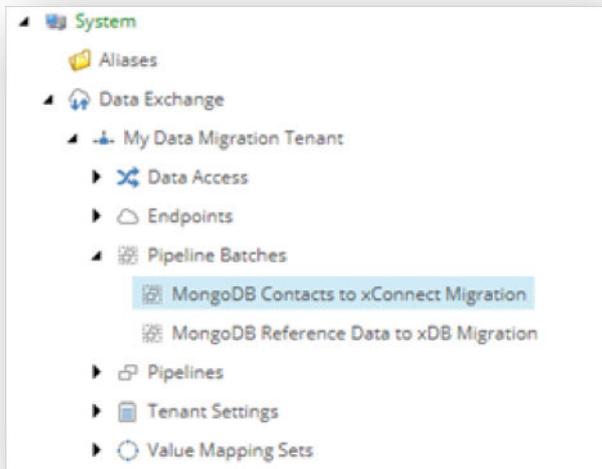


3. In the **Maximum Count** field, enter *10* and save the item.

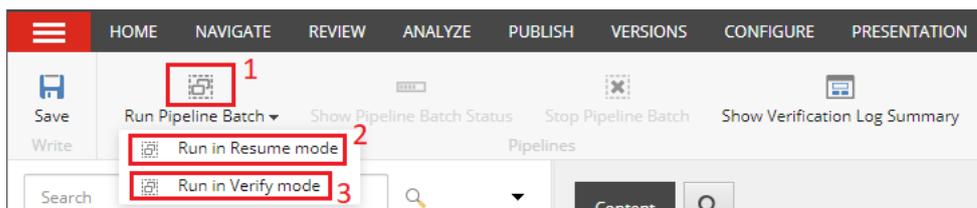


4. Select your tenant.

5. Navigate to Pipeline Batches/MongoDB Contacts to xConnect Migration.



6. On the ribbon, click **Run Pipeline Batch** and select the mode in which you want to run.

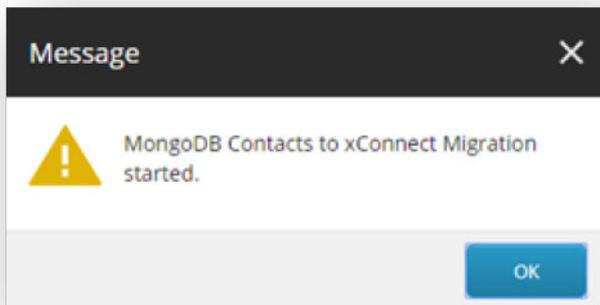


- **Run pipeline batch** (1) – the default mode. Use this the first time you run the migration, or if you need to restart the migration from the beginning. If you have enabled verification and this is the first time you’re running the migration, the Verification database will be populated with data. The database is not repopulated if you’re running the migration a second time.
- **Run in resume mode** (2) – use this if you want to resume a migration at the point at which it was last interrupted. The Verification database will continue to be populated with data.
- **Run in verify mode** (3) – use this mode once migration has completed to check the data accuracy. This option is not related to the verification feature that populates the Verification database.

**NOTE**

If you do not see the **Resume mode** and **Verify mode** options, add them to the pipeline batch on the **Content** tab, in the **Supported Pipeline Batch Modes** section.

7. A message appears to indicate the pipeline batch was started. Click **OK** to continue.



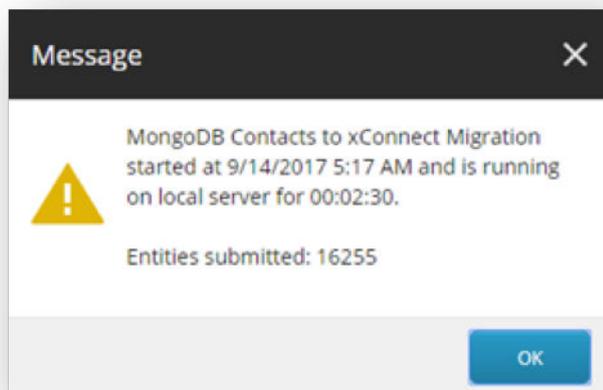
**NOTE**

The length of time it takes to complete the data migration process depends on how much data you have in MongoDB and the maximum count you specify.

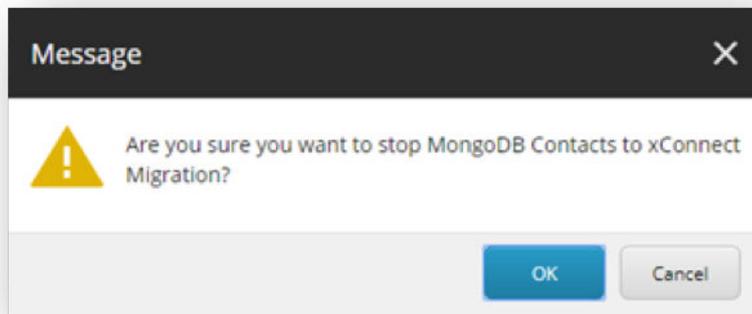
8. While the pipeline batch is running, on the ribbon, you can find commands to show the pipeline batch status and to stop the pipeline batch.



- To see the number of xConnect operations that were submitted (not the number of contacts that were submitted), click **Show Pipeline Batch Status**.



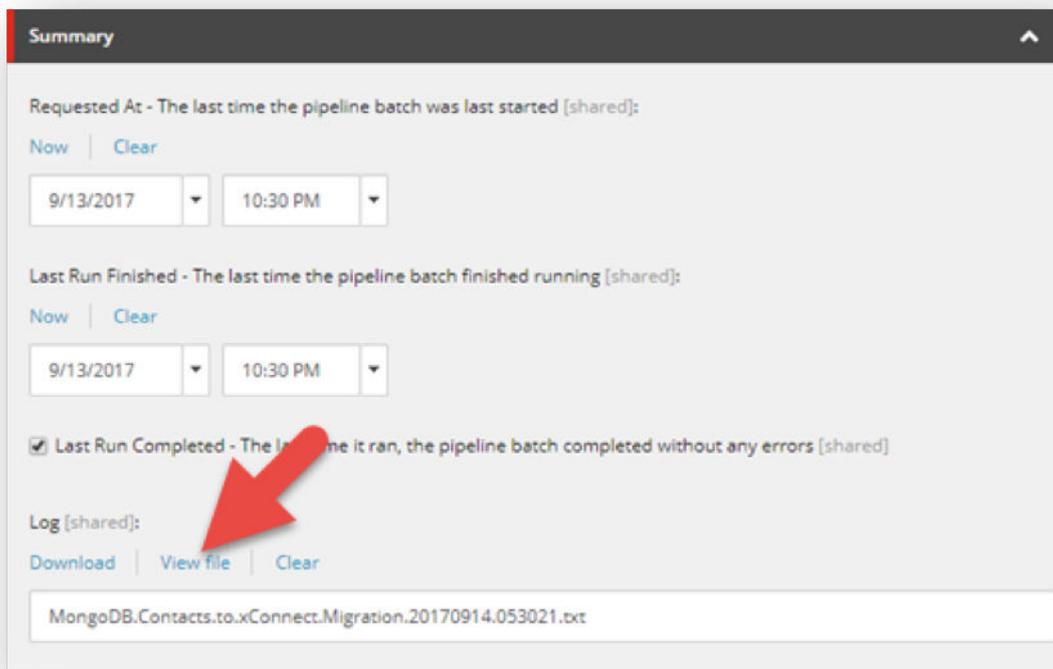
- To stop a pipeline batch that is currently running, click **Stop Pipeline Batch**.

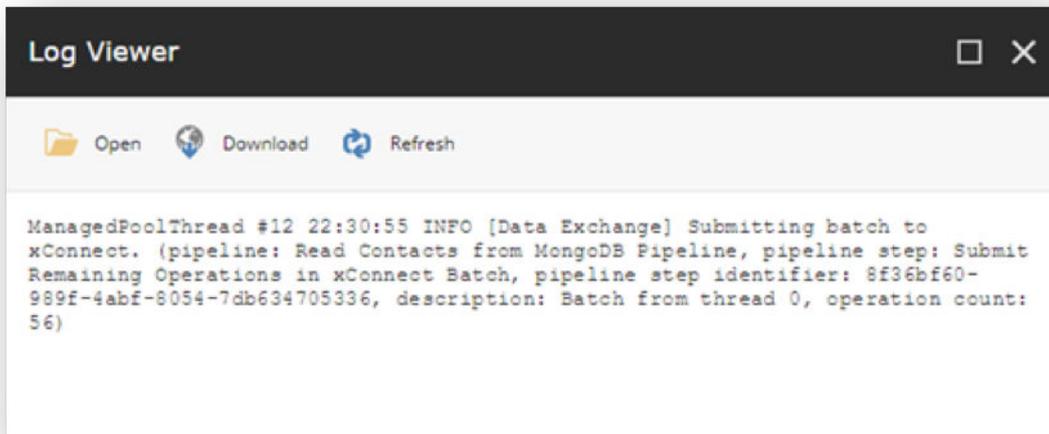


**NOTE**

The pipeline batch runs asynchronously on the Sitecore server. This means that the command sends an instruction to Sitecore to request the pipeline batch be stopped. The pipeline batch will not stop immediately.

9. After the pipeline batch finishes, you can view a log of the activity from the last time the pipeline batch was run.





## 1.5. Advanced configuration

This section describes some common settings you can use in your tenant.

### 1.5.1. Enable multiple threads

The contact migration process is configured to run in a single thread. By increasing the number of threads used during the migration process, you can increase performance, especially when a large number of contacts need to be migrated.

#### NOTE

Multiple threads are used to handle the contact documents that are read from MongoDB. Reading from MongoDB is done in a single thread in order to avoid reading the same documents multiple times.

To enable multiple threads:

1. In the Content Editor, select your tenant.
2. Navigate to Pipelines/MongoDB Contacts to xConnect Migration Pipelines/Read Contacts from MongoDB Pipeline/Iterate MongoDB Contacts and Run Pipelines.
3. In the **Max Thread Count** field, set the number of threads you want to use.
4. Save the item.

#### NOTE

Do not change the **Max Thread Count** field value on any other pipeline step in the contact migration process. Doing so can prevent interaction data from being migrated properly.

### 1.5.2. Change the batch Size

In order to interact with the xConnect collection service as efficiently as possible, the contact migration process only submits data to the xConnect collection service after a certain amount of data is collection.

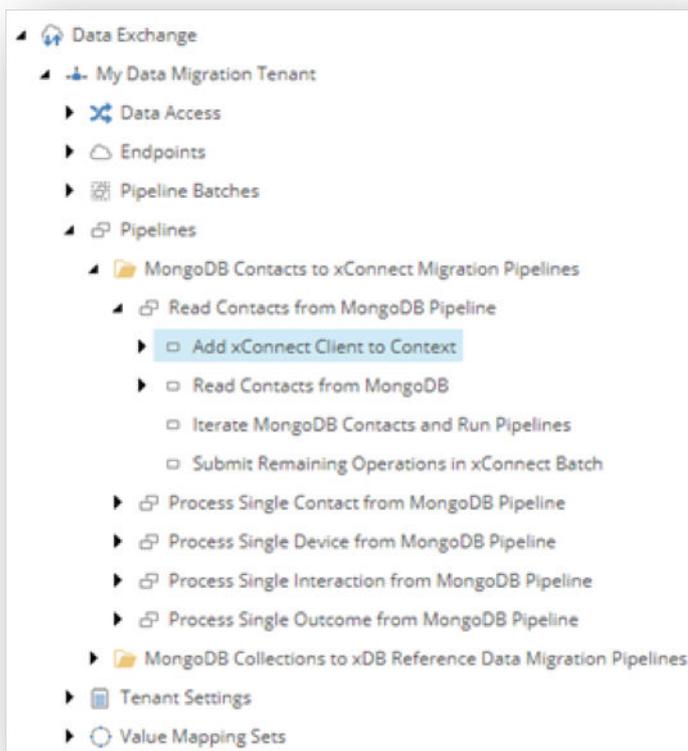
This threshold can be configured on the contact migration process.

**NOTE**

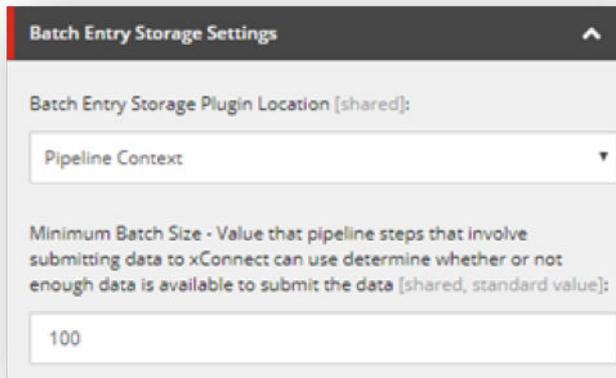
The unit this threshold is measure in an *operation*. An operation represents a single instruction for the xConnect collection service. Controlling the batch size means specifying the minimum number of operations that must be available before those operations are submitted to the xConnect collection service.

To change the batch size:

1. In the Content Editor, select your tenant.
2. Navigate to Pipelines/MongoDB Contacts to xConnect Migration Pipelines/Read Contacts from MongoDB Pipeline/Add xConnect Client to Context.



3. In the **Minimum Batch Size** field, set the minimum number of operations that must be added to the xConnect client before the batch is submitted.



4. Save the item.

## 1.6. Troubleshooting

This section describes common problems and their solutions.

### 1.6.1. Access a log

Each data migration process in the xDB Data Migration Tool maintains its own log. This log is accessible from the Content Editor through the pipeline batch item that represents the data migration process.

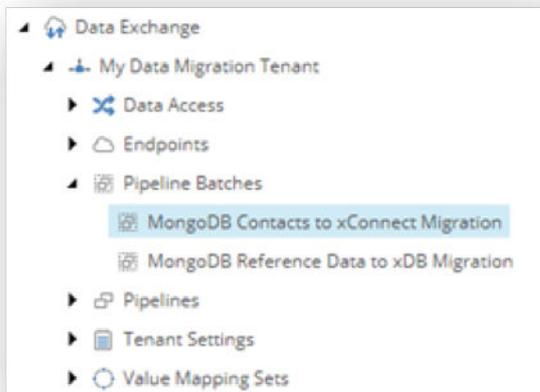
#### NOTE

Changing the log level for xDB Data Migration Tool does not affect the log level for any other part of the Sitecore server.

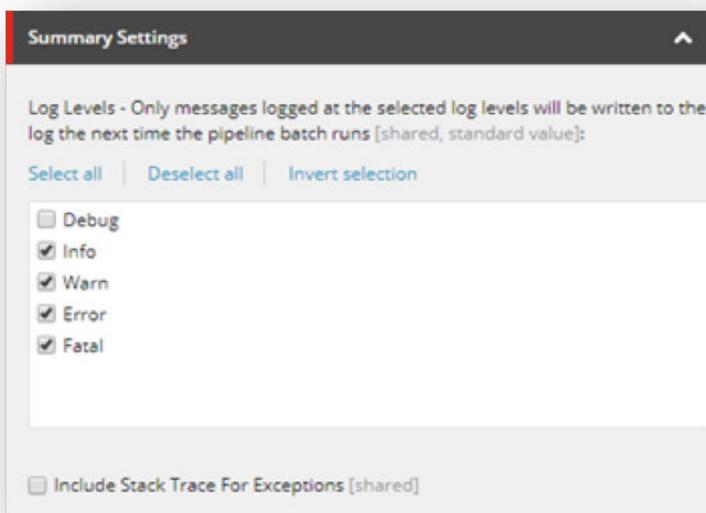
To access the log:

1. In the Content Editor, select your tenant.

2. Navigate to *Pipeline Batches/MongoDB Contacts to xConnect Migration*.



3. Select the log levels you want to capture.



4. Save the item.

## 1.6.2. Collection model not deployed to xConnect collection service

### Error message

'Sitecore.DataExchange.Tools.XdbDataMigration.Models.DataMigrationCollectionModel, 1.0' does not have a remote version...

### Cause

The collection model for xDB Data Migration Tool has not been deployed to the xConnect services.

### Solution

[Deploy the collection model.](#)

### 1.6.3. Unable to establish connection to MongoDB

#### Error message

```
A timeout occurred after 30000ms selecting a server using CompositeServerSelector...
```

#### Cause

Sitecore cannot make a connection to the MongoDB server.

#### Solution

Ensure that the following are true:

- There are no network connectivity issues affecting either the Sitecore server or the MongoDB server.
- The MongoDB server is running.
- The connection string for the MongoDB server is configured properly.

### 1.6.4. Unable to establish connection to xConnect collection service

#### Error message

```
The HTTP response was not successful: NotFound
```

#### Cause

A network connection to the xConnect collection service could not be established.

#### Solution

Ensure that the following are true:

- There are no network connectivity issues affecting either the Sitecore server or the xConnect collection service.
- The xConnect collection service is running.
- The connection string for the xConnect collection service is configured properly.

### 1.6.5. Request handling size too low

#### Error message

```
The maximum number of bytes allowed to be read from the stream has been exceeded. After the last read operation, a total of #### bytes has been read from the stream; however a maximum of #### bytes is allowed.
```

#### Cause

The data sync process is sending too much data in a single batch to the xConnect collection service.

#### Solution

The amount of data the xConnect collection service can accept is configured in the collection service's `web.config` file. Increase the following value:

```
configuration/system.web/httpRuntime/@maxRequestLength
```

### 1.6.6. Contacts are missing in Experience Profile

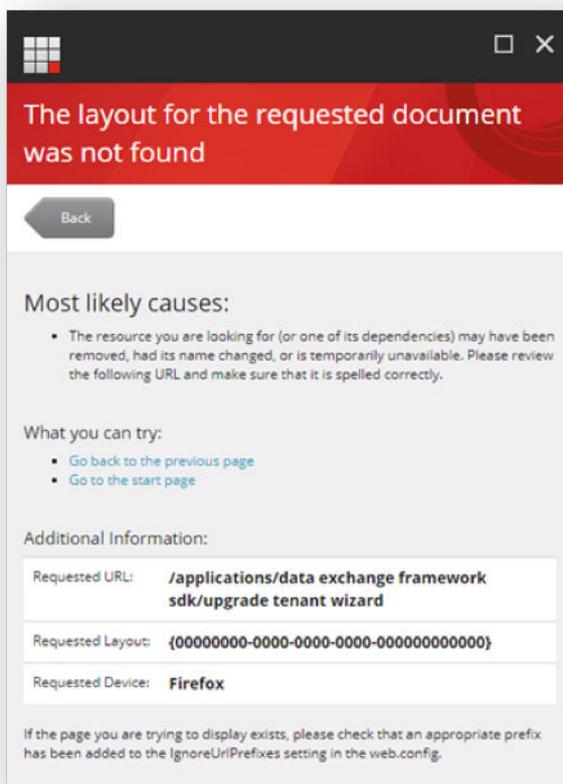
The contact's interactions are too old. Experience Profile uses a cache to determine which contacts to display. By default, only interactions that occurred within the past 30 days are added to the cache. You can change this setting on the xConnect server:

- File: `sc.XConnect.Collection.Model.Plugins.xml`
- Setting: `MaximumInteractionPeriod`

For more information, please refer to the Interactions Cache topic in the [xConnect documentation](#).

### 1.6.7. The layout for the requested document was not found

The following error can appear when you click **Upgrade Tenant**.



To resolve this issue:

1. In the Content Editor, open the core database.
2. Navigate to `sitecore/content/Applications/Data Exchange Framework SDK/Upgrade Tenant Wizard`.
3. Open the presentation details.
4. Edit the settings for Internet Explorer.
5. For the layout, select `Layouts/Data Exchange Framework SDK/Upgrade Tenant Wizard`.

6. Save the item.

## 1.7. Installing hotfixes

If you have issues with the xDB Data Migration Tool, Sitecore Support may ask you to install a hotfix. Hotfixes for the xDB Data Migration Tool are delivered as Sitecore installation packages.

In general, the hotfixes do the following:

- Make changes to the module to ensure that tenants created *after* the hotfix is installed take advantage of the hotfix. This happens automatically.
- Install instructions that can be used to apply changes to a tenant to ensure that tenants created *before* the hotfix was installed take advantage of the hotfix. These instructions must be applied to each tenant individually.

### NOTE

Not all hotfixes require you to update existing tenants. The hotfix indicates whether this step is needed.

The steps in the following section are only necessary if you have tenants that were created before the hotfix was installed that will benefit from the hotfix.

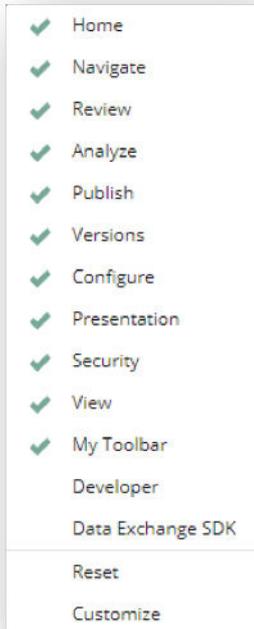
In order to install a hotfix, you must:

- Install the Sitecore Data Exchange Framework SDK
- Install the hotfix package
- Update the tenants (if the hotfix indicates this is necessary)

### 1.7.1. Install the Sitecore Data Exchange Framework SDK

To install the Sitecore Data Exchange Framework SDK:

1. Download the [Sitecore Data Exchange Framework SDK 2.1](#).
2. On your Sitecore server, install the Sitecore Data Exchange Framework SDK 2.1.
3. After the SDK is installed, open the Content Editor.
4. In the top toolbar, right-click above any of the menu items (**Home**, **Navigate**, and so on).
5. Click **Data Exchange SDK**.



### 1.7.2. Install the hotfix

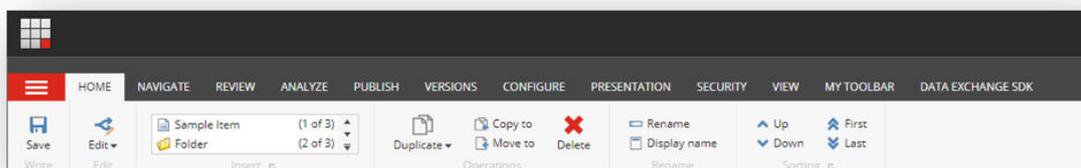
If Sitecore Support has instructed you to install a hotfix, use the Sitecore **Installation Wizard** to install it:

1. At the Sitecore desktop, select **Sitecore, Development Tools, Installation Wizard**.
2. Use the wizard to upload the hotfix package and follow all of the instructions to install. If you are prompted to overwrite an existing item then you should accept this option.

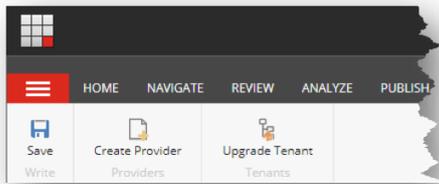
### 1.7.3. Update the tenant

To update the tenant:

1. In the Content Editor, select the tenant you want to update.
2. In the top toolbar, click **DATA EXCHANGE SDK**.



3. Click **Upgrade Tenant**.

**NOTE**

You might see the following error message: *The layout for the requested document was not found.* To fix this error, you must [edit some settings](#).

## 1.8. Uninstalling the xDB Data Migration Tool

After you have migrated your data from Sitecore Experience Platform 8.x to 9.x, you can uninstall the xDB Data Migration Tool.

If you choose to leave the tool installed, make sure that you disable any tenants you created in order to prevent the migration process from running accidentally.

**WARNING**

Leaving the tool installed might slow down the Sitecore load time and publishing speed, regardless of whether you have disabled the tenants or not.

### 1.8.1. Delete tenants

To delete tenants:

- In the Sitecore database *master*, delete the child items under the following items:
  - `/sitecore/system/Data Exchange`

### 1.8.2. Uninstall the xDB Data Migration Tool for Data Exchange Framework

To uninstall the xDB Data Migration Tool for Data Exchange Framework:

1. In the master Sitecore database, delete the following items:
  - `/sitecore/system/Settings/Rules/Insert Options/Rules/Data Exchange - xDB Data Migration Tool`
  - `/sitecore/templates/Branches/Data Exchange/Tools/xDB Data Migration Tool`
  - `/sitecore/templates/Data Exchange/Tools/xDB Data Migration Tool`
2. On the Sitecore server, delete the following folder:

- *App\_Config\Sitecore\XdbDataMigration*

3. On the Sitecore server, delete the following files:

- `bin/Sitecore.DataExchange.Tools.XdbDataMigration.dll`
- `bin/Sitecore.DataExchange.Tools.XdbDataMigration.Local.dll`

### 1.8.3. Uninstall the MongoDB provider for Data Exchange Framework

To uninstall the MongoDB provider for Data Exchange Framework:

1. In the master Sitecore database, delete the following items:

- `/sitecore/system/Settings/Rules/Insert Options/Rules/Data Exchange - MongoDB Provider`
- `/sitecore/templates/Branches/Data Exchange/Providers/MongoDB`
- `/sitecore/templates/Data Exchange/Providers/MongoDB`

2. On the Sitecore server, delete the following files:

- `bin/Sitecore.DataExchange.Providers.MongoDB.dll`
- `bin/Sitecore.DataExchange.Providers.MongoDB.Local.dll`

### 1.8.4. Uninstall xConnect provider for Data Exchange Framework

To uninstall xConnect provider for Data Exchange Framework:

1. In the master Sitecore database, delete the following items:

- `/sitecore/system/Settings/Rules/Insert Options/Rules/Data Exchange - xConnect Provider`
- `/sitecore/templates/Branches/Data Exchange/Providers/xConnect`
- `/sitecore/templates/Data Exchange/Providers/xConnect`

2. In the core Sitecore database, delete the following item:

- `/sitecore/content/Applications/Content Editor/Ribbons/Contextual Ribbons/Data Exchange/Data Exchange/xConnect`

3. On the Sitecore server, delete the following folder:

- `App_Config\Sitecore\DataExchange\XConnect`

4. On the Sitecore server, delete the following files:

- `bin/Sitecore.DataExchange.Providers.XConnect.dll`
- `bin/Sitecore.DataExchange.Providers.XConnect.Local.dll`

### 1.8.5. Uninstall Data Exchange Framework

To uninstall the Data Exchange Framework:

1. In the master Sitecore databaser, delete the following items:

- /sitecore/system/Data Exchange
- /sitecore/system/Settings/Validation Rules/Field Rules/Data Exchange Framework
- /sitecore/system/Settings/Data Exchange
- /sitecore/system/Settings/Rules/Insert Options/Rules/Data Exchange - Common
- /sitecore/system/Settings/Rules/Definitions/Macros/Data Exchange Framework
- /sitecore/system/Settings/Rules/Definitions/Elements/Insert Options/Data Exchange - Add Children as Insert Options
- /sitecore/system/Tasks/Commands/Data Exchange
- /sitecore/templates/Branches/Data Exchange
- /sitecore/templates/Data Exchange

2. In the core Sitecore database, delete the following items:

- /sitecore/content/Applications/Data Exchange
- /sitecore/content/Applications/Content Editor/Menus/Data Exchange
- /sitecore/content/Applications/Content Editor/Ribbons/Contextual Ribbons
- /sitecore/system/Field types/Data Exchange

3. On the Sitecore server, delete the following folder:

- App\_Config\Sitecore\DataExchange\XConnect

4. On the Sitecore server, delete the following files:

- bin/Sitecore.DataExchange.Providers.XConnect.dll
- bin/Sitecore.DataExchange.Providers.XConnect.Local.dll

### 1.8.6. Remove connection strings

On the Sitecore server, remove any connection strings that were created for the data migration process, including those for:

- MongoDB
- The verification database

#### **NOTE**

Only remove the connection strings you *added* during the configuration process. You must not remove the connection strings that you *use* (such as the connection string for the xConnect server).

### **1.8.7. Remove the verification database**

You must remove the verification database.