



# Informatica® PowerExchange for LinkedIn 10.1

## User Guide

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# Preface

The *Informatica PowerExchange for LinkedIn User Guide* provides information about extracting data from LinkedIn. The guide is written for database administrators and developers who are responsible for developing mappings that read data from LinkedIn.

This book assumes you have knowledge of LinkedIn and Informatica Data Services.

## Informatica Resources

### Informatica Network

Informatica Network hosts Informatica Global Customer Support, the Informatica Knowledge Base, and other product resources. To access Informatica Network, visit <https://network.informatica.com>.

As a member, you can:

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- Search the Knowledge Base for product resources, including documentation, FAQs, and best practices.
- View product availability information.
- Review your support cases.
- Find your local Informatica User Group Network and collaborate with your peers.

### Informatica Knowledge Base

Use the Informatica Knowledge Base to search Informatica Network for product resources such as documentation, how-to articles, best practices, and PAMs.

To access the Knowledge Base, visit <https://kb.informatica.com>. If you have questions, comments, or ideas about the Knowledge Base, contact the Informatica Knowledge Base team at [KB\\_Feedback@informatica.com](mailto:KB_Feedback@informatica.com).

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## Informatica Velocity

Informatica Velocity is a collection of tips and best practices developed by Informatica Professional Services. Developed from the real-world experience of hundreds of data management projects, Informatica Velocity represents the collective knowledge of our consultants who have worked with organizations from around the world to plan, develop, deploy, and maintain successful data management solutions.

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If you are an Informatica Network member, you can use Online Support at <http://network.informatica.com>.

## CHAPTER 1

# Introduction to PowerExchange for LinkedIn

This chapter includes the following topics:

- [PowerExchange for LinkedIn Overview, 8](#)
- [LinkedIn Data Extraction, 8](#)

## PowerExchange for LinkedIn Overview

Use PowerExchange for LinkedIn to read LinkedIn data through the Data Integration Service.

Use PowerExchange for LinkedIn to search and extract LinkedIn data such as LinkedIn profiles, connections, and network updates. You can create a LinkedIn connection to read LinkedIn data into a LinkedIn data object. You use open authentication (OAuth) to send secure authorized requests to LinkedIn.

PowerExchange for LinkedIn uses LinkedIn API methods and resources to search and extract LinkedIn data. You can use LinkedIn search operators to define the search criteria.

For example, you can use a LinkedIn account of a sales person to search for all first-degree connections in a particular geographical area. You can then generate a report with the LinkedIn contact details of all the connections. You can load the extracted data to a target and then use the data for data mining and analysis.

For information about the LinkedIn APIs, see the LinkedIn API documentation at the following website:

<http://developer.linkedin.com/apis>

For information about LinkedIn Platform usage policies, see the LinkedIn Platform Guidelines at the following website:

<http://developer.linkedin.com/documents/linkedin-platform-guidelines>

## LinkedIn Data Extraction

Complete the following tasks to use PowerExchange for LinkedIn to extract LinkedIn data:

1. Create a LinkedIn application in the LinkedIn developer web site.
2. Configure OAuth.



3. Create a LinkedIn connection.
4. Create a LinkedIn data object.
5. Create a LinkedIn data object operation.
6. Create a mapping and use the LinkedIn data object operation as a source to extract LinkedIn data.

## CHAPTER 2

# PowerExchange for LinkedIn Configuration

This chapter includes the following topics:

- [PowerExchange for LinkedIn Configuration Overview, 10](#)
- [LinkedIn Application Creation, 10](#)
- [Open Authentication Configuration, 11](#)
- [Configuring HTTP Proxy Options at Design-Time, 12](#)
- [Configuring HTTP Proxy Options at Run-Time, 13](#)

## PowerExchange for LinkedIn Configuration Overview

PowerExchange for LinkedIn is installed with the Informatica services. You enable PowerExchange for LinkedIn with a license key.

Before you use PowerExchange for LinkedIn to access LinkedIn data, create a LinkedIn application and configure open authentication (OAuth) to send secure authorized requests to LinkedIn.

Optionally, you can configure HTTP proxy server authentication to access the Internet.

## LinkedIn Application Creation

Before you configure open authentication, you must create a LinkedIn application.

Create a LinkedIn application in the following LinkedIn developer site:

<http://developer.linkedin.com/>

In the application settings, you must specify the following properties:

- **OAuth callback URL in the format `http://<hostname.domain.com>:<port>/ows/jrs/callback` where**
  - `hostname` is the fully qualified system name of the master gateway node.
  - `port` is the port number of the Administrator tool in an HTTP domain or an HTTPS port in an HTTPS domain. For example, 6008 if domain port is 6005 in an HTTP domain or 8443 in an HTTPS domain.

- Application type as Web Application.

To configure the consumer key and secret in the OAuth Utility, use the API key and Secret key listed in the application settings.

## Open Authentication Configuration

A LinkedIn connection requires open authentication (OAuth).

You configure OAuth in the OAuth Utility to send secure authorized requests to LinkedIn API. You can configure OAuth in the following tools:

- OAuth Utility. Open authentication configuration utility. You use the OAuth Utility to get the access token and access secret. You use the OAuth configuration details such as access token and access secret when you create a LinkedIn connection.
- Developer tool. You can create a LinkedIn connection in the Developer tool. You can launch the OAuth Utility from the **Connection** wizard to get the access token and access secret.

## Open Authentication Configuration Properties

Use the OAuth Utility to configure open authentication.

The following table describes the OAuth Utility properties that you configure to connect to LinkedIn:

Property	Description
Application	Social media web site. Select <b>LinkedIn</b> to configure OAuth for a LinkedIn application.
Consumer Key	The API Key that you get when you create the application in LinkedIn. LinkedIn uses the key to identify the application.
Consumer Secret	The Secret Key that you get when you create the application in LinkedIn. LinkedIn uses the secret to establish ownership of the consumer key.
Scope	Optional. Permissions for the LinkedIn application. Select the permissions for the application to access private profile information. If you do not configure scope permissions, the application cannot access private profile information.
Selected Scope	Optional. List of comma-separated selected permissions. You use this list when you create a LinkedIn connection.
Callback Url	OAuth callback URL that the user is redirected after successful authentication. This property is read only. You can use the URL when you create the LinkedIn application.

Property	Description
Access Token	Access token that the OAuth Utility returns when you authorize the LinkedIn application. The application uses this token instead of the user credentials to access the protected resources.
Access Secret	Access secret that the OAuth Utility returns when you authorize the LinkedIn application. The secret establishes ownership of a token.

## Configuring Open Authentication in the OAuth Utility

Use the OAuth Utility to get the access token and access secret.

Before you configure open authentication, create an application in LinkedIn.

1. In the address field of a browser, enter the following URL for the OAuth Utility page:

`http://<hostname.domain.com>:<port>/ows/`

The OAuth Utility page appears.

2. Select **LinkedIn** in the application.
3. Enter the consumer key and secret from the LinkedIn application settings.
4. Click **Authorize**.

The LinkedIn developer login page appears.

5. Log in to the LinkedIn developer site.
6. Navigate to the LinkedIn application page.
7. Click **Ok, I'll Allow it** to authorize the application.

The **Authentication Successful** page appears.

8. Close the **Authentication Successful** page.

The OAuth Utility lists the access token and access secret.

You use the access token and access secret to configure a LinkedIn connection.

## Configuring Open Authentication in the Developer Tool

You can configure OAuth in the Developer tool when you create a LinkedIn connection.

In the **Connection** wizard, you can launch the OAuth Utility. The OAuth Utility opens the LinkedIn developer site in a browser. You authorize the LinkedIn application. The OAuth Utility populates the access token and access secret.

## Configuring HTTP Proxy Options at Design-Time

If your organization uses a proxy server to access the internet, you can configure the HTTP proxy server authentication settings at design time. You can configure the HTTP proxy server authentication from the `developerCore.ini` file and from the web browser when you use the OAuth utility.

## Configuring HTTP Proxy Options at Design-Time

If your organization uses a proxy server to access the internet, you can configure the HTTP proxy server authentication settings from the developerCore.ini file.

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- Ensure that you enable the proxy server settings from your web browser.
- Access the developerCore.ini file from the following location:  
`<Informatica Installation Location>\clients\DeveloperClient`
- Add the following properties to the developerCore.ini file:

Property	Description
-Dhttp.proxyHost=	Name of the HTTP proxy server.
-Dhttp.proxyPort=	Port number of the HTTP proxy server.
-Dhttp.proxyUser=	Authenticated user name for the HTTP proxy server. This is required if the proxy server requires authentication.
-Dhttp.proxyPassword=	Password for the authenticated user. This is required if the proxy server requires authentication. <b>Note:</b> The password is in plain text and not encrypted.
-Dhttp.nonProxyHosts=	List of host names or IP addresses for which you must not use the proxy server. Separate the list of IP addresses or host names with a pipe symbol ( ). For example, localhost:10.20.30.40 myHost Specify the IP address or name of the machine on which the Informatica gateway node runs so that the Developer tool connects to the domain.
-Dhttps.proxyHost=	Name of the HTTPS proxy server.
-Dhttps.proxyPort=	Port number of the HTTPS proxy server.

## Configuring HTTP Proxy Options while Using the OAuth Utility

You can use a proxy server to access the internet when you use the OAuth utility. Enable the proxy server settings from your web browser.

## Configuring HTTP Proxy Options at Run-Time

If your organization uses a proxy server to access the internet, you must configure the HTTP proxy server authentication settings for the Data Integration Service.

1. Open the Administrator tool.
2. Click the **Administration** tab, and then select the Data Integration Service.
3. Click the **Properties** tab.
4. Click **Edit** in the HTTP Proxy Server Properties section.

5. Configure the following properties:

Property	Description
HTTP Proxy Server Host	Name of the HTTP proxy server.
HTTP Proxy Server Port	Port number of the HTTP proxy server. Default is 8080.
HTTP Proxy Server User	Authenticated user name for the HTTP proxy server. This is required if the proxy server requires authentication.
HTTP Proxy Server Password	Password for the authenticated user. This is required if the proxy server requires authentication.
HTTP Proxy Server Domain	Domain for authentication.

## CHAPTER 3

# LinkedIn Connections

This chapter includes the following topics:

- [LinkedIn Connections Overview, 15](#)
- [LinkedIn Connection Properties, 15](#)
- [Creating a LinkedIn Connection, 16](#)

## LinkedIn Connections Overview

Create a LinkedIn connection to create data objects, preview data, and run mappings.

Use a LinkedIn connection to extract LinkedIn data such as user profiles, connections, and updates. A LinkedIn connection requires OAuth to access the LinkedIn data. You must create a LinkedIn application before you create a LinkedIn connection. You can configure OAuth in the OAuth Utility or in the Developer tool.

## LinkedIn Connection Properties

Use a LinkedIn connection to extract data from the LinkedIn web site. A LinkedIn connection is a social media type connection. You can create and manage a LinkedIn connection in the Administrator tool or the Developer tool.

**Note:** The order of the connection properties might vary depending on the tool where you view them.

The following table describes LinkedIn connection properties:

Property	Description
Name	Name of the connection. The name is not case sensitive and must be unique within the domain. The name cannot exceed 128 characters, contain spaces, or contain the following special characters: ~ ` ! \$ % ^ & * ( ) - + = { [ ] }   \ : ; " ' < , > . ? /
ID	String that the Data Integration Service uses to identify the connection. The ID is not case sensitive. It must be 255 characters or less and must be unique in the domain. You cannot change this property after you create the connection. Default value is the connection name.

Property	Description
Description	The description of the connection. The description cannot exceed 765 characters.
Location	The domain where you want to create the connection.
Type	The connection type. Select LinkedIn.
Do you have OAuth details?	Indicates whether you want to configure OAuth. Select one of the following values: - Yes. Indicates that you have the access token and secret. - No. Launches the OAuth Utility.
Consumer Key	The API key that you get when you create the application in LinkedIn. LinkedIn uses the key to identify the application.
Consumer Secret	The Secret key that you get when you create the application in LinkedIn. LinkedIn uses the secret to establish ownership of the consumer key.
Access Token	Access token that the OAuth Utility returns. The LinkedIn application uses this token instead of the user credentials to access the protected resources.
Access Secret	Access secret that the OAuth Utility returns. The secret establishes ownership of a token.
Scope	Optional. Permissions for the application. Enter the permissions that you used to configure OAuth.

## Creating a LinkedIn Connection

Create a LinkedIn connection before you import physical data objects.

1. Click **Window > Preferences**.
2. Select **Informatica > Connections**.
3. Expand the domain in the **Available Connections**.
4. Select a connection type in **Social Media > LinkedIn** and click **Add**.
5. Enter a connection name and optional description.
6. Click **Next**.
7. Enter the consumer key and consumer secret.
8. Select whether you have the access token and secret.
  - Select **Yes** if you have the access token and secret.
  - Select **No** if you want to generate the access token and secret. The OAuth Utility opens the LinkedIn developer login page. Authorize the application. The **Authentication Successful** window appears. Close the window. The OAuth Utility populates the access token and access secret in the **Connection** wizard.
9. Click **Test Connection** to verify the connection to the LinkedIn web site.
10. Click **Finish**.



## CHAPTER 4

# LinkedIn Data Objects

This chapter includes the following topics:

- [LinkedIn Data Object Overview, 17](#)
- [LinkedIn Data Object Views, 17](#)
- [LinkedIn Data Object Overview Properties, 18](#)
- [LinkedIn Data Object Operation Properties, 18](#)
- [LinkedIn Resources, 20](#)
- [Query Parameter for LinkedIn Resources, 22](#)
- [Token File, 24](#)
- [Pagination, 24](#)
- [Parameterization, 25](#)
- [Creating a LinkedIn Data Object, 25](#)
- [Creating a LinkedIn Data Object Operation, 26](#)

## LinkedIn Data Object Overview

A LinkedIn data object is a physical data object that represents data based on a LinkedIn resource.

Create a LinkedIn data object to read data from resources such as Profile, Connections, and Updates.

You must create a LinkedIn connection before you create a LinkedIn data object. After you create a LinkedIn data object, you create a data object operation. You can specify the resources that you want to search such as Connections and Profiles. You can specify a search criteria using search operators in the data object operation.

You can use a LinkedIn data object operation as a source in mappings and mapplets.

## LinkedIn Data Object Views

After you create a LinkedIn data object operation, you can modify the data object properties in the following data object views:

- **Overview** view. Use the **Overview** view to edit the LinkedIn data object name, description, and resources.

- **Data Object Operation** view. Use the **Data Object Operation** view to modify the properties that the Data Integration Service uses when it reads data from LinkedIn.

When you create a mapping that uses LinkedIn sources, you can view the data object properties in the **Properties** view.

## LinkedIn Data Object Overview Properties

The **Overview** properties include general properties that apply to the LinkedIn data object. They also include object properties that apply to the resources in the LinkedIn data object.

### General Properties

The following table describes the general properties that you configure for LinkedIn data objects:

Property	Description
Name	Name of the LinkedIn data object.
Description	Description of the LinkedIn data object.
Connection	Name of the LinkedIn connection.

### Object Properties

The following table describes the object properties that you can view for LinkedIn resources:

Property	Description
Name	Name of the resource.
Type	Type of the resource.
Description	Description of the resource.

## LinkedIn Data Object Operation Properties

The data object operation properties include general, ports, sources, and advanced properties that the Data Integration Service uses to read data from LinkedIn.

### General Properties

The general properties lists the name and description of the data object operation.

The following table describes the general properties that you can view for a LinkedIn data object operation:

Property	Description
Name	Name of the LinkedIn data object operation.
Description	Description of the LinkedIn data object operation.

### Column Properties

The column properties lists the datatypes, precision, and scale of the source transformation.

The following table describes the column properties that you can view for a LinkedIn data object operation:

Property	Description
Name	Name of the LinkedIn data object operation.
Type	Transformation datatype of the metadata.
Precision	Maximum number of significant digits for numeric datatypes, or maximum number of characters for string datatypes. For numeric datatypes, precision includes scale.
Scale	Maximum number of digits after the decimal point for numeric values.
Description	Description of the LinkedIn data object operation.

### Advanced Properties

The advanced properties lists the resource physical name of the source transformation.

### Ports Properties

The ports properties lists the datatypes, precision, and scale of the Input transformation.

The following table describes the ports properties that you can view for a LinkedIn data object operation:

Property	Description
Name	Name of the LinkedIn metadata such as connections, first-name, and headline of the resource.
Type	Native datatype of the metadata.
Precision	Maximum number of characters for string datatypes.
Description	Description of the metadata.

### Sources Properties

The sources properties lists the resources of the Input transformation.

The following table describes the sources properties that you configure for a LinkedIn data object operation:

Property	Description
Sources	List of the LinkedIn resources in the data object operation. You can add or delete resources.

## Advanced Properties

The advanced properties includes the run-time properties of the Input transformation. You can specify the search criteria to extract LinkedIn data in the query parameter. When you run the mapping, the Data Integration Service uses the search criteria to extract data.

The following table describes the advanced properties that you configure for a LinkedIn data object operation:

Property	Description
Query Parameter	<p>LinkedIn search criteria. You specify the LinkedIn search criteria based on the resource.</p> <p>Linked pagination property. You can specify the number of rows that you want to request in the following format:</p> <pre>keywords=wipro&amp;count=5</pre> <p>where 'count' is the number of rows that you request.</p> <p>The maximum number of rows that you can request depends on your account.</p> <p>Configure the number of rows you want to request for the Search resource.</p>
Token File	<p>File name and format of a file that contains a list of access tokens and access secrets. The CSV file must be on the machine where Informatica Services is installed. The Data Integration Service uses the access token and access secret at run time to establish a connection. If one set of access token and access secret fails, the Data Integration Service uses the next set. Review the session log for details.</p> <p>Specify the fully qualified path and format of the file in one of the following formats:</p> <ul style="list-style-type: none"><li>- &lt;file path&gt;;{accesstoken,accesssecret}or &lt;file path&gt;</li></ul> <p>Use one of the formats if the file contains only the mandatory comma-separated columns of access token and access secret.</p> <ul style="list-style-type: none"><li>- &lt;file path&gt;;{col1,accesstoken,accesssecret,col4}</li></ul> <p>Use this format to specify optional columns such as col1 and col4. For example, \\hostname\OAuth\li_tokens.csv;{accesstoken,accesssecret,ID,name} specifies the location of a file named li_tokens.csv that contains the following mandatory comma-separated columns: accesstoken and accesssecret. The Data Integration Service ignores the optional columns, ID and name, at run time.</p>

## LinkedIn Resources

PowerExchange for LinkedIn uses the LinkedIn API to search and retrieve LinkedIn data. The LinkedIn API resources allow access to LinkedIn data.

For more information about the LinkedIn API, see the LinkedIn API documentation at <https://developer.linkedin.com>.

When you create a LinkedIn data object or a LinkedIn data object operation, you specify the resources based on the information you want to extract.

The following table describes the LinkedIn resources:

Resource	Description
Comment-Info	Extracts details about the comments of the group post. The Comment-Info resource includes metadata, such as comment_creator_first_name, comment_creator_headline, comment_creator_id, and comment_creator_last_name.
Group-Info	Extracts details of the group. The Group-Info resource includes metadata, such as the group_name, group_id, group_website_url, and group_posts_count.
Group-Posts	Extracts all the posts in the specified group. The Group-Posts resource includes metadata, such as posts_count, posts_start, and posts_total.
Post-Comments	Extracts all the comments that pertain to the specified post. The Post-Comments resource includes metadata, such as comments_total, comment_creation_timestamp, and comment_creator_first_name.
Post-Info	Extracts information about the post. The Post-Info resource includes metadata, such as post_attachment_title, post_category_code, and post_comments_total.
Suggested-Groups	Extracts the list of groups suggested for the user. The Suggested_Groups resource includes metadata, such as groups_total, group_id, and group_name.
User-Groups	Extracts the list of groups in which the user is a member. The User-Groups resource includes metadata, such as group_memberships_total, group_id, and group_name.
Updates	Extracts the user's feed for events or the network updates for the user, or the connections using the Get Network Updates API. The Update resource includes types of updates, such as Answer Update, Company Follow Updates, and Connection Updates.  The resource includes metadata such as the timestamp, update-type, and update-content based on type.
Search	Extracts the profile information of users matching your search criteria using the People Search API. You can find profiles using keywords, company name, user name, or other criteria.  The Search resource includes metadata such as id, first-name, and last-name.
Connections	Extracts the user's connections for users who have granted access to your application.  The Connections resource returns any of the Profile Fields that the LinkedIn API defines, such as id, first-name, and last-name.
Profile	Extracts the user's LinkedIn profile using the Profile API. You can choose to extract public profile information or standard profiles that depend on application access and permission settings.  The Profile resource includes metadata, such as id first-name, and last-name.

# Query Parameter for LinkedIn Resources

Use the query parameter to specify the search criteria.

When you create a LinkedIn data object, you specify the query parameter that the Data Integration Service uses to search for LinkedIn data.

You can use LinkedIn search operators in the query parameter for all the resources.

The following table provides examples for the query parameter:

Resource	Mandatory Parameter	Example
Comment_Info	COMMENT_ID	<p>Group comment search. Specify the Comment_Info query parameter in the following formats:</p> <ul style="list-style-type: none"><li>- In the following query parameter, specify the comment ID for the comment information that you want to retrieve: COMMENT_ID=&lt;COMMENT ID&gt; For Example, COMMENT_ID=g-66325-S-5849702407524614144-5849933262566227968</li><li>- In the following query parameter, specify a list of comment IDs for information about the comments that you want to retrieve: COMMENT_ID=file:///export/qa_adp/LI_Comment_ID.txt</li></ul>
Group_Info	GROUP_ID	<p>Group search. Specify the Group_Info query parameter in the following formats:</p> <ul style="list-style-type: none"><li>- In the following query parameter, specify the group ID for the group information that you want to retrieve: GROUP_ID=&lt;GROUP ID&gt; For example, GROUP_ID=2128015</li><li>- In the following query parameter, specify a list of group IDs for the group information that you want to retrieve: GROUP_ID=file:///export/qa_adp/LI_Group_ID.txt</li></ul>
Group_Posts	GROUP_ID	<p>Group post search. Specify the Group_Posts query parameter in the following formats:</p> <ul style="list-style-type: none"><li>- In the following query parameter, specify the group ID for the group posts that you want to retrieve: GROUP_ID=&lt;Group ID&gt; For example, GROUP_ID=2128015</li><li>- In the following query parameter, specify the group ID for the group posts that you want to retrieve. You can also specify the number of records. GROUP_ID=2128015&amp;count=20</li></ul>
Post_Comments	POST_ID	<p>Post comment search. Specify the Post_Comments query parameter in the following formats:</p> <ul style="list-style-type: none"><li>- In the following query parameter, specify the post ID of the post for the post comments that you want to retrieve: POST_ID=&lt;POST ID&gt; POST_ID=g-3048457-S-5801655350113349636</li><li>- In the following query parameter, specify a list of post IDs for the group post comments that you want to retrieve: POST_ID=file:///export/qa_adp/LI_Post_ID.txt</li><li>- In the following query parameter, specify the post ID for the post comments that you want to retrieve. You can also specify the number of records: POST_ID=g-3048457-S-5801655350113349636&amp;count=20</li></ul>

Resource	Mandatory Parameter	Example
Post_Info	POST_ID	<p>Post search. Specify the Post_Info query parameter in the following formats:</p> <ul style="list-style-type: none"> <li>- In the following query parameter, specify the post ID for the group post information that you want to retrieve:  POST_ID=&lt;POST ID&gt;  For example, POST_ID=g-3048457-S-5801655350113349636</li> <li>- In the following query parameter, specify a list of post IDs for information about the group post that you want to retrieve:  POST_ID=file:///export/qa_adp/LI_Post_Info.txt</li> </ul>
Suggested_Groups	NA	NA
User_Groups	NA	NA
Updates	NA	<p>Specify the following query parameter to extract up to 50 picture updates:</p> <p>type=PICT&amp;count=50</p> <p>Default is 250 rows.</p>
Search	NA	<p>Specify the following query parameter to extract all profiles of former students of Sherman High School:</p> <p>school-name=Shermer%20High%20School&amp;current-school=false</p> <p>LinkedIn returns 25 rows for each API call. The total number of rows you can fetch depends on your user account.</p> <p>For more information about account types, see Compare LinkedIn account types in the LinkedIn Help Center documentation.</p>
Connections	NA	<p>Specify the following query parameter to extract new connections:</p> <p>modified=new</p>
Profile	NA	<p>Specify the profile query parameter in the following formats:</p> <ul style="list-style-type: none"> <li>- In the following query parameter, specify the public profile URL to extract the profile of a user:  url=&lt;public-profile-url&gt;  Only one URL can be passed.</li> <li>- In the following query parameter, specify a list of public profile URLs to extract the profile of the users:  url=file:///c:/shared/url.txt where each URL is the LinkedIn public URL of the user.  Use a forward slash / as a directory or file separator.</li> <li>- In the following query parameter, specify the public profile ID to extract the profile of a user:  id=&lt;ID String&gt;  ID is a string. For example,  3Q4B_gs2D3, kSypnFGfR3, w_JxJlHrml, Cj13QAr-he</li> <li>- In the following query parameter, specify a list of profile IDs to extract a list of user profiles:  id=file:///c:/shared/ids.txt  Use a forward slash / as a directory or file separator.</li> <li>- An empty query parameter extracts the profile of the connection used.</li> </ul>

# Token File

You can specify the file name and format of a file that contains a list of access tokens and access secrets.

The following table provides the list of LinkedIn resources and whether the token file is applicable:

Resource	Token File
Comment-Info	No
Group-Info	No
Group-Posts	No
Post-Comments	No
Post-Info	No
Suggested-Groups	Yes
User-Groups	Yes
Updates	Yes
Search	No
Connections	Yes
Profile	Yes

# Pagination

PowerExchange for LinkedIn uses the LinkedIn API to control the number of rows that you request when the mapping runs.

When you create a LinkedIn data object operation, you can specify the number of rows that you want to request.

You can control the number of rows that you request when the mapping runs only for the Search resource. Use the Query Parameter property to request the number of rows.



The following table specifies the pagination impact for the following LinkedIn resources, the number of default rows that you can request, and whether the Ends After property is applicable for each LinkedIn resource:

Resource	Pagination Impact	Default Rows Requested	Ends After Property Applicable?
Search	No	Depends on the permissions of the user account.	Yes
Group_Posts	Yes	All rows	Yes
Post_Comments	Yes	All rows	Yes

## Parameterization

You can parameterize the LinkedIn connection and read operation properties to override the properties at run time.

The following table lists the read operation properties that you can parameterize and the type of parameterization supported:

Property	Type of Parameterization Supported
Query Parameter	Partial
Token File	Partial
Ends After	Full

## Creating a LinkedIn Data Object

Create a LinkedIn data object to specify the LinkedIn resources.

Before you create a LinkedIn data object, you configure a LinkedIn connection.

1. Select a project or folder in the **Object Explorer** view.
2. Click **File > New > Data Object**.
3. Select **LinkedIn Data Object** and click **Next**.  
The **New LinkedIn Data Object** dialog box appears.
4. Click **Browse** next to the **Location** option and select the target project or folder.
5. Click **Browse** next to the **Connection** option and select a connection from which you want to import the LinkedIn resource.
6. To add a resource to the Data Object, click **Add** next to the **Resource** option.  
The **Add sources to the data object** dialog box appears.
7. Navigate or search for the resources to add to the data object and click **OK**.

8. Select the resource and click **OK**.
9. Optionally, enter a name for the data object.
10. Click **Finish**.

The data object appears under Data Object in the project or folder in the **Object Explorer** view. You can also add resources to a data object after you create it.

## Creating a LinkedIn Data Object Operation

Create a data object operation from a data object. You can create multiple data object operations from a data object. Each data object operation must have only one resource.

Before you create a data object operation, you must create the data object with the resource.

1. Select the data object in the Object Explorer view.
2. Right-click and select **New > Data Object Operation**.  
The **Data Object Operation** dialog box appears.
3. Enter a name for the data object operation.
4. Select the type of data object operation.
5. Click **Add**.  
The **Select a resource** dialog box appears.
6. Select the resources for which you want to create the read operation and click **OK**. You can specify only one resource for a data object operation.
7. Click **Finish**.

The Developer tool creates the data object operation for the selected data object.

## CHAPTER 5

# LinkedIn Mappings

This chapter includes the following topics:

- [LinkedIn Mappings Overview, 27](#)
- [LinkedIn API Rate Limits, 27](#)
- [LinkedIn Mapping Example, 28](#)

## LinkedIn Mappings Overview

After you create the LinkedIn data object operation, you can develop a mapping. You can define the following objects in the mapping:

- LinkedIn data object operation as the input to read data from LinkedIn
- Transformations
- A target

Validate and run the mapping to extract the LinkedIn data and load it to a target.

## LinkedIn API Rate Limits

LinkedIn API is throttled by default to provide optimal use of API resources for all users.

LinkedIn imposes different types of rate limits based on the usage such as the number of API calls for each API key, number of calls for each account type, and number of calls for each individual user of the LinkedIn application.

Review the LinkedIn policies when you design the frequency of the API calls. If the number of requests exceeds the permitted limits, the LinkedIn API returns an error response with more information about the error. LinkedIn may prohibit you from future API access if guidelines are continuously and persistently violated. You have to contact LinkedIn to reset the API access.

To avoid being prohibited, review the LinkedIn guidelines at the following web site:

<https://developer.linkedin.com>

# LinkedIn Mapping Example

Your HR organization, HypoMarket Corporation, has a client that wants to hire engineers for large project spread across USA.

Create a mapping that searches for people with the current title as engineer in the geographical location of USA and produces a report of all the contacts.

You can use the following objects in a LinkedIn mapping:

## **LinkedIn input**

The mapping source is a LinkedIn data object that contains the Search resource.

Create a LinkedIn data object to define the input and add the data object to the mapping. Add the Search resource to the physical data object. Enter the following query parameter:

```
current-title=engineer&country-code=us
```

## **Mapping output**

Add a relational data object to the mapping as an target.

After you run the mapping, Data Integration Service writes the extracted profiles to the target table.

# APPENDIX A

## Datatype Reference

This appendix includes the following topics:

- [Datatype Reference Overview, 29](#)
- [LinkedIn and Transformation Datatypes, 29](#)

### Datatype Reference Overview

Informatica Developer uses the following datatypes in LinkedIn mappings:

- LinkedIn native datatypes. LinkedIn datatypes appear in the physical data object column properties.
- Transformation datatypes. Set of datatypes that appear in the transformations. They are internal datatypes based on ANSI SQL-92 generic datatypes, which the Data Integration Service uses to move data across platforms. Transformation datatypes appear in all transformations in a mapping.

When the Data Integration Service reads source data, it converts the native datatypes to the comparable transformation datatypes before transforming the data. When the Data Integration Service writes to a target, it converts the transformation datatypes to the comparable native datatypes.

### LinkedIn and Transformation Datatypes

The following table lists the LinkedIn datatypes that Data Integration Service supports and the corresponding transformation datatypes:

LinkedIn Datatype	Transformation Datatype	Range and Description
String	String	1 to 104,857,600 characters

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