Apache Directory Studio
Apache DS Configuration

User's Guide
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Chapter I. Getting started

This part of the guide provides you a sum up of the basic concepts of the Apache DS Configuration.

1. Download and installation

Beside the integration in Apache Directory Studio the Apache Directory Studio Apache DS Configuration can also be installed as a plug-in into a regular Eclipse installation. This section describes this alternative.

Using the Eclipse Install/Update Manager is the easiest way to install the Apache Directory Studio Apache DS Configuration plug-in. From workbench menu choose Help # Software Updates # Find and Install...

In the opened wizard choose Search for new features to install and click Next.

Next please specify the Apache Directory Studio update site. Click the New Remote Site... button. In the dialog input the following and press OK:

- Name: Apache Directory Studio Update Site
- URL: http://directory.apache.org/studio/update/1.x

Make sure the new update site is checked an press Finish.
Now the install manager checks the update site and presents the search results. Select the feature you want to install - of course the Apache Directory Studio Apache DS Configuration - and click Next.

Accept the license agreement, the Apache Directory Studio Apache DS Configuration is distributed under the Apache License, Version 2.0.
In the next dialog ensure that the Apache Directory Studio Apache DS feature is selected and click to Finish.

Now the install manager loads the necessary files. When download is finished you have to verify the installation, please click to Install.
After installation it is recommended to restart the Eclipse workbench.

### 2. Configuration Editor

The Configuration Editor currently supports 4 versions of Apache DS. Each version having a specific associated editor.

- The **Editor for Apache DS 1.5.0** allows you to edit the `server.xml` file of an Apache DS version 1.5.0 installation.
- The **Editor for Apache DS 1.5.1** allows you to edit the `server.xml` file of an Apache DS version 1.5.1 installation.
- The **Editor for Apache DS 1.5.2** allows you to edit the `server.xml` file of an Apache DS version 1.5.2 installation.
- The **Editor for Apache DS 1.5.3** allows you to edit the `server.xml` file of an Apache DS version 1.5.3 installation.
- The **Editor for Apache DS 1.5.4** allows you to edit the `server.xml` file of an Apache DS version 1.5.4 installation.
- The **Editor for Apache DS 1.5.5** allows you to edit the `server.xml` file of an Apache DS version 1.5.5 installation.

#### 2.1. Editor for Apache DS 1.5.0

The Configuration Editor for Apache DS consists in a 4 pages Editor:

- The **General** page allows you to set "general" settings about the server such as the server port, administrator DN, password, etc...
- The **Partitions** page allows you to manage your server partitions.
- The **Interceptors** page allows you to manage your server interceptors.
- The **Extended Operations** page allows you to manage your server extended operations handlers.

#### 2.1.1. General Page

The **General Page** of the Configuration Editor allows you to edit the server settings.
It contains four sections: **Settings**, **Binary Attribute**, **Limits** and **Options**.

Here's what the **General Page** looks like:

**Settings**

- **Port**: 10389
- **Authentication**: Simple
- **Principal**: uid=admin,ou=system
- **Password**: *****
- **Show Password** checkbox
- **Allow Anonymous Access** checkbox

**Limits**

- **Max. Time Limit**: 15000
- **Max. Size Limit**: 1000
- **Synchronization Period**: 15000
- **Max. Threads**: 8

**Binary Attributes**

This section allows you to specify to the server the attribute types that you want to be handled as binary content.

**Options**

- **Enable Access Control** checkbox
- **Enable NTP** checkbox
- **Denormalize Operational Attributes** checkbox
- **Enable Kerberos** checkbox
- **Enable Change Password** checkbox

A **Port** is mandatory and must be an integer between 1 to 65535.

An **Authentication** method is mandatory and is at the moment not editable and set to 'Simple'.

A **Principal** is mandatory and represents the DN of the Administrator of the server.

A **Password** is mandatory and represents the password of the Administrator of the server.

Check the **Show Password** checkbox to display the password in a unhidden form.

Check the **Allow Anonymous Access** checkbox to allow anymous access on the server.
Getting started

Use the **Add...** , **Edit...** and **Delete** buttons to set your Binary Attributes.

**Limits**

This section allows you to specify the Limits of the server.

**Max. Time Limit** lets you choose the maximum time that should last a request (in milliseconds).

**Max. Size Limit** lets you choose the maximum number of entries that should be returned.

**Synchronization Period** lets you choose the number of milliseconds between two synchronizations.

**Max. Threads** lets you choose the number of threads that should be used by the server in its execution.

**Options**

Check the **Enable Access Control** to enable Access Control on the server.

Check the **Enable NTP** to enable NTP on the server.

Check the **Enable Kerberos** to enable Kerberos on the server.

Check the **Enable Change Password** to enable Change Password service on the server.

Check the **Denormalize Operational Attributes** to use a more human readable form ('uid=admin,ou=system' instead of '0.9.2342.19200300.100.1.1=admin,2.5.4.11=system') for Operational Attributes on the server.

### 2.1.2. Partitions Page

The **Partitions Page** of the Configuration Editor allows you to edit the server partitions.
Here's what the **Partitions Page** looks like:

![Partitions Page Image](image)

The page is divided vertically in two parts.

You can choose the orientation of the page by clicking on the appropriate button ("Horizontal Orientation" or "Vertical Orientation") at the right of the page.

The left side of the page shows the partitions defined on the server. This is where you can add or delete a partition.

The right side of the page display and lets you edit the details of the selected partition in the left side.

**Partition details**
An **Name** is mandatory for the partition.

A **Cache Size** is mandatory for the partition.

Check the **Enable Optimizer** checkbox to enable the optimizer for the partition.

Check the **Synchronization On Write** checkbox to enable the synchronization on write for the partition.

**Context Entry**

This section allows you to specify to the server the attribute/value pairs that will be used for the Context Entry of the partition.

Use the **Add**, **Edit** and **Delete** buttons to set your values.

**Indexed Attributes**

This section allows you to specify to the server the attributes that should be indexed and their cache size.

Use the **Add**, **Edit** and **Delete** buttons to set the indexed attributes.

The following icons can appear in the Partitions Page.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Standard Partition</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>System Partition</td>
</tr>
</tbody>
</table>

**2.1.3. Interceptors Page**

The **Interceptors Page** of the Configuration Editor allows you to edit the server interceptors.

Here's what the **Interceptors Page** looks like:
The page is divided vertically in two parts.

You can choose the orientation of the page by clicking on the appropriate button ("Horizontal Orientation" or "Vertical Orientation") at the right of the page.

The left side of the page shows the interceptors defined on the server. This is where you can add or delete an interceptor.

You can also choose the order of the interceptors in the interceptors' chain using the "Up" and "Down" buttons.

The right side of the page display and lets you edit the details of the selected partition in the left side.
Interceptor details

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🔍</td>
<td>Interceptor</td>
</tr>
</tbody>
</table>

A **Name** is mandatory for the interceptor.

The **Class** of the interceptor is mandatory.

The following icons can appear in the Interceptors Page.

2.1.4. Extended Operations Page

The **Extended Operations Page** of the Configuration Editor allows you to edit the server extended operations.

Here’s what the **Extended Operations Page** looks like:

The page is divided vertically in two parts.

You can choose the orientation of the page by clicking on the appropriate button ("Horizontal Orientation" or "Vertical Orientation") at the right of the page.

The left side of the page shows the extended operations defined on the server. This is where you can add or delete an extended operation.
The right side of the page display and lets you edit the details of the selected partition in the left side.

**Extended Operation details**

The **Class** of the extended operation is mandatory.

The following icons can appear in the Extended Operations Page.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image.png" alt="Icon" /></td>
<td>Extended Operation</td>
</tr>
</tbody>
</table>

### 2.2. Editor for Apache DS 1.5.1

The Configuration Editor for Apache DS consists in a 4 pages Editor:

- The **General** page allows you to set "general" settings about the server such as the server port, administrator DN, password, etc...
- The **Partitions** page allows you to manage your server partitions.
- The **Interceptors** page allows you to manage your server interceptors.
- The **Extended Operations** page allows you to manage your server extended operations handlers.

#### 2.2.1. General Page

The **General Page** of the Configuration Editor allows you to edit the server settings.

It contains six sections: **Administrator Settings**, **Protocols**, **Supported Authentication Mechanisms**, **Binary Attributes**, **Limits** and **Options**.

Here's what the **General Page** looks like:
Administrator Settings

A Principal is mandatory and represents the DN of the Administrator of the server.

A Password is mandatory and represents the password of the Administrator of the server.

Check the Show Password checkbox to display the password in a non-hidden form.

Protocols

This section allows you to enable/disable each of the following protocols and specify the port it is running on:

- LDAP (default port: 10389)
- LDAPS (default port: 636)
• Kerberos (default port: 88)
• NTP (default port: 123)
• DNS (default port: 53)
• Change Password (default port: 464)

**Supported Authentication Mechanisms**

This section allows you to specify the supported authentication mechanisms. You can choose between the following mechanisms:

• SIMPLE
• CRAM-MD5
• DIGEST-MD5
• GSSAPI

**Binary Attributes**

This section allows you to specify to the server the attribute types that you want to be handled as binary content.

Use the **Add**, **Edit**... and **Delete** buttons to set your Binary Attributes.

**Limits**

This section allows you to specify the Limits of the server.

**Max. Time Limit** lets you choose the maximum time that should last a request (in milliseconds).

**Max. Size Limit** lets you choose the maximum number of entries that should be returned.
**Synchronization Period** lets you choose the number of milliseconds between two synchronizations.

**Max. Threads** lets you choose the number of threads that should be used by the server in its execution.

**Options**

- Check the **Allow Anonymous Access** checkbox to allow anonymous access on the server.
- Check the **Enable Access Control** to enable Access Control on the server.
- Check the **Denormalize Operational Attributes** to use a more human readable form ('uid=admin,ou=system' instead of '0.9.2342.19200300.100.1.1=admin,2.5.4.11=system') for Operational Attributes on the server.

### 2.2.2. Partitions Page

The **Partitions Page** of the Configuration Editor allows you to edit the server partitions.

Here's what the **Partitions Page** looks like:

The page is divided vertically in two parts.

You can choose the orientation of the page by clicking on the appropriate button ("Horizontal Orientation" or "Vertical Orientation") at the right of the page.
The left side of the page shows the partitions defined on the server. This is where you can add or delete a partition.

The right side of the page display and lets you edit the details of the selected partition in the left side.

**Partition details**

An ID is mandatory for the partition.

A Cache Size is mandatory for the partition.

Check the Enable Optimizer checkbox to enable the optimizer for the partition.

Check the Synchronization On Write checkbox to enable the synchronization on write for the partition.

**Context Entry**

This section allows you to specify to the server the attribute/value pairs that will be used for the Context Entry of the partition.

Use the Add..., Edit... and Delete buttons to set your values.

**Indexed Attributes**

This section allows you to specify to the server the attributes that should be indexed and the their cache size.
Use the **Add...**, **Edit...** and **Delete** buttons to set the indexed attributes.

The following icons can appear in the Partitions Page.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Standard Partition" /></td>
<td>Standard Partition</td>
</tr>
<tr>
<td><img src="image" alt="System Partition" /></td>
<td>System Partition</td>
</tr>
</tbody>
</table>

### 2.2.3. Interceptors Page

The **Interceptors Page** of the Configuration Editor allows you to edit the server interceptors.

Here's what the **Interceptors Page** looks like:

The page is divided vertically in two parts.

You can choose the orientation of the page by clicking on the appropriate button ("Horizontal Orientation" or "Vertical Orientation") at the right of the page.

The left side of the page shows the interceptors defined on the server. This is where you can add or delete an interceptor.

You can also choose the order of the interceptors in the interceptors' chain using the "Up" and "Down" buttons.
The right side of the page display and lets you edit the details of the selected partition in the left side.

**Interceptor details**

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Interceptor" /></td>
<td>Interceptor</td>
</tr>
</tbody>
</table>

A **Name** is mandatory for the interceptor.

The **Class** of the interceptor is mandatory.

The following icons can appear in the Interceptors Page.

**2.2.4. Extended Operations Page**

The **Extended Operations Page** of the Configuration Editor allows you to edit the server extended operations.

Here's what the **Extended Operations Page** looks like:
The page is divided vertically in two parts.

You can choose the orientation of the page by clicking on the appropriate button ("Horizontal Orientation" or "Vertical Orientation") at the right of the page.

The left side of the page shows the extended operations defined on the server. This is where you can add or delete an extended operation.

The right side of the page display and lets you edit the details of the selected partition in the left side.

**Extended Operation details**

The **Class** of the extended operation is mandatory.

The following icons can appear in the Extended Operations Page.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Extended Operation</td>
</tr>
</tbody>
</table>
2.3. Editor for Apache DS 1.5.2

The Configuration Editor for Apache DS consists in a five pages Editor:

- The **General** page allows you to set "general" settings about the server such as enabling/disabling protocols, setting protocols ports, limits, etc...
- The **Authentication** page allows you to set "authentication" settings such as the supported authentication mechanisms, SASL settings, etc...
- The **Partitions** page allows you to manage your server partitions.
- The **Interceptors** page allows you to manage your server interceptors.
- The **Extended Operations** page allows you to manage your server extended operations handlers.

2.3.1. General Page

The **General Page** of the Configuration Editor allows you to edit the server settings.

It contains three sections: **Protocols**, **Limits** and **Options**.

Here's what the **General Page** looks like:

```
Protocols

- Enable LDAP: Port: 10389
- Enable NTP: Port: 60123
- Enable LDAPS: Port: 10636
- Enable DNS: Port: 0
- Enable Kerberos: Port: 0
- Enable Change Password: Port: 0
```

```
Limits

- Max. Time Limit: 15000
- Max. Size Limit: 1000
- Synchronization Period: 15000
- Max. Threads: 8
```

```
Options

- Allow Anonymous Access
- Enable Access Control
- Denormalize Operational Attributes
```

This section allows you to enable/disable each of the following protocols and specify the port it is running on:
Getting started

- LDAP (default port: 10389)
- LDAPS (default port: 636)
- Kerberos (default port: 88)
- NTP (default port: 123)
- DNS (default port: 53)
- Change Password (default port: 464)

**Limits**

This section allows you to specify the Limits of the server.

<table>
<thead>
<tr>
<th>Limits</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Time Limit</td>
<td>15000</td>
</tr>
<tr>
<td>Max. Size Limit</td>
<td>1000</td>
</tr>
<tr>
<td>Synchronization Period</td>
<td>15000</td>
</tr>
<tr>
<td>Max. Threads</td>
<td>8</td>
</tr>
</tbody>
</table>

**Max. Time Limit** lets you choose the maximum time that should last a request (in milliseconds).

**Max. Size Limit** lets you choose the maximum number of entries that should be returned.

**Synchronization Period** lets you choose the number of milliseconds between two synchronizations.

**Max. Threads** lets you choose the number of threads that should be used by the server in its execution.

**Options**

Check the **Allow Anonymous Access** checkbox to allow anonymous access on the server.

Check the **Enable Access Control** to enable Access Control on the server.

Check the **Denormalize Operational Attributes** to use a more human readable form (‘uid=admin,ou=system’ instead of ‘0.9.2342.19200300.100.1.1=admin,2.5.4.11=system’) for Operational Attributes on the server.

### 2.3.2. Authentication Page

The **Authentication Page** of the Configuration Editor allows you to edit the server authentication settings.

It contains four sections: **Supported Authentication Mechanisms**, **SASL Settings**, **SASL Quality Of Protection**, and **SASL Realms**.

Here’s what the **Authentication Page** looks like:
Supported Authentication Mechanisms

This section allows you to specify the supported authentication mechanisms. You can choose between the following mechanisms:

- SIMPLE
- CRAM-MD5 (SASL)
- DIGEST-MD5 (SASL)
- GSSAPI (SASL)

SASL Settings

This section allows you to specify the SASL setting.
The **SASL Host** field represents the name of the host.

The **SASL Principal** field represents the service principal name that the server-side of the LDAP protocol provider will use to "accept" a GSSAPI context initiated by the LDAP client. The SASL principal MUST follow the name-form "ldap/[fqdn]@[realm]".

The **Search Base DN** field represents the Distinguished Name where a subtree-scoped DIT search will be performed. This is BOTH where the LDAP service principal must reside, as well as where user principals must reside.

### SASL Quality Of Protection

<table>
<thead>
<tr>
<th>SASL Quality of Protection</th>
<th>Select All</th>
<th>Deselect All</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ auth (Authentication only)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ auth-int (Authentication with integrity protection)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>✓ auth-conf (Authentication with integrity and privacy protection)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This section allows you to specify the SASL quality of protection. You can choose between the following values:

- auth (Authentication only)
- auth-int (Authentication with integrity protection)
- auth-conf (Authentication with integrity and privacy protection)

### SASL Realms

This section allows you to specify the SASL realms.

Use the **Add...**, **Edit...** and **Delete** buttons to set your SASL Realms.

### 2.3.3. Partitions Page

The **Partitions Page** of the Configuration Editor allows you to edit the server partitions.

Here's what the **Partitions Page** looks like:
The page is divided vertically in two parts.

You can choose the orientation of the page by clicking on the appropriate button ("Horizontal Orientation" or "Vertical Orientation") at the right of the page.

The left side of the page shows the partitions defined on the server. This is where you can add or delete a partition.

The right side of the page display and lets you edit the details of the selected partition in the left side.

**Partition details**

- **ID**: example
- **Cache Size**: 100
- **Suffix**: dc=example,dc=com
- **Enable optimizer**
- **Synchronization on write**
Getting started

An ID is mandatory for the partition.

A Cache Size is mandatory for the partition.

A Suffix is mandatory for the partition.

Check the Enable Optimizer checkbox to enable the optimizer for the partition.

Check the Synchronization On Write checkbox to enable the synchronization on write for the partition.

**Context Entry**

This section allows you to specify to the server the attribute/value pairs that will be used for the Context Entry of the partition.

Use the Add... , Edit... and Delete buttons to set your values.

**Indexed Attributes**

This section allows you to specify to the server the attributes that should be indexed and their cache size.

Use the Add... , Edit... and Delete buttons to set the indexed attributes.

The following icons can appear in the Partitions Page.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Icon]</td>
<td>Standard Partition</td>
</tr>
<tr>
<td>![Icon]</td>
<td>System Partition</td>
</tr>
</tbody>
</table>

**2.3.4. Interceptors Page**

The Interceptors Page of the Configuration Editor allows you to edit the server interceptors.

Here's what the Interceptors Page looks like:
The page is divided vertically in two parts.

You can choose the orientation of the page by clicking on the appropriate button ("Horizontal Orientation" or "Vertical Orientation") at the right of the page.

The left side of the page shows the interceptors defined on the server. This is where you can add or delete an interceptor.

You can also choose the order of the interceptors in the interceptors' chain using the "Up" and "Down" buttons.

The right side of the page display and lets you see the details of the selected interceptor in the left side.

**Interceptor details**

The **Name** field displays the name of the interceptor.
The **Description** field displays the description of the interceptor.

The following icons can appear in the Interceptors Page.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🍃</td>
<td>Interceptor</td>
</tr>
</tbody>
</table>

### 2.3.5. Extended Operations Page

The **Extended Operations Page** of the Configuration Editor allows you to edit the server extended operations.

Here's what the **Extended Operations Page** looks like:

The page is divided vertically in two parts.

You can choose the orientation of the page by clicking on the appropriate button ("Horizontal Orientation" 📚 or "Vertical Orientation" 📚) at the right of the page.

The left side of the page shows the extended operations defined on the server. This is where you can add or delete an extended operation.

The right side of the page display and lets you see the details of the selected extended operation in the left side.

**Extended Operation details**

The **Name** field displays the name of the extended operation.
The Description field displays the description of the extended operation.

The following icons can appear in the Extended Operations Page:

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Extended Operation</td>
</tr>
</tbody>
</table>

## 2.4. Editor for Apache DS 1.5.3

The Configuration Editor for Apache DS consists in a five pages Editor:

- The **General** page allows you to set "general" settings about the server such as enabling/disabling protocols, setting protocols ports, limits, etc...
- The **Authentication** page allows you to set “authentication” settings such as the supported authentication mechanisms, SASL settings, etc...
- The **Partitions** page allows you to manage your server partitions.
- The **Interceptors** page allows you to manage your server interceptors.
- The **Extended Operations** page allows you to manage your server extended operations handlers.

### 2.4.1. General Page

The **General Page** of the Configuration Editor allows you to edit the server settings.

It contains three sections: **Protocols**, **Limits** and **Options**.

Here's what the **General Page** looks like:

![General Page](image)

### Protocols

- **Enable LDAP**: Port: 10389
- **Enable LDAPS**: Port: 10636
- **Enable Kerberos**: Port: 0
- **Enable NTP**: Port: 60123
- **Enable DNS**: Port: 0
- **Enable Change Password**: Port: 0

- **Max. Time Limit**: 15000
- **Max. Size Limit**: 1000
- **Synchronization Period**: 15000
- **Max. Threads**: 8
Getting started

This section allows you to enable/disable each of the following protocols and specify the port it is running on:

- LDAP (default port: 10389)
- LDAPS (default port: 636)
- Kerberos (default port: 88)
- NTP (default port: 123)
- DNS (default port: 53)
- Change Password (default port: 464)

**Limits**

This section allows you to specify the Limits of the server.

Max. Time Limit lets you choose the maximum time that should last a request (in milliseconds).

Max. Size Limit lets you choose the maximum number of entries that should be returned.

Synchronization Period lets you choose the number of milliseconds between two synchronizations.

Max. Threads lets you choose the number of threads that should be used by the server in its execution.

**Options**

Check the Allow Anonymous Access checkbox to allow anonymous access on the server.

Check the Enable Access Control to enable Access Control on the server.

Check the Denormalize Operational Attributes to use a more human readable form ('uid=admin,ou=system' instead of '0.9.2342.19200300.100.1.1=admin,2.5.4.11=system') for Operational Attributes on the server.

**2.4.2. Authentication Page**

The Authentication Page of the Configuration Editor allows you to edit the server authentication settings.

It contains four sections: Supported Authentication Mechanisms, SASL Settings, SASL Quality Of Protection and SASL Realms.
Here's what the **Authentication Page** looks like:

### Supported Authentication Mechanisms

This section allows you to specify the supported authentication mechanisms. You can choose between the following mechanisms:

- SIMPLE
- CRAM-MD5 (SASL)
- DIGEST-MD5 (SASL)
- GSSAPI (SASL)
- NTLM (SASL)
- GSS-SPNEGO (SASL)
SASL Settings

This section allows you to specify the SASL setting.

<table>
<thead>
<tr>
<th>SASL Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>SASL Host: ldap.example.com</td>
</tr>
<tr>
<td>SASL Principal: ldap/ldap.example.com@EXAMPLE.COM</td>
</tr>
<tr>
<td>Search Base DN: ou=users,ou=system</td>
</tr>
</tbody>
</table>

The **SASL Host** field represents the name of the host.

The **SASL Principal** field represents the service principal name that the server-side of the LDAP protocol provider will use to "accept" a GSSAPI context initiated by the LDAP client. The SASL principal MUST follow the name-form "ldap/[fqdn]@[realm]".

The **Search Base DN** field represents the Distinguished Name where a subtree-scoped DIT search will be performed. This is BOTH where the LDAP service principal must reside, as well as where user principals must reside.

SASL Quality Of Protection

This section allows you to specify the SASL quality of protection. You can choose between the following values:

- auth (Authentication only)
- auth-int (Authentication with integrity protection)
- auth-conf (Authentication with integrity and privacy protection)

SASL Realms

This section allows you to specify to the SASL realms.

<table>
<thead>
<tr>
<th>SASL Realms</th>
</tr>
</thead>
<tbody>
<tr>
<td>example.com</td>
</tr>
<tr>
<td>apache.org</td>
</tr>
</tbody>
</table>

Use the **Add...**, **Edit...** and **Delete** buttons to set your SASL Realms.

2.4.3. Partitions Page

The **Partitions Page** of the Configuration Editor allows you to edit the server partitions.

Here's what the **Partitions Page** looks like:
The page is divided vertically in two parts.

You can choose the orientation of the page by clicking on the appropriate button ("Horizontal Orientation" or "Vertical Orientation") at the right of the page.

The left side of the page shows the partitions defined on the server. This is where you can add or delete a partition.

The right side of the page display and lets you edit the details of the selected partition in the left side.

**Partition details**
An **ID** is mandatory for the partition.

A **Cache Size** is mandatory for the partition.

A **Suffix** is mandatory for the partition.

Check the **Enable Optimizer** checkbox to enable the optimizer for the partition.

Check the **Synchronization On Write** checkbox to enable the synchronization on write for the partition.

**Context Entry**

This section allows you to specify to the server the attribute/value pairs that will be used for the Context Entry of the partition.

Use the **Add...**, **Edit...** and **Delete** buttons to set your values.

**Indexed Attributes**

This section allows you to specify to the server the attributes that should be indexed and their cache size.

Use the **Add...**, **Edit...** and **Delete** buttons to set the indexed attributes.

The following icons can appear in the Partitions Page.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🏛️</td>
<td>Standard Partition</td>
</tr>
<tr>
<td>🏛️</td>
<td>System Partition</td>
</tr>
</tbody>
</table>

### 2.4.4. Interceptors Page

The **Interceptors Page** of the Configuration Editor allows you to edit the server interceptors.

Here's what the **Interceptors Page** looks like:
The page is divided vertically in two parts.

You can choose the orientation of the page by clicking on the appropriate button ("Horizontal Orientation" or "Vertical Orientation") at the right of the page.

The left side of the page shows the interceptors defined on the server. This is where you can add or delete an interceptor.

You can also choose the order of the interceptors in the interceptors' chain using the "Up" and "Down" buttons.

The right side of the page display and lets you see the details of the selected interceptor in the left side.

**Interceptor details**

The **Name** field displays the name of the interceptor.
The **Description** field displays the description of the interceptor.

The following icons can appear in the Interceptors Page.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Interceptor Icon" /></td>
<td>Interceptor</td>
</tr>
</tbody>
</table>

### 2.4.5. Extended Operations Page

The **Extended Operations Page** of the Configuration Editor allows you to edit the server extended operations.

Here’s what the **Extended Operations Page** looks like:

![Extended Operations Page](image)

The page is divided vertically in two parts.

You can choose the orientation of the page by clicking on the appropriate button ("Horizontal Orientation" ![Horizontal Orientation](image) or "Vertical Orientation" ![Vertical Orientation](image) ) at the right of the page.

The left side of the page shows the extended operations defined on the server. This is where you can add or delete an extended operation.

![Extended Operations List](image)

The right side of the page display and lets you see the details of the selected extended operation in the left side.

**Extended Operation details**

![Extended Operation Details](image)

The **Name** field displays the name of the extended operation.
The Description field displays the description of the extended operation.

The following icons can appear in the Extended Operations Page.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Icon]</td>
<td>Extended Operation</td>
</tr>
</tbody>
</table>

### 2.5. Editor for Apache DS 1.5.4

The Configuration Editor for Apache DS consists in a five pages Editor:

- The General page allows you to set "general" settings about the server such as enabling/disabling protocols, setting protocols ports, limits, etc...
- The Authentication page allows you to set "authentication" settings such as the supported authentication mechanisms, SASL settings, etc...
- The Partitions page allows you to manage your server partitions.
- The Interceptors page allows you to manage your server interceptors.
- The Extended Operations page allows you to manage your server extended operations handlers.

#### 2.5.1. General Page

The General Page of the Configuration Editor allows you to edit the server settings.

It contains three sections: Protocols, Limits, and Options.

Here's what the General Page looks like:

![General Page]

### Protocols

- Enable LDAP: [on] Port: 10389
- Enable NTP: [off] Port: 60123
- Enable LDAPS: [on] Port: 10636
- Enable DNS: [off] Port: 0
- Enable Change Password: [off] Port: 0
This section allows you to enable/disable each of the following protocols and specify the port it is running on:

- LDAP (default port: 10389)
- LDAPS (default port: 636)
- Kerberos (default port: 88)
- NTP (default port: 123)
- DNS (default port: 53)
- Change Password (default port: 464)

Limits

This section allows you to specify the Limits of the server.

<table>
<thead>
<tr>
<th>Limits</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Time Limit</td>
<td>15000</td>
</tr>
<tr>
<td>Max. Size Limit</td>
<td>1000</td>
</tr>
<tr>
<td>Synchronization Period</td>
<td>15000</td>
</tr>
<tr>
<td>Max. Threads</td>
<td>8</td>
</tr>
</tbody>
</table>

**Max. Time Limit** lets you choose the maximum time that should last a request (in milliseconds).

**Max. Size Limit** lets you choose the maximum number of entries that should be returned.

**Synchronization Period** lets you choose the number of milliseconds between two synchronizations.

**Max. Threads** lets you choose the number of threads that should be used by the server in its execution.

Options

Check the **Allow Anymous Access** checkbox to allow anymous access on the server.

Check the **Enable Access Control** to enable Access Control on the server.

Check the **Denormalize Operational Attributes** to use a more human readable form ('uid=admin,ou=system' instead of '0.9.2342.19200300.100.1.1=admin,2.5.4.11=system') for Operational Attributes on the server.

**2.5.2. Authentication Page**

The **Authentication Page** of the Configuration Editor allows you to edit the server authentication settings.

It contains four sections: **Supported Authentication Mechanisms**, **SASL Settings**, **SASL Quality Of Protection** and **SASL Realms**.
Here's what the Authentication Page looks like:

### Supported Authentication Mechanisms

This section allows you to specify the supported authentication mechanisms. You can choose between the following mechanisms:

- SIMPLE
- CRAM-MD5 (SASL)
- DIGEST-MD5 (SASL)
- GSSAPI (SASL)
- NTLM (SASL)
- GSS-SPNEGO (SASL)
Getting started

SASL Settings

This section allows you to specify the SASL setting.

<table>
<thead>
<tr>
<th>SASL Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>SASL Host:</td>
</tr>
<tr>
<td>SASL Principal:</td>
</tr>
<tr>
<td>Search Base DN:</td>
</tr>
</tbody>
</table>

The **SASL Host** field represents the name of the host.

The **SASL Principal** field represents the service principal name that the server-side of the LDAP protocol provider will use to "accept" a GSSAPI context initiated by the LDAP client. The SASL principal MUST follow the name-form "ldap/[fqdn][@realm]".

The **Search Base DN** field represents the Distinguished Name where a subtree-scoped DIT search will be performed. This is BOTH where the LDAP service principal must reside, as well as where user principals must reside.

**SASL Quality Of Protection**

This section allows you to specify the SASL quality of protection. You can choose between the following values:

- auth (Authentication only)
- auth-int (Authentication with integrity protection)
- auth-conf (Authentication with integrity and privacy protection)

**SASL Realms**

This section allows you to specify to the SASL realms.

<table>
<thead>
<tr>
<th>SASL Realms</th>
</tr>
</thead>
<tbody>
<tr>
<td>example.com</td>
</tr>
<tr>
<td>apache.org</td>
</tr>
</tbody>
</table>

Use the **Add**, **Edit** and **Delete** buttons to set your SASL Realms.

**2.5.3. Partitions Page**

The **Partitions Page** of the Configuration Editor allows you to edit the server partitions.

Here's what the **Partitions Page** looks like:
The page is divided vertically in two parts.

You can choose the orientation of the page by clicking on the appropriate button ("Horizontal Orientation" or "Vertical Orientation") at the right of the page.

The left side of the page shows the partitions defined on the server. This is where you can add or delete a partition.

The right side of the page display and lets you edit the details of the selected partition in the left side.

**Partition details**

An **ID** is mandatory for the partition.

A **Cache Size** is mandatory for the partition.

A **Suffix** is mandatory for the partition.

Check the **Enable Optimizer** checkbox to enable the optimizer for the partition.

Check the **Synchronization On Write** checkbox to enable the synchronization on write for the partition.
Indexed Attributes

This section allows you to specify to the server the attributes that should be indexed and their cache size.

Use the Add..., Edit... and Delete buttons to set the indexed attributes.

The following icons can appear in the Partitions Page.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="icon" /></td>
<td>Standard Partition</td>
</tr>
<tr>
<td><img src="image" alt="icon" /></td>
<td>System Partition</td>
</tr>
</tbody>
</table>

2.5.4. Interceptors Page

The Interceptors Page of the Configuration Editor allows you to edit the server interceptors.

Here's what the Interceptors Page looks like:

The page is divided vertically in two parts.

You can choose the orientation of the page by clicking on the appropriate button ("Horizontal Orientation" or "Vertical Orientation") at the right of the page.

The left side of the page shows the interceptors defined on the server. This is where you can add or delete an interceptor.

You can also choose the order of the interceptors in the interceptors' chain using the "Up" and "Down" buttons.
The right side of the page display and lets you see the details of the selected interceptor in the left side.

**Interceptor details**

The **Name** field displays the name of the interceptor.

The **Description** field displays the description of the interceptor.

The following icons can appear in the Interceptors Page.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Interceptor</td>
</tr>
</tbody>
</table>

**2.5.5. Extended Operations Page**

The **Extended Operations Page** of the Configuration Editor allows you to edit the server extended operations.

Here's what the **Extended Operations Page** looks like:

The page is divided vertically in two parts.
You can choose the orientation of the page by clicking on the appropriate button ("Horizontal Orientation" or "Vertical Orientation") at the right of the page.

The left side of the page shows the extended operations defined on the server. This is where you can add or delete an extended operation.

The right side of the page display and lets you see the details of the selected extended operation in the left side.

**Extended Operation details**

The Name field displays the name of the extended operation.  
The Description field displays the description of the extended operation.  

The following icons can appear in the Extended Operations Page.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Extended Operation</td>
</tr>
</tbody>
</table>

**2.6. Editor for Apache DS 1.5.5**

The Configuration Editor for Apache DS consists in a five pages Editor:

- The **General** page allows you to set "general" settings about the server such as enabling/disabling protocols, setting protocols ports, limits, etc...

- The **Authentication** page allows you to set "authentication" settings such as the supported authentication mechanisms, SASL settings, etc...

- The **Partitions** page allows you to manage your server partitions.

- The **Interceptors** page allows you to manage your server interceptors.

- The **Extended Operations** page allows you to manage your server extended operations handlers.

**2.6.1. General Page**

The **General Page** of the Configuration Editor allows you to edit the server settings.

It contains three sections: **Protocols**, **Limits** and **Options**.
Here's what the General Page looks like:

![General Page](image)

**Protocols**

This section allows you to enable/disable each of the following protocols and specify the port it is running on:

- LDAP (default port: 10389)
- LDAPS (default port: 636)
- Kerberos (default port: 88)
- NTP (default port: 123)
- DNS (default port: 53)
- Change Password (default port: 464)

**Limits**

This section allows you to specify the Limits of the server.

<table>
<thead>
<tr>
<th>Limits</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Time Limit</td>
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</tr>
<tr>
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<td>1000</td>
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<td>15000</td>
</tr>
<tr>
<td>Max. Threads</td>
<td>8</td>
</tr>
</tbody>
</table>

**Max. Time Limit** lets you choose the maximum time that should last a request (in milliseconds).

**Max. Size Limit** lets you choose the maximum number of entries that should be returned.
Synchronization Period lets you choose the number of milliseconds between two synchronizations.

Max. Threads lets you choose the number of threads that should be used by the server in its execution.

Options

Check the Allow Anymous Access checkbox to allow anymous access on the server.

Check the Enable Access Control to enable Access Control on the server.

Check the Denormalize Operational Attributes to use a more human readable form ('uid=admin,ou=system' instead of '0.9.2342.19200300.100.1.1=admin,2.5.4.11=system') for Operational Attributes on the server.

2.6.2. Authentication Page

The Authentication Page of the Configuration Editor allows you to edit the server authentication settings.

It contains four sections: Supported Authentication Mechanisms, SASL Settings, SASL Quality Of Protection and SASL Realms.

Here's what the Authentication Page looks like:

[Image of Authentication Page]
Supported Authentication Mechanisms

This section allows you to specify the supported authentication mechanisms. You can choose between the following mechanisms:

- SIMPLE
- CRAM-MD5 (SASL)
- DIGEST-MD5 (SASL)
- GSSAPI (SASL)
- NTLM (SASL)
- GSS-SPNEGO (SASL)

SASL Settings

This section allows you to specify the SASL settings.

- The **SASL Host** field represents the name of the host.
- The **SASL Principal** field represents the service principal name that the server-side of the LDAP protocol provider will use to "accept" a GSSAPI context initiated by the LDAP client. The SASL principal MUST follow the name-form "ldap/[fqdn]@[realm]".
- The **Search Base DN** field represents the Distinguished Name where a subtree-scoped DIT search will be performed. This is BOTH where the LDAP service principal must reside, as well as where user principals must reside.

SASL Quality Of Protection

This section allows you to specify the SASL quality of protection. You can choose between the following values:

- auth (Authentication only)
Getting started

- auth-int (Authentication with integrity protection)
- auth-conf (Authentication with integrity and privacy protection)

**SASL Realms**

This section allows you to specify to the SASL realms.

![SASL Realms Table]

Use the **Add**, **Edit**, and **Delete** buttons to set your SASL Realms.

### 2.6.3. Partitions Page

The **Partitions Page** of the Configuration Editor allows you to edit the server partitions.

Here's what the **Partitions Page** looks like:

![Partitions Page]

The page is divided vertically in two parts.

You can choose the orientation of the page by clicking on the appropriate button ("Horizontal Orientation"  or "Vertical Orientation"  ) at the right of the page.

The left side of the page shows the partitions defined on the server. This is where you can add or delete a partition.
The right side of the page display and lets you edit the details of the selected partition in the left side.

**Partition details**

<table>
<thead>
<tr>
<th>Partition Details</th>
<th>Set the properties of the partition.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID:</td>
<td>example</td>
</tr>
<tr>
<td>Cache Size:</td>
<td>100</td>
</tr>
<tr>
<td>Suffix:</td>
<td>dc=example.dc=com</td>
</tr>
<tr>
<td>Enable Optimizer</td>
<td></td>
</tr>
<tr>
<td>Synchronization on write</td>
<td></td>
</tr>
</tbody>
</table>

An **ID** is mandatory for the partition.

A **Cache Size** is mandatory for the partition.

A **Suffix** is mandatory for the partition.

Check the **Enable Optimizer** checkbox to enable the optimizer for the partition.

Check the **Synchronization On Write** checkbox to enable the synchronization on write for the partition.

**Indexed Attributes**

This section allows you to specify to the server the attributes that should be indexed and their cache size.

Use the **Add...**, **Edit...** and **Delete** buttons to set the indexed attributes.

The following icons can appear in the Partitions Page.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Standard Partition" /></td>
<td>Standard Partition</td>
</tr>
<tr>
<td><img src="image" alt="System Partition" /></td>
<td>System Partition</td>
</tr>
</tbody>
</table>

**2.6.4. Interceptors Page**

The **Interceptors Page** of the Configuration Editor allows you to edit the server interceptors.

Here's what the **Interceptors Page** looks like:
The page is divided vertically in two parts.

You can choose the orientation of the page by clicking on the appropriate button ("Horizontal Orientation" or "Vertical Orientation") at the right of the page.

The left side of the page shows the interceptors defined on the server. This is where you can add or delete an interceptor.

You can also choose the order of the interceptors in the interceptors' chain using the "Up" and "Down" buttons.

The right side of the page display and lets you see the details of the selected interceptor in the left side.

Interceptor details

The Name field displays the name of the interceptor.

The Description field displays the description of the interceptor.
The following icons can appear in the Interceptors Page.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🌟</td>
<td>Interceptor</td>
</tr>
</tbody>
</table>

## 2.6.5. Extended Operations Page

The Extended Operations Page of the Configuration Editor allows you to edit the server extended operations.

Here’s what the Extended Operations Page looks like:

The page is divided vertically in two parts.

You can choose the orientation of the page by clicking on the appropriate button ("Horizontal Orientation" 🌟 or "Vertical Orientation" 🏛️) at the right of the page.

The left side of the page shows the extended operations defined on the server. This is where you can add or delete an extended operation.

The right side of the page display and lets you see the details of the selected extended operation in the left side.

### Extended Operation details

The Name field displays the name of the extended operation.
The **Description** field displays the description of the extended operation.

The following icons can appear in the Extended Operations Page.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>Extended Operation</td>
</tr>
</tbody>
</table>
Chapter II. Tasks

1. Open a Server Configuration

To open a Server Configuration, locate the File menu and select "File > Open File...".

2. Create a new Server Configuration

To create a new Server Configuration, locate the File menu, select "File > New..." in Apache Directory Studio or "File > New > Other..." in Eclipse.

In the New Wizard Selection panel, select "Apache DS > Apache DS Configuration File".

The following wizard appears:
Select the Apache DS target version.

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apache DS version</td>
<td>Each version of Apache DS defines its specific settings and 'server.xml' file format. In order to display the right editor, you need to provide the version of Apache DS you're targeting.</td>
<td>1.5.5</td>
</tr>
</tbody>
</table>
Chapter III. What's new

What's new in 1.5.0

Support for Apache DS 1.5.5

The Apache DS Configuration plugin now supports the 1.5.5 version of Apache Directory Server.

What's new in 1.4.0

Internationalization

Apache Directory Studio is now fully internationalized. Out of the box English, French and German translations are provided.

What's new in 1.2.0

Support for Apache DS 1.5.3, 1.5.2, 1.5.1 and 1.5.0
The Apache DS Configuration plugin now supports the 1.5.3, 1.5.2, 1.5.1 and 1.5.0 versions of Apache Directory Server.
Chapter IV. Release notes

Apache Directory Studio 1.5.2 - (2009, December 11th)

Task
• [DIRSTUDIO-605] - Update the help content of the configuration editor for version 1.5.5 of Apache DS

Apache Directory Studio 1.5.1 - (2009, November 30th)

Nothing new.

Apache Directory Studio 1.5.0 - (2009, November 2nd)

Bug
• [DIRSTUDIO-520] - NPE when saving a 1.5.0 server configuration

Improvement
• [DIRSTUDIO-521] - Replace the XSLT transformation by the use of the Dom4J OutputFormat class for XML pretty print

New Feature
• [DIRSTUDIO-536] - Add support for version 1.5.5 of the Apache DS server.xml configuration file

Apache Directory Studio 1.4.0 - (2009, April 7th)

Bug
• [DIRSTUDIO-436] - Eclipse Hangs on Startup

New Feature
• [DIRSTUDIO-397] - Request for multi-language GUI

Apache Directory Studio 1.3.0 - (2008, November 24th)

Bug
• [DIRSTUDIO-394] - SASL Realms are not correctly saved in the 1.5.2 and 1.5.3 Apache DS Configuration Editor
Improvement

• [DIRSTUDIO-393] - Add support for ApacheDS 1.5.4 server.xml file in the ApacheDS Configuration Editor

Task

• [DIRSTUDIO-375] - Move each plugin IDs in a plugin.properties file

Apache Directory Studio 1.2.0 - (2008, august 18th)

Bug

• [DIRSTUDIO-323] - Studio fails to read ApacheDS server.xml

Task

• [DIRSTUDIO-332] - Add support for 1.5.3, 1.5.2 and 1.5.0 server.xml configuration files

Apache Directory Studio 1.1.0 - (2008, march 31st)

Bug

• [DIRSTUDIO-286] - Update Site is not working, missing dependencies in ldifeditor, ldapbrower and schemaeditor feature

• [DIRSTUDIO-284] - Changing "Supported Authentication Mechanism" doesn't set the dirty flag.

• [DIRSTUDIO-281] - LDIF and Apache DS configuration files can't be saved in RCP mode

• [DIRSTUDIO-253] - cant open server.xml with directory studio

• [DIRSTUDIO-239] - Apache DS Configuration Plugin cannot parse server.xml file correctly

Task

• [DIRSTUDIO-236] - Update the Apache DS Configuration plugin to work with the server.xml file of Apache DS 1.5.1

Apache Directory Studio 1.0.0 - (2007, september 3rd)

Initial release.