

# PeopleFluent Learning

## Content Server Configuration Guide

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## About this Document

### Introduction

This document provides guidelines for configuring and deploying distributed content servers for use with PeopleFluent LMS, allowing you to provide faster access to course content for your users.

### Document Information

This section lists any changes or updates that occur following initial publication.

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## Content Server Configuration

In a typical standalone installation, courseware is served from the same machine, regardless of the learner’s identity and location. However, this centralized system approach may not be suitable for serving remote sites with limited network bandwidth. The configuration(s) described in this document can solve this kind of problem by distributing the courseware to multiple remote sites so that online courses can be served locally (or at least regionally), hence minimizing overall network bandwidth requirements.

There are other scenarios in which it might be desirable to launch course content from a content server separate from the LMS server, for example:

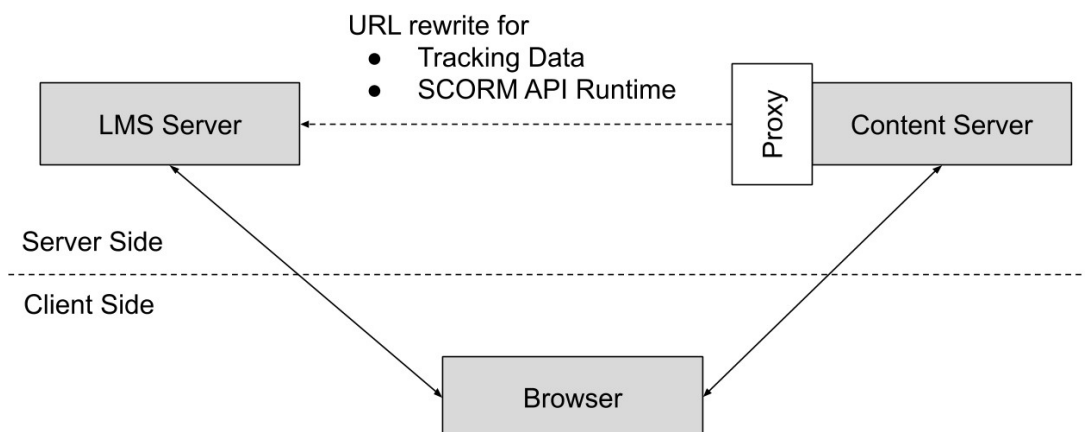
- due to licensing restrictions on the content
- to make it easier for the content provider to update the content
- because the content requires a specific technology platform that is not available on the LMS server

If providing faster access to content is not your primary reason for using a content server, then it may be easier to configure a reverse proxy on the LMS server and to launch the courses as if they were local courses, in which case it is not necessary to follow the procedures described in this guide.

## Implementation

The implementation of a content server is similar to setting up a machine containing a standard web server with a local set of course files, but with a few key differences.

The distributed content server requires a proxy server set up with URL rewrite configured to forward all the AICC tracking and SCORM API Runtime requests. This URL rewriting technique makes the SCO and SCORM API adapter tracking requests appear to the browser as communicating with the same domain as the downloaded content, thus avoiding the cross-domain security issues that otherwise prevents browsers from forwarding information to another domain.



## Content Server Requirements

Content Server implementation requires a web server that has the capability of rewriting URLs: Microsoft IIS and the Apache web server are examples. In this document, Apache 2.0 web server is used as the configuration example.

## Content Server Configuration

### Configure the Apache Web Server

Add the following directives to the `<apache_home>\conf\httpd.conf` file, where `<apache_home>` is the installation home directory of Apache.

#### Adding Aliases

Aliases will be added to point to the appropriate locations where the courses are installed. In the following example, it assumes the content server has mirrored the courses from the LMS main server, where the courses are installed in the `C:\Program Files\Apache Software Foundation\Tomcat 7.0\webapps\ekp\nd\fresco` directory, where `ekp` is the LMS directory. The main purpose of adding these aliases is to map out the common relative launch URL for all of the installed courses to a specific content server physical directory.

The following example caters for launch URLs starting with `ekp/nd` and `/nd`. Note that the order of the `Alias` directives in the configuration file determines the search order.

```
Alias /ekp/nd/ "C:/Program Files/Apache Software Foundation/Tomcat 7.0/webapps/ekp/nd/"
Alias /nd/ "C:/Program Files/Apache Software Foundation/Tomcat 7.0/webapps/ekp/nd/"

<Directory "C:/Program Files/Apache Software Foundation/Tomcat 7.0/webapps/ekp">
Options Indexes MultiViews
AllowOverride None
Order allow,deny
Allow from all
</Directory>
```

### Adding Rewrite Rules

Rewrite rules will be added to enable the content server to forward the AICC requests and SCORM API calls to the LMS server.

```
# Load Apache modules for proxying HTTP requests
LoadModule proxy_module modules/mod_proxy.so
LoadModule proxy_http_module modules/mod_proxy_http.so

# Forward HACP requests
ProxyPass / ekp/servlet/ http://www.example.com/ ekp/servlet/
ProxyPassReverse / ekp/servlet/ http://www.example.com/ ekp/servlet/

# Forward requests for the Java applet API adapter
ProxyPass / ekp/nd/fresco/applets/
http://www.example.com/ekp/nd/fresco/applets/
ProxyPassReverse / ekp/nd/fresco/applets/ http://www.example.com/
ekp/nd/fresco/applets/

# Forward requests for the JavaScript API adapter
ProxyPass / ekp/nd/fresco/javascript/scormapi_js/
http://www.example.com/ ekp/nd/fresco/javascript/scormapi_js/
ProxyPassReverse /ekp/nd/fresco/javascript/scormapi_js/
http://www.example.com/ekp/nd/fresco/javascript/scormapi_js/
```

Note that [www.example.com](http://www.example.com) is the host name of the central LMS server.

## Test Apache Configuration

After modifying the configuration file `httpd.conf`, you need to restart Apache to make the changes effective. A quick way to test that the proxy setup is correct is to enter the following requests to verify that they are forwarded correctly.

Launch the browser and access the following URL: `http://<contentserver>/ekp/servlet/ekp/login` If the setup is correct, it should be redirected to: `http://<ntsserver>/ekp/servlet/ekp/login`

Note that the `<contentserver>` is the host name of the content server and the `<ntsserver>` is the host name of the LMS server.

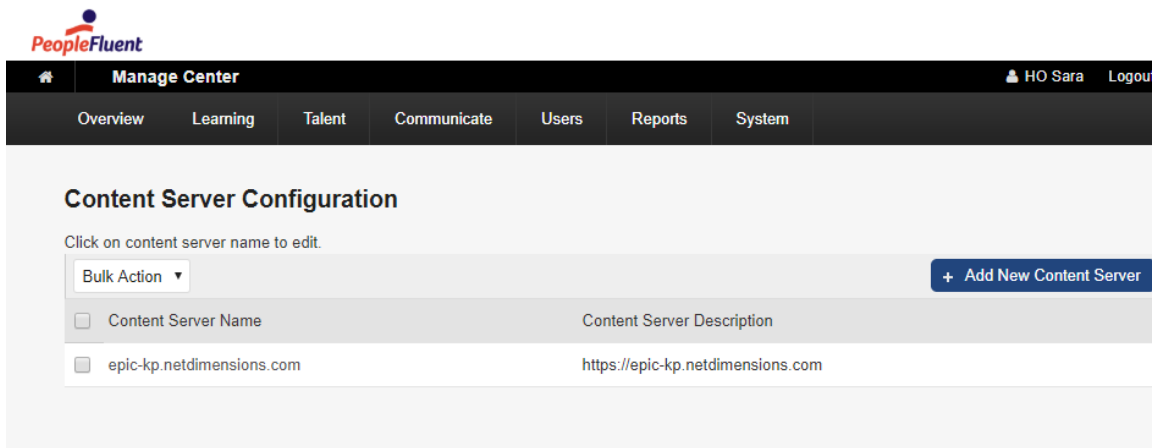
Similarly, test on URL `http://<contentserver>/ekp/nd/fresco/applets` and it should also be redirected to `<ntsserver>`.

## Configuring Content Servers in the LMS

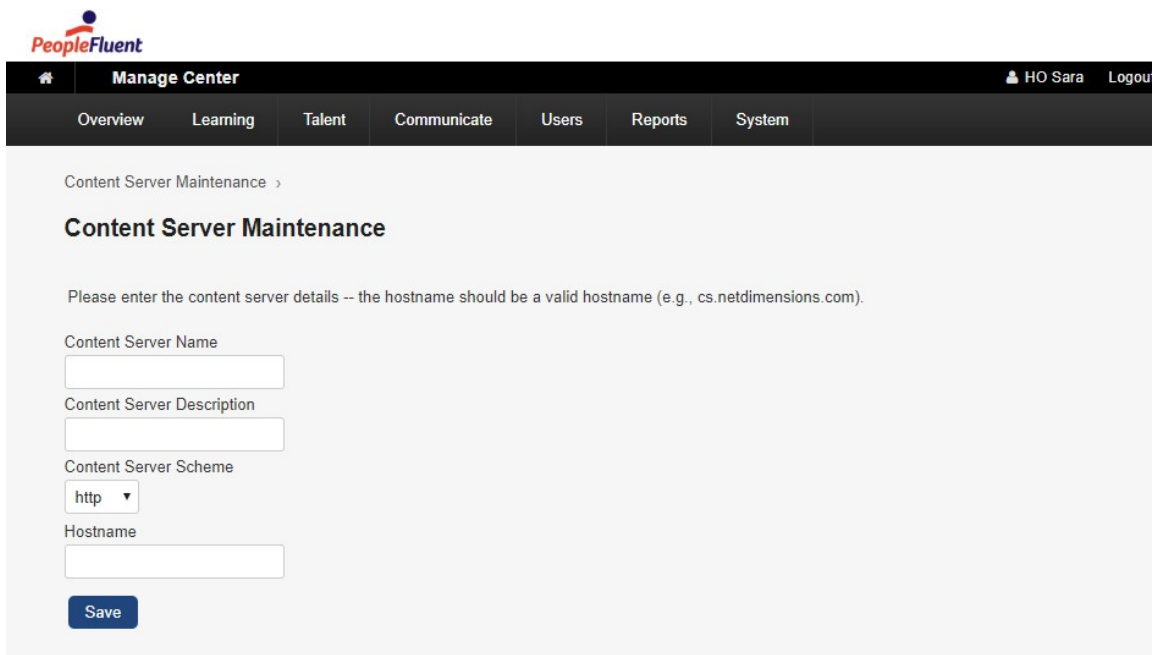
Adding A Content Server

To add a new content server:

1. Go to **Manage Center > System > General Settings > Content Server Configuration**.



2. Click **+ Add New Content Server** and fill in the content server information.



All fields are mandatory, it is important to have the host name set up correctly. Failure to do so will cause course launching from this server to fail.

#### Adding IP Address Range Rules

Once you have created a content server, you can define its IP Address Range Rules.

Content Server Maintenance >

## Content Server Maintenance

Please enter the content server details -- the hostname should be a valid hostname (e.g., cs.netdimensions.com).

Content Server Name  
epic-kp.netdimensions.com

Content Server Description  
https://epic-kp.netdimensions

Content Server Scheme  
http

Hostname  
epic-kp.netdimensions.com

From IP Address	To IP Address
202.82.124.1	202.82.124.100

Save Add IP address rule Delete IP address rule

The LMS will search for a suitable content server for the user by using the following algorithm:

1. Check if the course launch URL is set up as an absolute URL. If the launch URL is an absolute URL, it will launch the course with that URL since this defines where the course is located. You would set up a course in this manner if it is only located on one specific server, or if it refers to an external website not under the control of the LMS (for example, www.yahoo.com).
2. Use the IP Address of the client to look up the IP Address Range Rule defined in each content server. If there is a match, that content server will be used.
3. If the user has a specific content server assigned (for example, through User Preferences or by administrator assignment in the User Editor), the course is launched from that content server;
4. If no specific content server is selected, it will default to use the LMS server.

#### Content Server in User Preferences

If permitted by their role options, users can select their preferred content server in the user preference settings (shown below).





- Home
- Learning Center
- Personal Calendar
- Career Center
- Workspace
- Connects
- Repe

### Settings

- User Preferences
- My Orgs
- My Profile
- User Administration
- Change password
- Accounts
- Payment History

#### Terms of Use

Attribute	Choice	Comments
Skin Selection:	PeopleFluent_LMS	The settings at the left determine the screen layout, background, colors, and related user interface characteristics.
Language:	English	Language for the Menu Messages and Labels
Time Zone:	(GMT+08:00) Hongkong: Hong Kon	The time zone used to display dates and times relative to your location. Please choose the STANDARD zone, as daylight savings time will be accounted for automatically for those time zones that make use of this concept.
Minimize Use of Pop-ups:	No	Typically, new windows are used to make navigation of list results (e.g., catalog searching) more convenient. If this option is set to YES, info will more often be rendered in the current window instead of a new window, thus reducing the overall number of pop-ups.
First Screen:	Session Administration	The First Screen to Appear When You Log In.
Automatic Mail Lists:	Yes, add me.	If yes, you will automatically be added to individual course mail lists whenever you enroll in the course.
Content Server:	epic-kp.netdimensions.com	Specify preferred server for serving your online course content.
E-mail Forwarding:	N/A	If selected, the system will forward all mail messages to the user indicated in the drop-down.
Alternative Mail:		

## Appendix A: Sample Apache Configuration

```
Alias /ekp/nd/ "C:/Program Files/Apache Software Foundation/Tomcat
7.0/webapps/ekp/nd/"
Alias /nd/ "C:/Program Files/Apache Software Foundation/Tomcat
7.0/webapps/ekp/nd/"

<Directory "C:/Program Files/Apache Software Foundation/Tomcat
7.0/webapps/ekp">
Options Indexes MultiViews
AllowOverride None
Order allow,deny
Allow from all
</Directory>

LoadModule rewrite_module modules/mod_rewrite.so
LoadModule proxy_module modules/mod_proxy.so
LoadModule proxy_http_module modules/mod_proxy_http.so

RewriteEngine on
RewriteRule ^/ekp/servlet/(.*)$ http://*ntsserver*/ekp/servlet/$1 [P,L]
RewriteRule ^/ekp/nd/fresco/applets/(.*)$
http://*ntsserver*/ekp/nd/fresco/applets/$1 [P,L]
```

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