From Technologies to Solutions

Liferay

Portal Enterprise Intranets

A practical guide to building a complete corporate intranet with Liferay

Jonas X. Yuan

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C.J.S. Hayward is an author and IT professional who loves to create. He holds a master's degrees in math (UIUC) and theology (Cambridge). His main site, JonathansCorner.com, showcases different creations: short stories and Socratic dialogue, science fiction and fantasy, CGI and OSS, musing and mystic spark, a role playing world and a four dimensional maze, novellas, artwork, poetry, philosophy and theology, dreamlike vision and energetic endeavors, plus a game review for meatspace. (His works are available in print from CJSHayward.com.) He has lived in the U.S., Malaysia, England, and France and is a parishioner of St. Innocent of Moscow Russian Orthodox Church.

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Preface

When you plan to build an amazing website based on a portal, you may commonly consider a lot of questions. Some of them would look like the following:

- Are you planning to build a website with an open source enterprise portal solution using SOA framework, ESB and Web 2.0 technologies?
- Do you want to add collaborative tools, such as Wikis, Blogs, Discussion Forums, Shared Calendar, RSS, mail, Tagging, and instant messaging in the same website?
- Do you want to manage, publish and maintain web contents and documents in the same website?
- Are you eager to integrate with LDAP, SSO and third-party systems like JBoss jBPM, Alfresco, Orbeon Forms, and Pentaho BI/Reporting in the same website?

Obviously Liferay would be the best choice in terms of answering the above questions. Liferay Portal is one of the most mature portal frameworks in the market and offers the above basic benefits. Liferay is backed by a comprehensive professional services network and it offers custom development, training, and support across the world.

As the world's leading open source portal platform, Liferay provides a unified web interface to data and tools scattered across many sources. Within Liferay portal, a portal interface is composed of a number of portlets—self contained interactive elements that are written to a particular standard. Since portlets are developed independently of the portal itself, and loosely coupled with the portal, they are apparently SOA (Service-Oriented Architecture).

Liferay has a wide range of portlets freely available for things like: Blogs, Calendar, Document Library, Image Gallery, Mail, Message Boards, Polls, RSS feeds, Wiki, and many others. Liferay Portal also ships with Liferay Journal CMS (Content Management Systems), which provides basic ECMS (Enterprise Content Management Systems) features. If you need robust enterprise content management system then you can integrate it with Alfresco. Liferay is good portal on top for small team collaboration. The data for events can be specific to a small group within a company. In any organization, some data will be relevant at a team level—and other data, across the whole business. Liferay has very good support for such things.

As the world's leading open source enterprise portal solution, Liferay portal uses the latest in Java, J2EE, and Web 2.0 technologies in order to deliver solutions to enterprises across both public and private sectors. Meanwhile, Journal CMS publishes, manages, and maintains web content and document libraries. In addition, Collaboration Suite takes advantage of the benefits of virtualized work environment for collaboration.

This book is your complete guide to build an intranet with Liferay —assess your needs, install the software, start using it, deploy portlets, customize as per your requirements and train users. The book focuses on leveraging the Liferay framework by configuring the XML files without changing the underlying java code.

What This Book Covers

Chapter 1 introduces Liferay.

Chapter 2 discusses how to set up the home page and navigate the structure of the intranet.

Chapter 3 investigates security and access model. It describes how to bring to users in the portal: application of full access control security model; administration of users, user groups, organizations and locations; authentication of Liferay portals, and moreover, usage of security permissions and roles.

Chapter 4 describes discussion Forums. Message Board (discussion Forum) provides support for sticky posts, statistics, recent posts, RSS, email-based subscriptions, avatars, threads management, and full fine-grained permissions. Tagging system provides support to tag web content, documents, Message Board threads and more, and dynamically publish content by tags.

Chapter 5 describes Wikis. Liferay Wiki is a straightforward Wiki solution with categories; classic Wiki, HTML, or plain text modes; WYSIWYG editing; page history and versioning; and permissions. Moreover, the Web Form portlet allows a web administrator to define a form to be published in the website; the Polls portlet allows users or administrators to create multiple choice polls that keep track of votes and display results on the page.

Chapter 6 describes Internal Bloggings. Blogs provide features including RSS support, user and guest comments, brows-able categories, tags and labels, and an entry rating system; RSS portlet has subscription ability to frequently read RSS feeds from within the portal framework. Furthermore, WYSIWGs (What You See Is What You Get editors) edit web content, including Blogs' content.

Chapter 7 introduces Shared Calendars. A calendar portlet provides the ability to display calendar information and to allow users to create, manage, and search for events. Workflow portlet provides the ability to manage instances and tasks, and furthermore, integrate with users, groups and roles. In addition, WSRP proxy portlet, IFrame portlet and Flash portlet are also included as well.

Chapter 8 investigates documents repositories. It does not only introduce document library, images gallery and content management including articles, templates and structure, but it also discusses content publication.

Chapter 9 presents chat and instant messaging. It first introduces chat portlet and its related features, such as AJAX and XMPP servers. Then it introduces mail portlet and its related features, such as IMAP. Finally, it briefly introduces SMS and the usage of SMS text messenger—sending SMS text messages.

Chapter 10 discusses others tools which would be useful to build a personalized web site.

Chapter 11 presents how to roll out to other teams. It principally introduces community administration, community virtual hosting, portal publishing and staging and a set of community tools.

Chapter 12 introduces search functionalities: OpenSearch, Journal content search, sitemaps protocol, Google search and Google maps.

Chapter 13 concludes the book. It mainly describes ongoing admin tasks, including admin portlet, enterprise admin portlet, managing password policies, updating the system–level settings, and monitoring users' activities,, and full integration approach to Liferay, Alfresco, LDAP and SSO.

What You Need for This Book

This book uses Liferay portal version 4.4 and 5.0. with the following settings:

- MySQL database 5.0
- Java SE 6.0
- Liferay portal bundled with Tomcat 6.0

Optionally, you can also work in both Windows and Linux with the following settings:

- Java SE 5.0
- Liferay portal bundled with Tomcat 5.5
- MySQL database 5.0

You can use one of the following options for Servlet containers and full Java EE application servers to install Liferay Portal:

- Geronimo + Tomcat
- Glassfish for AIX
- Glassfish for Linux
- Glassfish for OSX
- Glassfish for Solaris
- Glassfish for Solaris (x86)
- Glassfish for Windows
- JBoss + Jetty 4.0
- JBoss + Tomcat 4.0
- JBoss + Tomcat 4.2
- Jetty
- JOnAS + Jetty
- JOnAS + Tomcat
- Pramati
- Resin
- Tomcat 5.5 for JDK 1.4
- Tomcat 5.5 for JDK 5.0
- Tomcat 6.0

The applications servers (or Servlet containers) that Liferay Portal can run on include:

- Borland ES 6.5
- Apache Geronimo 2.x
- Sun GlassFish 2 UR1
- JBoss 4.0.x, 4.2.x
- JOnAS 4.8.x
- JRun 4 Updater 3
- OracleAS 10.1.3.x
- Orion 2.0.7
- Pramati 5.0
- RexIP 2.5
- SUN JSAS 9.1
- WebLogic 8.1 SP4, 9.2, 10
- WebSphere 5.1, 6.0.x, 6.1.x
- Jetty 5.1.10
- Resin 3.0.19
- Tomcat 5.0.x/5.5.x/6.0.x

Databases that Liferay portal can run on include:

- Apache Derby
- IBM DB2
- Firebird
- Hypersonic
- Informix
- InterBase
- JDataStore
- MySQL
- Oracle
- PostgresSQL
- SAP
- SQL Server
- Sybase

Operating systems that Liferay portal can run on include:

- LINUX (Debian, RedHat, SUSE, Ubuntu, and so on)
- UNIX (AIX, FreeBSD, HP-UX, OS X, Solaris, and so)
- WINDOWS
- MAC OS X

Who is This Book for

This book is for beginners to Liferay and "Do-It-Yourselfers" who want to develop a simple but powerful corporate Intranet. The book assumes technical confidence but does not require specialist administrator or developer skills.

Conventions

In this book, you will find a number of styles of text that distinguish between different kinds of information. Here are some examples of these styles, and an explanation of their meaning.

Code words in text are shown as follows: "We can include other contexts through the use of the `include` directive."

A block of code will be set as follows:

```
<swimlane name="user_admin">
    <assignment class="com.liferay.jbpm.handler.
IdentityAssignmentHandler"
                                  config-type="field">
      <type>role</type>
      <companyId>liferay.com</companyId>
      <id>1001</id>
```

New terms and **important words** are introduced in a bold-type font. Words that you see on the screen, in menus or dialog boxes for example, appear in our text like this: "clicking the **Next** button moves you to the next screen".

Important notes appear in a box like this.

Tips and tricks appear like this.

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Questions

You can contact us at `questions@packtpub.com` if you are having a problem with some aspect of the book, and we will do our best to address it.

1
Introducing Liferay for Your Intranet

This book will show you how to create a company Intranet with Liferay. In this chapter, we will look at:

- The features your Intranet will have by the time you reach the end of the book.
- Why Liferay is an excellent choice for building your Intranet.
- Some of the other things people are using Liferay for, besides Intranets.
- How to find more technical information about what Liferay is, and how it works.

So let's begin by looking at exactly which site we're going to build in the book.

What Are We Going to Build?

Over the course of this book, we're going to build a complete corporate Intranet using Liferay. Let's discuss some of the features your Intranet will have.

Hosted Discussions

Are you still using email for group discussions? Then it's time you found a better way. Running group discussions over email clogs up the team's inbox. Also, you have to choose your distribution list in advance, and it is hard for team members to 'opt in and out' of the discussion.

Using Liferay, we will build a range of discussion boards for discussion within and between teams. The discussions are archived in one place. So it's always possible to go back and refer to them later.

Furthermore, it's just more convenient to move an email discussion to a discussion forum designed for the purpose. Once the forum is in place, you will find that a more productive group discussion takes place than it ever did over email.

Collaborative Documents Using Wikis

Your company probably has guideline documents that should be updated regularly. But, they swiftly lose their relevance as practices and procedures change. Worse, each of your staff will know useful, productive tricks and techniques—but there's probably no easy way to record that knowledge in a way that is easy for others to find and use.

We will see how to host 'wikis' within Liferay. A wiki enables anybody to create and edit web pages, and link all of those web pages together. You can put your 'guideline' documents into a wiki, and as practices change, your frontline staff can quickly and effortlessly update the guideline documentation.

Wikis can also act as a shared notebook, enabling team members to collaborate and share both ideas and findings, and also work together on documents.

Team And Individual Blogs

Your company probably needs frequent, chronological publications of personal thoughts and Web links in the Intranet. In more detail, your company probably has teams and individual works on specific projects in order to share files and Blogs about project processes, and furthermore use HTML text editor to create or update files and Blogs, and provide RSS feeds.

We will see how teams and individuals share files and Blogs within Liferay. Blogs provide a straightforward Blogging solution with a lot of features such as RSS support, comments, categories, tags, labels, rating, and so on. Liferay RSS with subscription provides the ability to frequently read RSS feeds from within the portal framework.

At the same time, WYSIWGs (What You See Is What You Get editors) provides the ability to edit web content, including Blog content. Less technical persons can use WYSIWGs without sifting through complex code.

Shared Calendars

Your company may be required to provide and share calendar information among users from different departments. At the same time, it may be required to provide workflow ability so that normal users can submit requests, and the manager can take decisions on these requests. Moreover, it may also be required to publish third party contents in the intranet website.

We will see how to share a calendar within Liferay. Shared Calendar can satisfy basic business requirements incorporated in a featured business intranet such as scheduling meetings, sending meeting invitations, checking for attendees' availability and so on. Thus, you can provide an environment for users to manage events and share calendars.

In addition, you can also use workflows to manage workflow definitions, instances, and tasks. Furthermore, you can also employ WSRP proxy effectively, and other portlets such as web proxy, IFrame and flash smoothly. These portlets provide ability to publish third party contents in the intranet website.

Document Stores

You company may have a lot of images and documents, and you may need to manage all images and documents as well. Thus, you require the ability to manage a lot of web content and also publish web contents in the intranet.

We will see how to manage and publish web contents within Liferay. Liferay Journal does not only provide high availability to publish, manage, and maintain web content and documents, but it also separates content from layout.

In addition, within Image Gallery, you can add folders and sub folders for images, can manage folders and sub folders, add images in folders and manage images, can set up permission on folders and images. Within Document Library, you can add folders and sub folders for documents, and manage documents, and also publish documents.

And More...!

The Intranet will also arrange staff members into teams and communities, provide a way for real-time IM and chat, and give each user an appropriate level of 'access'—implying that they get access to all the information they need, edit and add content as necessary, but can't meddle with sensitive information that they have no reason to see.

Everything in One Place

All these features are useful on their own. But it gets better when you consider that all these features will combine in one, easy-to-use, searchable portal.

A user of the Intranet, for example, can search for a topic— say 'financial report'—and can find in one go:

- Any group discussions about financial reports
- Blog entries within the intranet concerning financial reports
- Documents and files—the financial reports themselves, perhaps
- Wiki entries with guidelines on preparing financial reports
- Calendar entries for meetings to discuss the financial report

Of course, users can also restrict their search to just one area, if they already know exactly what they are looking for.

Liferay provides other features, such as tagging, to make it easier to organize information across the whole Intranet. We will do all of this and more over the course of the book.

Introducing Palm Tree Publications

In this book we are going to build an example Intranet for a fictions company. By applying the instructions to your own business, you will be able to build an Intranet to meet your own company's needs.

Palm Tree Publications needs an Intranet of its own, which we will call book.com.

The enterprise's global headquarters is in the United States. It has several departments: editorial, website, engineering, marketing, executive and human resources.

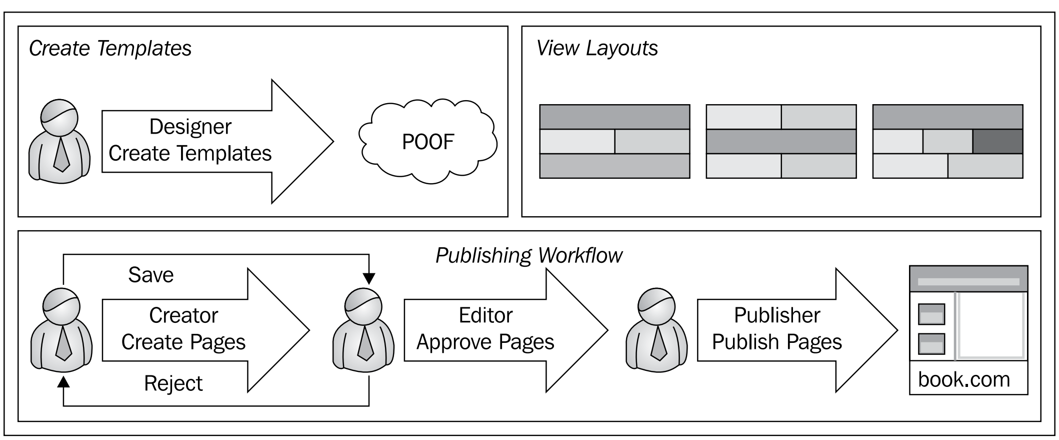
Each department has staff either in the United States, or in Germany, or both.

The intranet site provides a community called "Book Lovers",consisting of users who have an interest in reading books. The enterprise needs to integrate collaboration tools such as Wikis, Blogs, discussion forms, instant messaging, mail, RSS, shared calendars, tagging, and so on.

Palm Tree Publications has some more advanced needs too: a workflow to edit, approve and publish books. Furthermore, the enterprise has a lot of contents such as books stored and managed in Alfresco, currently. Now, it wants to publish the contents of Alfresco in the Intranet website.

In order to build the intranet site, the following functionalities should be considered:

- Installing the portal, experiencing the portal and portlets, customizing personal web pages.
- Bringing users to the portal—enabling document sharing, calendar sharing, and other collaboration within a business.
- Discussion forums—Employees discuss book idea and proposals.
- Wikis—keeping track of information about editorial guidance and other resources that require frequent editing.
- Distribution of knowledge via Blogs—small teams working on specific projects share files and Blogs about project process.
- Sharing calendar among employees and using workflow to manage (edit, approve, publish) pages within web contents among employees.
- Document repository—using effective content management systems (CMS), a natural fit for a portal for secure access, permissions, and distinct roles (writer, editor, designer, administrator).
- Collaborative chat and Instant Messaging.
- Managing a community named "Book Lovers", which consists of users who have similar interests in reading books.
- Federated search for Discussion forum entries, Blog posts, Wiki articles, users at Directory, and contents at both Document Library and Alfresco, Search by tags and so on.
- Integrating back-of-the-house software applications, such as Alfresco, Orbeon Forms, and BI/Reporting Pentaho, strong authentication and authorization with LDAP, single-authentication to access various company sites besides the Intranet site.



The enterprise may have the following groups of people:

- **Admin**: Installs Systems, Manages Membership, Users, User Groups, Organizations, Roles and Permissions, Security on resources, Workflow, servers and instances, and Integrates with third-party systems.
- **Executives**: Executive Management handles approvals.
- **Marketing**: Handles Web Site, Company Brochures, Marketing Campaign, Projects, and Digital Assets.
- **Sales**: Presentations, Contracts, Documents and Reports.
- **Website Editors**: Manage pages of the intranet; Write articles, Review articles, Design layout of articles, Publish articles.
- **Book Editors**: Write books, Review books, and Publish books.
- **Human Resources**: Manages Corporate Policy Documents.
- **Finance**: Manages Account Documents, Scanned Invoices and Checks, Notifications.
- **Corporate Communications**: Manages External Public Relations, Internal News Releases, and Syndication.
- **Engineering**: Sets up development environment, collaborates on Engineering Projects and Presentation Templates.

Why Use Liferay To Build An Intranet?

Of course, there are lots of ways to build a company Intranet. What makes Liferay such a good choice?

It's Got The Features We Need

All the features we have outlined for our Intranet come built into Liferay; discussions, wikis, calendars, blogs and so on, are part of what Liferay is designed to do.

It is also designed to tie all these features together into one searchable 'portal'. So, we won't be dealing with lots of separate components when we build and use our Intranet. All parts will work together.

It's Easy To Set up and Use

Liferay has an intuitive interface that uses icons, clear labels, drag and drop to make it easy to configure and use for the Intranet.

Setting up the Intranet will require a bit more work than using it, of course. But you will be pleasantly surprised by how simple it is—no programming is required to get your Intranet up and running.

It's Free And Open Source

How much does Liferay cost? Nothing! It's a free, open source tool.

This means that you can go to Liferay's web site, and download it without paying anything. You can then go ahead, install it, and use it.

The Liferay company makes its money by providing additional services, including training. But the standard use of Liferay is completely free. Now that you've bought this book, you probably won't have to pay another penny to get your Intranet working.

Being open source means that the program code that makes Liferay work is available for anybody to look at and change. Even if you're not a programmer, this is still good for you:

- If you need Liferay to do something new, then you can hire a programmer to modify Liferay so that it does this new thing.
- There are a lot of developers studying the source code, looking for ways to make it better. A lot of improvements get incorporated into Liferay's main code.
- Developers are always working to create 'plugins'—programs that work together with Liferay to add new features.

Probably for now, the big deal here is that it costs zero dollars. But as you use Liferay more, you will come to understand the other benefits of Open Source for you.

It Will Grow with You

Liferay is designed in a way so that it can work with thousands and thousands of users at once. No matter how big your business is, or how much it grows, Liferay will still work and handle all of the information you throw at it.

It also has features especially suited for large international businesses. Opening offices up in non-English speaking countries? No problem! Liferay has internationalization features tailored to suit many of the world's popular languages.

It Works with Other Tools

Liferay is designed to work with other software tools, ones that you're already using, and ones that you might use in the future. For example:

- You can hook Liferay up to your LDAP directory server so that users' details and login credentials are added to Liferay automatically.
- Liferay can work with Alfresco, a popular and powerful Enterprise CMS system (used to provide extremely advance document management capabilities—far beyond what Liferay does on its own).

It Is Based on "Standards"

This is a more technical benefit, but a very useful one, if you ever want to use Liferay in a more specialized way.

Liferay is based on standard technologies that are popular with developers and other IT experts. These include:

- **Built using Java**—a very popular programming language that can run on just about any computer. There are millions of Java programmers in the world. So it won't be too hard to find developers who can customize Liferay.
- **Based on tried and tested components**. With any tool, there's a danger of bugs. Liferay uses lots of well known, widely tested components to minimize the likelihood of bugs creeping in. If you are interested, here are some of the well known components and technologies Liferay uses: Apache ServiceMix, Mule, Ehcache, Hibernate, ICEfaces, Java J2EE/JEE, jBPM, Intalio|BPMS, JGroups, jQuery, Lucene, PHP, Ruby, Seam, Spring and AOP, Struts and Tiles, Tapestry, Velocity, and FreeMarker.
- **Uses standard ways to communicate with other software**. There are various standards established for sharing data between pieces of software. Liferay uses these so that you can easily put information from Liferay into other systems. The standards implemented by Liferay include: AJAX, iCalendar and Micro-format, JSR-168, JSR-127, JSR-170, JSR-286 (Portlet 2.0) and JSF-314 (JSF 2.0) in the future roadmap, OpenSearch, Open platform with support for web services (including: JSON, Hessian, Burlap, REST, RMI, WSRP), and WebDAV.

Many of these standards are things that you will never need to know much about. So don't worry if you've never heard of them. Liferay is better for using them, but mostly you won't even know that they are there.

What Else Can Liferay Do?

Liferay isn't just for Intranets! Users and developers are building all kinds of different web sites and systems based on Liferay.

Corporate Extranets

An Intranet is great for collaboration and information sharing within a company. An Extranet extends this facility to suppliers and customers, who usually log in over the Internet.

In many ways, this is similar to an Intranet—there are few technical differences. The main difference is that you create user accounts for people who are not part of your company.

Collaborative Websites

Collaborative websites not only provide a secure and administrated framework, but also empower users with collaborative tools such as Blogs, instant email, message boards, instant messaging, shared calendar, and so on. Moreover, it encourages users to use other tools such as tags administration, fine-grained permissions, delegable administrator privileges, enterprise taxonomy, and ad-hoc user groups. By these tools, as an administrator, you can ultimately control what people can do and cannot do in Liferay.

In many ways, this is similar to an Intranet—there are few technical differences. The main difference is that you use collaborative tools such as Blogs, instant email, message boards, instant messaging, shared calendar, and so on.

Content Management & Web Publishing

You can also use Liferay to run your public company web site with content management and web publishing.

Content management and web publishing are useful in websites. It is a fact that the volume of digital content for any organization is increasing on a daily basis. Thus, an effective content management system (CMS) is a vital part of any organization. Meanwhile, document management is also useful and more effective when repositories have to be assigned to different departments and groups within the organization.

Content management and document management are effective in Liferay. Moreover, while managing and publishing contents, we may have to answer many questions, such as "who should be able to update and delete a document from the system". Fortunately, Liferay security and permission model can satisfy the needs for secure access and permissions, and distinct roles (for example, writer, editor, designer, and administrator). Furthermore, Liferay integrates with the workflow engine. Thus, users can follow a flow to edit, approve and publish contents in the website.

Content Management and Web Publishing are also similar to an Intranet—there are few technical differences. The main difference is that you can manage content and publish web contents smoothly.

Infrastructure Portals

Infrastructure portals integrate all possible functions stated above. It covers collaboration and information sharing within a company, collaborative tools, content management and web publishing. In the infrastructure portals, users can create a unified interface to work with contents, regardless of source via Content Interaction API. Furthermore, using the same API and the same interface as well as that of built-in content management system (CMS), users can also manage content and publish web contents from third-party systems such as Alfresco, Vignette, Magnolia, or Microsoft Share-Point, and so on.

Infrastructure portals are similar to an Intranet —there are a few technical differences. The main difference is that you can use collaborative tools, manage content, publish web contents and integrate other systems in one place.

Why do you need a portal? The main reason is that a portal can be served as a framework to aggregate content and applications. A portal normally provides a secure and manageable framework, where users can easily make new and existing enterprise applications available. In order to build an infrastructure portal smoothly, Liferay portal provides SOA-based framework to integrate third party systems.

Finding More Information

In this chapter, we have looked at what Liferay can do for your corporate Intranet, and briefly seen why it's a good choice.

If you want more background information on Liferay, the best place to start is the Liferay corporate web site (`http://www.liferay.com`) itself. You can find the latest news and events, various training programs offered world wide, presentations, demonstrations and hosted trails. More interestingly, Liferay corporate web site plus Forums and Blogs is built by the Liferay Portal itself. It is a real demo of the Liferay Portal.

> The Liferay site uses MediaWiki for its wiki and Atlassian JIRA for its issue tracking. That is, the Liferay site does not use its own Wiki system.

Liferay is 100% open source and all downloads are available from `sourceforge.net` website at `http://sourceforge.net/project/showfiles.php?group_id=49260`.

Liferay site Wiki (`http://wiki.liferay.com`) contains documentation such as tutorial, user guide, developer guide, administrator guide, roadmap and so on.

Liferay discussion forums (`http://www.liferay.com/web/guest/community/forums`), Blogs (`http://www.liferay.com/web/guest/community/blog`), Road Map (`http://www.liferay.com/web/guest/community/road_map`) and Community Plugins (`http://www.liferay.com/web/guest/community/community_plugins`) are the best places to share your thoughts, to get tips and tricks about Liferay implementation, to know road map, and to use and contribute community plugins.

If you would like to file a bug or know more details about the fixes in a specific release, you must visit the bug tracking system at `http://support.liferay.com`.

Summary

In this chapter, we have looked at what Liferay can offer your Intranet. In particular, we saw:

- That our final intranet will provide shared documents, discussions, collaborative wikis and more in a single, searchable portal.
- That Liferay makes a great choice for the Intranet, because it provides so many features; it's easy to use, it's free and open source, is extensible and is well integrated with other tools and standards.
- Other kinds of site that Liferay is good for: extranets, collaborative web sites, content management and web publishing, and infrastructure portals.
- The various pages on `Liferay.com` that can provide us with more background information.

In the next chapter, we're going to install Liferay and start the hands-on task of building the Intranet.

2

Set-up The Home Page And Navigation Structure for The Intranet

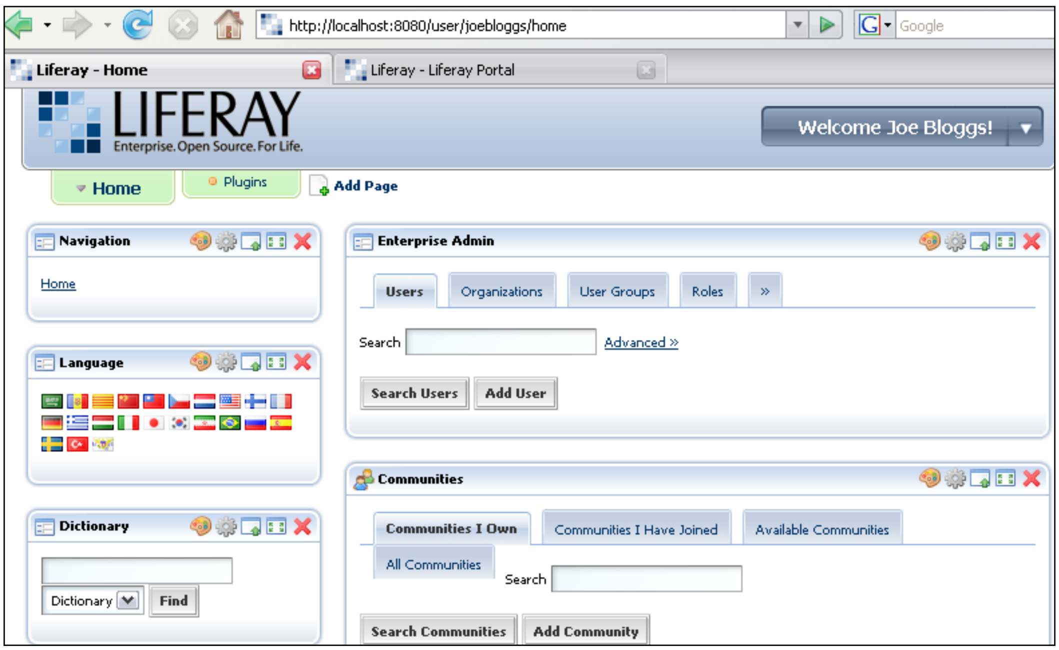
This chapter will assist administrators and normal users in the enterprise "Palm-Tree Publications" to experience the implementation of a portal page with portlets first. Then it will provide guidance to administrators to set up the portal, and direct administrators and normal users to build pages and customize their personal area. Finally, it will guide both administrators and normal users to navigate the structure of their intranet web site. In addition, it will provide guidance to administrators to configure the portals and moreover, set the extension environment in order to extend the functionality provided by Liferay.

By the end of this chapter you will have learned how to:

- Experience implementing a portal page with portlets.
- Set up the portal.
- Configure the home page and the intranet web site.
- Customize the personal area.
- Build the portal pages.
- Navigate the structure of the Intranet.
- Configure the portal.
- And set up extension environment.

Experiencing Liferay Portal

As an administrator at the Enterprise "**Palm-Tree Publications**", named "**Palm Tree**", you can first experience Liferay portal locally. Simply log in at your local Liferay portal, and you will see the portal page interface similar to the one shown in the following figure. Generally, a portal page is made up of a set of portlets, such as **Navigation**, **Language**, and so on. Liferay portal runs locally with URL: `http://localhost:8080/user/joebloggs/home`.



Quick Liferay Portal Installation

In order to get the previous portal page with portlets, let's install Liferays Portal in your local machine quickly, as follows:

Download Liferay Portal Bundled with Tomcat JDK 6.0 from Liferay official web site (`http://www.liferay.com`). It is a big file and you have to wait long to download it:

- Unzip the bundled file; run `$TOMCAT/bin/startup.bat` for Windows or `startup.sh` for Linux, UNIX, etc.
- Open your browser and go to `http://localhost:8080/user/joebloggs/home`.
- Log in as an administrator using the following data—**User**: **test@liferay.com** and **Password**: **test**.

Congratulations! You now have a running copy of Liferay. The remainder of this section will explain what a portal is, what a portlet is, and how to implement a portal page with a set of portlets, in general.

> Does it work well? Make sure that you have installed JDK 6.0 or above in your local machine and set JAVA_HOME as well. This is the only one you need in order to install Liferay portal properly.

What's Happening Behind?

What you have seen previously is a portal page with the name, **Welcome**. The portal page **Welcome** has a logo, menu, header (that is, a list of page names), a set of portlets, and a footer. When you logged in, the portal generated this page. If you select another page name such as **Plugins**, the portal will generate another page.

An intranet website is made up of a set of pages, such as **Welcome** and **Plugins**. Liferay portals can be used to build and manage these pages flexibly.

To summarise, portals provide a lot of essential benefits: reduction in site running costs, greater customer satisfaction, and more efficient business processes.

Understanding Portlets

A portal page is made of a set of portlets. For example, the portal page such as **Welcome** contains portlets such as **Navigation**, **Language**, and so on And the portlet **Language** has icons (such as **Look and Feel**, **Configuration**, **Minimize**, **Maximize**, and **Remove**), title icon and title (such as **Language**), and a window which may contain contents (such as a set of language icons and links).

In a normal way, a portlet is an application that provides some content (such as information or service) that forms part of a portal page. A portlet container handles the portlets. A portlet container also processes requests and generates dynamic content. Actually, portals use portlets as pluggable user interface to provide a presentation layer information.

Loosely speaking, portlets are fragments of an HTML page, that is pieces of markup such as HTML, XHTML, WML, and so on (refer to JSR 286 specification). The content of a portlet is normally aggregated with the content of other portlets to form the portal page. The lifecycle of a portlet is managed by the portlet container. The content generated by a portlet may vary from one user to another, depending on the user configuration for the portlet.

Liferay Portal comes with several useful bundled portlets, and also supports the JSR-168 standard (and furthermore, JSR-286 standard) 100%, which allows the portal administrators to deploy any third party portlet developed according to this standard.

> Where can you find more details about JSR-168 and JSR-286? JSR-168 means Portlet Specification 1.0/1.1 and JSR-286 means Portlet Specification 2.0. You can find more details at `http://jcp.org/en/jsr/detail?id=168`, `http://jcp.org/en/jsr/detail?id=286`.

Using Portlet Container

The portlet **Language** runs in the portal page. It requires runtime environment, that is, a portlet container.

Generally, a portlet container provides portlets with persistent storage for preferences and required runtime environment (refer to JSR 286 specification). A portlet container manages portlet lifecycles and receives requests from the portal to execute requests on the portlets. A portlet container is the responsibility of the portal to handle the aggregation.

How Does A Portal Work?

The following is a typical sequence of events, initiated when you access the portal page such as **Welcome** (refer to JSR 286 specification):

- A client (e.g. the administrator "**Palm Tree**") after being authenticated makes an HTTP request to the portal.
- The request is received by the portal (for example, Liferay portal).
- The portal determines if the request contains an action targeted at the portlets such as **Language** associated with the portal page, **Welcome**.
- If there is an action targeted at a portlet such as **Language**, the portal requests the portlet container to invoke the portlet to process the action.
- A portal invokes portlets such as **Language**, **Navigation**, and so on through the portlet container.
- The portal aggregates the output of the portlets in the portal page to the client (for example the administrator "**Palm Tree**").

How Does A Portlet Work?

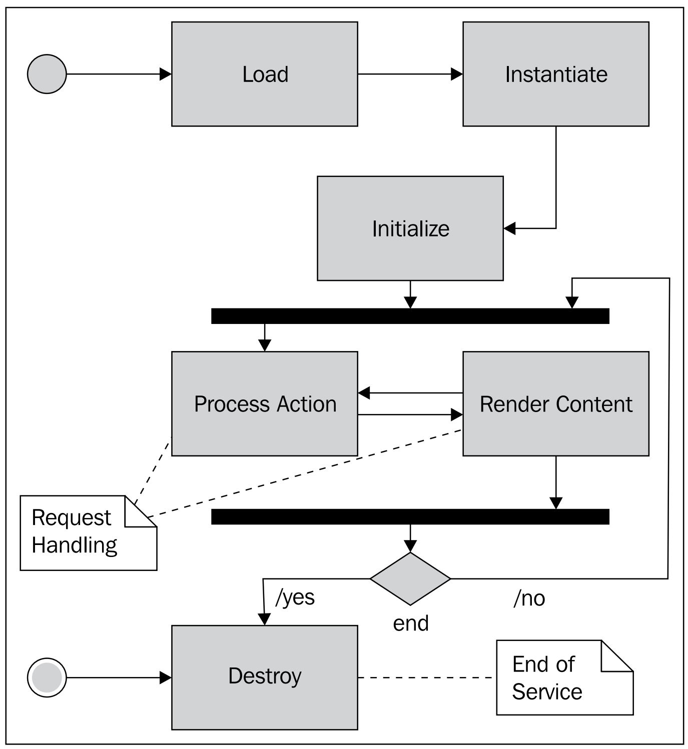
How does the portlet **Language** work? Let's focus on the portlet **Language** and press the language icon **Deutsch (Deutschland)**. You will see the language of portal page change as shown in the following figure:

Further, let's do one more action on the portlet, **Language**. Simply click on the **Remove** icon at the top right of the portlet, and then click on the **OK** button. You will see the portlet **Language** disappear as shown in the following figure:

What the portal has done as stated before is related to portlet life cycle. You may need to read the following part (according to JSR-286 specification) if you are interested in the portlet life cycle. Otherwise, you can leave it for your future needs.

Applying Portlet Life-cycle

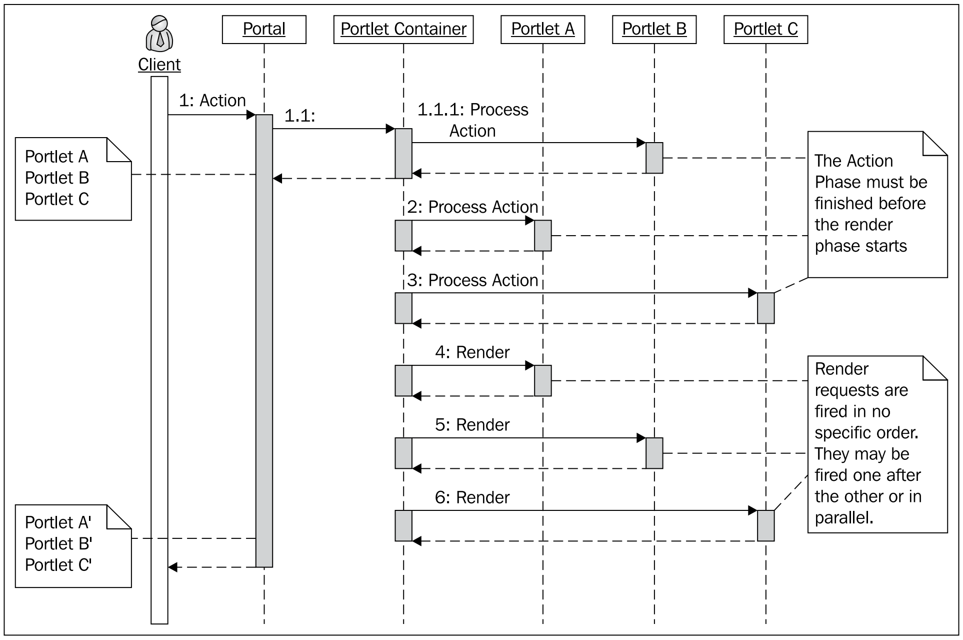
A portlet has a life-cycle defining how it is loaded, instantiated, and initialized, how requests from clients are handled, and how it is taken out of service (refer to JSR 286 specification). The lifecycle of a portlet includes the init, process-action, render and destroy methods of the portlet interface as shown in the following figure:



Loading and Instantiation—The loading and instantiation can happen when the portlet container starts loading the portlet applications. Or they can be delayed until the portlet container determines that request service is in need for the portlet.

Initialization—Portlets can initialize resources, and perform other one-time activities.

Request Handling—The portlet container may invoke the portlet to handle client requests. The portlet interface defines two methods for handling requests—the **Process Action** method and the **Render** method as shown in the following figure:



Generally, during a render request, portlets such as **Language**, **Navigation** and **Dictionary** generate content based on their current state.

End of Service—When the portlet container determines that a portlet would be removed from service, it will call the destroy method of the portlet interface in order to release any used resources and to save any persistent state.

Setting up Liferay Portal

As an administrator at the enterprise "**Palm-Tree Publications**", you need to undertake a lot of administration tasks, such as installing Liferay portal, installing and setting up databases, and so on.

You can install Liferay Portal through different ways, based on your specific needs. Normally, there are three main installation options:

- Using an open source bundle—It is the easiest and fastest installation method to install Liferay portal as a bundle. By using a Java SE runtime environment with an embedded database, you simply unzip and run the bundle as we have done in the beginning.
- Detailed installation procedure—You can install the portal in an existing application server. This option is available for all the supported application servers.

- Using the extension environment—You can use a full development environment to extend the functionality.

We will consider, partially, the second installation option "Detailed installation procedure" later (refer to Chapter 13 instructions). Meanwhile we will take up the third installation option "Using the extension environment" in the coming section.

In the previous section, we had used the first installation option "Using an open source bundle". Let's experience more details as follows:

Using Liferay Portal Bundled with Tomcat 5.5 in Windows

First let's consider one scenario when you, as an administrator, need to install Liferay portal in Windows with MySQL database, and your local Java version is JavaSE 5.0. Let's install Liferay portal bundled with Tomcat 5.5 in Windows as follows:

1. Download Liferay Portal bundled with Tomcat for JDK 5.0 from Liferay official web site.
    - Unzip the bundled file.
    - Set up MySQL database as follows:
2. Create a database and account in MySQL:
```
create database liferay;
grant all on liferay.* to 'liferay'@'localhost' identified by
'liferay' with grant option;
grant all on liferay.* to 'liferay'@'localhost.localdomain'
identified by 'liferay' with grant option;
```
3. Copy the MySQL JDBC driver `mysql.jar` to `$TOMCAT_DIR/lib/ext`;
4. Comment the Hypersonic data source (HSQL) configuration and uncomment MySQL configuration (`$TOMCAT_DIR/conf/Catalina/localhost/ROOT.xml`):
```
<!-- Hypersonic -->
<!--<Resource name="jdbc/LiferayPool" auth="Container"
type="javax.sql.DataSource" driverClassName="org.hsqldb.
jdbcDriver"
url="jdbc:hsqldb:lportal"
username="sa"
password=""
maxActive="20" /> -->

<!-- MySQL -->
```

```
<Resource name="jdbc/LiferayPool" auth="Container"
type="javax.sql.DataSource" driverClassName="com.mysql.jdbc.
      Driver"
url="jdbc:mysql://localhost/liferay?useUnicode=true&amp;characterE
      ncoding=UTF-8"
username="liferay"
password="liferay"
maxActive="20" />
```

5. Run `$TOMCAT_DIR /bin/startup.bat`.
6. Open your browser and go to `http://localhost:8080` (here we assume that it is a local installation, otherwise use the real host name or IP).
7. Login as an administrator—User: `test@liferay.com` and Password: `test`.

> Note that the bundle comes with an embedded HSQL database loaded with sample data from the public website of Liferay. Do not use the Hypersonic in production.

Using Liferay Portal Bundled with Tomcat 6.x in Linux

Let's consider another scenario when you, as an administrator, need to install Liferay portal in Linux with MySQL database, and your local Java version is Java 6.0. Let's install Liferay portal bundled with Tomcat 6.0 in Linux as follows:

1. Download Liferay Portal bundled with Tomcat 6.0 from Liferay official web site.
2. Unzip the bundled file.
3. Create a database and account in MySQL (as stated before).
4. Run `$TOMCAT_DIR/bin/startup.sh`.
5. Open your browser and go to `http://localhost:8080` (assuming local installation; otherwise use the real host name or IP).
6. Log in as an administrator—User: *test@liferay.com* and Password: *test.*

> Note that, Liferay Portal creates the tables it needs along with example data, the first time it starts. Furthermore, it is necessary to make the script executable by running **`chmod +x filename.sh`**. It is often necessary to run the executable from the directory where it resides.

Using More Options for Liferay Portal Installation

You can use one of the following options for Servlet containers and full Java EE application servers to install Liferay Portal:

- Geronimo + Tomcat
- Glassfish for AIX
- Glassfish for Linux
- Glassfish for OSX
- Glassfish for Solaris
- Glassfish for Solaris (x86)
- Glassfish for Windows
- JBoss + Jetty 4.0
- JBoss + Tomcat 4.0
- JBoss + Tomcat 4.2
- Jetty
- JOnAS + Jetty
- JOnAS + Tomcat
- Pramati
- Resin
- Tomcat 5.5 for JDK 1.4
- Tomcat 5.5 for JDK 5.0
- Tomcat 6.0

You can choose a preferred bundle according to your requirements and download it from the official download page directly. Simply go to the website `http://www.liferay.com` and click on **Downloads** page. This book uses the bundle Tomcat 6.0 to generate examples.

Flexible Deployment Matrix

As an administrator, you can install Liferay Portals on all major application servers, databases, and operating systems. There are over 700 ways to deploy Liferay Portal. Thus, you can reuse your existing resources, stick to your budget and get an immediate return on you investment that everyone can be happy with.

In general, you can install Liferay portal in Linux, UNIX and Windows with any one of the following application servers (or Servlet containers) and by selecting any one of the following database systems.

The applications servers (or Servlet containers) that Liferay Portal can run on, include:

- Borland ES 6.5
- Apache Geronimo 2.x
- Sun GlassFish 2 UR1
- JBoss 4.0.x, 4.2.x
- JOnAS 4.8.x
- JRun 4 Updater 3
- OracleAS 10.1.3.x
- Orion 2.0.7
- Pramati 5.0
- RexIP 2.5
- SUN JSAS 9.1
- WebLogic 8.1 SP4, 9.2, 10
- WebSphere 5.1, 6.0.x, 6.1.x
- Jetty 5.1.10
- Resin 3.0.19
- Tomcat 5.0.x/5.5.x/6.0.x

Databases that Liferay portal can run on include:

- Apache Derby
- IBM DB2
- Firebird
- Hypersonic
- Informix
- InterBase
- JDataStore
- MySQL
- Oracle
- PostgresSQL

- SAP
- SQL Server
- Sybase

Operating systems that Liferay portal can run on include:

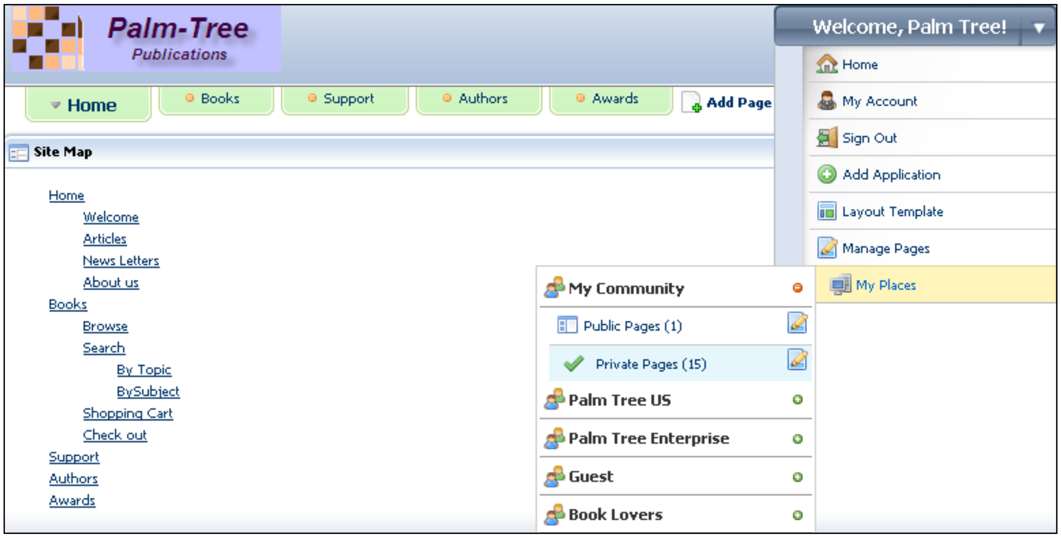
- LINUX (Debian, RedHat, SUSE, Ubuntu, and so on.)
- UNIX (AIX, FreeBSD, HP-UX, OS X, Solaris, and so on.)
- WINDOWS
- MAC OS X

Customizing Personal Area

As an administrator such as "**Palm Tree**", at the enterprise of "Palm Tree Publications", you may expect to customize your personal area (that is, the default home page that you see when you sign in) in your own **Community** anytime. Normally, the personal area refers to both public pages and **Private Pages** at **My Community**. You can find it by clicking on the **Welcome**, **Palm Tree** first, then moving the mouse on **My Place** and furthermore, by clicking on **Private Pages** or **Public Pages**, under **My Community**.

Note that if there were no pages in **Private Pages**, under **My Community**, **My Account** would be used to add pages with **Page** tab selected. The page management at **My Account** is the same as that in **Manage Page** (refer to the next section). The difference is that **My Account** manages pages only in **My Community**, while **Manage Page** manages pages for any **Community**. For more details about **My Account**, refer to Chapter 3. For a change of logo , refer to the forthcoming section.

> What's a **Private Page**? A **Private Page** is a page in a **Community** that can be accessed only by logged in users, who are part of the **Community**. If a user is not logged in (that is, the user is a guest), or if a user does not belong to your **Community**, then the user cannot access the **Private Page**.
>
> What's a **Public Page**? A **Public Page** is a page in a **Community** that can be accessed by guests. As long as the guest has the appropriate URL, the guest can access any **Public Page**.



After logging in successfully, you are ready to customize the personal area at **Private Pages** for the following tasks:

- Add new pages including the home page, or remove existing pages, or update existing pages first, then add or remove portlets in the current page.
- Change the layout templates for the current page.

In general, registered users, who have the appropriate permission, will have a personal area, that is, the user's **Private Pages**. The personal area is organized in a set of pages as a hierarchy. The rest of this section shows how a user (such as an administrator) can customize his or her personal area.

Add Pages

You are ready to add two pages, **Home** and **Books** to your personal area. Let's add a page named **Home** as follows:

1. Click on **Add Page** icon and link.
2. Simply input the page name such as **Home** first, and then press the **Save** button next to the page name.

Similarly, you can add a page named **Books**. Let's do this as follows:

1. Click on **Add Page** icon and link.
2. Simply input the page name such as **Home** first, and then press the Save button.

> Note that the possibility of adding pages, depends on the theme, by default. With the theme, **Classic**, you can add page in the **Navigation** bar, but not with the theme, **Brochure**. In the theme **Classic**, you'll find in `navigation.vm: class="sort-pages modify-pages"`.

Of course, you can add as many pages as you want. After adding a set of pages, we can view them.

You may want to change the page name **Home** to **My Home**. It is simple to do this. Simply double click on the page name **Home**. Change the page name to **My Home** first, and then press the **Save** button next to the page name.

> How do you add children pages? To add children pages to first level pages, such as **Books**, you need to use **My Account** under the **Pages** tab to manage pages at your own **Community**. Especially, if you are at a **Community**, other than your own **Community**, such as **Guest Community**, you need to use **Manage Pages** with the **Children** tab to manage pages. For more details, refer to the next section.

Remove Pages

Suppose we do not require the page, **Home,** for some reason. We need to remove this page. Let's do it as follows:

1. Move the mouse to the page name, **Home**. If the page is not the current page, the **delete** icon will appear.
2. Click on the **delete** icon next to the page name. A message "**Are you sure you want to delete this page?**" with buttons **OK** and **Cancel** will appear.
3. Press the **OK** button if you want to remove the page.

Similarly, you can remove the other pages as well. It is simple and also dynamic to remove a page.

> Note that there is no **delete** icon for the current page. If you want to delete the current page, you need to click other pages and make the current page a normal page first. Then you can delete it as stated before. Furthermore, any instances of portlets of the page would be removed, if the page is removed.

Add Portlets

It is time now to add portlets to your page. For example, we need to add portlet **Site Map** to the **Books** page. Let's do it as follows:

1. Click on the **Add Application** link. This will bring up **Add Application** panel on your screen.
2. Input portlet name **Site Map**; find the portlet "**Site Map**" from the menu.
3. Click on the **Add** button next to the right of the portlet name **Site Map**.
4. Click on the **Close** icon of the **Add Application** panel to close it.

You will see that the portlet has been added to the bottom of your page. Now you are ready to change the portlet placement. To do so, click on the title bar of the portlet and drag it to where you like. You can add as many portlets as you want in your pages.

Remove Portlets

Maybe you do not want the **Books** page to contain the portlet **Site Map** anymore. Therefore, we need to remove the portlet from the page. Let's do it as follows:

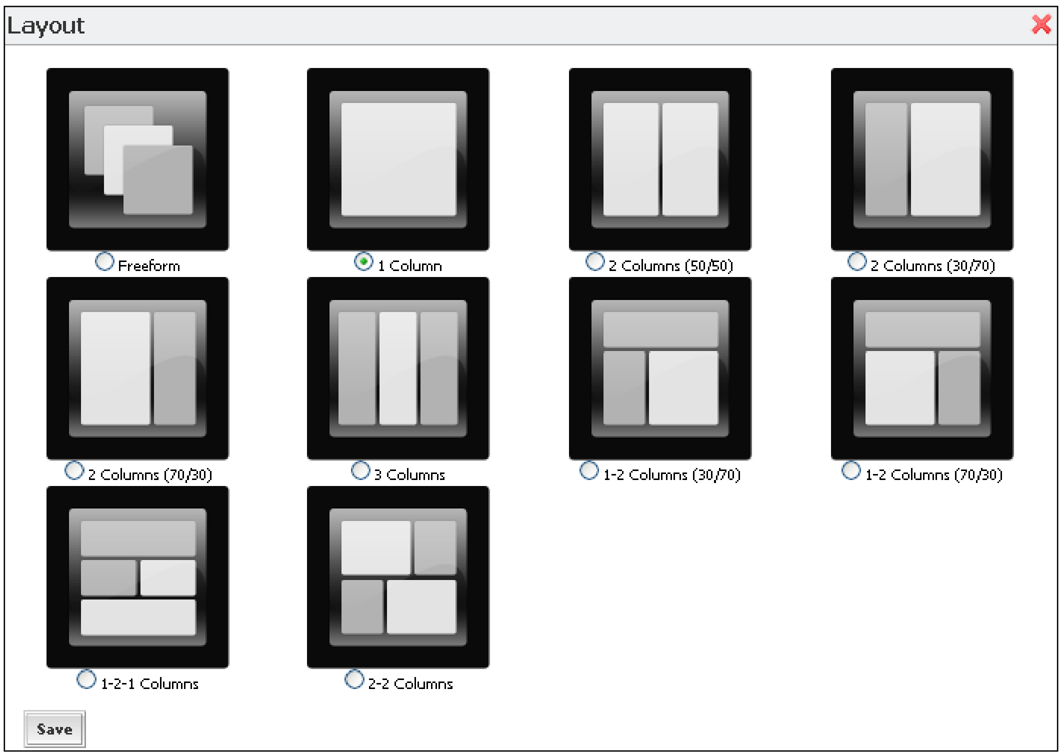
1. Locate the **Site Map** portlet.
2. Click on the **remove** icon at the upper right of the portlet.
3. A message "**Are you sure you want to remove this component?**" with buttons **OK** and **Cancel** will appear.
4. Click on the **OK** button.

Of course, you can remove any portlet from any page.

> Note that everything related to the portlet in the page would be removed if the portlet is removed from the page. You cannot recover it after deletion.

Changing Layout Templates

You can also change the template for your page with the **Layout Template** button. Layout template allows you to arrange your portlets in one, two-two, or one-two-one columns as well as designate the width of the columns. You can add and arrange all the portlets that you would like on your page with the layout templates.



Generally speaking, layout templates define the areas where you can place the portlets in a page. By default, Liferay comes with several different layout templates as shown in the previous figure. Normal users of **Private Pages** or administrators of communities or public websites can choose the layout to use on each portlet page.

In most cases, the default layout templates would be suitable. But you may need a very specific portlet window organization, such as website games/videos/play-list landing pages. Thanks to Liferay, maximum flexibility is provided to portal administrators, to deploy extra layout templates developed either by you or by any third party.

> Note that if the preloaded templates are insufficient for your needs, you can create your own deployable layouts, using a sample layout template, or using a **Community**-submitted one.

Setting up Portal Pages

We have discussed how to build the home page, that is, personal area. Now let's see how to set up normal pages. As an administrator or website editor, you are required to set up the pages of any **Community**. Suppose you want to set up both **Private Pages** and **Public Pages** of **My Community** "**Palm Tree**" with the following tasks:

1. Edit pages and add child pages to the current page such as "**Palm Tree**" **Private Page**. You can use the **Page** tab and the **Children** tab of **Manage Page**.
2. Change the logo and themes for "**Palm Tree**" **Private Page**. You can use the **Logo** tab and **Look and Feel** tab of **Manage Page**.

With **Manage Pages**, you can change the look and feel with one click, manage portal pages, insert JavaScript, sitemap protocol, and meta-data, and set friendly URLs.

Managing Pages

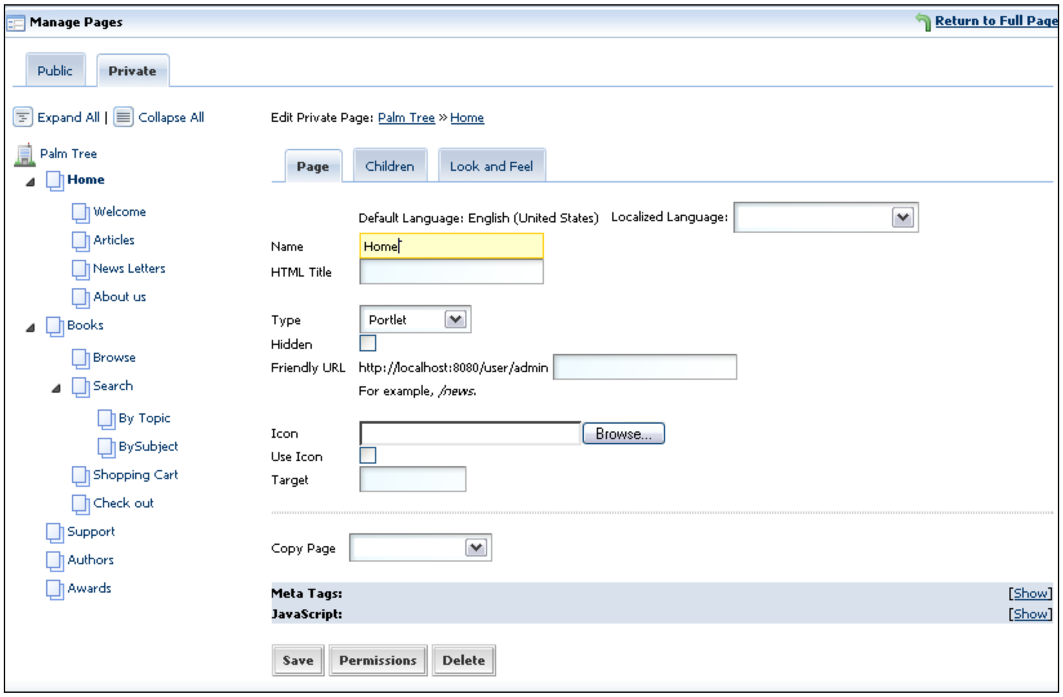
You can manage top pages by clicking the top page name on the left-hand side, such as **Palm Tree**. Under managing the top page, you can add child pages, change the logo for all **Private Pages**, and change the look and feel of public or **Private Pages**.

Add A Child Page

Suppose you need to add a child page, **Awards** under **Palm Tree**. You can add this page as follows:

1. Click the **Manage Pages** from your current page (**Private Pages**).
2. Click on the root **Palm Tree**.
3. Select the tab, **New Page,** after the tab, **Children,** is selected.
4. Input child page name, such as **Awards**.
5. Select a type, such as **Portlet**.
6. Check the **Hidden** box, if you want to hide the page.
7. Press the **Add Page** button when you are ready.

Of course, you may add more child pages if you wish. The root page, and all children pages form a hierarchy tree, as shown in the following figure:



Change Display Order

You can change the display order of the child pages under **Managing Top Page**, as follows:

1. Select the tab, **Display Order**.
2. Click on a child page, such as **Books**; then click the **Move Up** button to move up the selected page; or click the **Move Down** button to move down the selected page; or click the **Remove** button to delete the selected page.
3. Press the **Update Display Order** button when you are ready.

Merge Pages

You can configure the top level pages of this public website to merge with the top level pages of the public **Guest Community**. Users can then navigate between the two sites seamlessly.

First, you can select a **Community** other than **Guest Community**. Then click on the **Manage Page** link and select the top of **Public** or **Private Pages**. By default, the **Children** tab is selected.

To enable merging the **Guest Public Pages**, simply select the tab, **Merge Pages**, and check the box, **Merge Guest Public Pages**. To disable merging pages, simply uncheck the **Merge Guest Public Pages** box. Press the **Save** button when you are ready.

Change The Logo

You can change the logo from the default enterprise logo. For example, you have seen the logo of "Palm Tree Publications" in the previous figures. How do we get it? Let's do it as follows:

1. Select **My Places** link and also select a **Community** (such as **My Community**, and, **Public pages** or **Private pages**).
2. Select **Manage Page** and further, select the top of the **public** or **Private Pages**, such as **Palm Tree**.
3. Press the **Logo** tab and upload a logo say, "`palmtree_logo.png`".

In general, you can upload a logo for the public or **Private Pages** that will be used instead of the default enterprise logo.

Edit A Page

You can edit the pages such as **Awards** under **Manage Pages**. For example, if you want to replace the page title **Awards** with "**Our Awards**":

1. Find the page you want to edit in the left-hand tree structure.
2. Click on the **Awards** page.
3. Click on the **Page** tab.
4. Input the **HTML Title** of the page with the value "**Our Awards**".
5. Click on the **Save** button when you are ready.

You also have the option to rename the current page, change the display language of the current page, again change the HTML title, change the type of the current page, and change the option whether the current page should be hidden or not.

You can also provide a **Friendly URL** for this page. For example, you can create a URL for the page "**Awards**" as "`http://localhost:8080/user/admin/awards`".

If many parameters are passed in, through the URL, the portal URL becomes very long and difficult to read. However, you can give your page a **Friendly URL** to make it easier to read and access.

Liferay portal also provides a **Friendly URL** for each **Community**. Thus you could just put in a **Friendly URL** for your page (it must also start with "/") such as "/awards". If there is no duplication, you can now access your page using the following URL pattern:

```
http://server-name/community-friendly-url/page-friendly-url
```

You can also upload an icon for the current page and decide whether the icon is used or not. For instance, you can upload "`reference.gif`" as the icon for the **Awards** page.

You already have the **Awards** page in your **Community**, and further, you could set up another page, **Others** exactly like the **Awards** page. For this, you can use the **Copy Page** function. Just select the **Awards** page that you want to copy from the drop-down next to **the Copy Page** and click the **Save** button while editing the **Others** page. Your current page, **Others**, will be an exact copy of the **Awards** page you have selected except for the page's name.

Furthermore, you can insert the **Meta Tags**, **Java Scripts**, and **Sitemap protocol** for this page.

Delete A Page

If you do not want the page **Awards** for some reason, you can delete it. You can delete the pages under **Manage Pages**:

1. Locate the page you want to delete in the left-hand tree structure.
2. Click the **Awards** page.
3. Click the **Page** tab.
4. Click the **Delete** button.
5. A screen will appear asking if you want to delete the selected page. Click the **OK** button to confirm.

> Note that if a page such as the root page, **Palm Tree** is the only one page in the **My Community**, you cannot delete it under **Manage Pages**. Moreover, deleting a page will delete all child pages related to this page and remove all portlet instances that this page owns.

Changing Themes

At this point, you may have all the portlets that you expect to have in your pages. You can now change the look and feel of your portal. Liferay Portal provides different themes by default that you may apply to your page. As an administrator in the portal, you may want to configure additional themes.

To change the theme you can refer to the following instructions:

1. Click on the **Manage Pages** link at the top-right of your page.
2. Select the page you would like to change the theme for, on the left hand side. Note that, by default, all children pages will inherit the theme from the parent. If you want to inherit the **Look and Feel** from the root node, select **Yes** for the "**Inherit look and feel from the private root node?**" box. Otherwise, select **No**.
3. Select the **Look and Feel** tab for that page.
4. You will see a number of bundled themes that are available. Choose your theme and color scheme. You can experiment with it as much as you like until you find a theme that pleases you.

Themes customize the overall look and feel. Liferay Portal groups themes are divided into two categories: regular browsers and mobile devices. By default, regular browser themes are further divided into three sub groups: Themes, Color Schemes and CSS (Cascading Style Sheets). You can insert custom CSS that will be loaded after the theme. In addition, Liferay portal provides WAP (Wireless Application Protocol) theme that is designed to run on mobile devices. If you had WAP clients, WAP theme would be an ideal look and feel.

By using themes, you can easily switch among different presentational layers. As a designer or developer, you can deliver an integrated package of JSP (or Velocity), JavaScript, image and configuration files (that is, a WAR file) that will control all presentation logic and design attributes for a portal **Community**.

> How do you get the previous additional themes (**Sesame Street** and **Sesame Workshop**)? Just put the files: `themeStreet.war` and `themeWorkshop.war` in the folder `$USER_HOME/liferay/deploy`.

How Do You Customize Portlets ?

As an administrator or a normal user from website editorial department at "**Palm-Tree Publications**", you have added a set of portlets to your pages. Now you are ready to customize the portlets of the portal page. Suppose you are using the **Site Map** portlet and you want to customize it:

- Change the Background Color, Font and Text size.
- Change the **Title** and hide the border.

To change the Background Color, the Font and Text size of the portlet, you can simply click on the **Look and Feel** icon that appears in the portlet, **Site Map** first. On clicking, portlet customization screen will appear. Then by selecting tab **Background Style**, you can change the background color. By selecting the **Text Style** tab, you can change the font and text size. Press **Save** button when you are ready, click the **remove** icon if you want to cancel the changes, or press the **Reset** button if you want to reset.

To change the title of the portlet and hiding the border of the portlet, you can simply click on the **Look and Feel** icon that appears in the Portlet **Site Map** first. Then you simply input a title, select a language, select the checkbox, **Use Custom Title**, and uncheck the **Show Borders** box. Press **Save** button when you are ready.

Liferay portal provides the ability to change the look and feel of portlets dynamically with the following possibilities:

- **Portlet configuration**: for using custom title, showing borders, selecting languages for title, and so on.
- **Text Style**: for font, size, color, alignment, text decoration, word spacing, line height, letter spacing, and so on.
- **Background Style**: for background color, and so on.
- **Border Style**: for border width, border style, border color etc.
- **Margin and Padding**: for padding, margin, and so on.
- **Advanced Styling**: for entering in your custom CSS.

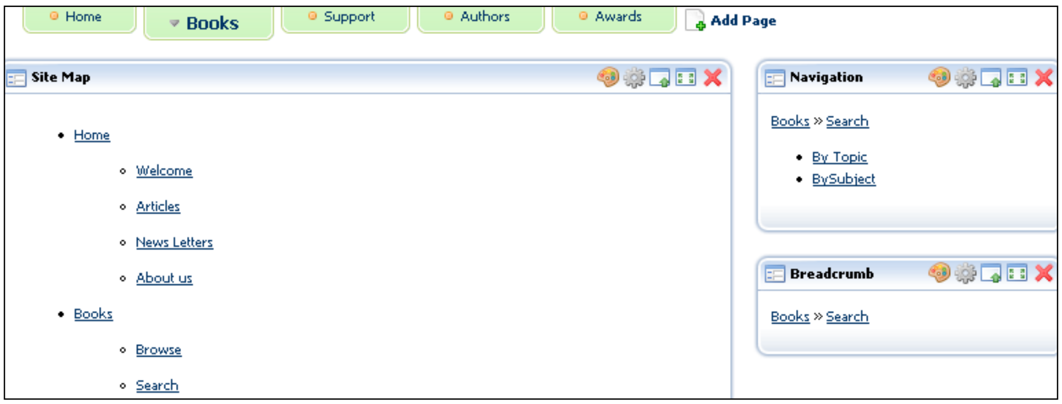
How Do You Navigate The Structure of Intranet Site?

As an administrator or a normal user from the website editorial department at the "**Palm-Tree Publications**" enterprise, you have customized the pages in the portal. Now it is ready for you to navigate the structure of the website. Suppose, your current page is **Search** and you want to provide the following tasks:

1. Show the structured directory of links to all pages in the portal. You simply add the **Site Map** portlet in the page if the portlet is not there.
2. Display a directory of links reflecting the portal's page structure, with drill down into the current page. You can add the **Navigation** portlet in the page.
3. Displays a trail of parent pages for the current page. You just add the **Breadcrumb** portlet in the page.

The Breadcrumb portlet provides ability to show a trail of parent pages for the current page. It can be placed on public portal pages as a navigational aid to publish websites. It helps the user visualize the structure of the site and quickly move from a page to a broader grouping of information.

The Navigation portlet provides a directory of links to reflect the portal's page structure, with drill down into the current page. Style and appearances are adjustable. The **Navigation** portlet displays links to other pages outside the current page's trail of parent pages. It helps the user visualize the structure of the site and provides links to move from page to page quickly. Further, it displays more information about the current page.



The **Site map** portlet provides the ability to display a structured directory of links to all the pages in the portal. It is used to navigate directly to any page on the site. Furthermore, it can be configured to display the entire site or a sub-section of pages.

> When do you use these portlets? To display a trail of parent pages such as **Books.** for the current page such as **Search** only, use **Breadcrumb** portlet. To display both a trail of parent page, **Books** for the current page, **Search** and the page structure of the current page, use the **Navigation** portlet. To display a structured directory of links to all pages in the portal, use the **Site Map** portlet.

How to Configure Liferay Portal?

As an administrator at "**Palm-Tree Publications**", you may need to customize the Liferay portal through configuration files in order to satisfy your own requirements.

Let's see an example of how to customize Liferay Portal's configuration. In this example, Liferay Portal has been installed using the Tomcat bundle and then a custom theme called "**Sesame Street**" has been deployed as a WAR. As an administrator at the "**Palm-Tree Publications**" enterprise, you want this theme to be used by default in any newly created desktop or **Community**. To achieve that, you look in `portal.properties` and find that the property `default.regular.theme.id` can be used to set the default theme, so that you can create the file `portal-ext.properties` in `$TOMCAT_DIR/webapps/ROOT/WEB-INFO/classes` with the following values:

```
default.regular.theme.id=street1.0
```

After a server reboot, these properties are applied to the portal automatically. When your pages (with names **HOME**, **GAMES**, **VIDEOS**, **SESAME PLAYLISTS**, **MUPPETS**, and **MYSTREET**) use the theme, "**Sesame Street**" as **Look and Feel**, you will get the following figure:

Liferay provides high customizability through the web, and through configuration files. Let's see how to customize mail servers and other configurations.

Customizing Mail Servers

Suppose that the Enterprise "Palm Tree Publications" has a mail server with the "`exg3.exghost.com`" domain. As an administrator, you need to integrate this mail server with Liferay portal by default. Let's do it as follows:

1. Find the file `ROOT.xml` in `$TOMCAT_DIR/conf/Catalina/localhost`.
2. Find the mail configuration.
3. And then configure it as follows:

```
<!-- Mail -->
<Resource name="mail/MailSession" auth="Container"
                         type="javax.mail.Session"
mail.imap.host="exg3.exghost.com"
mail.pop3.host="exg3.exghost.com"
mail.smtp.host="exg3.exghost.com"
mail.store.protocol="imap"
mail.transport.protocol="smtp"/>
```

Of course, you can integrate with Washington IMAP+Sendmail, Cyrus IMAP+Postfix, and Dovecot+Postfix, Microsoft Exchange, as well as other IMAP servers. For more details, refer to Chapter 9.

Configuring Portal Paths

There are two files which are used to configure portal paths: `portal.properties` and `system.properties`. You should not modify `portal.properties` and `system.properties` directly. You should just create two files named `portal-ext.properties` and `system-ext.properties`, and write in only the properties whose values you want to override. These two files can be placed with the original one, or in the global classpath of the application server. These two extended files are located at `$TOMCAT_DIR/webapps/ROOT/WEB-INFO/classes`.

Before customizing the configuration, it is better to review and update the values of the following properties;

- `auto.deploy.deploy.dir=${user.home}/liferay/deploy`: enable auto-deploy.
- `lucene.dir=${user.home}/liferay/lucene/`: for search to work.
- `jcr.jackrabbit.repository.root=${user.home}/liferay/jackrabbit`: for the document library.

Customizing Configuration

We can override the properties of configuration files. Let's configure the portal through the `portal-ext.properties` and `system-ext.properties` files that can be created and stored in any place in the class-path. When the extension development environment is used, you will find that these files are already present in the directory `ext/ext-impl/WEB-INF/classes`. Otherwise, they are stored in the global class-path of the application server. For example:

- Tomcat: Place them in `$TOMCAT_DIR/webapps/ROOT/WEB-INFO/classes`.
- JBoss: Place them in `$JBOSS_DIR/server/default/conf`.
- Other application servers: Read the documentation provided with them.

Liferay uses EasyConf to read `portal.properties`, so that all functionalities provided by this library are also available.

The main configuration file is `portal.properties`, which contains a detailed explanation of the properties that it defines. To change the value of any of its properties, do it through a file called `portal-ext.properties`.

The `system.properties` file is provided as a convenient way to set all properties for the JVM machine and related system settings. Start your application server with the system property *system.properties.load* set to true to load it. When the server starts, the portal will load the `system.properties` file and then the `system-ext.properties file`.

> What's EasyConf? EasyConf is a library to access the configuration of software components and applications. It defines simple conventions to make it easier to use.

Setting up Extension Environment

As an administrator or a developer from engineering department at the enterprise, "**Palm-Tree Publications**", you may want to develop an engineering project (for example, collaborating on alfresco contents by Web services) on top of the Liferay portal, like a platform, without having to worry about upgrading in future. You can follow these instructions to set it up:

- Requirements: Java 1.4 or Java 5.0 or Java 6.0 or a later version; Ant 1.7 or a later version; Liferay Portal source code; Web Server (Tomcat, Resin, and so on).
- Set JAVA_HOME to your Java directory. Set ANT_HOME to your Ant directory. Add `JAVA_HOME/bin` and `ANT_HOME/bin` to System Path.
- Configuring your compiler (`build.${user.name}.properties`):

```
## javac.compiler
## classic (the standard compiler of JDK 1.1/1.2).
## modern (the standard compiler of JDK 1.3/1.4/1.5/1.6).
## jikes (the Jikes compiler).
## jvc (Microsoft's SDK for Java/Visual J++ ).
## kjc (the kopi compiler).
## gcj (the gcj compiler from gcc).
## sj (Symantec java compiler).
## extJavac (run either modern or classic in a JVM of its own).
javac.compiler=mordern
javac.debug=on
javac.deprecation=off
javac.fork=true
javac.memoryMaximumSize=256m
javac.nowarn=on
jsp.precompile=off
```

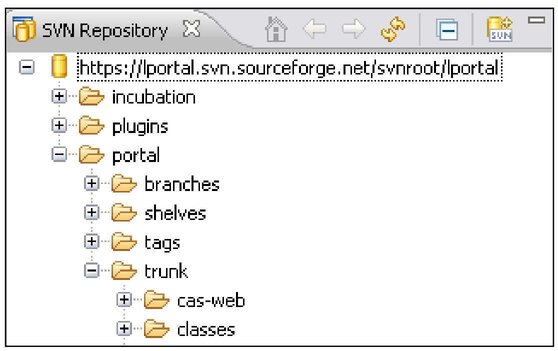
- Configuring your release properties.
- Ant clean start build-ext.
- Configuring your application server properties.
- Ant build.
- Developing your new portlets.

You now can develop and deploy your own custom portlets, themes, and applications.

Furthermore let's consider another scenario. Suppose that you, as an administrator or a developer from an engineering group, want to base your extensions on top of the latest sources of Liferay Portal, instead of using the stable release, you can follow these instructions to set it up:

1. Download and install Subversion and/or a subversion client such as SmartSVN, TortoiseSVN or those provided by IDE environments.
2. Configure the client to use the https protocol to connect to **lportal.svn.sourceforge.net**.
3. Check out the portal.

The extension environment is a complete development environment that eases customizing Liferay Portal to suit your own needs. It combines many Liferay tools that can probably be used to build your portlets and portals, such as Struts-Portlet, Spring MVC Portlet and Service Builder.



> Note that for some projects in which there isn't a need to customize the portal extensively and there is only a need to develop new portlets and themes, you can use the Plugins SDK instead of the extension environment. It is also possible to use both environments at the same time for different needs. Refer to Chapter 10.

Summary

This chapter discussed how to experience implementing a portal page with portlets, understand portals, portlet containers, and portlets according to the JSR-286 specification. This chapter also discussed how to set up the portal, including installation options and deployment matrix, how to configure the home page and all other pages of the intranet web site. Then it introduced the concepts of how to customize the personal area, build the portal pages, and to navigate the structure of the Intranet via portlets such as **Site Map**, **Breadcrumb**, and **Navigation**. Finally, it provided guidance to configure the portal based on the `system-ext.properties` and `portal-ext.properties files`, and set up extension environment in order to extend functionality briefly.

3
Bringing In Users

Liferay Portal provides a powerful and yet highly configurable full security model for controlling **Users**, resources, workflow, search and policies. The full security model incorporates a fine-grained permission system to give administrators full control over access and privileges to portlets and objects within the portal. By this model, **Users** can assign **Permissions** to other **Users**, **Communities**, **Organizations**, **Locations**, and **User Groups** on a per portlet basis, and also, control **Permissions** all the way down to the object level.

This chapter begins with my account management, discusses bringing in **Users**, and all the ways to assign **Permissions** to **Users**. Finally, it gives a high-level overview of all the entities involved in the security model. In addition, this chapter introduces configurable authentications related to out-of-the-box managed accounts, LDAP (Lightweight Directory Access Protocol), SSO (Single Sign-On) CAS and OpenID.

By the end of this chapter, you would have learnt how to:

- Update the profile in **My Account.**
- Administrate **Users**, **User Groups**, **Organizations**, and **Locations.**
- Integrate with LDAP and SSO.
- Manage **Roles** and **Permissions**.
- Apply full access control security model.

Managing My Account

As an administrator at the enterprise "**Palm-Tree Publications**", you need to access the portal first, and then log into the portal. More interestingly, you can update your profile using your real personal information, such as name, password, language, time zone, icon, etc. The following sections show how to access the portal, log into the portal, and change the profile.

Accessing The Portal

By default, there are two ways to access Liferay portal: a regular connection (HTTP), and a secured connection (HTTPS). A default bundle installation supports HTTP only. The URL is `http://book.com:8080`. You can change the port number such as 80, and use a security connection by un-commenting the port number 433 at Tomcat.

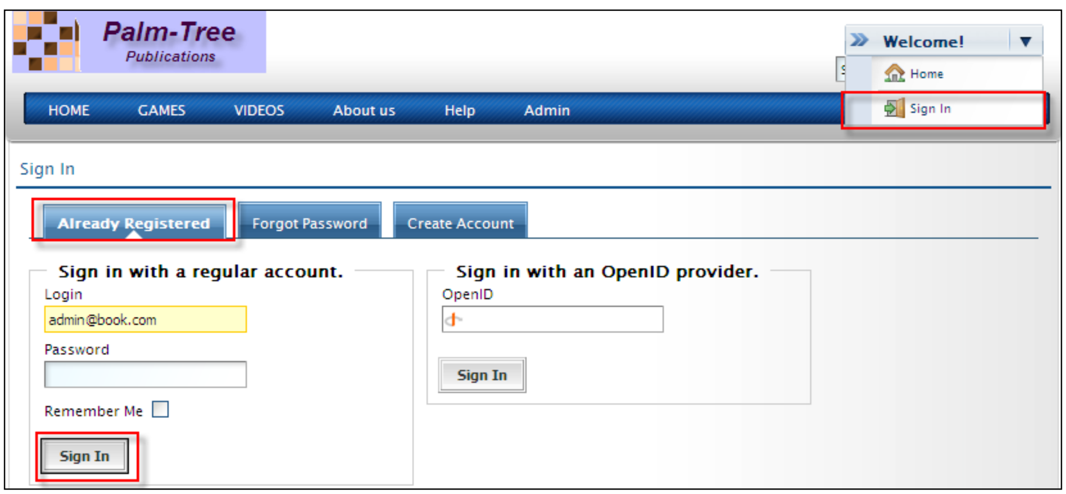
[For more details about HTTP and HTTPS, refer to the Chapter 13.]

Logging into The Portal

You can get the login page by clicking on a link "**Sign in,**" in the upper right corner that takes you to the login page. If it is not available in the default installation, you can go directly to the login page, by using the URL: `http://book.com/c/portal/login`.

In the login page, you are asked for the following information:

- Login name (as an e-mail address) `test@liferay.com`
- Password `test`



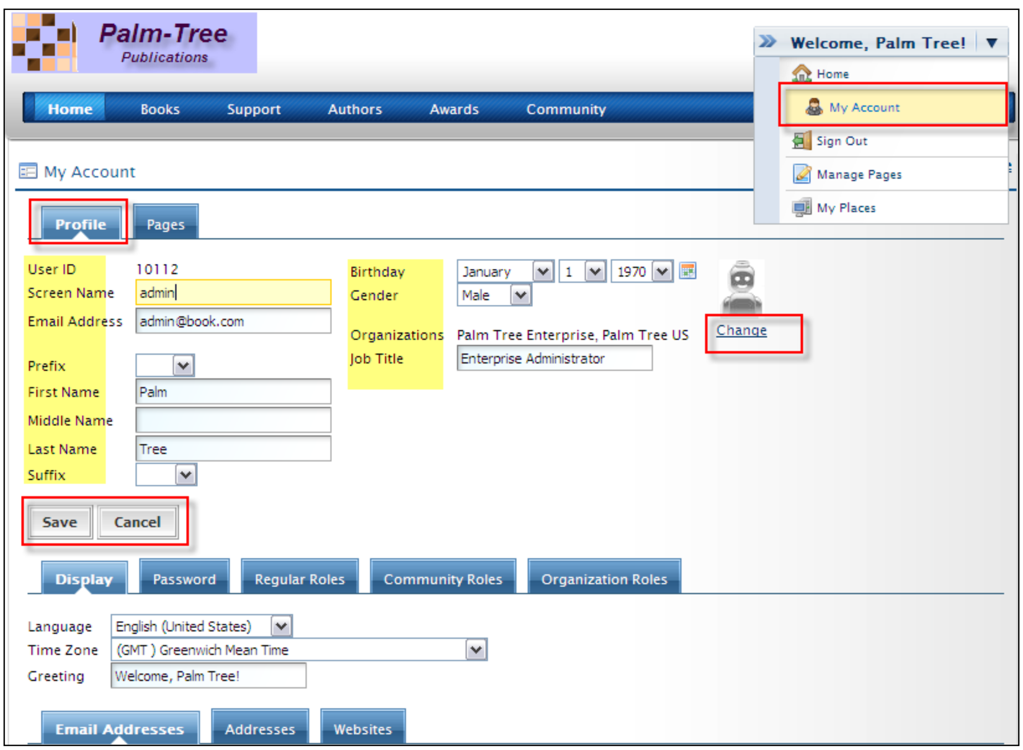
Updating Your Profile

As an administrator, you are running Liferay portal now, and you'll see a set of portlets in the default page. It is ready for you to update your profile anytime, such as **Screen Name**, **Email Address**, **First Name**, **Last Name**, **Icon**, **Language**, **Greeting Message**, and so on.

To update the profile, you simply use the **My Account** link first. Then you just update name, **Email Address**, **Language**, **Time Zone**, **Greetings**, **Password**, **Phone**, SMS messenger ID, comments, and so on, as you want. For example, if you want to display your icon in other portlets, such as discussion forums, you need to upload your own image by clicking on the **Change** link. Finally, press the **Save** button to save the changes. If you do not want to change anything, simply click on the **Cancel** button.

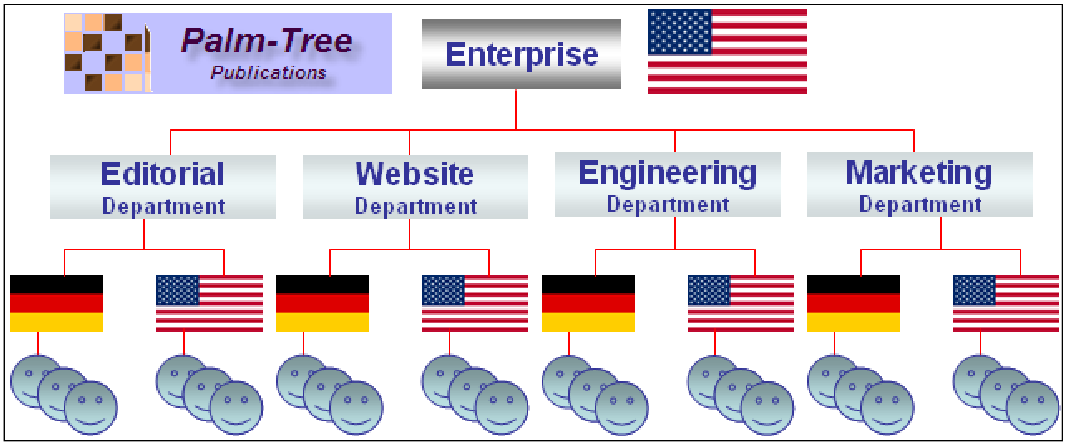
Note that, if you change your email address and password, you need to memorize your update. You have to use the updated email address and password for your login, next time.

In a nutshell, Liferay portal provides the ability to update the **User's** profile and also the **User's** own **Community** pages (such as **Public Pages** and **Private Pages**) dynamically, by using **My Account** link. It is useful for any **User** in the enterprise "Palm Tree Publications" after logging in, and using **My Account** link to update the profile.



Adding and Managing Users

The enterprise "Palm Tree Publications" with its global headquarters in US, has several departments such as editorial, engineering, marketing, and so on. Each department has staff in the United States, or in Germany, or both.



We are planning to bring in the following **Users** into the Portal. A **User** is an individual, who performs tasks using the portal.

Full Name	Screen Name	Email	Organization	Location
Palm Tree	Admin	**admin@book.com**	Enterprise	US
David Berger	David	**david@book.com**	Editorial	US
Lotti Stein	Lotti	**lotti@book.com**	Editorial	US
Rolf Hess	Rolf	**rolf@book.com**	Editorial	US
Julia Maurer	Julia	**julia@book.com**	Editorial	Germany
Martin Gall	Martin	**martin@book.com**	Editorial	Germany
James Masse	James	**james@book.com**	Website	US
Raja Fuchs	Raja	**raja@book.com**	Engineering	Germany
John Stucki	John	**john@book.com**	Marketing	Germany

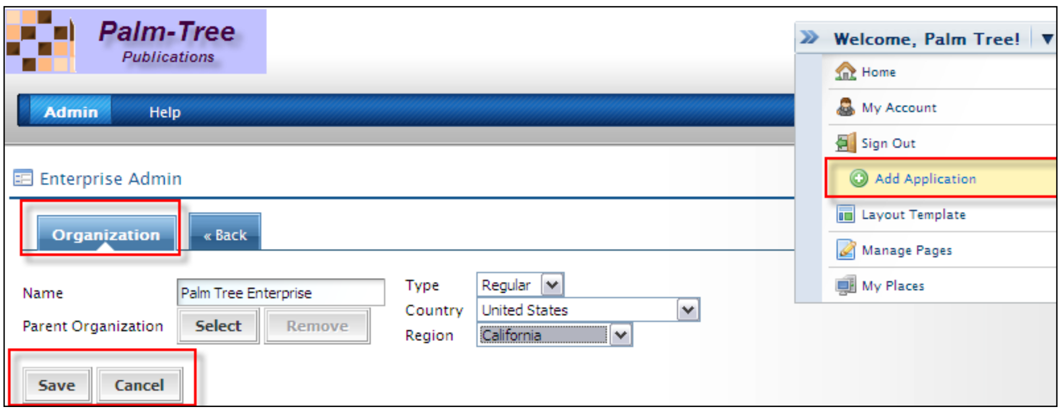
Suppose that, as an administrator of "Palm Tree Publications", you plan to create a page called "**Admin**" at **Book Lovers Community**. Moreover, you plan to create a page called "**Users**" under the page "**Admin,**" for administration tasks.

Working with Organizations

We can use **Organizations** to represent "Palm Tree Publications" and its departmental hierarchies.

Adding A Top-level Organization

First of all, we need to create a "top-level" **Organization** (that is, the enterprise) for the whole company—in this case, "Palm Tree Publications". Let's do it now:



1. Log into the Portal as an administrator (using user email and password, you have updated by **My Account** in the previous section).
2. Add a page named "**Admin**" to **Book Lovers Community Private Pages**. Moreover, add a child page called "**Users**" under the page, "**Admin**".
3. Add **Enterprise Admin** portlet in the page "**Users,**" if the portlet is not there. (To achieve this, move the mouse on the links at the top right and find a link named **Add Application** first. Then click on the link, **Add Application**. In the popup **Add Application**, find **Enterprise Admin** through search or navigation under the **Admin** catalogue. Finally, click on the portlet **Enterprise Admin** to add the application, and click on the icon **Remove,** to close the popup.)
4. Click on the **Organizations** tab in the **Enterprise Admin** Portlet first. Then, click the button **Add Organization**.
5. Enter enterprise information in the **Name** input field such as "**Palm Tree Enterprise**", and select a value from the **Country** menu such as "**United States**", a value from the **Region** menu such as "**California**".

6. Select or Remove **Parent Organization**; here we maintain the default value.
7. Select **Type** with value, "**Regular**".

> Note that the Enterprise is the top level **Organization**. It has no parent **Organization**. At the same time, it is an **Organization**, which will have a set of sub **Organizations**. Thus, it is a regular **Organization** with type value "**Regular**".

8. Click the **Save** button to save the inputs.

So we've created a top-level **Organization**. Now we need to create **Organizations** for the main departments in the company.

Managing Organizations

Organizations can contain other **Organizations** such as sub **Organizations**. This is useful in large companies where each department might almost be a separate company, with little interaction among them.

Add Child Organizations

Let's create two departments within "Palm Tree Publications", Editorial and Marketing as follows:

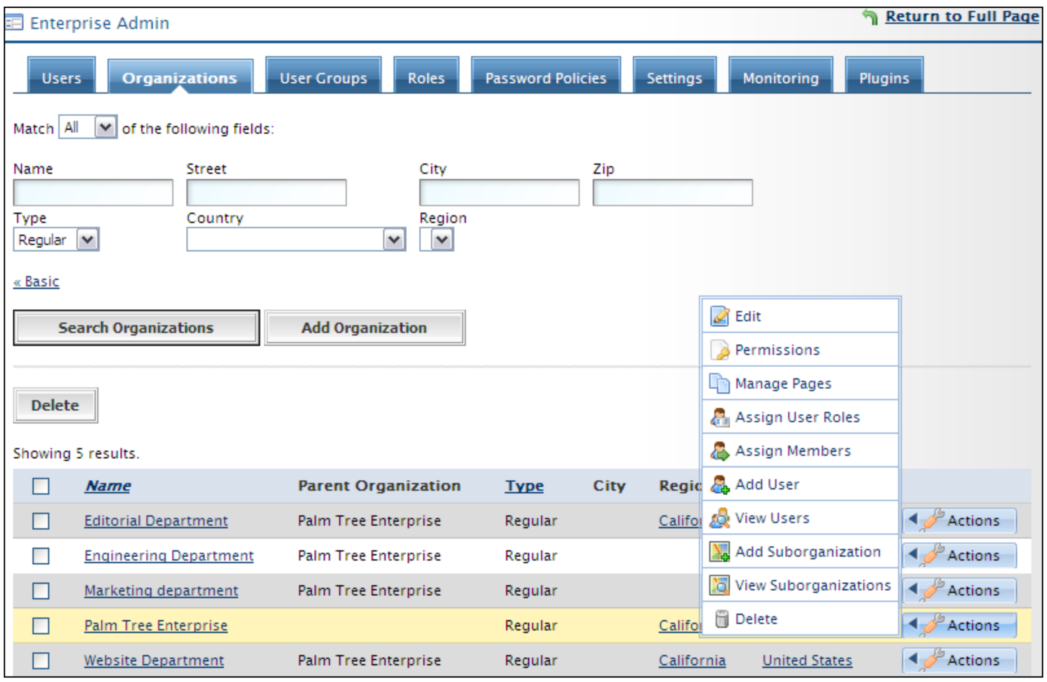
1. Click on the **Organizations** tab in the **Enterprise Admin** portlet first, then click the button, **Add Organization**.
2. Enter enterprise information in the **Name** input field such as "**Editorial Department**" and select an option from the **Country** menu such as "**United States**", an option from the **Region** menu such as "**California**".
3. Click on the **Select** button to select the **Parent Organization**. In the **Organization** selection page, choose "**Palm Tree Enterprise**".
4. Select **Type** with value, "**Regular**".
5. Click the **Save** button to save the inputs.

Similarly, let's add a child **Organization** called "**Marketing department**" as follows:

1. Click on the **Organizations** tab in the **Enterprise Admin** Portlet first; then click the button **Add Organization**.

2. Enter enterprise information in the **Name** input field, such as, "**Marketing department**" and select a value from the **Country** menu, such as "**United States**", and a value from the **Region** menu such as "**California**".
3. Select **Type** with value, "**Regular**".
4. Click on the **Select** button to select the **Parent Organization**. In the **Organization** selection page, choose "**Palm Tree Enterprise**".
5. Click the **Save** button to save the inputs.

Of course, you can create other departments in most **Organizations** similarly. After adding child **Organizations** such as "**Engineering**" and "**Website**", we can view **Organizations**:



View Organizations

Similar to adding child **Organizations**, viewing **Organizations** is also simple, as follows:

1. Click on the **Organizations** tab in the **Enterprise Admin** Portlet to display the **Organization**s screen. A listing of **Organizations** appears at the bottom of the **Organizations** screen.

2. Locate an **Organization** such as "**Editorial Department**" that you want to view first, and then click on the **Organization** link such as "**Editorial Department**".
3. Or click the **View Sub-organizations** icon from **Actions** (next to **Organization),** if you want to view sub **Organizations** of a given **Organization** "Palm Tree Enterprise".

Search Organizations

You can find **Organizations** by doing a basic search or an advanced search. To search **Organizations**, click on the **Organizations** tab in the **Enterprise Admin** portlet first. Then input search criterion for basic search, or input **Organization** information in the input fields and select **Type** value "**Regular**" for advanced search, and click the button, **Search Organizations**. A listing of **Organizations** based on search appears at the bottom of the **Organizations** screen.

> Basic search will search both **Organizations** and **Locations**. Using advanced search, you may search **Organizations** (with type value "**Regular**") or **Locations** (with type value "**Locations**") or both (with type value "**Any**").

Edit An Organization

After adding **Organizations**, we are ready to manage **Organizations** now.
For example, we want to update the **Organization's** information of "Website department", such as changing name and parent **Organizations**, and adding email addresses and comments. Let's do it as follows:

1. Click on the **Organizations** tab in the **Enterprise Admin** portlet. Locate **Organization** such as "**Website department**" with type value "**Regular**", which you want to edit.
2. Click the **Edit** icon from **Actions** next to the right of **Organization,** or click on any links of the **Organization,** say "**Website department**".
3. Type changes in the **Name** input field and select value from the **Country** and **Region**, or add **Email Addresses**, **Addresses**, **Website** and **Phone Numbers**, and furthermore, add **Services** and **Comments**.
4. Click **Save** to save the changes.

Delete An Organization

For some reasons, a department such as "**Website**", may not be wanted anymore. We need to delete this **Organization** from the Portal. Let's delete the **Organization** "**Website**" as follows:

1. Click on the **Organizations** tab in the **Enterprise Admin** Portlet.
2. Locate an **Organization** such as "**Website department**" that you want to delete.
3. Click the **Delete** icon from the **Actions** next to the right of the **Organization,** or select checkbox to the left of the **Organization,** and press the **Delete** button.
4. A screen will appear asking if you want to delete the selected **Organizations**. Click the **OK** button to confirm, or the **Cancel** button to cancel.

> Note that you cannot delete an **Organization** which has child **Organizations** or **Locations** or **Users**. In order to delete this **Organization**, you need to remove sub **Organizations** or **Locations** or **Users** from this **Organization** first.

Using Organizations Effectively

Organizations represent the enterprise's departments hierarchy. Each **Organization** has a set of basic properties, such as name, parent **Organization** (not for top-level **Organizations**), status, country, and so on. It may also have a set of optional properties, such as email addresses, addresses, websites, phone numbers, services, comments, and so on.

An **Organization** can represent a parent corporation. An example would be the enterprise, "Palm Tree Publications".

An **Organization** that is a child **Organization** of top-level **Organization** can also represent departments of a parent corporation. Examples would be "Editorial department", "Marketing department", and so on.

Logically, **Users** can be members of more than one **Organization**. As a best practice, it is better to make a **User** belong to only one **Organization**. So make sure your **Organizations** don't overlap. For example, if you have a department called "marketing" and another called "engineering", then the marketing manager can be in one department or the other but not both.

This might seem limiting, but there is an answer to this in **User Groups**. A **User** can be a member of any number of **User Groups**, and "managers" is a common **User Group**. We'll see how to work with them later.

Working with Locations

Just like many departments, a company might have several **Locations**. "Palm Tree Publications" has one **Location** in San Jose, United States, and one in Berlin, Germany. Let's go ahead and create them.

Adding A Location for The Enterprise

First of all, we need to add a **Location** for the enterprise "Palm Tree Publications", that is the **Organization** "Palm Tree US". Let's do that now:

1. Click on the **Organizations** tab in the **Enterprise Admin** Portlet first, then click the button **Add Organization**.
2. Enter enterprise information, "**Palm Tree US**", in the **Name** input field and select a value such as "**United States**" from the **Country** menu, a value such as "**California**"from the **Region** menu.
3. Click on the **Select** button to select the **Parent Organization**. In the **Organization** selection page, choose "**Palm Tree Enterprise**".
4. Select **Type** with value "**Location**".
5. Click the **Save** button to save the inputs.

So we've added a **Location** for a top-level **Organization**. Now we need to create **Locations** for the department "Editorial".

Managing Locations

Generally speaking, a **Location** is a special **Organization**, which associates with a parent **Organization**. More importantly, **Locations** cannot have any associated child **Organizations**. **Location** is mostly distinguished by its geographic position. An **Organization** may have any number of sub organizations and **Locations**. Obviously, **Locations** are leaves of **organizations**.

Add Locations for Main Organizations

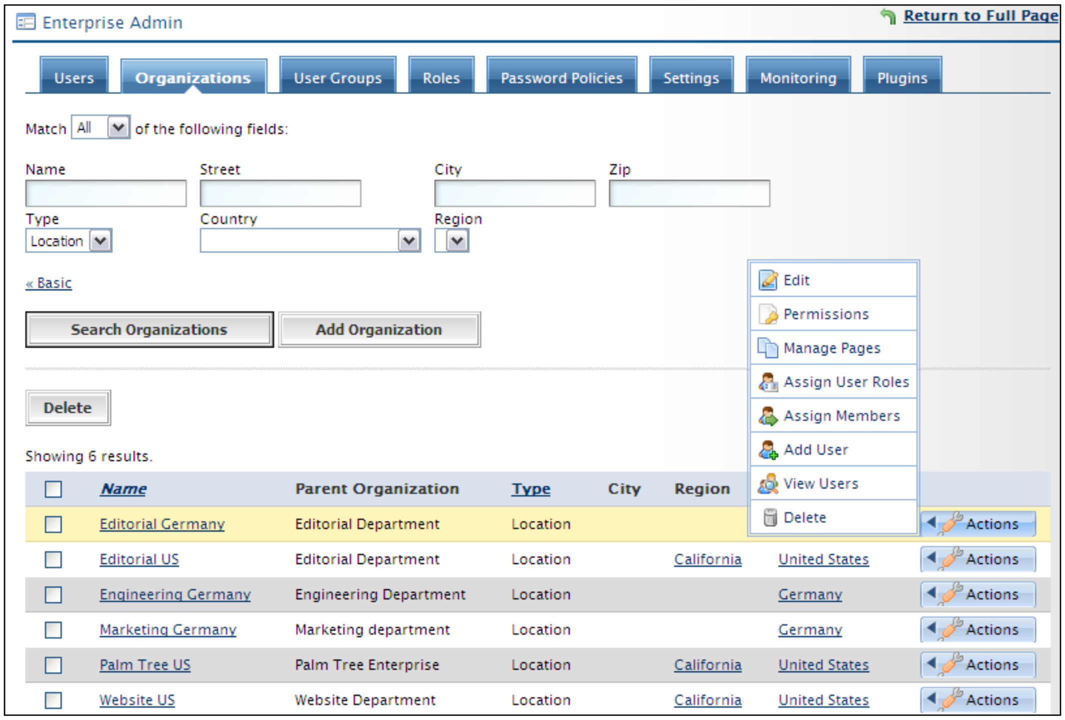
Let's create a **Location** called "**Editorial US**" for the department "Editorial", as follows:

1. Click on the **Organizations** tab in the **Enterprise Admin** portlet first, then click the button **Add Organization**.
2. Enter enterprise information in the **Name** input field, "**Editorial US**" and select a value from the **Country** menu, "**United States**", a value from the **Region** menu, "**California**".
3. Click on the **Select** button to select the **Parent Organization**. In the **Organization** selection page, choose "**Editorial department**".
4. Select **Type** with the value "**Location**".
5. Click the **Save** button to save the inputs.

Similarly, we can add another **Location** called "**Editorial Germany**" for the department, "Editorial". Optionally, we can add the **Location** "**Editorial Germany**" from the **Organization** "**Editorial department**" directly:

1. Click on the **Organizations** tab in the **Enterprise Admin** portlet. Locate the **Organization,** "**Editorial department**".
2. Click the **Add Sub Organization** icon from **Actions,** to the right of the **Organization**.
3. Enter enterprise information in the **Name** input field, "**Editorial Germany**" and select a value from the **Country** menu, "**Germany**". Keep the default value for the **Region** menu.
4. Select **Type** with value, "**Location**".
5. Keep default value for the **Parent Organization.**
6. Click the **Save** button to save the inputs.

Of course, you can create other **Locations** for most **Organizations** similarly. After adding **Locations** for departments such as "Engineering" and "Website", we can view **Locations**.



View Locations

Just like adding **Locations**, viewing **Organizations** is also simple:

1. Click on the **Organizations** tab in the **Enterprise Admin** portlet to view the **Organizations** screen. A listing of **Locations** appears at the bottom of the **Organizations** screen.
2. Locate an **Organization** with type value "**Location**" that you want to view first, and then click on the **Organization**.

Optionally, we can view **Locations** for a given **Organization**. To view **Locations** that belong to a specific **Organization**:

1. Click on the **Organizations** tab in the **Enterprise Admin** Portlet and locate an **Organization** first.
2. Then click on the **View Sub Organizations** icon from the **Actions** next to the organization on its right. A screen will appear showing all organizations that belong to the specific organization.

3. Locate an **Organization** with type value "**Location**" that you want to view first, and then click on the **Organization** name link.

Search Locations

Locations are searchable only by advanced search. To search **Locations**, simply click on the **Organizations** tab in the **Enterprise Admin** first. Then input **Organization** information in the input fields, and select **Type** value "**Location**" in advanced search, and click the button **Search Organizations**.

Edit A Location

After adding **Locations**, we are ready to manage **Locations** now. For example, we want to update the **Location** information of "**Website US**", such as name and parent **Organizations**, and add email addresses and comments. Let's do it as follows:

1. Click on the **Organizations** tab in the **Enterprise Admin** portlet. Locate the **Location,** "**Website US**" with type value "**Location**", which you want to edit.
2. Click the **Edit** icon from the **Actions** to the right of the **Location,** or click on any of the links under **Location** such as the name, "**Website US**".
3. Then in the edit page, type changes in the **Name** input field and select values from the **Country** and **Region** menus to make changes. Or add **Email Addresses**, **Addresses**, **Website** and **Phone Numbers**, and also **Services** and **Comments**.
4. Click **Save** button to save the changes.

Delete A Location

In some instances a **Location, say** "**Website US**" may not be wanted anymore. We need to delete this **Location** in the Portal. Let's delete the **Location** "**Website US**" as follows:

1. Click on the **Organizations** tab in the **Enterprise Admin** Portlet.
2. Locate the **Location** you want to delete such as "**Website US**".
3. Click the **Delete** icon from the **Actions** to the right of the **Location,** or select the checkbox to the left of the **Location** and press the **Delete** button.
4. A screen appears asking if you want to delete the selected **Locations**. Click the **OK** button to confirm.

> Note that you can not delete a **Location** which has **Users**. In order to delete this **Location**, you need to remove **Users** from this **Location** first.

Using Locations Effectively

Locations are special **Organizations** associated with a parent **Organization** and having no child **Organizations**. A **Location** can be used to represent a child corporation of an **Organization**, distinguished mostly by its geographical location. An **Organization** can have any number of sub organizations and **Locations**, while a **Location** must belong to one and only one **Organization**. Examples would be "**Editorial US**", "**Editorial Germany**", and so on.

Each **Location** has a set of basic properties, such as name, parent **Organization**, country, and so on. As a special **Organization**, each **Location** may also have a set of optional properties, such as email addresses, addresses, websites, phone numbers, services, comments, and so on.

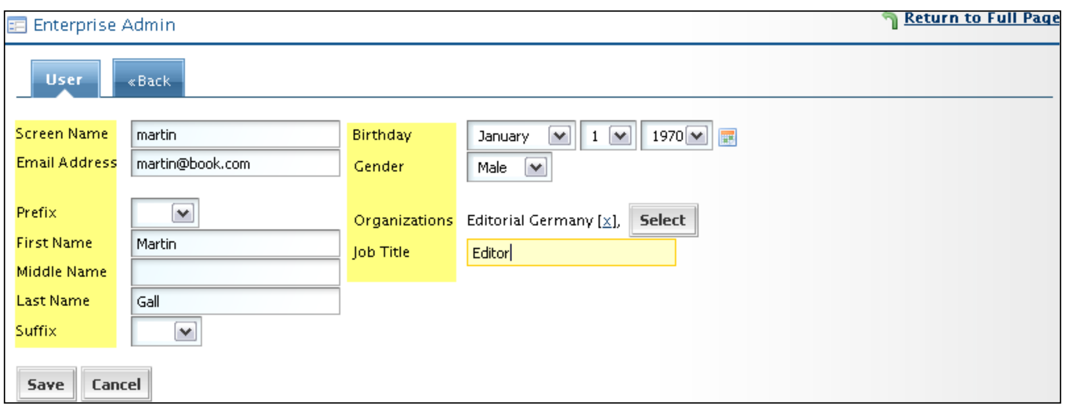
Bringing in Users

Finally, with the company, departments, **Organizations and Locations** in place, we can add some **Users**.

Adding Users

A **User** is an individual who performs tasks using the portal. **Users** can belong to any **Organization** (or a special **Organization**—**Location**) or **User Group**.

First of all, let's add "Martin Gall". He's an editorial guy in the Germany office:



1. Click on the **Users** tab in the **Enterprise Admin**.
2. Then click **Add Users** button.

3. Enter **Users** information in the input field and select values from the pull down menus. Normally, you can select an **Organization** (with type value "**Location**") such as "**Editorial Germany**" that the new **User** belongs to. More importantly, **Screen Name**, such as "**martin**", and **Email Address**, such as "**martin@book.com**" are required, since both act as a unique identifier for this **User**. When this **User** logs in, the screen name or email address or user ID will be used as login ID.
4. Click **Save** button to save the inputs.

What Just Happened?

We added our first **User** to Liferay. When we created the new account, Liferay sent an email to the specified email address, notifying the **User** that they could log in and start using the portal.

> The email will send successfully, only if you have specified an SMTP server for Liferay to use. Refer to Chapter 2 for detailed instructions.

Here's the example email Martin will receive:

Dear Martin,

Welcome! You recently created an account at `http://book.com/`. Your password is **your password**. Enjoy!

Sincerely,

Palm Tree

admin@book.com

`http://book.com`

When "Martin Gall" clicks the link, he'll be taken to a page that displays a regular account for signing in. After inputting his email address and password and clicking the **Sign in** button, he'll be taken to a page that displays terms and conditions.

> To change the email notification, such as account created notification and password changed notification, refer to Chapter 13 instructions.

Add More Users

Now go ahead and add a few more **Users**. We can add two more **Users,** "**David Berger**" and "**Lotti Stein**" in the same way as mentioned earlier. Both are editorial guys in the US offices.

Fortunately, there are two more options to add **Users**: to add a **User** for a given **Organization,** and to add a **User** from scratch as stated earlier.

Let's add the **User** "**David Berger**" from scratch as follows:

1. Click on the **Users** tab in the **Enterprise Admin**.
2. Click **Add Users** button.
3. Enter **User's** information in the input fields and select **values** from the pull down menus, and select an **Organization** (with type value "**Location**") such as, "**Editorial US**".
4. Click the **Save** button to save.

Let's add the **User** "**Lotti Stein**" through a given **Organization** as follows:

1. Click on the **Organizations** tab in the **Enterprise Admin**.
2. Locate an **Organization** say "**Editorial US**", to which you want to add a new **User**.
3. Click on the **Add User** icon from **Actions** located to the right of the **Organization** you want to add a **User** to. You will see that the given **Organization** has been selected by default.
4. Enter **Users** information in the input fields and select values from the pull down menus.
5. Click the **Save** button to save.

Add Users in Bulk

It won't take long before you're bored of manually adding **Users**. Fortunately, you don't need to type them all in one at a time. There are several options for adding **Users** in bulk:

- LDAP—Lightweight Directory Access Protocol.
- Single Sign-On (SSO)—a method of access control that enables a **User** to authenticate once and gain access to the resources of multiple software systems.
- OpenID—a decentralized single sign-on system.

Create Account on Fly

As an administrator at "Palm Tree Publications", you can set up the portal and allow **Users** to create accounts on fly. For example, "Rolf Hess" accesses the portal login page and clicks on the tab **Create Account**. He inputs **User's** information and text verification, and furthermore, presses the **Save** button.

The portal system will create an account for the **User** "**Rolf Hess**", and send an email to him with a new password.

> Note that there is no **Organization** or no **Location** selected for the new account created on fly. In order to set proper **Organization** and **Location** for the new account, administrators have to update this account in the portal.

When The Password Is Forgotten

If a **User** such as "**Rolf Hess**" forgot his password, he can access the portal login page, and click on the tab, **Forgot Password**. He can input email address and text verification, and furthermore, press the **Send New Password** button.

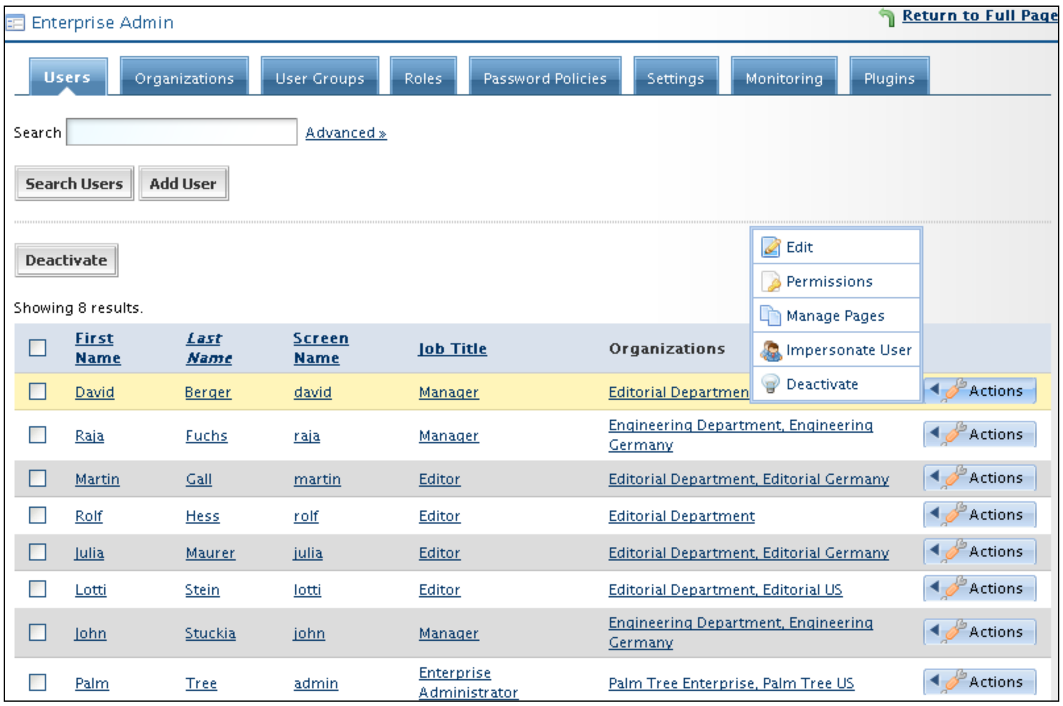
The portal system will create a new password for the **User** "**Rolf Hess**", and send an email to him with this new password.

Managing Users

Of course, you can similarly add **Users** of other departments in most **Organizations**. After adding more **Users**, we can view **Users**.

View Users

Users could be active or inactive in the portal. It is simple to view active **Users**. Click on the **Users** tab in the **Enterprise Admin**. A list of **Users** appears at the bottom of the **Users** screen. Locate a **User** whom you want to view first. Then click on the **User** name such as "**Rolf Hess**".



To view deactivated **Users**, click on the **Active** menu from the advanced search, and select **No** item. Click **Search Users** button to display a list of deactivated **Users**.

Optionally, we can view **Users** for a specific **Organization**. To view **Users** that belong to a specific **Organization**, simply click on the **Organizations** tab. Then click the **View Users** icon from the **Actions** located to the right of an **Organization**. You may view a **User** by locating it and clicking on it.

Similarly, you may view **Users** who belong to a specific **User Group** by clicking on the **User Groups** tab, and by clicking on the **View Users** icon from **Actions** located to the right of a **User Group**. Most interestingly, you may view **Users** associated with a specific **Role,** by clicking on the **Roles** tab, and clicking **View Users** icon from the **Actions** located to the right of the **Role**.

Search Users

Users are searchable. First you can search **Users** by clicking on the **Users** tab in the **Enterprise Admin**. Then, input search criterion for basic search, or input **User's** information in the input fields and select a value ("**Yes**" or "**No**") from the **Active** menu options for advanced search, and finally click on the **Search Users** button. A listing of **Users** based on the required search appears at the bottom of the **Users** screen.

> Note that basic search is only useful for active **Users**. You cannot find inactive **Users** through basic search. To find inactive **Users**, you have to use advanced search, and select the value "**No**" from the **Active** menu options.

Edit A User

After adding **Users**, we are ready to manage **Users** now. For example, we want to update the **Users** information of "**Lotti Stein**", by changing name and parent **Organizations**, and adding email addresses and comments. Let's do it as follows:

1. Click on the **Users** tab in the **Enterprise Admin**.
2. Locate a **User** such as "**Lotti Stein**" whose information you want to update, and click on the **User**.
3. Click the **Edit** icon from **Actions** next to the right of the **User** or click any of the **User** links, or select the check box to the left of the **User**.
4. A screen appears displaying the **Users** information. Type changes in the **First Name**, **Middle Name**, **Last Name**, **Email**, and **Job Title** input fields, and select from the **Prefix**, **Suffix**, **Birthday**, **Gender** and **Organization** menus to make changes.
5. Optionally, you can change the icon, display language, time zone and greeting, password, **Roles**, and also update email addresses, addresses, comments, and so on.
6. Click the **Save** button to save changes.

> The functions of editing a **User** are the same as that of updating the profile in **My Account**. Using **My Account**, you can only update your own information. By editing a **User**, you can update any **Users** information, if you have the **Permissions** to do so.

Deactivate A User

Suppose a **User** such as "**Lotti Stein**" has to be made inactive in the portal, we need to deactivate it. To deactivate a **User,** do the following:

1. Click on the **Users** tab in the **Enterprise Admin** first.
2. Locate the **User,** say "**Lotti Stein**", which you want to deactivate.
3. Then click on the box located next to the **User** you want to deactivate and click the **Deactivate** button. You can also deactivate a **User,** by clicking the **Deactivate** icon from **Actions** next to a **User**.

To deactivate all **Users** listed on a page, click the box located next to the **Name** column, and click the **Deactivate** button. A screen will appear asking if you want to deactivate the selected **Users**. Click **OK** to deactivate them. Click **Cancel** if you do not want to deactivate the selected **Users**.

Activate A User

In case we want to make an inactive **User**, "**Lotti Stein**" here, become active in the portal, we need to restore or activate it. To restore a **User** you can do the following:

1. Click on the **Users** tab in the **Enterprise Admin**.
2. Click on the **Active** menu in **advanced search**, and select **No**. Then click the **Search Users** button to display a listing of deactivated **Users**.
3. Click on the box located next to the **User** you want to reactivate and further click the **Restore** button.
4. You can also reactivate a **User** by clicking the **Activate** icon from **Actions,** to the right of the **User**.

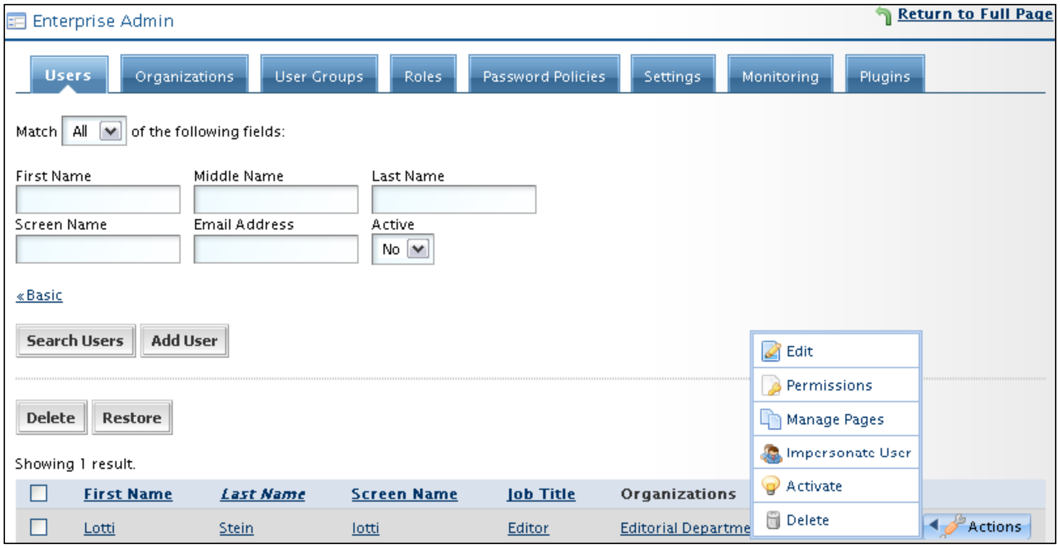
To restore all **Users** listed in a page, click in the box located next to the **Name** column. Click **Restore** button.

Delete A User

In case a **User** such as "**Lotti Stein**" is not wanted any more, we need to delete it from the portal as follows:

1. To delete a **User** such as "**Lotti Stein**", you need to first deactivate the **User**.
2. Then click on the **Users** tab in the **Enterprise Admin**.
3. Click on the **Active** menu in advanced search, and select the item, **No**. Click **Search Users** to display a list of deactivated **Users**.
4. Click on the box located next to the **User** you want to delete, and click the **Delete** button. You can also delete a **User** by clicking the **Delete** icon from **Actions,** to the right of the **User**.

To delete all **Users** listed in a page, click the box located next to the **Name** column. Click the **Delete** button. A screen will appear asking if you want to permanently delete the selected **Users**. Click the **OK** button to delete. Click **Cancel** button if you do not want to delete the selected **User**.



Impersonate A User

Administrators and normal **Users** can conveniently review updates performed for other **Users** with the **Impersonate** function. For example, the administrator gives **Permissions** to the **User** such as "**Lotti Stein**", to edit all **Users** in the "Palm Tree Publications" US **Location**. To verify whether the **Permission** has been correctly given, the administrator can sign in as **User** "**Lotti Stein**" or he or she can search for "**Lotti Stein**" in the **Enterprise Admin** portlet and click the **Impersonate** icon from **Actions** next to the **User**. By using the **Impersonate** function, the administrator can impersonate "**Lotti Stein**" to review updates without having to sign in as "**Lotti Stein**".

User Groups And Communities

Actually, **Communities** are special groups, which have a set of **Users**. That is, a **Community** may have a set of associated **Users**. Normally, a **Community** is used to present a set of **Users** who share common interests.

> For more details about **Communities**, refer to Chapter 11.

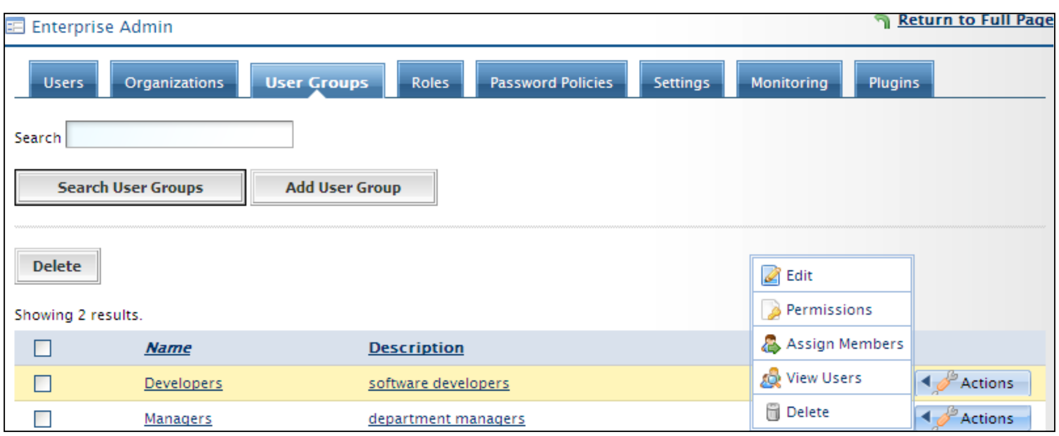
As is the case with many departments, a company may have several **User Groups**. "Palm Tree Publications" has these **Users**: Raja Fuchs, an engineering manager in a Germany office; John Stucki, a marketing manager also in a Germany office. Both are managers, but belong to different departments. Thanks to the **User Group** called "**Managers**", we can include a number of **Users** belonging to different departments. Let's go ahead and create them.

Adding A User Group

First of all, let's create a **User Group** "**Managers**" which contains **Users** "**Raja Fuchs**" and "**John Stucki**" as follows:

1. Click on the **User Groups** tab in the **Enterprise Admin** first.
2. Then click **Add User Group** button.
3. Enter a name for the **User Group** in the **Name** input field such as "**Managers**".
4. Click the **Save** button to save the input.
5. Then click on the **Assign Members** icon from **Actions** to the right of the **User Group** "**Managers**".
6. Click on the **Available** tab to display a list of all available **Users** in the system. Check the checkboxes to the left of the desired **Users** such as "**Raja Fuchs**" and "**John Stucki**".
7. Click the **Update Associations** button to assign **Users** to a **User Group**. Optionally, to confirm whether the desired **Users** were successfully associated with the **User Group**, click on the **Current** tab.

Of course, you can create other **User Groups** similarly. After adding one more **User Group,** "**Developers**", we can view the **User Groups**.



Managing User Groups

A **User Group** can hold a number of **Users**. In fact, a **User Group** is also a special group which may have a set of associated **Users**. **User Groups** are different from both **Organizations** and **Communities**, since they have no context associated with them.

View User Groups

To view **User Groups**, click on the **User Groups** tab in the **Enterprise Admin** first. A list of **User Groups** appears at the bottom of the screen. Click on a **User Group, say** "**Managers**", that you want to view. Normally, clicking on a **User Group** will only display the name of the **User Group**. To actually view the **Users** associated with the **User Group**, click on the **View Users** icon from **Actions** to the right of the **User Group**.

Search User Groups

User Groups are also searchable. To search **User Group**s, click on the **User Groups** tab in the **Enterprise Admin** first. Then type a **User Group** name as search keywords, and click **Search User Groups** button.

Edit A User Group

You may need to change the **User Group,** "**Managers**". Click on the **User Groups** tab in the **Enterprise Admin** first. Then locate the **User Group** you want to edit. Click the Edit icon from the **Actions** to the right of the **User Group**, or click any of the **links** in **User Group**. In the edit page, type changes in the **New Name** input field and the **Description** input field. Then click the **Save** button to save the changes.

Delete User Groups

For some particular reasons, a User Group, say "**Developers**", may not be wanted anymore. We need to delete this **User Group** in the Portal. Let's delete the **User Group** "**Developers**" as follows:

- Click on the **User Groups** tab in the **Enterprise Admin** first.
- Locate a **User Group,** "**Developers**", which you want to delete.
- Then click on the **Delete** icon from **Actions** to the right of the **User Group**, or check the box on the left of the **User Group** and click the **Delete** button.
- A screen will appear asking if you want to permanently delete the selected **User Groups**. Click **OK** button to delete the **User Group**.

Similarly, you can delete multiple **User Group**s by checking the boxes located to the left of the **User Groups** you want to delete, and then clicking the **Delete** button. Verily, you can delete all **User Group**s listed on a page, by checking the box located next to the **Name** column, and then clicking the **Delete** button. A screen will appear asking if you want to permanently delete the selected **User Groups**. Click the **OK** button to delete or the **Cancel** button if you do not want to delete the selected **User Groups**.

Assign A User Group

You can assign **Users** to a **User Group**. First, click on the **User Groups** tab in the **Enterprise Admin**. Then click on the **Assign Members** icon from **Actions** to the right of the **User Group**. Click on the **Available** tab to display a list of all available **Users** in the system. Search for the desired **Users** using the search form (through basic search or advanced search). Check the boxes to the left of the desired **Users**. If you would like to select all the **Users** on the page, check the box next to the **Name** column. Finally, click the **Update Associations** button to assign **Users** to a **User Group**. Optionally, to confirm whether the desired **Users** were successfully associated with the **User Group**, click on the **Current** tab.

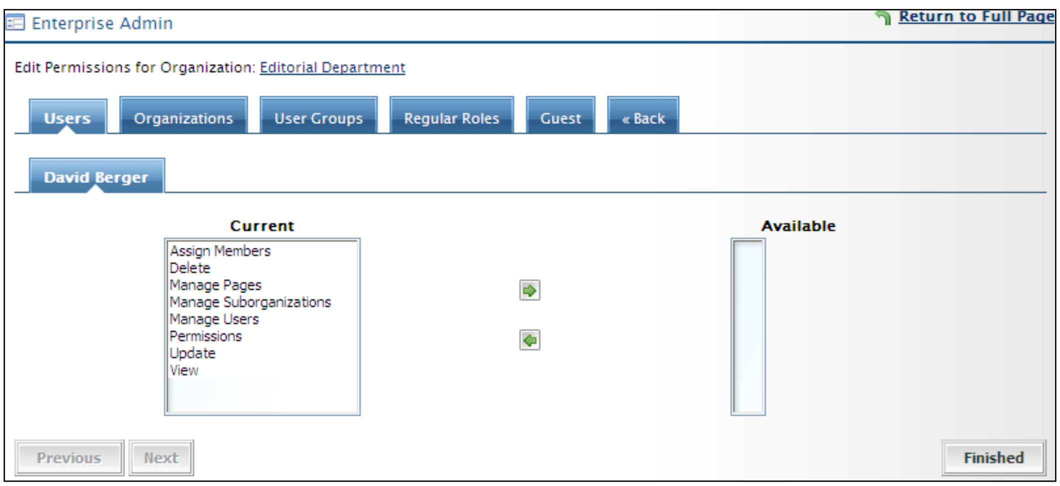
Adding More Administrators

As mentioned before, "**Palm Tree**" is an administrator at the enterprise. We need to add more administrators at the department level and **Location** level. "**David Berger**" acts as an administrator in the "Editorial" department. Let's add it as follows:

1. Click on the **Organizations** tab in the **Enterprise Admin** portlet.
2. Locate an **Organization** such as "**Editorial department**" to which you want to add an admin.
3. Click on the **Permissions** icon from the **Actions** next to the **Organization**. By default, the **User** tab and **Current** sub-tab are selected.
4. Click on the **Available** tab if the **User,** "**David Berger**" is not there.
5. Locate the **User** "**David Berger**". Check the **User** "**David Berger**" checkbox, and click on the **Update Permissions** button.
6. Select all permissions from the **Available** select box, and click on the right arrow to add them to the **Current** select box.
7. Click on the **Finished** button if you are ready.

Similarly, "**Raja Fuchs**" acts as an administrator at the department, "**Engineering**", in the Germany office. Let's add it as follows:

1. Click on the **Organizations** tab in the **Enterprise Admin** portlet.
2. Locate an **Organization** (a **Location**), say "**Engineering**", to which you want to add an admin.
3. Click on the **Permissions** icons from **Actions** next to the **Location**. By default, the **User** tab and **Current** sub-tab are selected.
4. Click on the **Available** tab if the **User** "**Raja Fuchs**" is not there.
5. Locate the **User** "**Raja Fuchs**". Check the **User** "**Raja Fuchs**" checkbox, and click on the **Update Permissions** button.
6. Select all permissions from the **Available** select box, and click on the right arrow to add them to the **Current** select box.
7. Click on the **Finished** button if you are ready.



Of course, we can add more administrators at the enterprise level, department level and **Location** level.

Liferay provides two portlets for **User** administration: **Enterprise Admin** and **Organization Admin**. The two portlets provide different scopes of administration. The **Enterprise Admin** has the highest level of administrative functions. It has access to all **Organizations**, **Locations**, **User Groups**, **Users**, and **Roles**. The **Organization Admin** can access its own **Organization** information and information of any sub organization, **Locations** and **Users** of this **Organization.**

Enterprise Admin

As we have mentioned earlier, **Enterprise Admin** has access to all **Organizations** (sub **Organizations** and **Locations**), **User Group**s, **Users** and **Roles**, with the highest level of administrative functions. Additionally, **Enterprise Admin** provides the management of password policies, settings, monitoring, plug-ins, and so on.

Organization Admin

Various functions can be performed to your **Organization**, especially to **Location** and **Users** that belong to your **Organization** via **Organization Admin. You can**:

- View and edit an **Organization**.
- View, search, add, and edit **Locations** or sub organizations that belong to an **Organization**.
- View, search, add, edit, and deactivate **Users** that belong to an **Organization**.
- View, search, edit, delete, and assign **User Groups**.

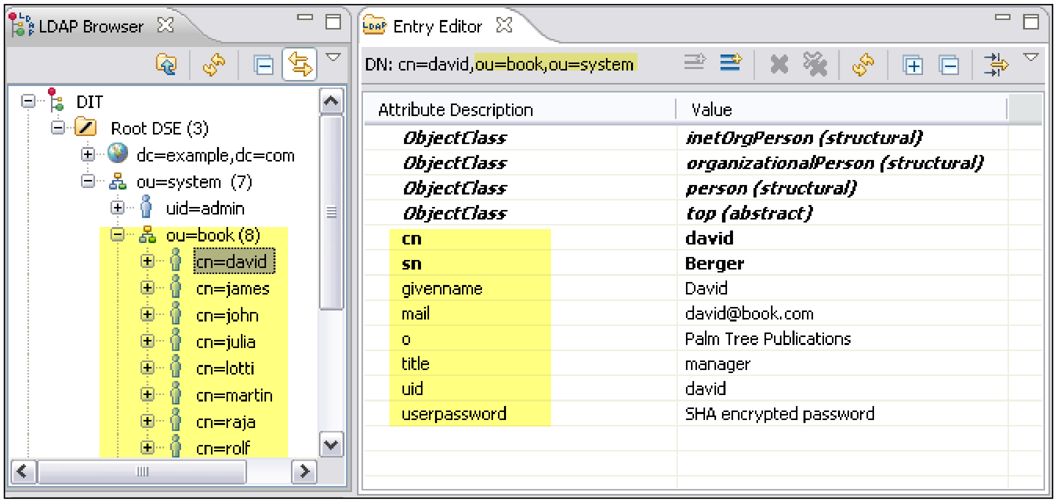
Authentication Methods

As mentioned before, you don't need to type in **Users** all in one at a time. You can add **Users** in bulk by using LDAP server.

Working with LDAP Server

The enterprise "Palm Tree Publications" has **Users** in LDAP server. Suppose the LDAP server has the following information.

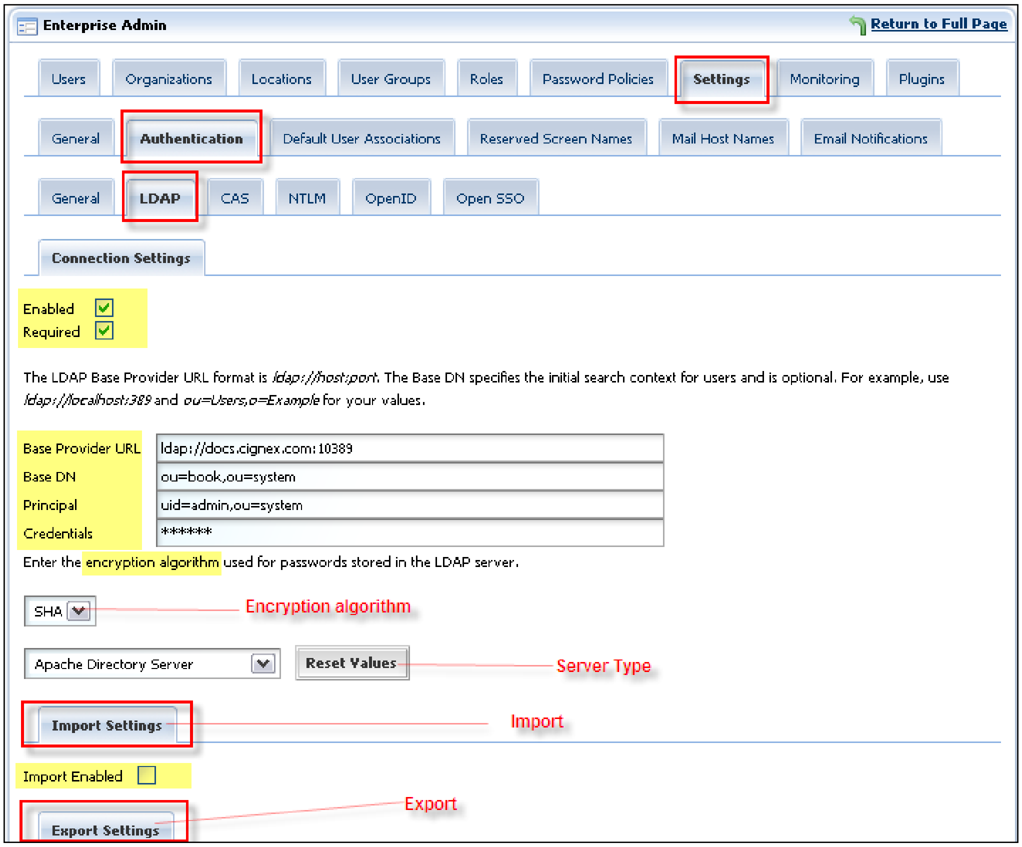
```
Base Provider URL: ldap://docs.cignex.com:10389
Base DN: ou=book, ou=system
Principal: uid=admin,ou=system
Credentials: secret
Encryption algorithm: SHA
Server Type: Apache Directory Server
```



Thus, you can set authentication through the LDAP server. Let's do it as follows:

1. Click on the **Settings** tab in the **Enterprise Admin** portlet.
2. Click on the **Authentication** tab and **LDAP** tab.
3. In connection settings, select the checkboxes "**Enabled**" and "**Required**".
4. Input **Base Provider URL**: `ldap://docs.cignex.com:10389`, **Base DN**: **ou=book**, **ou=system**, **Principal**: **uid=admin**,**ou=system**, **Credentials**: **secret**.
5. Enter the encryption algorithm: **SHA**.
6. Enter server type: **Apache Directory Server.**
7. Select the checkbox "**Import Enabled**", if you want to import **Users** in bulk.

8. Click on the **Save** button when you are ready.



[LDAP (Lightweight Directory Access Protocol) is an application protocol for querying and modifying directory services running over TCP/IP. A Directory Information Tree (DIT) is data represented in a hierarchical tree-like structure consisting of the distinguished names (DNs) of the directory entries. URL: `http://www.ietf.org/rfc/rfc2251.txt`.]

What Happens Next?

We connect Liferay with a LDAP server. Next time, when **Users** log in the portal, Liferay will authenticate them with the LDAP server.

[How to log in, if integration is broken? The enterprise admin such as "**Palm Tree**" is allowed to log in, even if the integration with LDAP is broken. This allows the administrator account to fix the problem.]

Liferay provides out-of-the-box support for Apache, Directory Server, Microsoft Active Directory Server, Novell eDirectory, OpenLDAP, and so on.

Use LDAP Effectively

It is very important to choose a suitable security model at the beginning of the Liferay implementation. The authentication mechanism, the storage for **User** data, the security settings and the business rules and so on are based on the security model you choose.

Liferay imposes authentication through user login ID (email address or user ID) and password. This is where you choose a security model such as Liferay managed accounts, SSO (Single Sign-On) and LDAP.

Liferay imposes authorization, by assigning a **Role** or **Permission** to a specific **User** of a specific group. This is going to be the same irrespective of which model you choose.

The security model you choose, either Liferay out-of-the-box or external systems such as LDAP or SSO (such as, CAS, NTLM, OpenID, and Open SSO) will be based on the requirements of your enterprise.

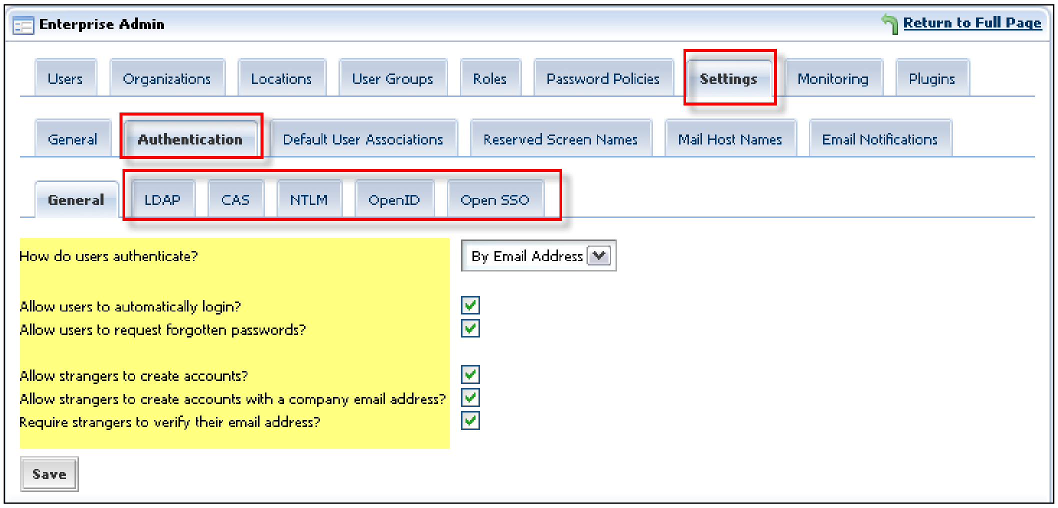
General Configurations

Generally, authentication is configurable for **User** login functionalities in Liferay. **Users** can authenticate by email addresses, screen names or user IDs; allowing **Users** to automatically login; allowing **Users** to request forgotten passwords; allowing strangers to create accounts; allowing strangers to create accounts with a company email address; and requiring strangers to verify their email address?

By default, Liferay supports integration with LDAP, CAS, NTLM, OpenID, Open SSO, and so on. Of course, besides authentications, you can use out-of-the-box Managed Accounts. Liferay out-of-the-box security includes the following functionalities:

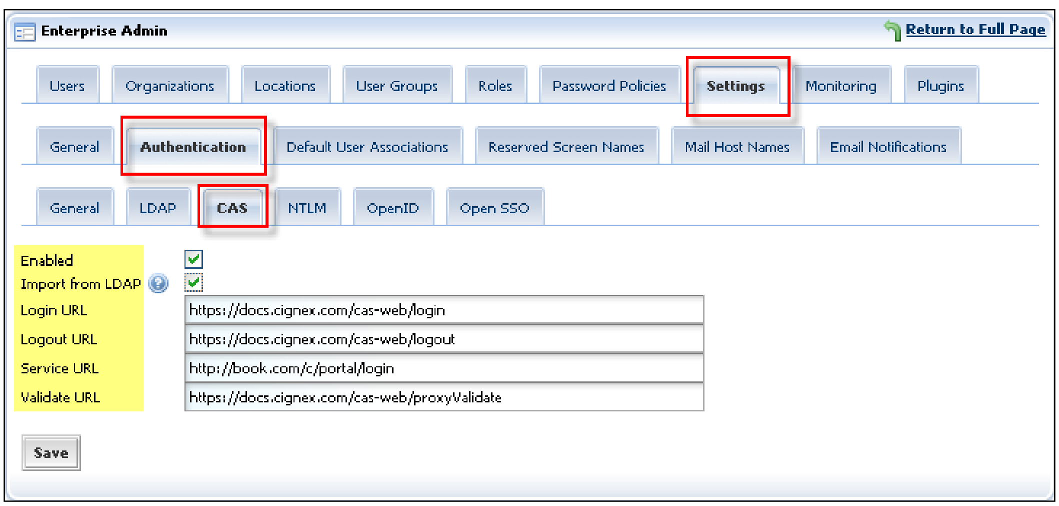
- **Users** and user management.
- Provision for personal information about **users**.
- **User** authentication.
- **User Groups** and **User Group** management.
- **Organizations** and **Locations** management.
- **Community** management.
- **Permissions** and permission management.
- **Roles** and role management

- Default settings.



Working with SSO CAS

The enterprise "Palm Tree Publications" has SSO CAS server with URL "`https://docs.cignex.com`". You can set authentication through the SSO CAS server directly. Let's do it as follows:



1. Click on the **Settings** tab in the **Enterprise Admin** portlet.
2. Click on the **Authentication** tab and **CAS** tab further.
3. Select the checkbox, "**Enabled**"; Select checkbox "**Import from LDAP**".
4. Input **Login URL**: `https://docs.cignex.com/cas-web/login`, **Logout URL**: `https://docs.cignex.com/cas-web/logout`, **Validate URL**: `https://docs.cignex.com/cas-web/proxyValidate`, **Service URL**: `http://book.com/c/portal/login`.
5. Click on the **Save** button when you are ready.
6. Now you are ready to use SSO CAS. Similarly, you can use NTLM and Open SSO.

What Happens Next?

The next time the **Users** log in to the portal, they will be redirected to the CAS server's login screen, if everything is set up correctly.

Liferay Portal integrates CAS Server to set up single sign on (SSO) between Liferay and an existing web application.

> The JA-SIG Central Authentication Service (CAS) is an open single sign-on service that provides web applications the ability to defer all authentications to a trusted central server or servers. Refer to URL: `http://www.ja-sig.org/`.

Working with OpenID

We can also use OpenID as authentication. Let's first enable OpenID authentication as follows:

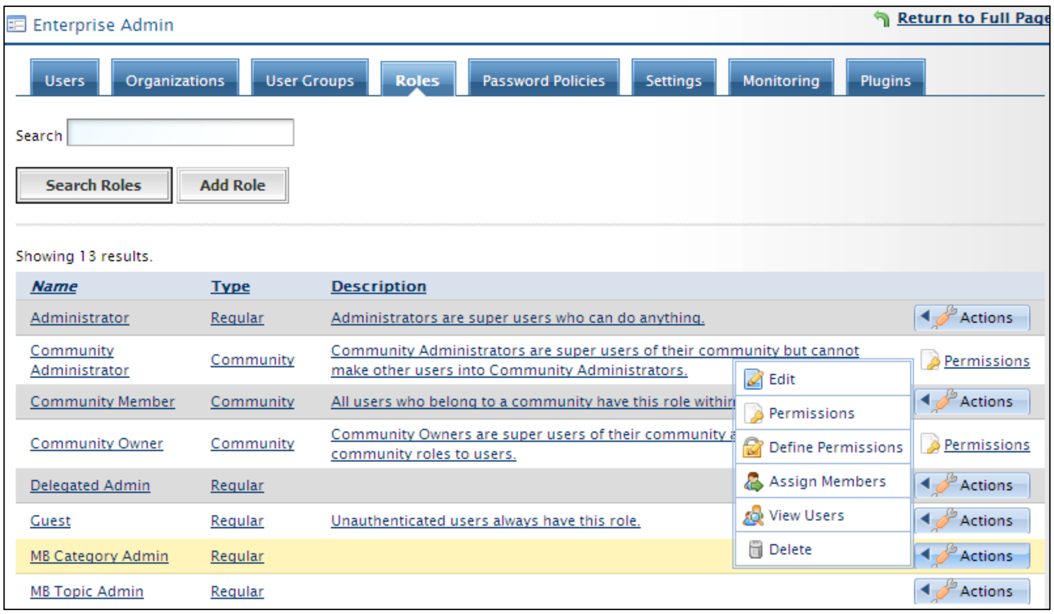
1. Click on the **Settings** tab in the **Enterprise Admin** portlet.
2. Click on the **Authentication** tab and **OpenID** tab further.
3. Select check box to enable OpenID.
4. Click **Save** to save the changes.

Now it is ready for **Users** to log in through OpenID.

> OpenID is a decentralized single sign-on system. URL: `http://openid.net/`.

Working with Roles

Before playing with **Roles**, we need to create **Roles**. The enterprise "Palm Tree Publications" needs **Roles** for **Users** to handle the **Message Board** portlet in their page. Let us name these **Roles,** "**MB Topic Admin** " and "**MB Category Admin**".



Adding a Role

First of all, we need to create a **Role** called "**MB Topic Admin**". Let's do that now:

1. Click on the **Roles** tab at the **Enterprise Admin** portlet.
2. Click on the **Add Role** button.
3. Enter value " **MB Topic Admin** " in the **Name** input field.
4. Select a type (with values: "**Regular**", "**Organization**" and "**Community**") such as "**Regular**".
5. Click the **Save** button if you are ready.

Of course, you can create other **Roles** in a similarl fashion. After adding **Roles** such as "**MB Topic Admin**", "**MB Category Admin**", and "**Delegated Admin**", we can view **Roles**.

Managing Roles

A **Role** is a collection of **Permission**s. There are system **Roles** and customized **Roles**.

System **Roles** are specified by default, and the required **Roles** are Administrator, Guest, Power User, and **User**. You cannot edit them or delete them at the UI level. Optionally, system **Roles** could be renamed at the system level. Customized **Roles** are built by **Users**, which can be edited and deleted.

View Roles

Besides creating **Roles**, you can view also them by :

1. Click on the **Roles** tab in the **Enterprise Admin** portlet to display the **Role** screen. A listing of **Roles** appears at the bottom of the **Roles** screen.
2. Locate a **Role** that you want to view, and then click on the **Role** link.

Search Roles

Roles are searchable. Click on the **Roles** tab in the **Enterprise Admin** first. Then type a **Role** name in the search keywords field. Click the **Search Roles** button.

Edit A Role

To edit a **Role**, click on the **Roles** tab in the **Enterprise Admin** first. Then locate the **Role** that you want to edit. Click the **Edit** icon from **Actions** to the right of the **Role**, or click any of the **Role** links. In the edit page, type changes in the **Name** input field and **Description** input field. Click the **Save** button to save the changes.

> Note that you can update customized **Roles** only. You cannot edit or delete system **Roles**.

Delete Roles

It may happen that, a **Role** such as "**MB Category Admin**" is not wanted anymore. We need to delete this **Role** in the Portal. Let's delete the **Role** "**MB Category Admin**" as follows:

1. Click on the **Roles** tab in the **Enterprise Admin**.
2. Locate a **Role** such as "**MB Category Admin**" which you want to delete.
3. Then click on the **Delete** icon from **Actions** to the right of the **Role**.

4. A screen will appear asking if you want to permanently delete the selected **Roles**.
5. Click the **OK** button when you are ready.

Assign Enterprise Permissions to A Role

We need to assign **Permissions** to the "**MB Topic Admin**" **Role** that allows **Users** to view any **Message Board Category** in "Palm Tree Publications" (that is, action: *View*, resource: *Message Board Category*, scope: *Enterprise*). Let's do it as follows:

1. Select the **Roles** tab in the **Enterprise Admin**.
2. Click on the **Define Permissions** icon from **Actions** next to the "**MB Topic Admin**" **Role**.
3. Click on the **Message Boards** link. There are two options: **Add portlet permissions** and **Add portal permissions**. Every object in the portal is contained within a portlet. Therefore, the administrator must find the parent portlet of the object in question. Since the **Message Boards Category** resource is to be acted upon, the administrator must first find the **Message Board portlet.**
4. Then click on the **Message Boards Category** link. There are two lists for **Message Boards**: One presents a list of the actions that can be performed on the portlet itself while the other represents a list of the "Resources" (that is, objects) that are contained within the portlet.
5. **Slick on the Scope** drop-down menu next to the **View** action, and select "**Enterprise**".
6. Click on the **Next** button to return to the **Role** list under the **Roles** tab.

Similarly, we can assign **Community Permissions** to a **Role**.

Assign Roles

In some cases, we may need to assign the "**MB Topic Admin**" **Role** to the **User** "**Lotti Stein**". Let do it as follows:

1. Select the **Roles** tab in the **Enterprise Admin** portlet.
2. Click on the **Assign Members** icon from the **Actions** next to the "**MB Topic Admin**" **Role**.
3. Since the **Current** tab is selected by default, there are no **Users** associated with this **Role**. Therefore, click on the **Available** tab in order to search for the **User** "**Lotti Stein**".

4. Check the checkbox next to the **User,** "**Lotti Stein**".
5. Click the **Update Associations** button. If needed, click on the **Current** tab to confirm whether the association was successful.
6. It is clear that the association was successfully created. If you want to discard this association, you can uncheck the checkbox next to the **User's** name first and then click the **Update Associations** button.

Similarly, we can assign **Roles** to other entities, such as **Community**, **Organization**, **Location**, or **User Group**, by just repeating the previous steps. In fact, the same results could have been achieved by associating the "**MB Topic Admin**" **Role** with the appropriate **Community**, **Organization**, **Location**, or **User Group,** instead of associating directly to the **User,** "**Lotti Stein**".

Using Roles Effectively

There are three types of **Roles**: **regular**, **Organization** and **Community** as shown in the following table. **Community Roles** allow administration of **Roles** scoped to a specific **Community**. The objective is to create a new type of **Role** that is associated with a **Community,** when it is assigned to a **User**:

- **Community** Owner: This **Role** is automatically given to the creator of a **Community** and gives him total control over the **Community** management including website configuration and content management.
- **Community** Administrator: **Users** with this **Role** can administer the **Community** but cannot assign new **Users** or edit existing ones. They can create new content in the **Community** portlets, but cannot manage the content created by others.
- **Community** Member: It's a **Role** that is automatically given to **Users** when they are assigned to a **Community**. It does not give any special right by default, but can be edited by the portal administrator to add privileges that might be desirable in certain situations.

Name	**Type**	**Possible Actions on Roles**					
		Edit	**Permissions**	**Define Permissions**	**Assign Members**	**View Users**	**Delete**
Administrator	Regular		x		x	x	
Community Administrator	**Community**		x			x	
Community Member	**Community**		x	x		x	
Community Owner	**Community**		x			x	
Organization Administrator	**Organization**		x			x	
Organization Member	**Organization**		x	x		x	
Organization Owner	**Organization**		x			x	
Guest	Regular		x	x	x	x	
Power User	Regular		x	x	x	x	
User	Regular		x	x	x	x	
Customized **Role**	Regular	x	x	x	x	x	x

Organization Roles are administrative **Roles** scoped to a specific **Organization**. An **Organization Role** is a **Role** associated with an **Organization** when it is assigned to a **User**:

- **Organization** Owner: specifies the super **Users** of their **Organization** but cannot make other **Users, Organization** Administrators.
- **Organization** Administrator: specifies that all **Users** who belong to an **Organization** have this **Role** within that **Organization**.
- **Organization** Member: specifies super **Users** of their **Organization,** and a super **User** who can assign **Organization Roles** to **Users**.

Working with Permissions

Finally, we can work with **Permission**s after having **Organizations**, **User Groups**, and **Roles**. We will work with assigning **Permissions** and delegating **Permissions**.

In order to work with **Permission**s, we have the following assumptions. Assume we have added a **Message Board** portlet in the page "**Admin**", at the **Book Lovers** Community **Private Pages**. A category called "**Book Category**" has been created and this category contains three categories— "**Book Category A**," "**Book Category B**," and "**Book Category C**". By default, all categories are viewable by **Users** in the **Book Lovers** Community. The **Permission** to view "**Book Category C**" has been removed for the **Users** of **Book Lovers** Community. Also assume that "**Book Category C**" contains a single thread.

For comparison purposes, assume the **User** "**Lotti Stein**" who belongs to the **Book Lovers** Community also logs in and views the **Message Board** portlet. When compared with the Administrator's view, it is clear that Lotti Stein's view is much more limited in functionality. **Lotti Stein** is missing several buttons and icons that the administrator has.

> How to create a **Community** "**Book Lovers**"? Refer to Chapter 11 for instructions.

Assign Individual Portlet Permissions

Assume that the **User,** "**Lotti Stein**", does not have **Permission** to add a root category to the **Message Boards** portlet in the **Book Lovers** Community.

As an administrator, "**Palm Tree**", you may need to assign the "**Add Category**" portlet **Permission** to the **User** "**Lotti Stein**". Let's do it as follows:

1. Log in to the portal as an Administrator, "**Palm Tree**", and go to the **Book Lovers** Community located in the **My Places** menu. Click on the **Configuration** icon in the upper-right corner of the **Message Boards** portlet.
2. Click on the **Permissions** tab.
3. The **User** tab and **Current** sub-tab are selected. This means that the current **Users** who have portlet **Permissions** assigned to them are being displayed. Obviously, there are no **Users** who have portlet **Permissions** for this particular portlet.
4. Click on the **Available** tab.
5. Locate the **User,** "**Lotti Stein**".
6. Check the **User,** "**Lotti Stein**" checkbox, and click on the **Update Permissions** button.
7. Select **Add Category** from the **Available** select box and click on the right arrow to add it to the **Current** select box.
8. Click the **Finished** button.

Alternatively, you can assign individual portlet **Permissions** for the **Organizations**, **User Groups**, **Community**, **Regular Roles**, **Community roles** or use **Guest** tab for assigning portlet **Permissions** to each of these entities.

Portlet **Permissions** are only applicable to the portlet instance for which they were configured. For example, "**Lotti Stein**" can only add root categories to the **Message Board** in the **Book Lovers** Community. "**Lotti Stein**" would not be able to add root categories to the message boards in other **Communities** unless they were specifically configured as such.

Assign Default Permissions

As an administrator, "**Palm Tree**", you may need to create a new **Message Board Category** in the **Book Lovers** Community's message board and assign default **Permissions** to it. Let's do it as follows:

1. Log in to the portal as an administrator, and go to the **Book Lovers** Community. Click on the "**Book Category**" link in the Message Boards portlet, and then click on the **Add Category** button.
2. To set **Permissions** for the category, click **Configure**.
3. All actions under **Community** are checked and the **Guest View** option is checked. By default, a new **Message Board Category** allows **Community** members (in this case, **Book Lovers** Community members) to view it, subscribe to it, and add messages to it, and also allows guests to view it.
4. Keep the default **Permissions** checkboxes checked. Enter "**Book Category D**" into the **Name** field, input the text verification code.
5. Click the **Save** button if you are ready.

If the **User Lotti Stein** were to click on the "**Book Category**" link now, the **User** would see the new "**Book Category D**" topic and would be able to view the contents of the topic and post a new thread (that is, message) to the category because of the **Community** default **Permissions**.

Assign Individual Permissions

As an administrator "**Palm Tree**", you may need to assign a **Permission** to **User** "**Lotti Stein**" to delete the "**Book Category D**" topic in the **Book Lovers** community's **Message Boards** portlet. Let's do it as follows:

1. Go to the page "**Admin**" at **Book Lovers** Community **Private Pages**, click on the "**Book Category**" link in the Message Boards portlet, and then click on the **Permissions** icon from the **Actions** next to the "**Book Category D**".

2. The **Users** tab and the **Current** sub-tab are selected. This means that the current **Users** who have **Permissions** for the "**Book Category D**" topic are being displayed. Currently, only the Administrator has **Permissions** for this category. Go to the **Available** tab, find the **User** "**Lotti Stein**", check the **User's** checkbox, and click on the **Update Permissions** button.
3. Select the **Delete** action from the **Available** select box and click on the left arrow to add it to the **Current** select box.
4. Click the **Finished** button when you are ready.

The **User** "**Lotti Stein**" has been updated with the "**Delete**" **Permission**. To see this **Permission** in effect, log in to the portal as "**Lotti Stein**", go to the **Book Lovers** Community **Private Page**s, and click on the "**Book Category**" link in the **Message** Boards portlet. The "**Book Category D**" topic now has a **Delete** icon from **Actions** next to it.

Alternatively, you can assign **Permissions** to the **Organizations**, **User Groups**, **Community**, or use **Guest** tab for assigning individual **Permissions** to each of these entities.

> Note that there is a special case for assigning individual Permissions to Locations that requires a slightly different use case. Refer to the following part.

It should also be noted that very fine-grained **Permission** allotments can be obtained through using individual **Permissions**. As this use case showed, administrators have the power to control objects within a portlet at a very micro level. For example, take the four topics in "**Book Category**." An administrator could easily decide that all **Users** in the department "Editorial" can post messages to "**Book Category A**," but only members of the **Book Lovers** Community can view the messages in "**Book Category B**". In addition, only "**Lotti Stein**" can update "**Book Category C**," while anyone in the "**Editorial Germany**" **Location** can update "**Book Category D**." The possibilities are endless.

Delegate Permissions

Assume the administrator has created a **Role** called "**Delegated Admin**" and assigned it to the **User** "**Lotti Stein**", and the **Communities** portlet have been added in the page "**Admin**" at the **Book Lovers** Community. Moreover, assume the **User** "**Lotti Stein**" has **Permissions** (view in fact) on the **Enterprise Admin** portlet.

As an Administrator, "**Palm Tree**", you may need to delegate **Permissions** to **Users** which allow them to have certain administrative rights as well. For example, you may assign the **User** "**Lotti Stein**" **Permissions** to add **Communities** to the system as follows:

- Log in to the portal as "**Lotti Stein**" and go to the **Book Lovers** Community. Click on the **Current** tab in the **Communities** portlet. The **User** "**Lotti Stein**" can't add new **Community** to the system.
- Log in to the portal as an Administrator "**Palm Tree**". Go to the **Book Lovers** Community and click on the **Roles** tab in the **Enterprise Admin** portlet. Click on the **Define Permissions** icon from the **Actions** next to the "**Delegated Admin**" **Role**.
- Select the **Add Portal Permissions** button.
- Choose "**Enterprise**" from the **Scope** drop-down next to the **Add Community** action. Click the **Next** button.
- The result of these steps is that any **User** with the "**Delegated Admin**" **Role** can now add **Communities** to the system. To confirm this, go back to "**Lotti Stein**" and refresh the **Current** tab in the **Communities** portlet. Notice that there is an **Add Community** button now.

Similarly, we can enable any **User** with the "**Delegated Admin**" **Role** to have **Permission** to add **Organizations**, **Roles**, **Users**, and **User Groups** to the system. Just go back to the Administrator and perform the mentioned steps. But this time, choose "**Enterprise**" from the **Scope** drop-down next to the "**Add Organization**" ("**Add Role**" or "**Add User**" or "**Add User Group**") action.

Logically, you can delegate **Permissions** which includes portals **Permissions**, **Community Permissions**, page **Permissions**, portlet **Permissions**, and **Role Permissions**. Besides the above mentioned portal **Permissions** delegation, you can do the following:

- Delegate **Permissions** to **Users** so that they will be able to manage **Roles**.
- Delegate **Permissions** to **Users** so that they will be able to manage portlets within pages.
- Delegate **Permissions** to **Users** so that they will be able to manage pages within their **Communities**.
- Delegate **Permissions** to the members of the **Community**.

Using Permissions Effectively

Permission is an action on a resource. Liferay provides exclusive **Permissions** mechanism.

Assume the delete **Permission** for "**Book Category A**" is added to the "**Editorial Germany**" **Location**. As expected, the **User** "**Lotti Stein**" receives the delete **Permission**. Then, the delete **Permission** for "**Book Category A**" is added to the "**Editorial US**" **Location**. Though an explicit check is not made, it is assumed that this allows all members of the "**Editorial US**" **Location** to also have delete **Permission**. In other words, any member of either "**Editorial US**" or "**Editorial Germany**" has delete **Permission** for "**Book Category A**".

However, when the value of the "**Permission exclusive to members of current location and community?**" was changed from "**No**" to "**Yes**" for "**Editorial Germany**", suddenly "**Lotti Stein**" lost the delete **Permission**.

In other words, in order to have the delete **Permission** on "**Book Category A**," a **User** had to be a member of both the "**Editorial US**" **Location** and the **Book Lovers** Community. Since "**Lotti Stein**" was *only* a member of the **Book Lovers** Community, and *not* a member of the "**Editorial Germany**" **Location**, "**Lotti Stein**" did not meet the criteria and was excluded from receiving the delete **Permission**.

Exclusive **Permissions** take precedence over all other **Permission**s except **Permissions** assigned directly to a **User**. Therefore, even if the delete **Permission** had been assigned to the "**Editorial US**" **Location** and the **Book Lovers** Community, or if the delete **Permission** had enterprise scope and had been assigned to a **Role** that was assigned to "**Lotti Stein**", it wouldn't have mattered. The exclusive **Permission** would still have taken precedence, and "**Lotti Stein**" would not have received the delete **Permission**. However, if the delete **Permission** had been assigned directly to the **User** "**Lotti Stein**", "**Lotti Stein**" would have received the **Permission**.

Although exclusive **Permissions** are not additive with other **Permissions**, they are additive among themselves. In other words, if the "**Permission exclusive to members of current location and community?**" was changed from "**No**" to "**Yes**" for "**Editorial US**" as well, "**Lotti Stein**" would receive the delete **Permission** once again. However, it should be noted that only "**Editorial US**" and "**Editorial Germany**" **Users** would receive the **Permission**, even if the delete **Permission** was assigned to other **Users** through other entities (such as, **Organization**, **Community**, **Role**, and so on).

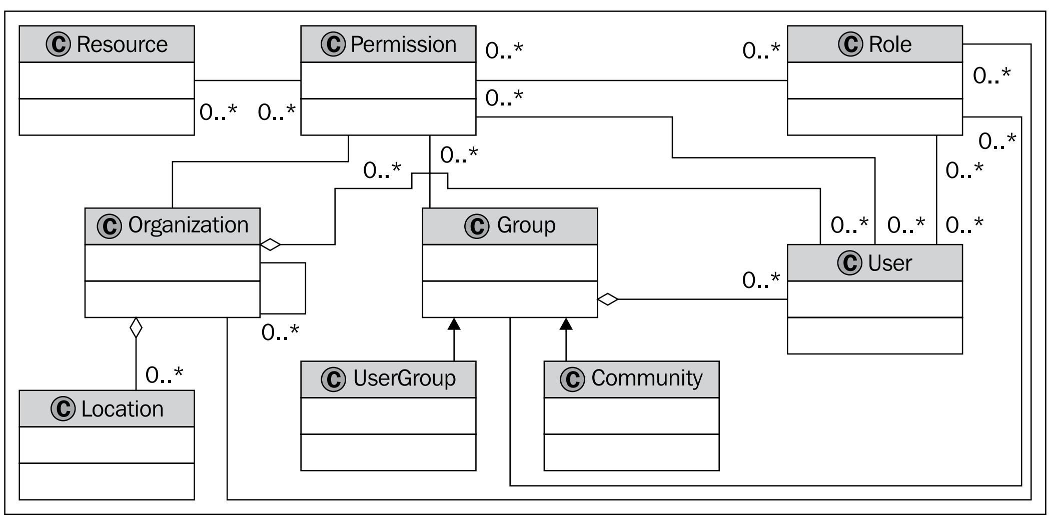
Applying Full Access Control Security Model

Traditional membership models address two basic criteria, Authentication (who can access) and Authorization (what they can do):

- Authentication is the process of determining whether someone is what it is declared to be or not.
- Authorization is the process of finding out where the person, once identified, has permissions on the resource or not.

Liferay extends the security model by resources, **Users**, **Organizations**, **Locations**, **User Group**s, and **Communities**, **Roles**, **Permissions**, and so on. Liferay provides a fine-grained permission security model, which is a full access control security model. At the same time, Liferay also provides a set of administrative tools to configure and control the membership.

The remainder of this section will explore these concepts and relationships among the mentioned terms. It would be useful to provide a big picture on how to bring in **Users**. For example, as a **User** in the engineering department, you may plan to develop a number of portlets to satisfy the current and even future requirements of "Palm Tree Publications". Thus it is important to have a big picture on how to bring in **Users** anytime.



As shown in the previous figure, a **Resource** is a base object. It can be a portlet (such as, Message Boards, Calendar, Document Library, and so on), a Java class (for example, Message Board Topics, Calendar Event, Document Library Folder, and so on), or a file (such as, documents, images, applications, and so on). Resources are scoped into enterprise, **Community** and individual.

Then **Permission** is an action on a resource. Enterprise and **Community** scoped **Permission**s can only be assigned to entities (for example, **Users**, **Communities** and **Organizations**) via **Roles**. Individual scoped **Permissions** can be assigned to a **User**, **Community**, **Organization**, or **Guest**.

A **Role** is a collection of **Permissions**. **Roles** can be assigned to a **User**, **Community**, or **Organization**. If a **Role** is assigned to a **Community**, **Organization**, or **Location**, then all the **users** who are members of that entity receive the **Role**.

A **User** is an individual. Depending on what **Permission**s and **Roles** have been assigned, the **User** either has **Permission** or does not have **Permission** to perform certain tasks.

Organizations represent the enterprise and departments hierarchy. **Organizations** can contain other **Organizations**. Moreover, an **Organization** acting as a child **Organization** of a top-level **Organization** can also represent departments of a parent corporation.

A **Location** is a special **Organization** with one and only one associated parent **Organization,** and without any associated child **Organization**. **Organizations** can have any number of **Locations** and sub organizations. Both **Roles** and individual **Permissions** can be assigned to **Organizations** (**Locations** or sub **Organizations**). By default, **Locations** and sub organizations inherit **Permissions** from their parent **Organization**.

A **Community** is a special group. It may hold a number of **Users** who share common interests. Both **Roles** and individual **Permissions** can be assigned to **Communities**.

Finally, a **User Group** is a special group with no context, which may hold a number of **Users**. Both **Roles** and individual **Permissions** can be assigned to **User Group**s, and every **User** that belongs to that **User Group** will receive the **Role** or **Permission**.

Summary

This chapter introduced how to update the profile with **My Account**; how to create **Organization** and **Locations**; how to add **Users** and manage (such as view, search, update, deactivate, restore, delete and impersonate) **Users**; how to add **User Groups** and manage (such as view, search, update, delete and assign) **User Groups**; and how to add more administrators at the enterprise level, department level and **Location** level. Then it discussed how to integrate with different authentication servers: LDAP, CAS, NTLM, OpenID, Open SSO, and so on. Furthermore, it also discussed how to manage **Permissions**, and how to add **Roles** and manage (for example, view, search, update, delete and assign) **Roles**. Finally, it provided a big picture about fine-grained permission security model via a conceptual diagram.

4

Discussion Forums And Tags

In the intranet website "book.com" of "Palm Tree Publications", it is required that an environment for employees is provided to discuss book ideas and proposals, and to share important and interesting contents with other users inside or outside of the intranet website. Liferay **Message Boards** provides a full-featured discussion forums solution, while Liferay Meta **Tags** provide a way of organizing and aggregating contents. This chapter will introduce both Liferay **Message Boards** and Liferay Meta **Tags**.

By the end of this chapter, you will have learned how to:

- Add categories and sub-categories for **Message Boards.**
- Add **Threads** and **Posts** for a given category.
- Manage (view, add, update, delete, and feed) **Categories**, **Threads** and **Posts.**
- Use **Permissions** for **Message Boards**, **Categories** and **Threads.**
- Add a **Tag**, manage (add, delete, and change category) **Tags.**
- Tag contents.
- Display tagged contents.

Working with Message Boards

In order to provide an environment for employees to discuss book ideas and proposals, we should use **Message Boards** portlet at the **Book Lovers** Community (**Public Pages**). In the previous chapter, we assumed we have added a **Message Board** portlet to the **Book Lovers** Community. A **Category** called "**Book Category**" has been created, and the **Category** contains four **Categories**—"**Book Category A**," "**Book Category B**," "**Book Category C**" and "**Book Category D**".

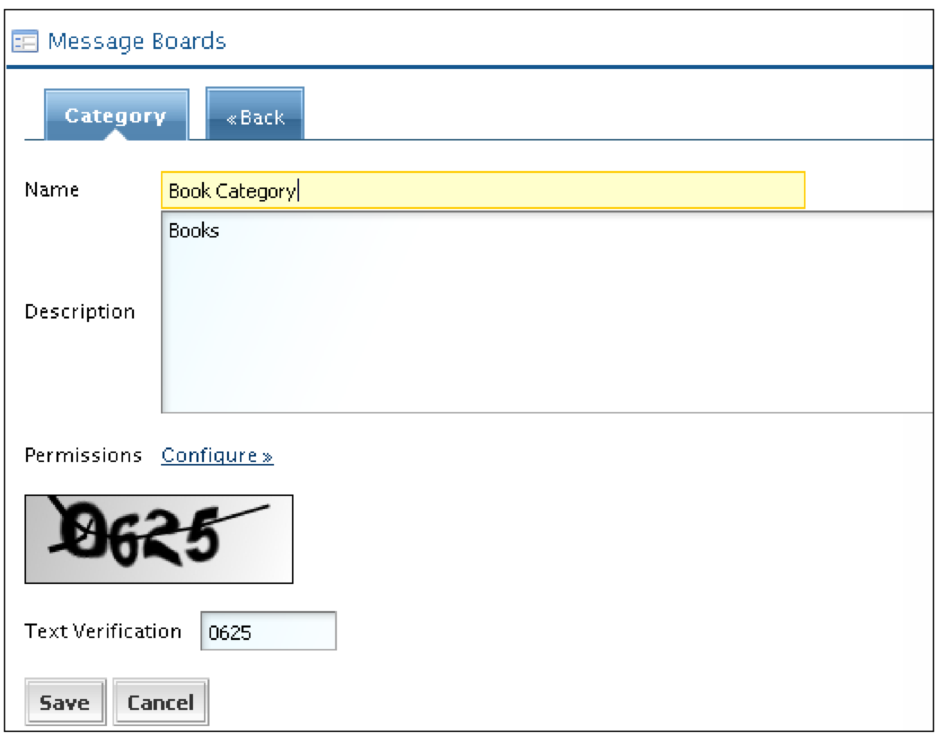
As an administrator of "**Palm-Tree Publications**", you need to create a page called "**Forums**" under the page "**Community**", at **Book Lovers** Community and further add **Message Boards** portlet in the page "**Forums**". Then you are ready to create a **Category** called "**Book Category**", and further, add four sub-categories for the **Category** "**Book Category**", which are "**Book Category A**", "**Book Category B**", "**Book Category C**", and "**Book Category D**".

Adding And Managing Categories

As an administrator of "**Palm-Tree Publications**", you need to create a category "**Book Category**" and sub categories "**Book Category A**", "**Book Category B**", "**Book Category C**", and "**Book Category D**". These sub categories will hold messages related to book ideas and proposals.

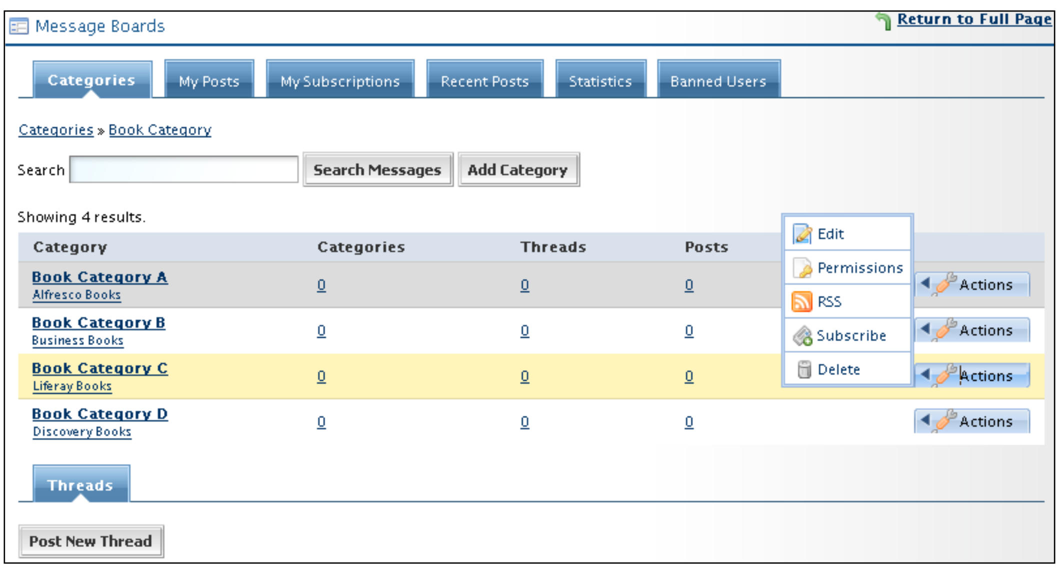
Adding Categories

First of all, we need to create a **Category** called "**Book Category**". Let's do it now:



1. Add a page called "**Community**" at the **Book Lovers** Community **Public Pages,** if the page is not there. Add a child page called "**Forums**" of the page "**Community**".
2. If **Message Boards** Portlet is not there, add **Message Boards** Portlet in the page "**Forums**" of the **Book Lovers** Community where you want to publish forums.
3. Click on **Add Category** button.
4. Enter a name "**Book Category**" and a description "**Books**".
5. Set **Permissions** by clicking on **Configure** link. To configure additional **Permissions**, click on the **More** link. Here, we just use default settings.
6. Enter the **Text Verification** code.
7. Click on the **Save** button to save the inputs.

> Do you find different themes used for this portlet? By default, there are a set of themes available, such as "**Brochure**", "**Classic**", "**Desktop**", "**Genesis**", and "**Liferay Noir**", "**liferay jedi**", and so on and a set of themes from the community. In this chapter, we try to use the theme "**Brochure**" mainly. Liferay makes it easy to use any theme, and instructions in this book are intended to work with any theme.



You can also definitely add other **Categories**. Normally, a forum may have many **Categories**, and each **Category** may have many **Categories** called sub-categories. For example, the **Category** "**Book Category**" contains four **Categories**: "**Book Category A**", "**Book Category B**", "**Book Category C**", and "**Book Category D**". Let's create the category "**Book Category A**" as follows:

1. Click on the newly created category "**Book Category**".
2. Click the **Add Category** button.
3. Enter a name "**Book Category A**" and a description "**Alfresco Books**".
4. Set permissions by clicking on the **Configure** link. To configure additional permissions, click on the **More** link. Here again, we just use the default settings.
5. Enter the **Text Verification** code.
6. Click on the **Save** button to save the inputs.

Of course, you can add as many **Categories** or sub-categories as you want. After creating the sub categories "**Book Category B**", "**Book Category C**", and "**Book Category D**", we can view the **Category** and its sub-categories. **Categories** "**Book Category B**" and "**Book Category D**" used the default permission setting, while **Category** "**Book Category C**" uses only "**View**" permission in the **Community** column.

Managing Categories

Categories or sub-categories are editable. For example, you may need to change the description of the **Category** "**Book Category**" from "**Books**" to "**Books discussion category**". Let's do is as follows:

1. Locate the category, "**Book Category**", which you want to edit.
2. Click on the **Edit** icon from the **Actions** located next to the category.
3. Maintain the value of name, and update the description of the selected **Category** "**Book Category**" with the value "**Books discussion category**".
4. Click on the **Save** button to save the changes.

You can update the name as well. For example, we can update the name "**Book Category**" with the value "**Books**". Similarly, we can edit sub-category such as "**Book Category C**" by updating the name with value "**Liferay Books**".

Alternatively, you can change the parent **Category** by selecting a **Category** as the parent **Category** of the **Category** or sub-category, or merging **Categories** with the parent **Category**, or removing the parent **Category**. If you remove the parent **Category**, the current **Category** will become a **Category** at the root level.

Categories or sub-categories are removable. For example, the sub-category "**Book Category B**" is not wanted anymore; you can remove it. Let's do it as follows:

1. Click on the category, "**Books**", in order to list its sub-categories.
2. Locate the sub-category, "**Book Category B**", which you want to delete.
3. Then click on the **Delete** icon from the **Actions** located next to the category.
4. A screen will appear asking if you want to delete this. Click **OK** to confirm deletion.

> Note that deleting the **Category** will delete all related sub-categories, **Threads** and **Posts** which belong to this category.

View RSS Feeds

You can view **RSS** feeds of **Categories** or sub-categories. Suppose that you need to view the **RSS** feeds of the **Category** "**Books**". Let's do it as follows:

1. Locate the category "**Books**".
2. Click on the **RSS** icon from the **Actions** located next to the category.
3. Follow the browser's instructions to subscribe if you want to subscribe **RSS** Feeds.

> What's **RSS**? Refer to Chapter 6 for instructions.

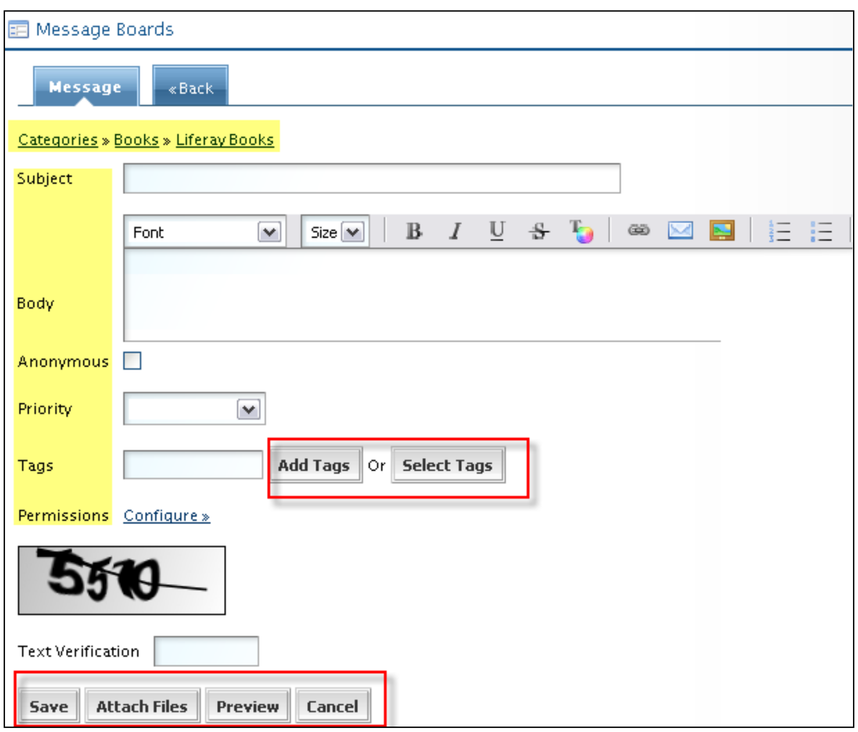
Adding And Managing Threads

Now, we are ready to post new **Threads**. Normally, a forum may have many **Categories**, and each **Category** may have many sub-categories and **Threads**.

Adding Threads

Let's suppose we want to post a new **Thread** "**Let's discuss book Liferay**" under the category "**Liferay Books**". Let's do it as follows:

1. Select a **Category** "**Books**" and find sub-category "**Liferay Books**".
2. Select the sub-category "**Liferay Books**" where you want to add a thread by clicking on the sub-category name.
3. Click on the **Post New Thread** button.
4. Enter a **Subject** "**Let's discuss book Liferay**" and **Body** "**It is time now to discuss Liferay book**" via an editor.
5. Check/uncheck the box, **Anonymous**.
6. Select one of the priorities (**none**, **urgent**, **sticky** and **announcement**) such as "**urgent**".
7. Input **Tags** or select **Tags** from existing **Tags**.
8. Set **Permissions** by clicking on the **Configure** link; to configure additional **Permissions**, click on the **More** link; here we just use the default settings.
9. Enter the **Text Verification** code.
10. Click on the **Save** button to save the inputs.

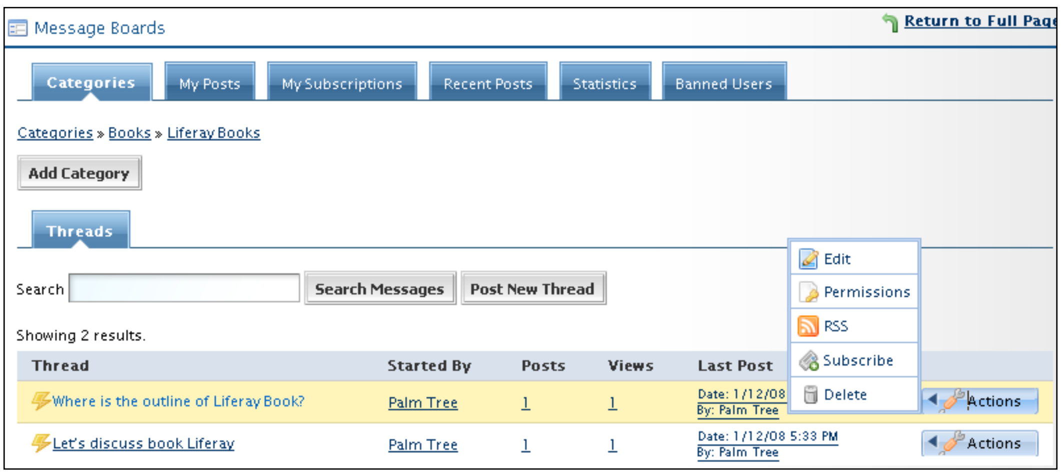


In addition, we can attach files by clicking on the **Attach Files** button and upload files further. Similarly, we can preview the **Thread** by clicking on the **Preview** button.

Adding a new **Thread** with a **Subject** such as "**Let's discuss book Liferay**" will add a **Post** automatically with the same **Subject** as that of the **Thread**.

> What are **Tags**? Refer to instructions in the next section of this chapter.

Likewise, we can add other **Threads**. After adding a **Thread** "**Where is the outline of Liferay Book?**", we can view **Threads**.



Managing Threads

Threads are also editable. For example, you may need to change the **Subject** of the **Thread** "**Where is the outline of Liferay Book?**" into "**Do you find the outline of Liferay Book?**" Let's do it as follows:

1. Locate the **Thread** "**Where is the outline of Liferay Book?**", which you want to edit.
2. Click on the **Edit** icon from the **Actions** located next to the thread.
3. Update the **Subject** of the selected category "**Where is the outline of Liferay Book?**" with the value "**Do you find the outline of Liferay Book?**".
4. Click on the **Save** button to save the changes.

You can update the **Body** and **Priority** as well. Alternatively, you can change the **Category** by selecting another **Category** as the **Category** of the **Thread**.

Updating the **Subject** of the **Thread,** such as "**Let's discuss book Liferay**?", will automatically update the **Subject** of the top-level **Post** with the same **Subject** as that of the **Thread**.

Threads are also removable. For example, if the **Thread** "**Where is the outline of Liferay Book?**" is not wanted anymore, you can remove it. Let's do it as follows:

1. Locate the **Thread** "**Where is the outline of Liferay Book?**", which you want to delete.
2. Then click on the **Delete** icon from the **Actions** located next to the thread.
3. A screen will appear asking if you want to delete this. Click **OK** to confirm deletion.

[Note that deleting a **Thread** will delete all related **Posts** that belong to this thread.]

View RSS Feeds

You can view the **RSS** feeds of **Threads** as well as that of **Categories**. Suppose that you need to view the **RSS** feeds of the **Thread** "**Let's discuss book Liferay**". Let's do it as follows:

1. Navigate to the category "**Books**" and the sub-category "**Liferay Books**".
2. Locate the **Thread** "**Let's discuss book Liferay**".
3. Click on the **RSS** icon from the **Actions** located next to the thread.
4. Follow the browser's instructions to subscribe if you want to subscribe **RSS** Feeds.

Adding And Managing Posts

Finally, we are ready to add more **Posts**. Normally, a forum may have many **Categories**, and each **Category** may have many sub-categories and **Threads**, and each **Thread** may have a lot of **Posts**.

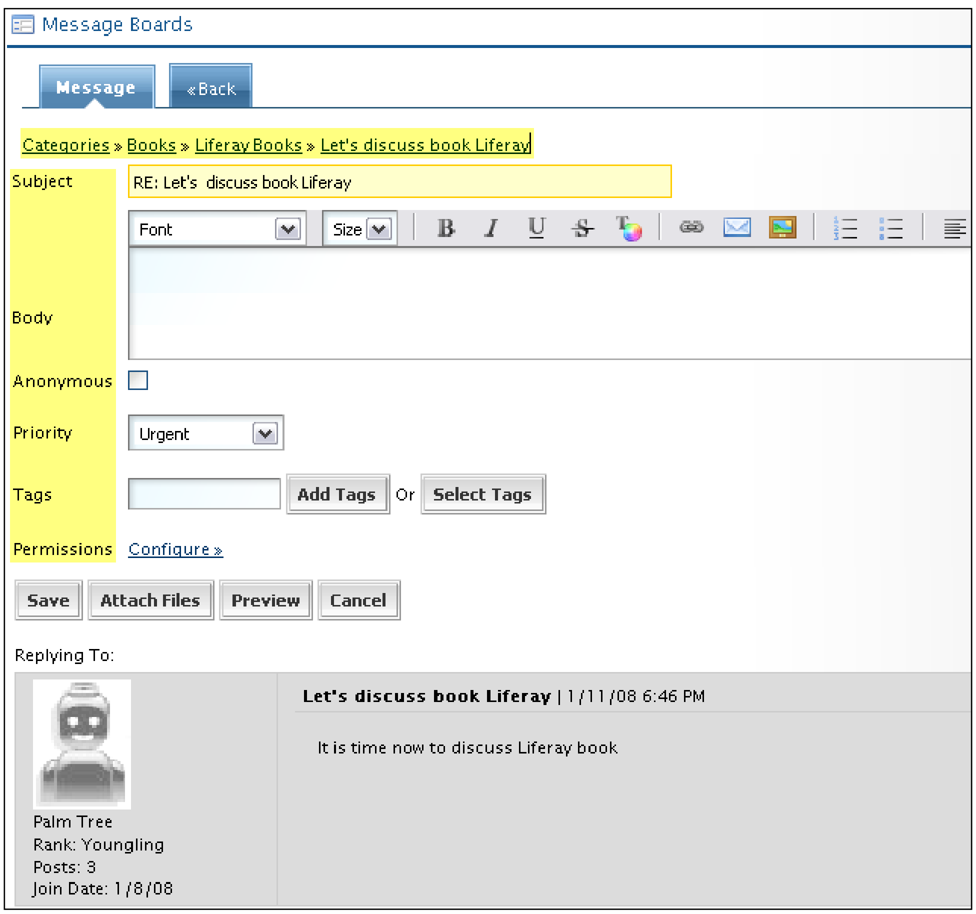
Adding Posts

We can reply to the **Thread** "**Let's discuss book Liferay**" with the message "**OK**". Let's do it as follows:

1. Select category "**Books**" and sub-category "**Liferay Books**".

2. Click on the **Thread** with the name "**Let's discuss book Liferay**".
3. Locate the post ("**Let's discuss book Liferay**") to which you want to reply first.
4. Then click on **Reply** icon at the top right of the post.
5. Maintain the default **Subject** "**Re**: **Let's discuss book Liferay**", **Body** as (via an editor) "**OK**" and select **Tags** or input **Tags**.
6. Set **Permissions** by clicking on the **Configure** link; to configure additional **Permissions**, click on the **More** link; here we just use the default settings.
7. Check/uncheck the **Anonymous**; and select **Priority**.
8. Click on the **Reply** button to save the inputs.

In addition, you can attach a file by clicking on the **Attach Files** button; and preview the **Post** or **Reply** by clicking on the **Preview** button. Moreover, you can reply with quote by clicking on **Reply with Quote** icon at the top right of the post.



Of course, you can reply to other posts to discuss your ideas or proposals.

Managing Posts

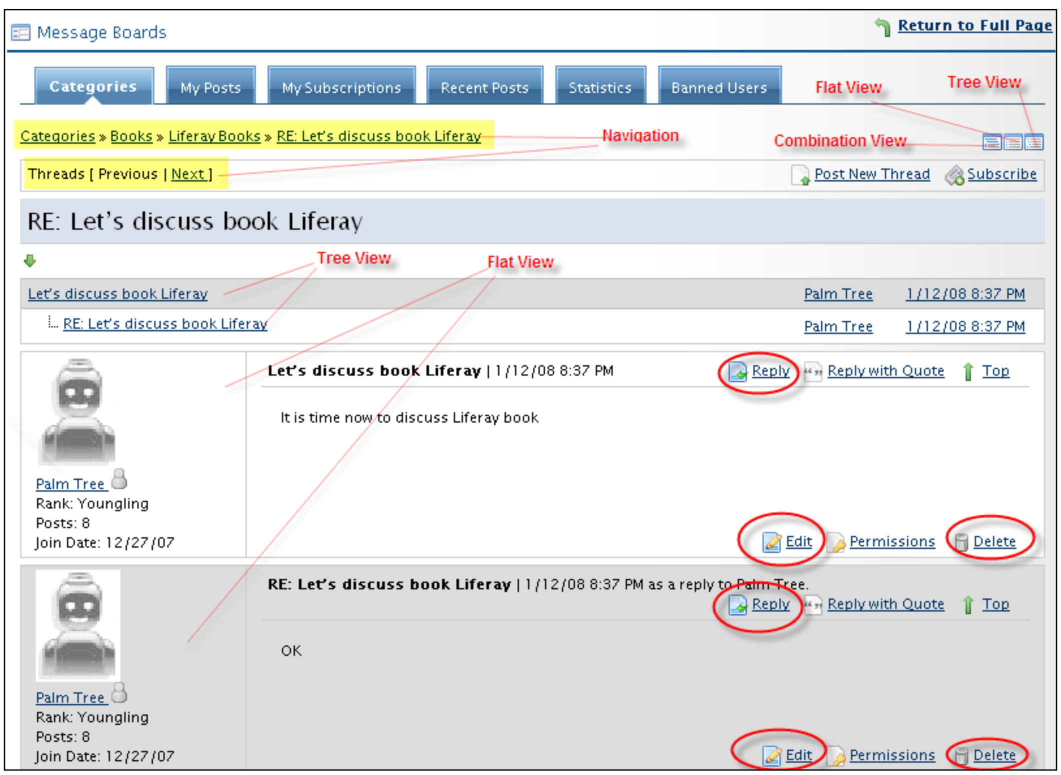
You can manage posts easily through: editing post, replying post, deleting posts and viewing posts, and so on. Let's manage post as follows.

Edit Posts

Posts are editable. To edit a post, click on the **Edit** icon at the bottom right of the post. You can change the **Category**, **Subject**, **Body** (via an editor), **Priority** and **Tags**. Then you simply click on the **Save** button to save the changes or click on the **Cancel** button to cancel.

Alternatively, you can attach a file by clicking on **Attach Files** button, or preview the **Post** by clicking on the **Preview** button.

Updating the **Subject** of the top-level **Post** such as "**Let's discuss book Liferay**" will automatically update the **Subject** of the **Thread** (which the top-level **Post** belongs to) with the same **Subject** as that of the top-level **Post**.



Ban Users

In addition, you can ban a user if you have proper **Permissions**. Let's suppose that "**Lotti Stein**" has a post "**Alfresco Books - discussion**" under the category "**Book Category A**". As an administrator, you will see the icon (**Ban this User**), under the user "**Lotti Stein**" image. If you need to ban this user, simply click on the icon (**Ban this User**). Then you will see that the **Ban this User** icon becomes the **Un-ban this User** icon.

When the user "**Lotti Stein**" logs in, she will see a message at the **Message Board**: "**You have been banned by the moderator**".

As an administrator, you can un-ban the user "**Lotti Stein**", by simply clicking on the icon, **Un-ban this User**. Then you will see that the icon,**Un-ban this User** becomes the icon, **Ban this User**.

Delete Posts

Posts are also removable. For example, if the **Post** "**Re: Let's discuss book Liferay**" is not required anymore, you can remove it. Let's do it as follows:

1. Locate the post "**Re: Let's discuss book Liferay**", which you want to delete.
2. Click on the **Delete** icon at the bottom right of the post.
3. A screen will appear asking if you want to delete this. Click **OK** to confirm deletion or Cancel to cancel deletion.

More interestingly, if the top-level **Post,** "**Let's discuss book Liferay**" was deleted, the **Thread** which the top-level **Post** belongs to will link to the low-level **Post,** "**Re: Let's discuss book Liferay**". If the top-level **Post** , "**Let's discuss book Liferay**", was the only **Post** in the **Thread**, and it was deleted, then the **Thread** which the top-level **Post** belongs to will also be deleted.

> Note that only the current **Post** has been deleted. The low level **Posts** related to the current **Post** will have a link to the top-level **Post** of the current **Post**.

View Posts

All **Posts** of a given **Thread** may have different views: **Combination View**, **Flat View** or **Tree View**. For example, the default view mode is **Combination View**. To change current view mode to **Flat View**, simply click on the **Flat View** button next to the navigation. Of course, you can use **Tree View** model.

You can also change the **Thread** by clicking on the "**Previous**" or "**Next**" buttons next to **Threads**. Moreover, you can change the **Categories** by clicking on the **Category** name on the navigation line.

Search Messages

We can easily find messages by search. For instance, in order to search messages which contain "**book**" in **Message Boards**, simply input the message keyword, "**book**", and then click on the **Search Messages** button. A list of **Categories** which contain the keywords in messages appears with columns: **Categories**, **Messages** (thread subject), **Thread Posts**, **Thread Vies** and **Score**.

Search is scoped by **Category**. For example, if you just need to search messages which contain "**book**" in the **Category** "**Categories->Books->Liferay Books**", simply navigate to the **Category** "**Liferay Books**" first, and then input message keyword such as "**book**", and, click on the **Search Messages** button.

> What are messages in search? Messages here refer to the contents of **Threads** and **Posts**. They contain the **Subject** and **Body** of **Threads** and **Posts**.

View My Posts

You can view your own **Posts** by clicking the **My Posts** tab of the **Message Boards**. A list of your **Posts** will appear with **Thread**, **Started By**, **Posts**, **Views**, **Last Post** and **Actions** with a set of icons (**Edit**, **Permissions**, **RSS**, **Subscribe/Unsubscribe**, **Delete**, and so forth).

View Recent Posts

Similarly, you can view recent posts, by clicking the **Recent Posts** tab of the **Message Boards**. A list of recent postings will appear with **Thread**, **Started By**, **Posts**, **Views**, **Last Post** and **Actions** with a set of icons (**Edit**, **Permissions**, **RSS**, **Subscribe/ Unsubscribe and Delete**).

View Statistics

Furthermore, you can view general statistics by clicking the **Statistics** tab of the **Message Boards**. By this, statistics data such as **Number of Categories**, **Number of Posts** and **Participants** will appear. In addition, click the **Top Posters** sub tab to see a list of most active users.

View Banned Users

You can view banned users if you have proper **Permissions**. You may simply click on the **Banned Users** tab of the **Message Boards**. A list of banned users will appear with **Name**, **Ban Date**, **Un-ban Date**, and icon (**Un-ban this User**). To un-ban this user, just click on the icon, **Un-ban this User,** next to the **Un-ban Date**.

Subscribing Categories And Threads

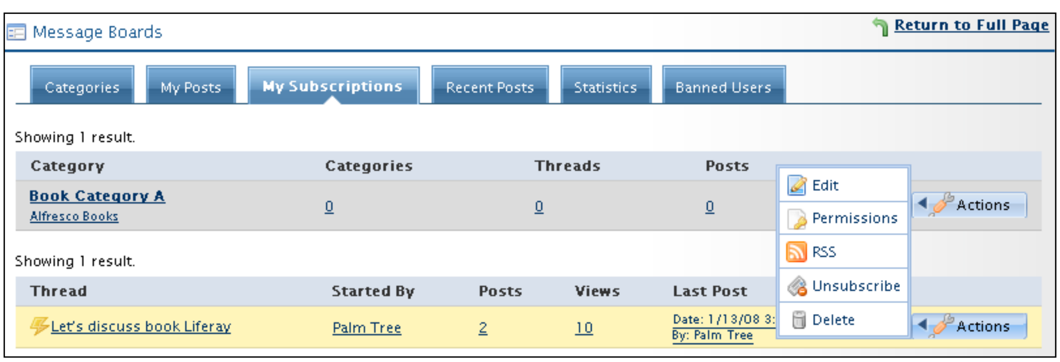
As users of the **Message Boards**, you may be interested in changes in messages in specific **Categories** and **Threads**. For example, the administrator "Palm Tree" is interested in the messages in **Category** "**Book Category A**". You want to watch for any changes of the messages in this category. You can certainly use subscription function on the category, "**Book Category A**". Let's do it as follows:

1. Locate the category "**Book Category A**".
2. Click on the **Subscribe** icon from the **Actions** located next to the category. The **Subscribe** icon will change to **Unsubscribe,** for this category.

Of course, you can **Subscribe** to other **Categories**. You may be interested in the message of the thread "**Let's discuss book Liferay**". Thus you can **Subscribe** to it as follows:

1. Locate the category "**Liferay Books**" and locate the thread "**Let's discuss book Liferay**".
2. Click on the **Subscribe** icon from the **Actions** located next to the thread. The **Subscribe** icon will change to **Unsubscribe,** for this thread.

It's worth mentioning that you can **Subscribe** to other **Threads**. In addition, you can view your **Subscriptions** by a click on the **My Subscriptions** tab. You will find lists of **Categories** and **Threads** to which you have subscribed.



Unsubscribe Categories And Threads

In addition, you can **Unsubscribe** to **Categories,** or sub-categories, or **Threads,** if they have been subscribed to already. For example, you may need to **Unsubscribe** to the **Thread,** "**Let's discuss book Liferay**". Let's do it as follows:

1. Click on the **My Subscriptions** tab in the **Message Boards**.
2. Locate the thread "**Let's discuss book Liferay**".
3. Click on the **Unsubscribe** icon from the **Actions** located next to the thread. The thread "**Let's discuss book Liferay**" will disappear from the view of **My Subscriptions**.

Or you can **Unsubscribe** to the **Thread** "**Let's discuss book Liferay**" from the view of **Categories** as follows:

1. Locate the **Category** "**Liferay Books**" and locate the **Thread,** "**Let's discuss book Liferay**".
2. Click on the **Unsubscribe** icon from the **Actions** located next to the thread. The **Unsubscribe** icon will change to **Subscribe,** for this **Thread**.

What Happens Next?

If you have some **Categories** or **Threads** to which you have subscribed, and the messages of the subscribed to **Categories** or **Threads** have changed, you will receive notifications for these changes.

Subscription is, generally speaking, an agreement to receive electronic texts or services, especially over the Internet. The **Thread** subscription provides a useful function, that of notifying through email, when a new message has been posted or updated. On the one hand, you can subscribe to a **Thread** for a given **Category** or sub-category. Whenever a new message has been posted or updated, you will be notified through email. On the other hand, you can also unsubscribe to a **Thread** for a given **Category** or sub-category if it has been subscribed to already. Henceforth, you will not be notified through email; even if a message has been posted or updated.

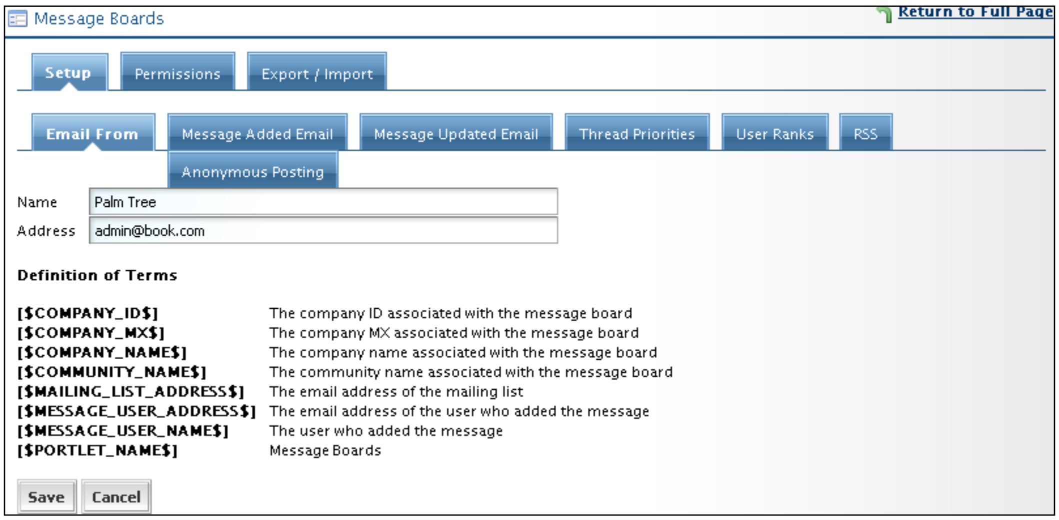
Moreover, **Category** subscription provides a useful function, that is, to to notify through email, when a **Category** has been updated. Similar to the **Thread** subscription, you can subscribe to a **Category** or sub-category. Whenever **Category** or sub-category is updated, you will be notified through email.

How to set up mail notifications? Just refer to the following section.

Setting up Message Boards

As an administrator of "**Palm-Tree Publications**", you can set up **Message Boards**. For example, you can configure subscription emails.

To configure the subscription function, click on the **Configuration** icon on **Message Boards**. When the **Setup** tab is selected, there are six sub-tabs that appear: **Email From**, **Message Added Email**, **Message Updated Email**, **Thread Priorities**, **User Ranks, RSS**, and **Anonymous Posting**.



Selecting the **Email From** tab, you can change the names and addresses of the automatically sent emails.

The **Message Added Email** tab allows the Administrator to edit the email that is sent whenever a posting is added. To disable email alerts, uncheck the **Enabled** box. Click the **Save** button after making the changes.

Similarly, the **Message Updated Email** tab allows the Administrator to edit the email that is sent whenever a posting is updated. To disable email alerts, uncheck the **Enabled** box. Click the **Save** button after making the changes.

With the **Thread Priorities** tab selected, the Administrator can manage the **Thread Priorities** profiles. The following table depicts the default settings. The Administrator can change the **Name**, **Image**, and **Priority** requirements by making changes directly, and clicking the **Save** button.

Name	Image	Priority	Description

Urgent	`/message_boards`
	`/priority_`
	`urgent.png`
		3.0	Enter the name, image, and priority level in descending order. **Threads** with a higher priority are displayed ahead of **Threads** with a lower priority. The name is the display name of the priority. The image is the display image of the priority and can either be a complete URL or a path relative to the theme.

Sticky	`/message_boards`
	`/priority_`
	`sticky.png`
		2.0	

Announcement	`/message_boards`
	`/priority_`
	`announcement.`
	`png`
		1.0	

Selecting the **User Ranks** tab, the Administrator can manage the ranking profiles. The following table shows the default settings. The Administrator can change the ranking names and posting number requirements by making changes directly, and clicking the **Save** button.

Rank	Minimum Posts	Description
Youngling	0	Enter rank and minimum post pairs per line. **Users** will be displayed with a rank based on their number of **Posts**.
Padawan	25	
Jedi Knight	100	
Jedi Master	250	
Jedi Council Member	500	
Yoda	1000	

> Note that it is also possible to activate the Liferay SMTP events, to allow users to respond to mails sent by the **Message Boards**. In order to avoid HTML problems while posting replies, the mails are now sent in plain text.

Selecting the **RSS** tab, the administrator can manage the RSS settings. The administrator can change the '**Maximum Items to Display**', "**Display Style**", and "**Format**", and then click on the **Save** button.

In addition, selecting the **Anonymous Posting** tab, the administrator can enable or disable the checkbox, "**Allow Anonymous Posting**".

Using Permissions

We have used the default settings for **Message Boards** portlet in the page, "**Forums**" of the page "**Community**", under the **Book Lovers** Community. When the administrator "**Palm Tree**" logs in, he will see the button "**Add Category**" in the **Message Boards**. As we know that the user "**Lotti Stein**" is also a member of the **Book Lovers** community, try logging in as "**Lotti Stein**", and you will find that there is no button "**Add Category**" in the **Message Boards**.

What's happening? This is something related to **Permissions**. There are three levels of **Permissions**: **Portlet Permissions**, **Permissions on Category** and **Permissions on Thread**.

Working with Portlet Permissions

The following table shows the various **Permissions** of the **Message Boards** portlet. A **Community** user may set up all the **Permissions** (marked 'X'): **Add Category**, **Ban User,** and **Configuration**, and **View** while a **Guest User** has only one possibility , **View** (marked as 'X'). By default, a **Community** has the actions (marked as '*'):**View** and so does the **Guest**.

Action	Description	Community	Guest
Add Category	Adds top-level **Category** in the portlet	X	
Ban User	Bans **Users** in the **Message Boards**	X	
Configuration	Configures the portlet	X	
View	Views the details of the portlet	X, *	X, *

Obviously, as a user of the **Book Lovers** community, "**Lotti Stein**" has only the **View Permission** on the portlet, **Message Boards,** by default. Since the **Book Lovers** community has no **Permission** "**Add Category**", "**Lotti Stein**" also has no **Permission** "**Add Category**".

Working with Permissions on Category

The following table shows the **Permissions** for a forum and **Categories**. A **Community** user may set up all **Permissions** (marked 'X'): **Add Category**, **Add File**, **Add Message**, **Reply to Message**, **Delete**, **Permissions**, **Subscribe**, **Update**, **Update Thread Priority**, and **View**. A **Guest** user has only the possibility to set up **Add Message**, **Delete**, **Permissions**, and **View** (marked 'X'). By default, a **Community** has the actions (marked '*'): **Add File**, **Add Message**, **Subscribe** and **View**; while a **Guest** has only one action (marked '*'): **View**.

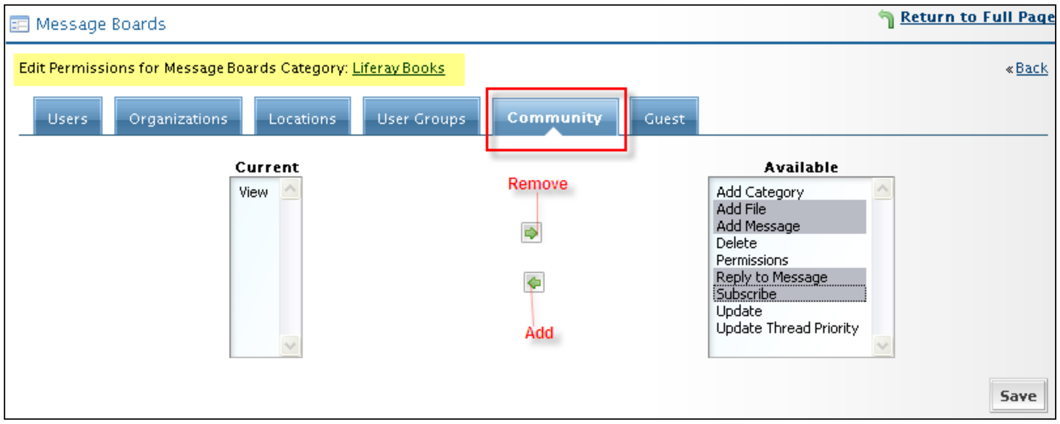
Action	Description	Community	Guest
Add Category	Adds **Category** to the portlet	X	
Add File	Adds a file (sub-category) to the **Category**	X, *	
Add Messages	Adds message to the **Category**	X, *	X
Reply to Messages	Replies to messages	X, *	X
Delete	Deletes the sub-category and its **Threads**	X	X
Permissions	Controls the permissions for the **Category**	X	X
Subscribe	Subscribes the **Category**	X, *	
Update	Updates the **Category**	X	
Update Thread Priority	Updates the **Thread** priority of the **Category**	X	
View	Views the details of the **Category**	X, *	X, *

Obviously, as a **User** of **Book Lovers** community, "**Lotti Stein"** has only **View**, **Add File**, **Add Message**, **Reply to Message** and **Subscribe Permissions** on the sub categories "**Book Category A**", "**Book Category B**" and "**Book Category D**" (since we have added them by community default setting). "**Lotti Stein**" has only **View Permission** on "**Liferay Books**", since we have added it with **View Permission** only for community.

As an administrator, you may need to set up the community, **Users,** having default **Permissions** setting (**View**, **Add File**, **Add Message**, **Reply to Messages** and **Subscribe**) on the **Category,** "**Liferay Books**". That is, you need to add **Permissions** (**Add File**, **Add Message**, **Reply to Messages** and **Subscribe**) on the **Category** "**Liferay Books**" for **Book Lovers** community. Let's do it as follows:

1. Click on the parent **Category,** "**Books**" in order to list its sub-categories.
2. Locate the sub-category "**Liferay Books**" for which you want to change **Permissions**.
3. Then click on the **Permissions icon** from the **Actions** located next to the category.
4. Select the **Community** tab.
5. Select **Permissions**: **Add File**, **Add Message**, **Reply to Message** and **Subscribe** in **Available** box.
6. Click on the **Add** arrow.
7. Click on the **Save** button, if you are ready.

Now, as a user of the **Book Lovers** Community, "**Lotti Stein**" has **View**, **Add File**, **Add Message**, **Reply to Messages** and **Subscribe Permissions** on the sub-category "**Liferay Books**" finally.



Of course, you assign **Permissions** to **Users**, **User Groups**, **Organizations** and **Locations**.

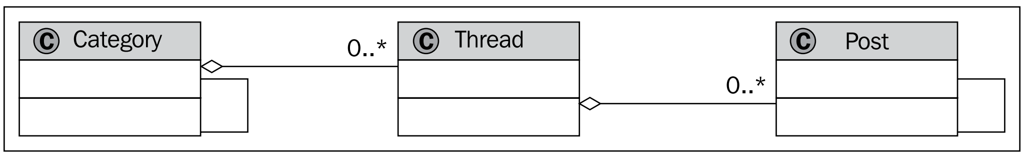
Working with Permissions on Thread

The following table shows **Permissions** for a **Thread**. A **Community** may set up all **Permissions** (marked 'X'): **Delete**, **Permissions**, **Subscribe**, **Update**, and **View**. A **Guest** has **Permissions** only to set up **Delete**, **Permissions**, and **View** (marked 'X'). By default, a **Community** has actions (marked '*'): **Subscribe** and **View**; while a **Guest** has only action (marked '*'): **View**.

Action	Description	Community	Guest
Delete	Deletes the **Thread** and its **Posts**	X	X
Permissions	Controls the **Permissions** for the **Thread**	X	X
Subscribe	Subscribes the **Thread**	X, *	
Update	Updates the **Thread**	X	
View	Views the details of the **Thread**	X, *	X, *

Using Message Boards Effectively

The following figure depicts a forum structure overview of **Liferay Message Boards**. A forum is made up of a set of **Categories**. Each **Category** may have many sub-categories and **Threads**. And furthermore, each **Thread** may have many **Posts** (or called reply). The **Thread** refers to the collection of messages. The messages may be displayed in flat chronological order by the date of posting, or in a question-answer order. The latter is a **Thread** of one question followed by all answers in a hierarchy. Actually, **Threads** can be regarded as the root level **Posts** (or called replies). Sub-posts are also supported, which enable comments in one of the replies to start another **Thread** that remains linked to the original.



Working with Tags

Sooner or later, we will have a lot of **Posts** in the **Message Boards**. It would be useful to allow **Users** to generate content **Post** and classify that content **Post** in their own unique way. Let's first experience tagging contents first.

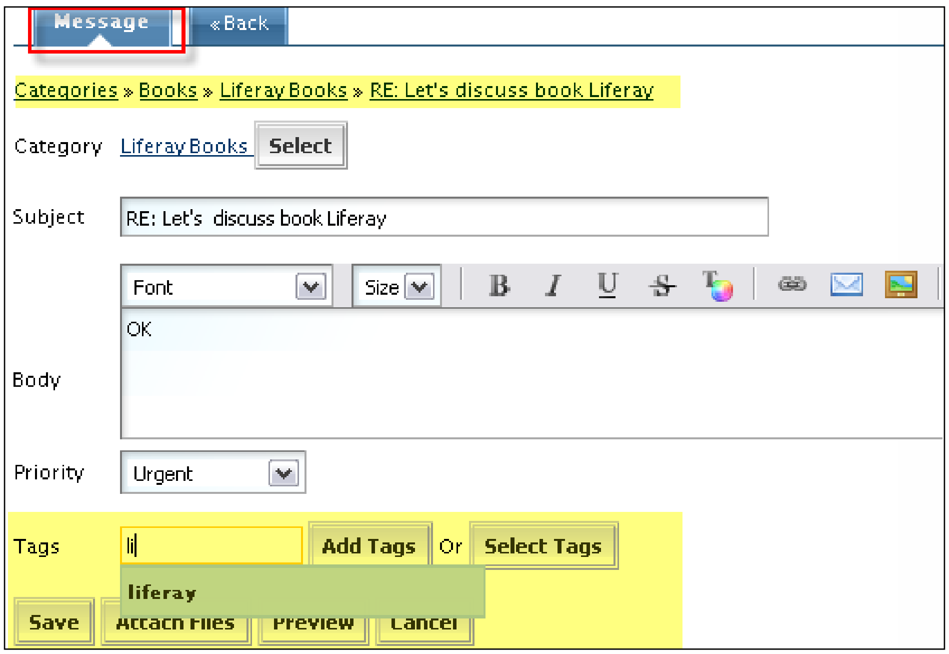
Tagging Contents

As an administrator at "**Palm-Tree Publications**", you may need to add **Tags** "**Liferay**" and "**Book**" in the **Post** "**RE: Let's discuss book Liferay**". Let's do it as follows:

1. In your post updating page, find the **Tag** box.
2. In the **Tag** text box, simply start typing the **Tag,** and a list of **Tags** will appear. As shown in the following figure, "**li**" is typed into the text box and a list of the available **Tags** is populated. Select the **Tag** ("**Liferay**") you want, and the **Tag** should show up adjacent to the box.
3. Similarly, "**bo**" can be typed into the text box and a list of the available **Tags** is populated. Select the tag ("**Book**") you want, and the tag should show up adjacent to the box.
4. Click on the **Save** button when you are ready.

For some reason, you need to remove a **Tag** "**Book**" from the **Tag** list. To remove a **Tag** "**Book**", simply click on the mark "**[x]**" located next to the **Tag** first, and then click on the **Save** button when you are ready.

Similarly, you can **Tag** contents including **Bookmarks entries**, **Blogs entries**, **Document Library documents**, **Image Gallery images**, **Wiki articles**, **Journal articles**, and **Message Board threads**.



In a word, Liferay provides Meta **Tags**, that is, a tagging system, which allows you to tag web content, documents, message board threads and more, and dynamically publish content by using **Tags**.

Managing Tags

The following is a summary of the **Tag** related portlets in Liferay.

Administrate **Tags**:

- **Tags Admin**

Tag different types of content in Liferay:

- **Bookmarks entries**
- **Blogs entries**

- **Wiki articles**
- **Document Library documents**
- **Image Gallery images**
- **Journal articles** and
- **Message Board threads**

Aggregate Content:

- **Asset Publisher**

Users can choose **Tags** from a dictionary list at the **Tags Admin** portlet, while tagging content.

Tags Admin

By **Tags Admin** portlet, you can add **Tags and** organize **them** into **Categories**. As shown in the following figure, **Tags Admin** portlet provides three groups of functionalities to manage tags: **Search Tag**, **Edit Tag** and **Add Tag**.

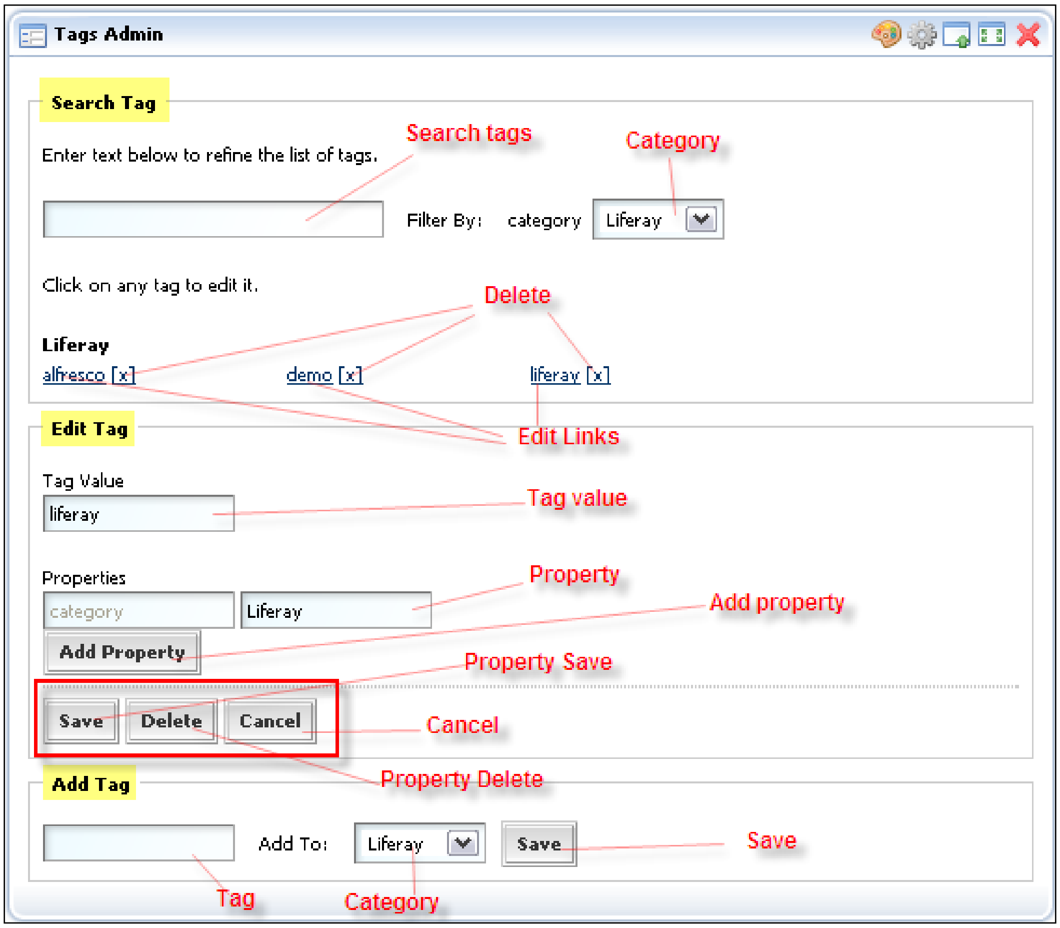
To search for a **Tag** in **Search Tag** group, select a **Category**: "**all**" or "**no category**" or a specific one. Once you input a search criterion, search results will appear dynamically.

To edit a tag, click the **Tag** by edit links. In **Edit Tag** group, **Tag Value** and **Properties** are displayed. To delete a property of a given **Tag**, click on the property first, and then click on the **Delete** button. Or click on the **Delete** button at the right of the property, for all properties other than the "**category**" property. Deleting '**category**' property will delete the **Tag** to which the property belongs. Deleting a property other than the '**category**' property will delete only that property. To add a property of a given tag, just click on the **Add Property** button first. Then simply input **Name** and **Value**. Click the **Save** button to save the inputs or **Cancel** to cancel the inputs.

To delete a **Tag**, click on the mark "**[x]**" located next to the tag.

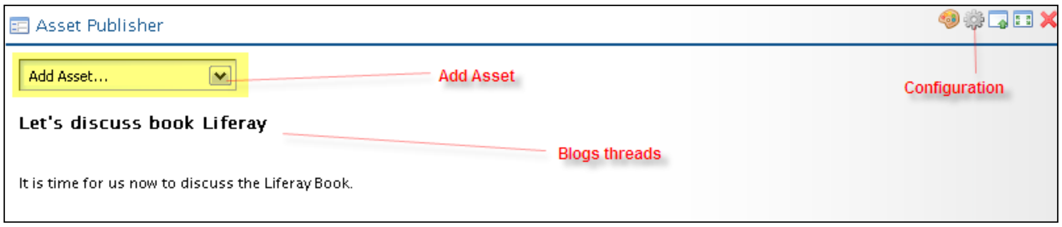
To add a tag, simply input tag name in **Add Tag** group, and select a **Category**. Then click the **Save** button to save the inputs. If the **Tag** doesn't exist in the current **Category**, the **Tag** will be added to the current **Category**.

If you select a **Category** '(**new**)', a **Category** name is required to be input, and the tag will be added to the current inputted **Category**. If you select a **Category** '(**no**)', the tag will be added to a special **Category** named "**no category**". All **Tags** will be displayed well and grouped by **Categories**.

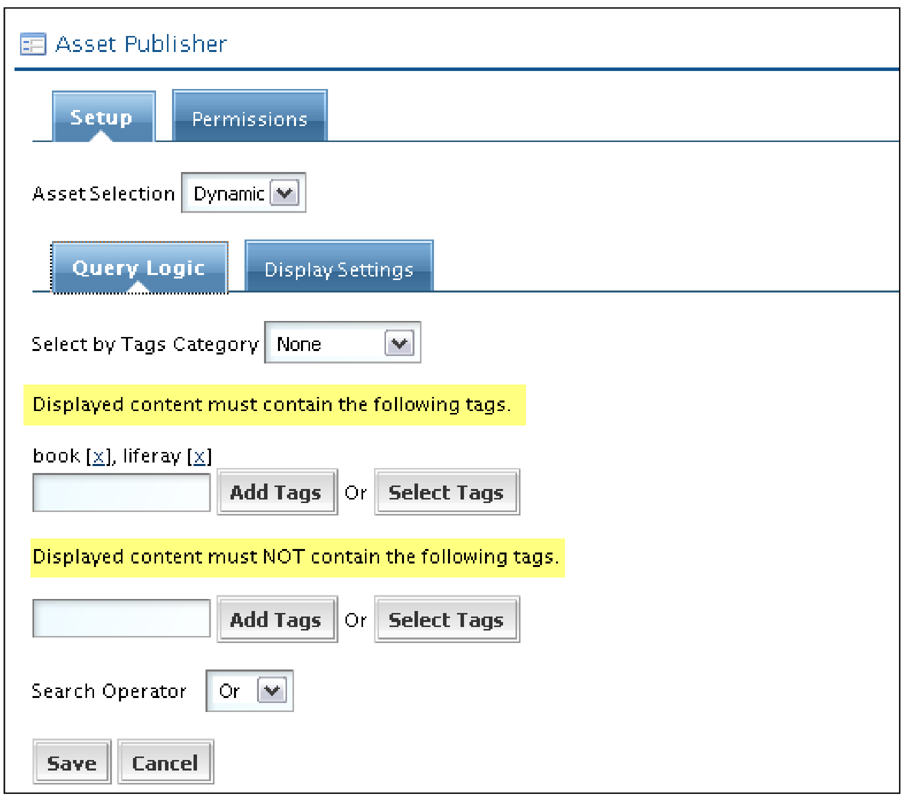


Display Tagged Contents

As an administrator at "**Palm-Tree Publications**", you may need to display contents with specific **Tags** "**Liferay**" and "**Book**". Let's do it as follows:



- Add **Asset Publisher** portlet in the page where you want to display contents with specific **Tags**.



1. Configure **Asset Publisher** portlet to display content "tagged" with specific **Tags**, and click on the **Configuration** icon at the upper right.
2. With "**Setup**" selected as default, input tags "**Liferay**" and "**Book**" which displayed content must contain, and simply start typing the **Tag,** and a list of **Tags** will appear. Pick up a **Tag** which the displayed content must contain. The selected **Tags** will appear to the right of input box.
3. Click on the **Save** button to save and press the arrow **Return to full page**. You will see your tagged contents in the **Asset Publisher** portlet.

Set up Asset Publisher

It is configurable to set up the view of tagged contents via the **Asset Publisher** portlet. You can set the choice of asset selection, as either **Dynamic** or **Manual**. For **Manual** selection, you will have a chance to select the assets directly. The **Dynamic** selection allows you to select tagged contents by specific **Tags**.

Before selecting specific **Tags**, you can select a specific **Tags** category. The default **Tags** category is "**None**".

To input **Tags** which the displayed content must contain, simply start typing the **Tag** and a list of **Tags** will appear. Pick up a **Tag** which the displayed content must contain. The selected **Tags** will appear to the right of input box. To remove a **Tag**, click on the mark "**[x]**" located next to the tag.

Similarly, to input **Tags** which displayed content must not contain, just start typing the **Tag,** and a list of **Tags** will appear. Pick up a tag which must not contain the displayed content. The selected **Tags** will appear to the right of input box also.

You can narrow down the search results by setting up **Search Operator**. There are two search operators: "**and**" and "**or**". The "**and**" means **that all the conditions** (must contain certain **Tag**, must not contain certain **Tag**) must be satisfied, while the "**or**" means that at least one of the conditions (must contain certain **Tag**, must not contain certain **Tag**) must be satisfied.

Click the **Save** button to save the changes if you are ready, or click the **Cancel** button to cancel the changes.

Tagged content display settings are also configurable. To change the display settings, click on the **Display Settings** tab first, and then select one of the display styles: **full content/abstract**. Check/uncheck the boxes "**Show Query Logic**" and "**Show Available Locales**". Click the **Save** button to save the changes, or the **Cancel** button to cancel the changes.

The Asset Publisher portlet provides a way to display tagged contents: **Bookmarks entries**, **Blogs entries**, **Document Library documents**, **Image Gallery images**, **Wiki articles**, **Journal articles**, and **Message Board threads**. Given a set of **Tags**, the contents "tagged" with specific **Tags** will be shown in this portlet.

In addition, you can easily add assets (such as **Bookmarks entries**, **Blogs entries**, **Document Library documents**, **Image Gallery images**, and **Journal articles**) via this portlet.

> For **Bookmarks entries**, **Blogs entries**, **Document Library documents**, **Image Gallery images**, **Wiki articles**, and **Journal articles**, refer to the forthcoming chapters.

What Makes Tags Important?

Tags are so important that users can generate content and classify that content in their own unique way.

For example (refer to Folksonomies at `http://www.uie.com/articles/folksonomies/`), suppose that you have a photo-sharing site, where users can **Tag** their humorous pictures from a vacation. Some pictures, they may tag "**hawaii**" only, others they may tag "**funny**" only. A number of pictures they may tag both "**funny**" and "**hawaii**". Later, when they want to view their pictures from Hawaii, they simply select "**hawaii**". If they want to view all their funny pictures, they would select "**funny**". If they want to view only their funny pictures from Hawaii, they would simply select both "**hawaii**" and "**funny**".

Let's consider another example (refer to Tags & Folksonomies at `http://www.threadwatch.org/node/1206`). Suppose that you have a website on hobbies and you have lots of users who like fishing. Thus when users input data, photos, reviews or anything you might dream up, they will invariably tag their posts with "**Fishing**". Some of the users will tag their posts with "**Angling**", and others may use two or more tags such as "**Fishing Vacation**" or "**Holiday Fishing**".

Then you can generate a web site with the following data:

- **Fishing**—100 posts
- **Angling**—200 posts
- **Fishing Vacation**—300 posts
- **Holiday Fishing**—400 posts

Imagine creating menus and pages based on these categories.

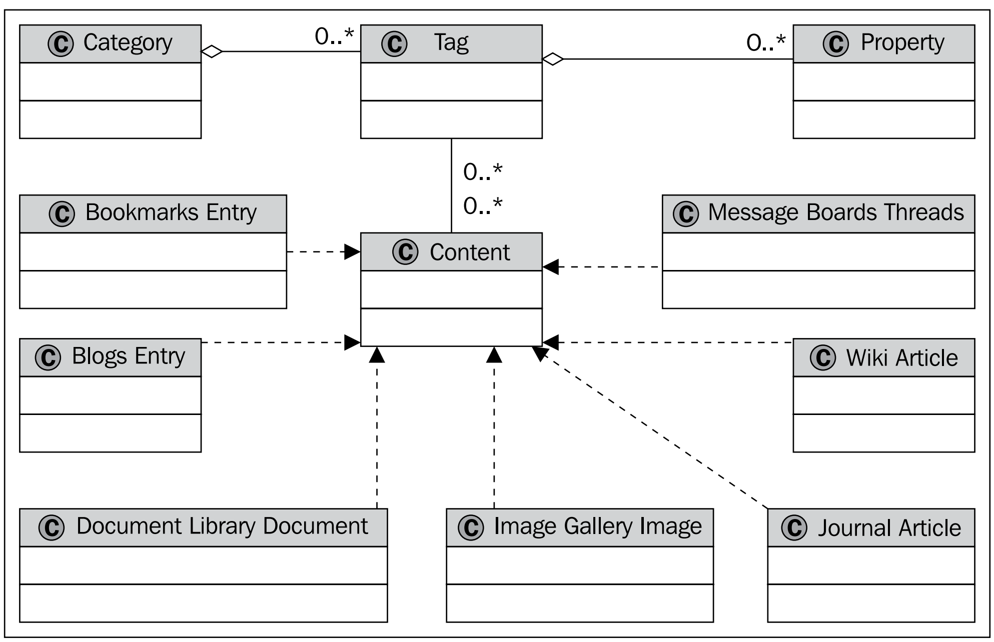
Using Tags Effectively

Liferay tagging system allows you to tag web content, documents, message board threads and more, and dynamically publish content by tags. **Tags** provide a way of organizing and aggregating content. Basically the tag admin determines which **Tags** are available for usage. The users use these **Tags** on their content. Any content that is tagged can be grouped or aggregated.

The following figure depicts an overview of **Tags** and **Contents**. A **Tag** may belong to a **Category**. That is, a **Category** may have many **Tags**. When you create a **Tag**, a predefined **Category** or dynamically created **Category** will be assigned to it. In a word, **Tags** are managed and grouped by **Categories.**

A **Tag** may have many properties. Each **Property** is made up of a name and a value.

A **Tag** may be associated with **Content**. By **Tags**, you can tag almost anything: **Bookmarks Entries**, **Blogs Entries**, **Wiki Articles**, **Document Library documents**, **Image Gallery Images**, **Journal articles** and **Message Board threads**, and so on. You can also use these **Tags** to pull content with **Asset Publisher** portlet.



> Do Meta **Tags** work for educatinal purposes? The answer is clearly no. Meta **Tags** allow users to generate **Content** and classify that **Content** in their own unique way. If educating **Tags** was in need, you could add these **Tags**' properties of **Contents** in your content model.

Summary

This chapter discussed how to add **Categories** and sub-categories for **Message Boards**; how to add **Threads** and **Posts** for a given **Category**; how to manage (view, add, update, delete, and feed) **Categories**, **Threads** and **Posts**; and how to set **Permissions** of **Message Boards**, **Categories** and **Threads**. Then it discussed how to add a **Tag** and manage (add, delete, and change category) **Tags**; and how to **Tag** contents and display tagged contents.

5

Wikis, Web Form And Polls

In the intranet website "book.com" of "Palm Tree Publications", it is required that a track of information is kept about editorial guidance and other resources that require frequent editing, It is also required that a track of **Votes** is kept on the topic, "**Is Liferay Book a proper book**", and moreover, collect suggestions on the subjects such as "**Liferay Book**" and "**Alfresco Book**". Liferay **Wiki** provides a straightforward **Wiki** solution. Liferay **Web Form** provides a way to collect **Users**' suggestions and **Polls,** and provides survey to assess public opinions. This chapter will introduce you to Liferay **Wikis**, **Web Form** and **Polls**.

By the end of this chapter, you will have learned how to:

- Add **Node** and manage (view, update and delete) **Nodes** of **Wikis.**
- Add **Pages** at the nodes in Wikis.
- Manage (view, update, delete and search) **Pages** of a given **Node** in **Wikis.**
- Use **Permissions** on **Wikis nodes.**
- Publish **Wiki** articles.
- Set up **Web Form** portlet.
- Configure **Polls** portlet.
- Display **Polls.**

Working with Wikis

In order to provide an environment for employees at "Palm Tree Publications" to keep track of information about editorial guidance and other resources that require frequent editing, we can use Liferay **Wikis** portlet at the **Book Lovers** Community (**Public Pages**).

As an administrator of "Palm Tree Publications", you need to create a page called "**Wikis**" under the **Page** "**Community**" at the **Book Lovers** Community and further, add the **Wikis** portlet in the page "**Wikis**". Then you are ready to create **Nodes** called "**Liferay**" and "**Alfresco**".

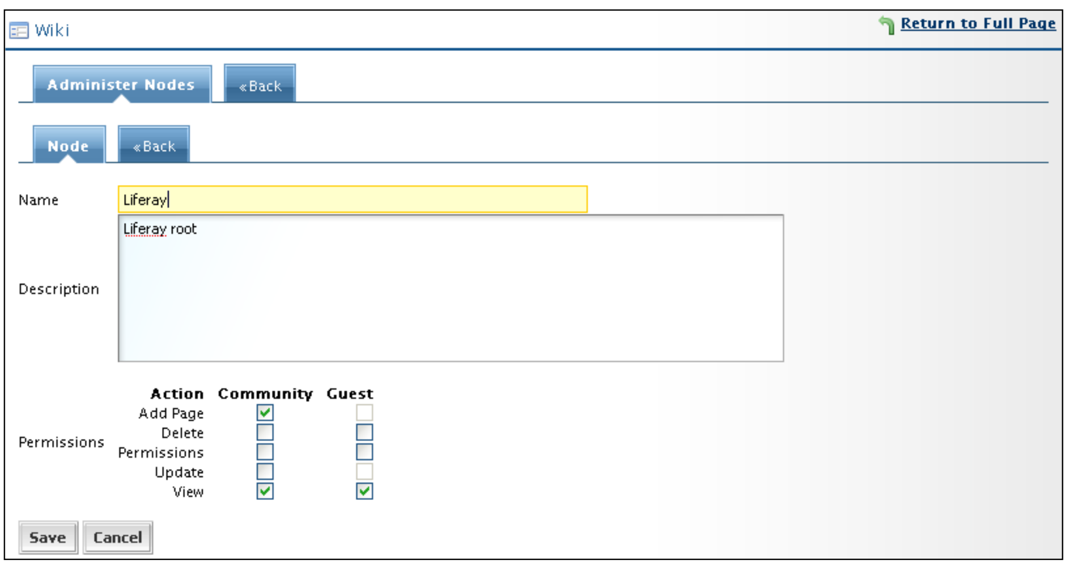
Adding And Managing Nodes

As an administrator of "Palm Tree Publications", you need to create **Nodes** called "**Liferay**" and "**Alfresco**".

Adding Nodes

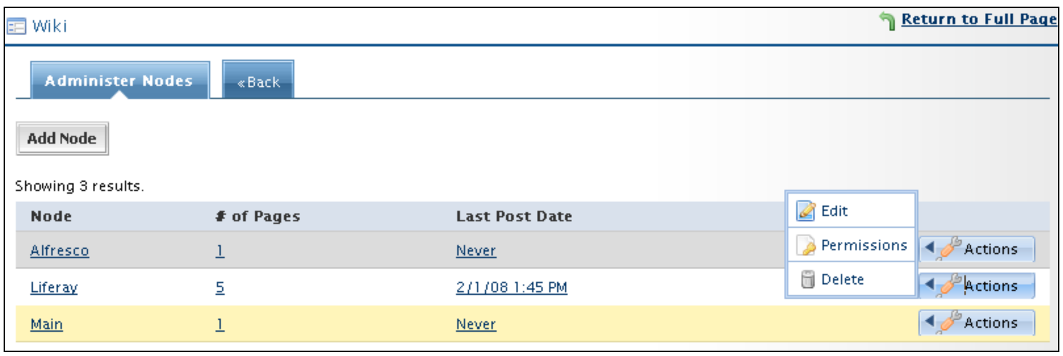
First of all, we need to create a **Node** called "**Liferay**". Let's create a **Node** as follows:

1. Add a child **Page** called "**Wikis**" of the **Page** "**Community**" at the **Book Lovers** Community **Public Pages**.
2. If **Wiki** Portlet is not already present, add **Wiki** portlet in the **Page** "**Wikis**" under the **Page** "**Community**" at the **Book Lovers** Community where you want to manage Wiki articles.
3. By default, the **Node** "**Main**" is created. Click on the "**Administer Nodes**" icon from the **Actions** below the **FrontPage**.
4. Click on **Add Node** button.
5. Enter a **Name** "**Liferay**", and a **Description,** "**Liferay root**".
6. Set **Permissions** by clicking on the **Configure** link. To configure additional **Permissions**, click on the **More** link. Here, we just use default settings.
7. Click on the **Save** button to save the inputs.



> Note that we have created a **Page** called "**Community**" at the **Book Lovers** community **Public Pages** in the previous chapter. We also added a **Page** called "**Forums**". The **Page** "**Wikis**" here is a sibling **Page** of the **Page** "**Forums**". In the next chapter, we will create another **Page** called "**Blogs**" as a sibling **Page** of the **Page** "**Wikis**".

Of course, you can add other **Nodes** that you want. After creating the **Node** called "**Alfresco**", we can view **Wikis Nodes**. **Nodes** are displayed as **Node** name, **number of Pages**, **Last Post Date** and **Actions** with a set of icons (such as, **Edit**, **Permissions** and **Delete**).



In short, we can create a **Node** by clicking on the **Add Node** button, and filling the **Name,** and optionally, the **Description**. An initial **Page** called **FrontPage** (called a Wiki Article) is created automatically, when a **Node** is created.

Managing Nodes

Generally speaking, a set of **Pages** in groups is called **Nodes**. Each **Node** acts as a whole **Wiki**. **Nodes** may have their own set of **Permissions**, **Recent Changes** list and listing of **All Pages**. After creating **Nodes**, we can manage **Wikis Nodes** easily.

Edit A Node

Nodes are editable. For example, we plan to change the description of **Node** "**Liferay**" from value "**Liferay root**" to value "**Liferay Wikis Root**". Let's do it as follows:

1. Locate the **Node** "**Liferay**".
2. Click on the **Edit** icon from the **Actions** next to the node**.**
3. Update the description with value "**Liferay Wikis Root**".
4. Click the **Save** button to save the inputs.

Delete A Node

Nodes are removable. For instance, the **Node** "**Alfresco**" is not wanted anymore. We have to remove this from the **Wiki** portlet. Let's delete it as follows:

1. Locate the **Node** "**Alfresco**", which you want to delete.
2. Click on the **Delete** icon from the **Actions** located next to the node.
3. A screen will appear asking if you want to delete this. Click **OK** to confirm deletion.

> Note that deleting a **Node** will delete all related **Pages** which belong to this **Node**. Moreover, any **Comment**s related to the **Pages** of the **Node** will be deleted too.

Adding Pages

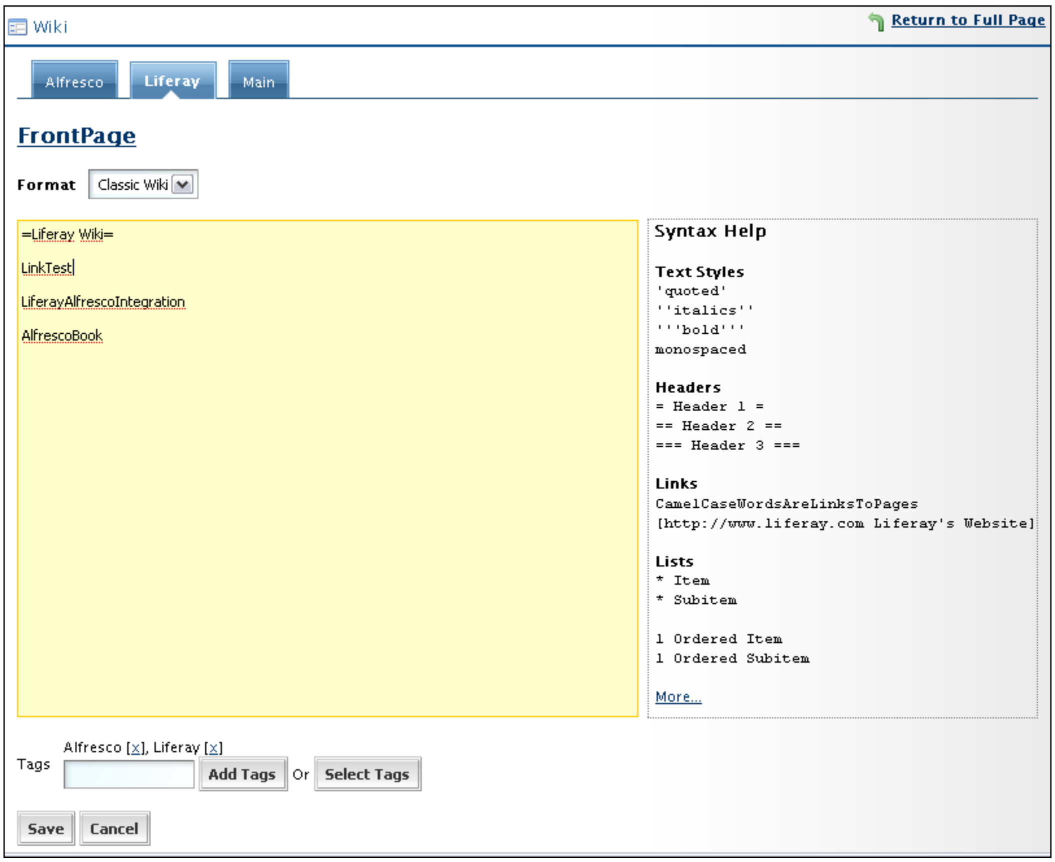
As an administrator of "Palm Tree Publications", you may need to add more **Pages**, such as "**LiferayAlfrescoIntegration**" and "**AlfrescoBook**", under the node "**Liferay**". Let's do it as follows:

1. Locate the **Node** "**Liferay**" tab.
2. Click on the name of the **Node** "**Liferay**".
3. Click on the icon **Edit** from the **Actions** below the **Page** "**FrontPage**".
3. Select a **Format** such as "**Classic Wiki**".
4. In the editing **Page**, input "**LiferayAlfrescoIntegration**" and "**AlfrescoBook**".
5. If you need to add **Tags,** press the button **Select Tags,** or input tag and press the button, **Add Tags,**.
6. Click on the **Save** button when you are ready.

Of course, you can add a **Page** directly. Let's suppose you want to add a **Page** "**MyPage**" under the **Node** "**Liferay**". Let's do it as follows:

1. Locate the **Node** "**Liferay**" tab.
2. Click on the name of the **Node,** "**Liferay**".
3. Click on the icon, **Add Page,** from the **Actions** below the **Page** "**FrontPage**".
4. Input the **Page** name as "**MyPage**".
5. Click on the **OK** button to save.

> Note that the **Page** name must follow the CamelCase syntax. CamelCase is a naming convention in which the words are joined without spaces and are capitalized within the compound.



As mentioned previously, there are three editing modes, that is, **Formats**, to edit **Wiki Pages**: **Classic Wiki**, **HTML** and **Plain Text.** Select one of editing modes. By default, **Classic Wiki** editing mode is selected. You can follow Liferay Wiki classic mode syntax to edit Wiki **Pages**. For example, you can represent internal links by putting two or more words together (without spaces between them), and uppercasing the first letter of each of the words. You can represent external Links by beginning with a bracket ([), then including URL, space, display name, and ending with a bracket (]); or beginning with a double quotation mark ("), and then including display name, and double quotation mark ("), following URL.

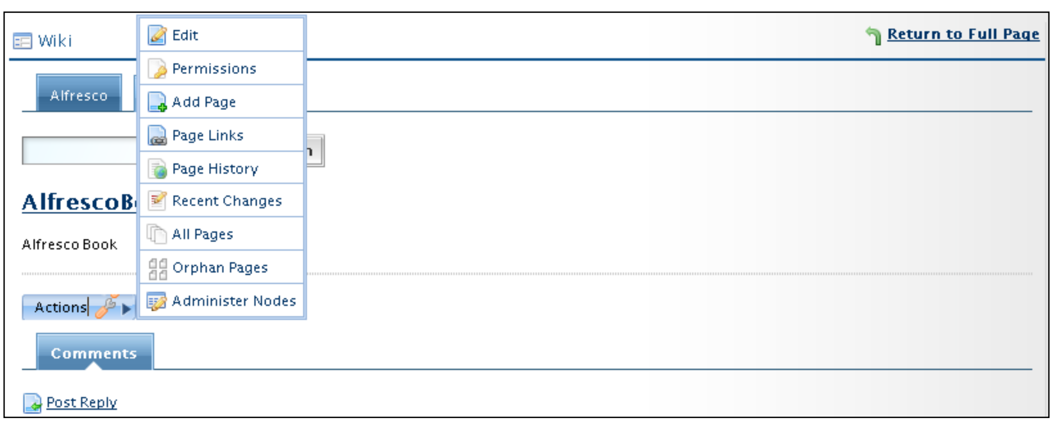
For more details about **Classic Wiki**, please refer to the forthcoming section.

You can simply start typing the **Tag** in the tag text box, and you will see a list of **Tags**. Just select the tag you want. You will see the **Tag** showing up adjacent to the box. You can remove a **Tag** by clicking on the mark "**[x]**" located next to the tag. To save the inputs, just click the **Save** button; to cancel all actions, just click the **Cancel** button.

For more details about **Tags**, refer to Chapter 4.

Of course, you can create other **Pages** as you wish. Let's suppose we need to add a **Page** called "**AlfrescoWiki**" under the **Page** "**AlfrescoBook**". We can do it as follows:

1. Locate the **Node** "**Liferay**".
2. Click on the name of the **Node,** "**Liferay**".
3. Find the link "**AlfrescoBook**", and click on the name, "**AlfrescoBook**".
4. Click on the icon, **Edit,** from the **Actions** for the **Page** "**AlfrescoBook**".
5. Select **Format** such as "**Classic Wiki**".
6. In the editing **Page**, input "**AlfrescoWiki**".
7. Press button **Select Tags** or input tag and press button **Add Tags** if you need to add tags.
8. Click on the **Save** button when you are ready.

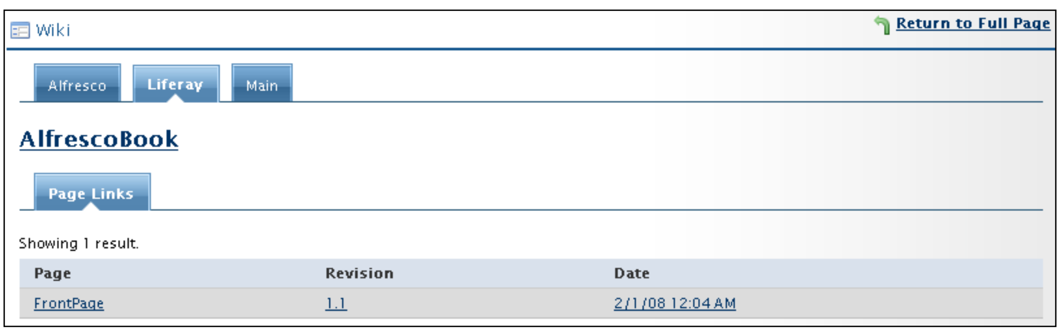


To create new **Pages** (Wiki Article), you have to edit an existing **Page,** and use the syntax as described next to create a link to the new **Page**. When the **Page** is created, instead of being displayed as a link, the name of the new **Page** is identified by two or more words together without spaces between them and uppercasing the first letter of each of the words. When you click on the name, the portlet will create the **Page** automatically. Further, once the **Page** is created, you can also edit it regularly. At the same time, the name of the **Page** on the original **Page** will be converted to a link.

Managing Pages

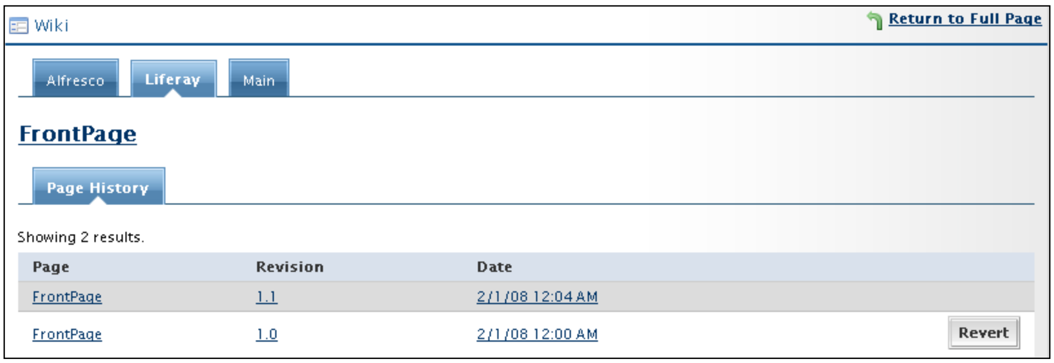
You may need to view **Page Links** of the **Page** "**AlfrescoBook**". You can do it as follows:

1. Locate the **Node** "**Liferay**".
2. Click on the name of the **Node** "**Liferay**".
3. Find the link "**AlfrescoBook**" and click on the name "**AlfrescoBook**".
3. Click on **Page Links**. A list of pages with links will appear.



You may need to view **Page History** of the **Page** "**AlfrescoBook**". You can do it as follows:

1. Locate the **Node,** "**Liferay**". Click on the name of the **Node,** "**Liferay**".
2. Find the link "**AlfrescoBook**" and click on the name "**AlfrescoBook**".
3. Click on **Page History**. A list of pages with history will appear.

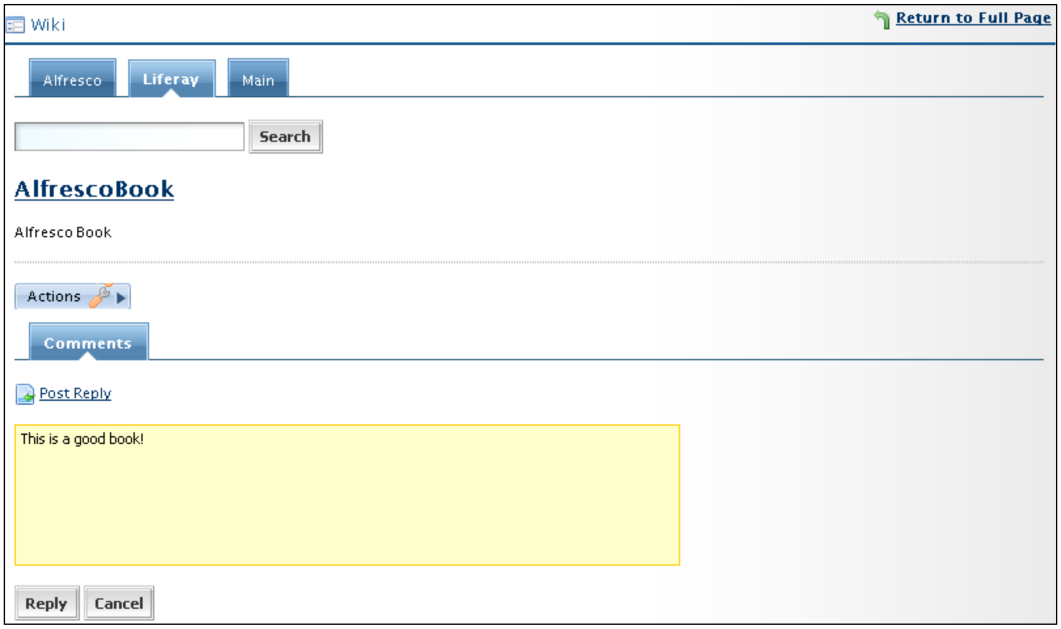


Similarly to view recent changes, simply click on **Recent Changes**. To view all the pages or only orphan pages, simply click on **All Pages** or **Orphan Pages**.

Add Comments

As stated before, the administrator has created a **Page** called "**AlfrescoBook**". As a **User** of "Palm Tree Publications" such as "**Lotti Stein**", you may want to review this page and add **Comments, say,**"**This is a good book**". You can do it as follows:

1. Log in as "**Lotti Stein**".
2. Navigate to the **Book Lovers** community and select **Public Pages**.
3. Navigate to the "**Community**" **Page** and further to the "**Wikis**" **Page**.
3. Locate the **Node,** "**Liferay**".
4. Click on the name of the **Node,** "**Liferay**".
5. Find the link "**AlfrescoBook**", and click on it.
6. Find the **Comment** tab at the bottom of the **Page**.
7. Click on the **Post Reply** icon.
8. Input **Comment,** "**This is a good book**".
9. Finally, click on the **Reply** button to save the inputs.



As an administrator, you can view **Comments** from "**Lotti Stein**" for the **Page** "**AlfrescoBook**" as follows:

1. Locate the **Node,** "**Liferay**". Click on the name of the **Node** "**Liferay**".
2. Find the link, "**AlfrescoBook**", and click on it.

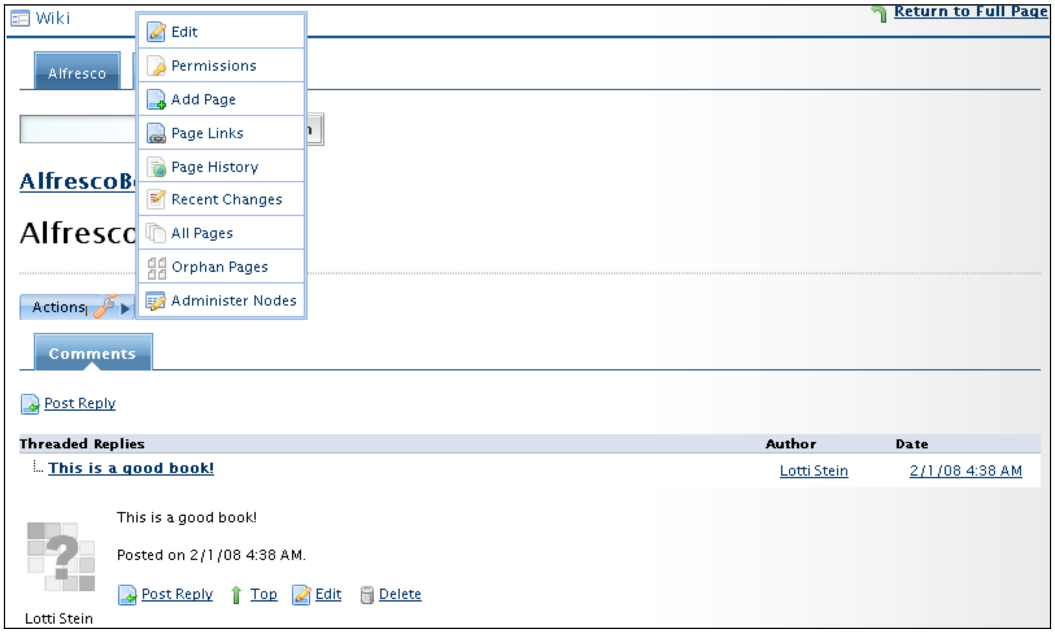
To reply to a **Comment**, locate the comment to which you want to reply first. Then, click on the **Post Reply** icon at the bottom left of the comment. Input comments, and then click on the **Reply** button to save the inputs, or the **Cancel** button to cancel.

To edit a **Comment**, click on the **Edit** icon at the bottom left of the comment. You can change the subject and body. Then, click on the **Update** button to save the changes, or the **Cancel** button, to cancel the changes.

To delete a **Comment**, click on the **Delete** icon at the bottom left of the comment. A screen will appear asking if you want to delete this. Click **OK** to confirm deletion or **Cancel** to cancel deletion.

Note that only the current **Comment** has been deleted. The low level **Comments** related to the current **Comment** will have a link to its parent **Comment**.

To go to the top of the **Comments**, simply click on the **Top** button at the bottom left of any comment.



Generally, to add a discussion for the current page, simply click on **Post Reply** at the bottom of the **Page**. Then input the comments. Finally click on the **Reply** button to save the comments, or the **Cancel** button to cancel the comments.

Additionally, to edit a comment, simply click on the **Edit** icon at the bottom of the **Post** first. Then, change the comments of the post. Further, click on the **Update** button to save the changes, or the **Cancel** button to cancel the changes.

Using Permissions

We have used default settings for the **Wikis** portlet in the page "**Wikis**", of the page "**Community**", under the **Book Lovers** Community. As mentioned before, when the administrator "**Palm Tree**" logs in, he will see the button "**Add Node**" in the **Wikis**. As we know, the user "**Lotti Stein**" is also a member of the **Book Lovers** community. Try to log in as "**Lotti Stein**", you will see that the button "**Add Node**" is not there in the **Wikis**. Further, you will also see that the **Node** "**Liferay**" does not have **Actions**.

What's happening? This is something related to **Permissions**. There are three levels of **Permissions**: Portlet **Permissions**, **Permissions** on **Nodes** and **Permissions** on **Pages**.

Update Portlet Permissions

The following table shows **Permissions** for the **Wiki** portlet. A **Community User** may set up all **Permissions** (marked 'X'): **View**, **Add Node**, and **Configuration**. A **Guest User** on the other hand may set up **Permissions**: **View** and **Configuration**. By default, a **Community** has the **Permission View** (marked '*'), and so does a **Guest User**.

Action	Description	Community	Guest
View	Views this portlet	X, *	X, *
Configuration	Configures this portlet	X	X
Add Node	Adds a **Node** to the portlet	X	

Obviously, as a **User** of the **Book Lovers** Community, "**Lotti Stein**" has only the **View Permissions** on the portlet, **Wikis,** by default. Since the **Book Lovers** community has no **Permission** to "**Add Node**", "**Lotti Stein**" too has no **Permission** to "**Add Node**".

Set up Permissions on Nodes

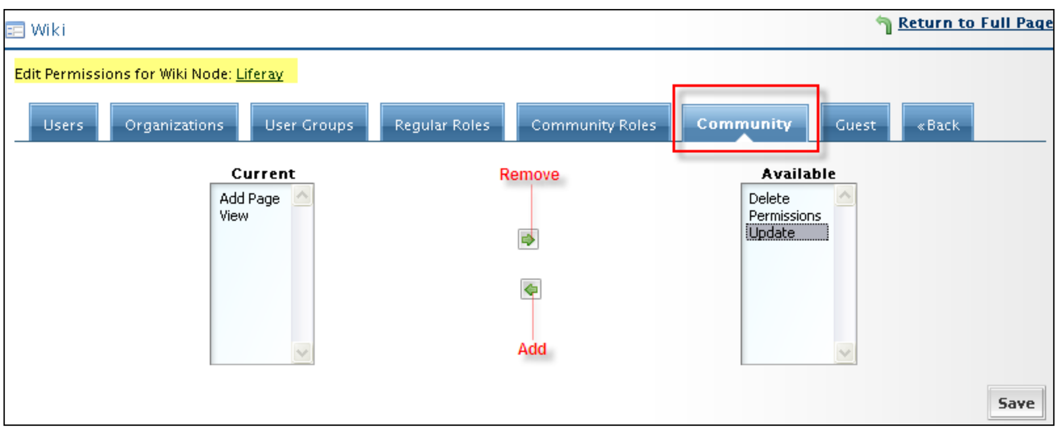
The following table shows the **Permissions** for a **Node** in the **Wiki** portlet. A **Community User** may set up the **Permissions** (marked 'X'), **View**, **Delete**, **Permissions**, **Update**, and **Add Page**, while a **Guest User** may set up the **Permissions, View**, **Delete**, and **Permissions**. By default, a **Community User** has **Permission** (marked '*') **View**, **Update** and **Add Page**, while a **Guest User** has **Permission View** only.

Action	Description	Community	Guest
View	Views the **Node**	X, *	X, *
Delete	Deletes the **Node**	X	X
Permissions	Configures **Permissions** for the **Node**	X	X
Update	Updates the **Node**	X, *	
Add Page	Adds a page for the **Node**	X, *	

Obviously, as a **User** of the **Book Lovers** Community, "**Lotti Stein**" has **Permissions, View** and **Add Page** only on the **Node,** "**Liferay**", since we have added them by **Community** default setting. The **User** does not have the **Permissions, Delete**, **Permissions** and **Update** and will see no actions on the **Node** "**Liferay**".

As an administrator, you may need to set up the **Community Users** having **Permissions**,**Update** as well as **Permissions, View** and **Add Page** on the **Node,** "**Liferay**". So, you need to add the **Permission, Update,** on the **Node,** "**Liferay**" for the **Book Lovers** community. Let's do it as follows:

1. Click on the icon, "**Administer Nodes**" from the **Actions** below the **FrontPage** of the "**Liferay**" tab.
2. Locate the **Node,** "**Liferay**", for which you want to change **Permissions**.
3. Then click on the **Permissions** icon from the **Actions** located next to the node.
4. Select the **Community** tab.
5. Select the **Permission**, **Update** in the **Available** box.
6. Click on the **Add** arrow, and
7. Click on the **Save** button if you are ready.



Now, as a **User** of **Book Lovers** Community, "**Lotti Stein**" has **View**, **Add Page** and **Update Permissions** on the **Node,** "**Liferay**", finally. Try to log in as "**Lotti Stein**" and you will see the **Node,** "**Liferay**", with an action icon, "**Edit**".

Update Permissions on Pages

The following table shows **Permissions** for the **Pages** of a given **Node**. A **Community User** may set up **Permissions** (marked 'X'): **View**, **Delete**, **Permissions**, **Update**, and **Add Discussion**, while a **Guest User** may set up **Permissions** with **View**, **Delete**, and **Permissions**. By default, a **Community User** has **Permission** actions (marked '*'): **View**, **Update** and **Add Discussion**, while a **Guest User** has only **Permission, View**.

Action	Description	Community	Guest
View	View the **Pages**	X, *	X, *
Delete	Delete the **Page**	X	X
Permissions	Configure **Permissions** of the **Page**	X	X
Update	Update **Pages**	X, *	
Add Discussion	Add discussions (**Comments**) for the **Page**	X, *	

Obviously, as a **User** of the **Book Lovers** Community, "**Lotti Stein**" has **Permissions** only to **View**, **Update**, and **Add Discussion** on the Pages, since the **Pages** under the **Node** "**Liferay**" have been added by **Community** default setting. She does not have the **Permissions**, Delete and Permissions.

Using Wikis Effectively

Wiki was originally described as a simple online database. Actually, a **Wiki** (refer to Wikipedia) is a Web-based collaboration platform that lets any user write, place pictures and post links, anywhere on any **Page**. That is, anyone can edit anything on any **Page**. You can do it through the web interface without the need for additional software. Surely, you don't want to learn HTML, or wait for a designated webmaster to upload your files !

Characteristics

You can write the **Wiki** documents collaboratively, in a simple mark-up language via a web browser (refer to Wikipedia). Here a single **Page** in **Wiki** is called a **Wiki Page** while the entire body of **Pages**, which are usually highly interconnected via hyperlinks, is called the **Wiki**. Loosely speaking, a **Wiki** is a database used to create, browse and search for information.

Wiki Pages can be created and updated easily. But there is no review, before modifications are accepted for a **Wiki Page**. Some **Wikis** may be open to the general public without the need to register any user account. In order to acquire a Wiki-signature cookie for auto signing edits, session log-in may be requested. However, many edits on a **Wiki Page** can be made in real-time, and almost appear instantaneously online. This may lead to an abuse of the system. On the other hand, private **Wiki Pages** require users' authentication to edit **Pages**, to add new **Pages**, and even to read **Pages**.

Design Principles

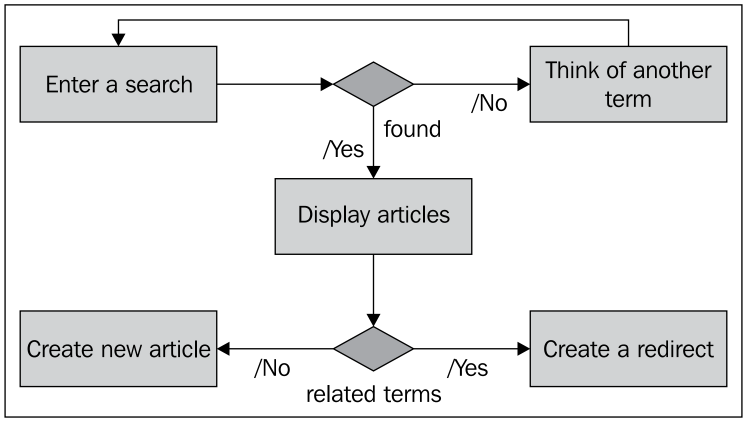
Wiki design principles involve the following items (refer to Wiki Design Principles at `http://c2.com/cgi/wiki?WikiDesignPrinciples`):

1. Open—a **Page** should be incomplete or poorly organized, any reader can edit it as he wants.
2. Cross-referencing—**Pages** can cite other **Pages** that may have not been written yet.
3. Organic—it is open to edit and evolve the structure and text content of the web site.
4. Secular—a small number of text conventions provide access to the most useful page markup.
5. Universal—any writer is automatically an editor and an organizer. Editing and organizing **Wiki Pages** is the same as writing a **Wikis Page**.
6. Manifest— the formatted output will suggest the input required to reproduce **Wikis Pages**.
7. Unified—no additional context is required to interpret **Pages**, since **Page** names are drawn from a flat space.
8. Precise—in order to avoid most name clashes, **Pages** are titled with sufficient precision, typically, by forming noun phrases.
9. Tolerant—interpretable behavior is preferred to error messages.
10. Observable—any other visitor can watch and review activity within the site.
11. Convergent—remove duplication by finding and citing similar or related content.

Wiki Text

Wiki-Text language is a mark-up language, alternative to HTML, to write **Wikis pages** (refer to Wikipedia). Unfortunately, there is no commonly accepted standard Wiki-text language, since the grammar, structure, features and keywords of the Wiki-text language are dependent on the particular **Wiki** software used on the particular website.

The following figure depicts an overview of the **Wiki** article search and creation. Initially, you enter the search criterion. If you do not find the articles, you can think of another term, and search again. If you find the articles, then you just display them. Further, if you find related terms, you can create a redirection; otherwise you just create a new article. Wiki text are used as tools to create new article and redirection.



Pros And Cons

Wikis have their own advantages and disadvantages. Some advantages of **Wikis** are:

1. There is no need to install HTML authoring tools.
2. Minimal training is needed.
3. It can help develop a culture of sharing and working together.
4. It is useful for joint working, when there are agreed shared goals.

Some disadvantages of **Wikis** are:

1. The success of one **Wiki** (such as Wikipedia) may not necessarily be replicated elsewhere.
2. There is no standard lightweight Wiki mark-up language available as yet.
3. A collaborative **Wiki** may suffer from the lack of a strong vision.
4. There may be copyright and other legal issues regarding collaborative content.
5. It can be ineffective, when there is a lack of consensus.

> Wikipedia is the biggest multilingual free-content encyclopedia on the Internet. URL: `http://www.wikipedia.org/`

What Can Wikis Be Used for?

Wikis are useful for a number of purposes. Here, we just list some of them:

1. **Wikis** enable users to contribute information on public web sites easily.
2. They provide an opportunity to learn about team working and trust for teaching.
3. They make it easier to develop collaborative documents for researchers.
4. They have the ability to manage departmental content on intranets for departmental administrators with minimal HTML experience.
5. **Wikis** are useful at events for note-taking in discussion groups.

Using Liferay Wikis

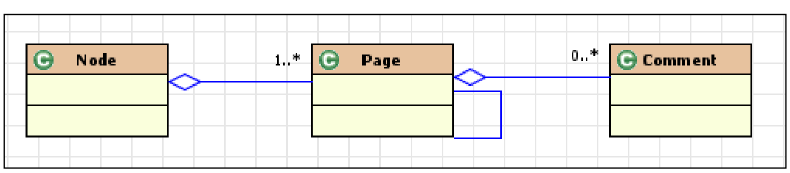
Liferay **Wikis** allows the creation of contents in collaboration style. It is based on Friki with the following features in addition to those commonly found in good **Wikis**:

1. Content parsing.
2. ACL (access control list) security style.
3. Easy to use macros.
4. Easy to adapt security, content, parsing and versioning.
5. Manage all content and security by console tools.

> What's Friki? Friki is a Wiki engine developed in Java.

Pages are designed in groups, called **Nodes** in Liferay. Each **Node** can act as a whole **Wiki**. It has its own set of **Permissions**, **Recent Changes** list and listing of **All Pages**, that is, Wiki articles, and so on. The **Wiki** in Liferay has a very powerful functionality with a robust security model. For example, users can use the **Wiki** in the traditional way (open to public), or users can use the **Wiki** as a tool to organize private information for certain **Organizations** or **User Groups** of people.

The following diagram depicts Liferay **Wiki** structure overview. Liferay **Wikis** is made up of a set of **Nodes**. Each **Node** may have many **Pages**. Each **Node** has at least one **Page** called "**Front Page**" by default. Each **Page** may have many **Comments**.



Liferay **Wiki** comes with three editing modes: **Classic**, **HTML** and **Plain Text**.

Classic Mode

The classic editing mode uses text conventions to format the text. The text is later converted to HTML which will be presented by the Friki engine.

Liferay **Wiki** uses the forthcoming syntax (refer to Liferay Wiki):

- Text styles: at the beginning and at the end of the text:
    - Sole single-quote (') for quote.
    - Double single-quotes ('') for emphasis, usually italics.
    - Triple single-quotes (''') for strong emphasis, usually bold.
    - Quadruple single-quotes ('''') for strong emphasis, usually bold and italics.
- Lists:
    - Tab * (or 8 spaces and *), for first level; tab-tab * for second level, and so forth.
    - * for bullet lists, '1.'. For numbered lists (mix at will)—always use '1.'; it will be renumbered automatically.
- Headers:
    - Single equal-sign (=) for header 1.
    - Double equal-sign (==) for header 2.
    - Triple equal-sign (===) for header 3, and so on.
- Embedded and formatted RAW HTML: also HTML table tags.
- Horizontal rule: four or more hyphens (----) at the beginning of a line make a horizontal rule.
- Mono spaced indent: a blank or more spaces (not 8 spaces) at the beginning of the line.
- Internal Links: two or more words together, without spaces between them, and uppercasing the first letter of each of the words.
- External Links:
    - Beginning with a bracket ([), then including URL, space, display name, and ending with a bracket (]).
    - Beginning with a double quotation mark ("), then including display name, and double quotation mark ("), followed by the URL.

- Definitions: starting with tab, then term; following with colon and tab; finally the definition.
- Indented paragraphs: tab plus space at the beginning of the paragraph.

HTML Mode

The text area incorporates an embedded HTML text editor in the HTML mode. HTML mode allows the user to write the document in a WYSIWYG editor, which is similar to working in MS Word or Open Office.

> What's HTML text editor? How to use WYSIWYG editor? Refer Chapter 6.

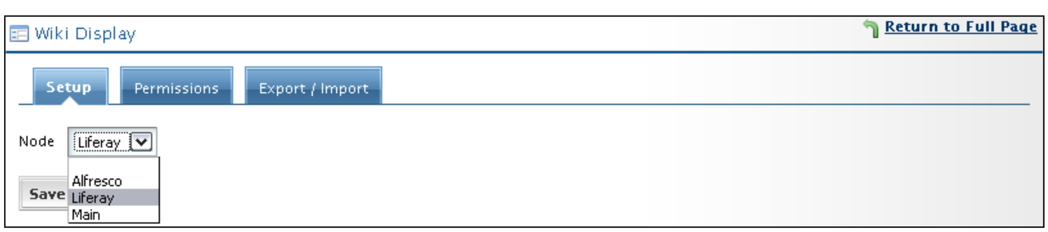
Plain Text Mode

The text area incorporates pure plain text in **Plain Text** mode, as well as in **Classic** mode with no rules and syntax. It is the same as editing source in HTML text editor.

Publishing Wiki Articles

We have discussed how to create **Node** and how to add **Pages** in order to keep track of information about editorial guidance and other resources that require frequent editing. As the administrator of Palm Tree Publication", you have created the Node, "**Liferay**". Now you can publish Wiki articles for the Node, "**Liferay**". Let's do it as follows:

1. If **Wiki Display** is not already present, add the **Wiki Display** portlet in the page "**Wikis**" of the **Book Lovers** Community where you want to publish Wiki articles.
2. Click on the **Configuration** icon on the upper right of the **Wiki Display** portlet.
3. With the **Setup** tab selected, a **Node** selection list appears. Select the **Node** named, "**Liferay**", which you want to publish as a **Wiki** in your **Page** first.
4. Then, click on the **Save** button to save the changes. If needed, click on the arrow **Return to Full Page** to return.

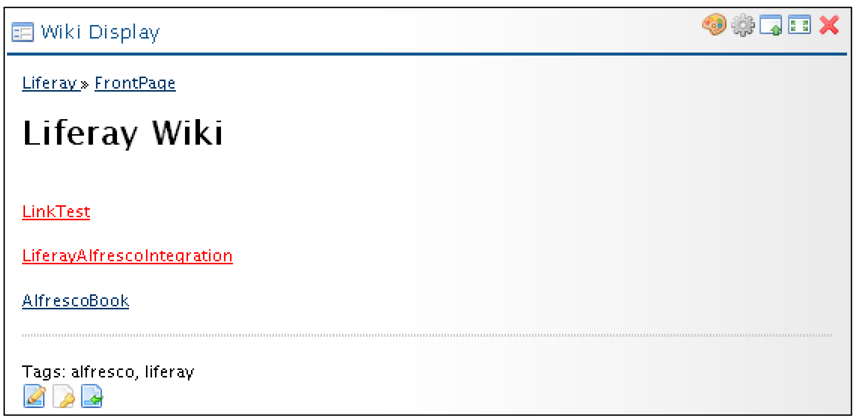


Liferay **Wiki Display** portlet provides a way to publish **Wiki** articles in a given **Page** of a **Community**. The following figure depicts **Wiki Display** portlet with a **Wiki Page**.

As an administrator, say "**Palm Tree**", you have proper permission to edit the current **Wiki Page** and add **Comments** on the current **Wiki** page, and also change the **Page Permissions** since you have proper access right to do so.

As a **User** of "Palm Tree Publications", such as "**Lotti Stein**", you have proper **Permission** to edit the current **Wiki** page and add **Comments** on the current **Wiki** page. But you cannot change **Page Permissions** since you have proper access to do so.

What's happening? This is something related to **Permissions**.



The following table shows the **Permissions** for the **Page**, "**FrontPage**", of a given **Node**, "**Liferay**" in the **Wiki Display** portlet. A **Community User** may set up **Permissions** (marked 'X'): **View**, **Delete**, **Permissions**, **Update**, and **Add Discussion**, while a **Guest User** may set up **Permissions** with **View**, **Delete**, and **Permissions**. By default, a **Community User** has **Permission** actions (marked '*'): **View**, **Update** and **Add Discussion**, while a **Guest User** has the **Permission** to **View** only.

Action	Description	Community	Guest
View	Views the **Pages**	X, *	X, *
Delete	Deletes the **Page**	X	X
Permissions	Configures **Permissions** of the **Page**	X	X
Update	Updates Pages	X, *	
Add Discussion	Adds discussions (**Comments**) for the page	X, *	

Obviously, as a **User** of the **Book Lovers** Community, "**Lotti Stein**" has only the **Permissions** to **View**, **Update**, **Add Discussion** on the **Pages**, since the **Pages** under "**Liferay**" was added by **Community** default setting. She does not have the **Permissions**, **Delete** and **Permissions**.

As an administrator, you may need to set up the **Community Users** having **Permissions** to **View** and **Update** on the **Page,** "**FrontPage**", of the **Node,** "**Liferay**". That is, you have to remove the **Permissions, Add Discussion** on the **Page,** "**FrontPage**", of the **Node,** "**Liferay**", for the **Book Lovers** community. Let's do it as follows:

1. Click on the **Permissions** icon at the bottom of the **Page,** "**FrontPage**".
2. Select the **Community** tab.
3. Select **Permission**, **Add Discussion,** in the **Current** box.
4. Click on the **Remove** arrow.
5. Click on the **Save** button, if you are ready.

Now, as a **User** of the **Book Lovers** Community, "**Lotti Stein**" has the **View** and **Update Permissions** on the **Page,** "**FrontPage**", of the **Node,** "**Liferay**", finally. Try to log in as "**Lotti Stein**" and you will see the **Page** "**FrontPage**" of the **Node,** "**Liferay**" without an action icon, "**Comments**".

Working with Web Form

Do you want to collect suggestions on the "**Liferay Book**" and "**Alfresco Book**"? Do you want to collect **Comments** on other topics? The **Web Form** portlet would be a useful tool.

The **Web Form** portlet allows a web administrator to define a form to be published in the website. Users who visit the website can then fill the form, which is then sent to a configured email address.

There are two modes for the **Web Form** portlet: view mode and edit mode.

Using View Mode

The following figure depicts the view mode of the **Web Form** portlet. As an administrator, you may need to add the **Web Form** portlet in the page, "**Web Form**", of the page "**Community**. Let's do it as follows:

1. Add a child page called "**Web Form**" of the page "**Community**", at the **Book Lovers** Community **Public Pages**.

2. If **Web Form** Portlet is not already present, add the **Web Form** portlet in the page, "**Web Form**", of **Community** where you want to fill the form.

As a normal **User,** say "**Lotti Stein**", you may plan to submit your **Comments** on the "**Liferay Book**". You can do it as follows:

1. Log in as "**Lotti Stein**".
2. Navigate to the **Book Lovers** community and select **Public Pages**.
3. Navigate to the "**Community**" **Page** and further to the "**Web Form**" **Page**.
4. Input **Name** "**Liferay Book**", under **Suggestions (**message: **"Your input is valuable to us. Please send us your suggestions.").**
5. **Select a Rating from a select box (Excellent, Good, Satisfactory, Poor), say "Good".**
6. **Input Comments if possible.**
7. Click on the **Send** button when you are ready to send the form.

> What will happen next? The portal will send email according to the configuration which you have set up.

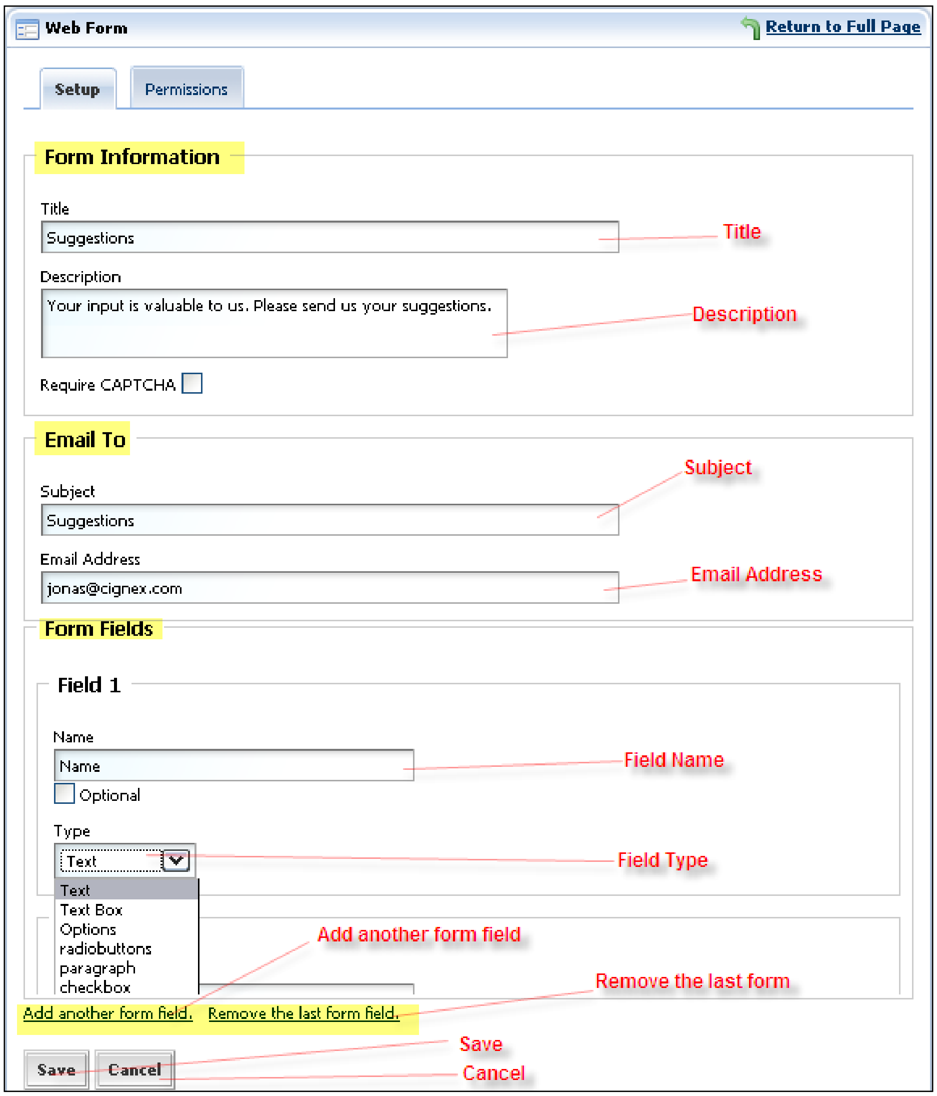
Using Edit Mode

As an administrator, you can view the edit mode of the **Web Form** portlet. You simply click on the **Configuration** icon at the upper right of the **Web Form** portlet. The following figure depicts the edit mode of the **Web Form** portlet. You can set up a form to be published in the website and configure **Permissions,** if you have proper access.

There are only two **Permission** actions for the portlet, **View** and **Configuration**:

1. With the **View Permission**, users can **View** and fill the form, which is then sent to a configured email address.
2. With **Configuration Permission**, users can set up a form to be published in the website and configure **Permissions**, such as reassign **Permissions** and delegate **Permissions** for **Users, User Groups**, **Organizations**, **Community** and **Guest**.

In general, the **Web Form** portlet (in edit mode) has the following features:



1. The **Title** and introductory **Description** of the form shown to the users are configurable.
2. The **Email Address** and **Subject** of the email is also configurable per form.
3. It is possible to have as many different forms per website and **Page,** as desired.
4. It supports many types of fields: **Text**, **Text Box**, **Options** (separated by commas), **radiobuttons**, **paragraph** and **checkbox**.
5. To add a new **Form Field**, simply click on the link "**Add another form field**"; to remove the last form field, simply click on the link "**Remove the last form field**". Click **Save** to save the changes, or **Cancel** to cancel the changes.

Working with Polls

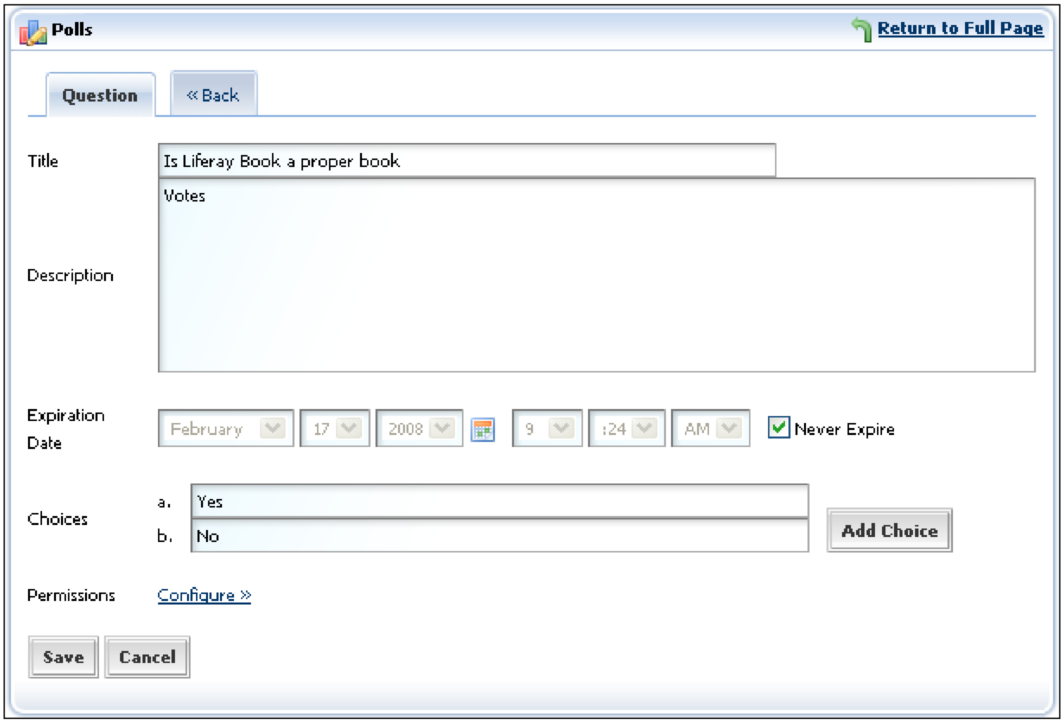
Do you want to keep track of the votes on "**Is Liferay Book a proper book**"? The **Polls** portlet and **Polls Display** portlet are useful tools.

Using Polls Portlet

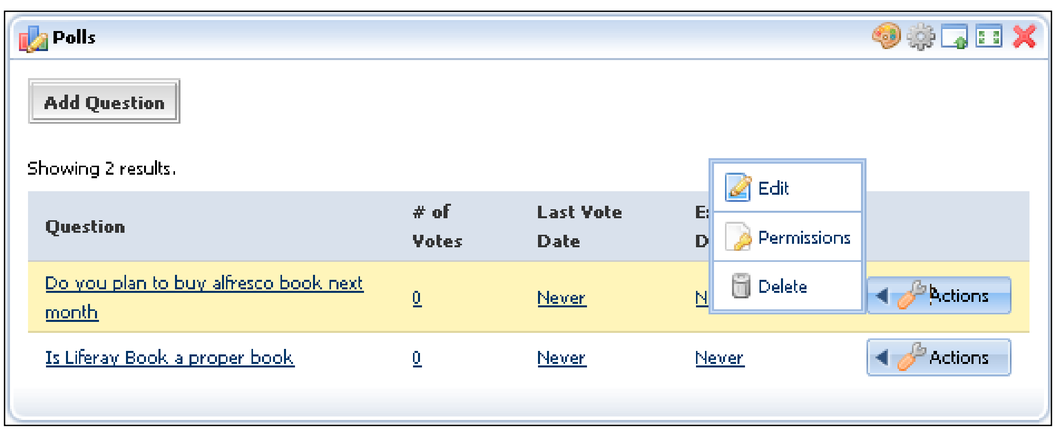
First of all, we plan to add questions. As an administrator, you may need to create a page "**Polls**" under the page "**Community**" first. Then you need to create a lot of questions for polls such as, "**Is Liferay Book a proper book**" or "**Do you plan to buy alfresco book next month**". To do this we should:

1. Add a child page called "**Polls**" of the **page** "**Community**" at the **Book Lovers** Community **Public Pages**.
2. Add the **Polls** Portlet in the page, "**Polls**" of **Community,** where you want to manage questions, if **Polls** Portlet is not already present.
3. Click on the button "**Add Question**".
4. Input the name, "**Is Liferay Book a proper book**", **Description** "**Votes**", **Choices** "**Yes**" and "**No**".
5. Add choice by clicking on the **Add Choice** button. After clicking on the **Add Choice** button, you can delete a choice by clicking on the **Delete** button located next to the choice name input box.
6. Check/uncheck **Never Expire** box or set the **Expiration Date**.
7. Set **Permissions** by clicking on the **Configure** link. To configure additional **Permissions**, click on the **More** link. Here, we just use default settings.

8. Click on the **Save** button to save the inputs.



Of course, you can add other **Questions**. After adding **Question** "**Do you plan to buy alfresco book next month**", we can view the **Questions**.



Managing Questions

Polls questions are displayed as question name, **number of Votes**, **Last Vote Date**, **Expiration Date,** and **Actions,** with the set of icons: **Edit**, **Permissions**, and **Delete**. By default, this portlet will display all **Questions** for the current **User** who has proper **Permissions**.

Edit a Question

Let's suppose that we want to change the **Description** of the question, "**Do you plan to buy alfresco book next month**" from "**alfresco book**" to "**vote for alfresco book**". We need to edit and update it. Let's do it as follows:

1. Locate the question "**Do you plan to buy alfresco book next month**" in the **Polls** portlet, and click on the **Edit** icon from the **Actions** next to the question**.**
2. Update the **Description** with the value "**vote for alfresco book**".
3. Click **Save** button to save the inputs.

Delete a Question

Suppose that the **Question** "**Do you plan to buy alfresco book next month**" is not wanted anymore, we need to delete it. Let's delete it as follows:

1. Locate a **Question** ("**Do you plan to buy alfresco book next month**") that you want to delete.
2. Click on the **Delete** icon from the **Actions** located next to the question.
3. A screen will appear asking if you want to delete this.
4. Click **OK** button to confirm deletion.

> Note that deleting a **Question** will delete all related votes which belong to this **Question**.

Set Up Permissions

As a **User** at "Palm Tree Publications", such as "**Lotti Stein**", you have proper **Permissions** to **View** and **Add Vote** on the **Question,** "**Is Liferay Book a proper book**". But you do not have **Permissions** to **Update** and **Delete**.

What's happening? The following table shows the **Permissions** for the **Polls Questions**. A **Community User** may have **Permissions** (marked 'X'): **View**, **Delete**, **Permissions**, **Update**, and **Add Vote**, while a **Guest User** may have the **Permissions, View**, **Add Vote**, **Delete**, and **Permissions**. By default, a **Community User** has the **Permission** actions (marked '*'), **View** and **Add Vote**, while a guest user only has **Permission** to **View**.

Action	Description	Community	Guest
View	Views **Polls Questions**	X, *	X, *
Delete	Deletes **Polls Questions**	X	X
Permissions	Configures **Permissions** of **Polls Questions**	X	X
Update	Updates **Polls Questions**	X	
Add Vote	Adds vote for the **Question**	X, *	X

Obviously, as a **User** of the **Book Lovers** Community, "**Lotti Stein**" has only **Permissions** to **View** and **Add Vote** on the **Question**.

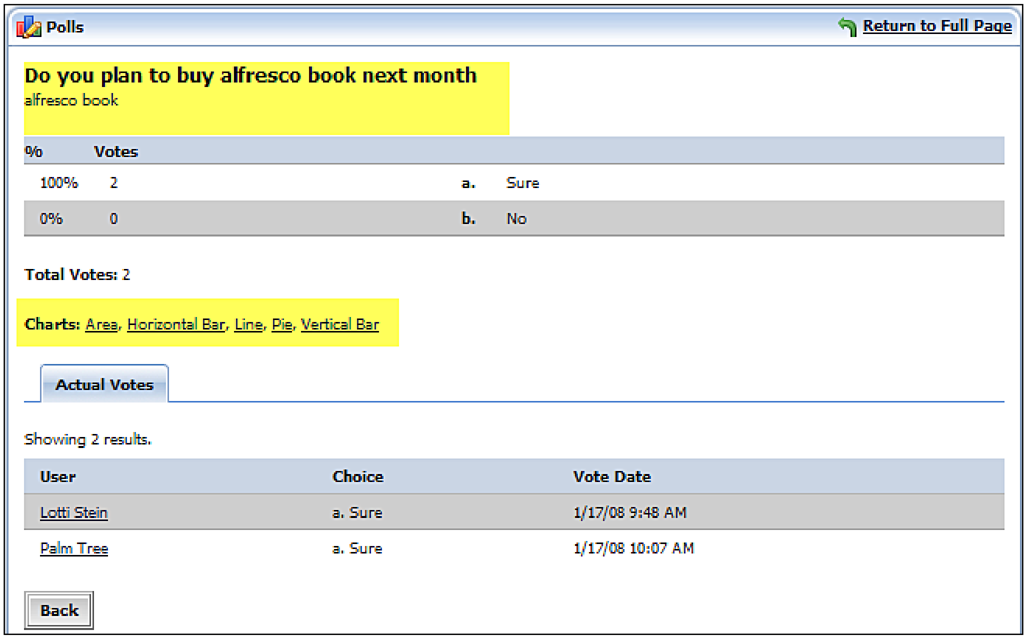
As an administrator, you may need to set up the **Community Users** having **Permissions** to **View**, **Add Vote**, **Delete** and **Update** on the **Question,** "**Is Liferay Book a proper book**". Let's do it as follows:

1. Click on the **Permissions** icon from the **Actions** next to the **Question,** "**Is Liferay Book a proper book**".
2. Select the **Community** tab.
3. Select **Permissions**, **Delete** and **Update** in the **Available** box.
4. Click on the **Add** arrow.
5. Click on the **Save** button if you are ready.

Now, as a **User** of the **Book Lovers** Community, "**Lotti Stein**" has **Permissions** to **View**, **Add Vote**, **Update** and **Delete** on the **Question,** "**Is Liferay Book a proper book**" finally. Try to log in as "**Lotti Stein**" and you will see the **Actions** with icons **Edit** and **Delete** next to the **Question,** "**Is Liferay Book a proper book**".

View Votes

Suppose that you want to view **Votes** for the **Question,** "**Do you plan to buy alfresco book next month**" in different ways. You can simply click on the name of the **Question**. You will see the **Votes** in percentage, or other **Charts** (such as **Area**, **Horizontal Bar**, **Line**, **Pie** and **Vertical Bar**). Further, you can also view the actual voters if you have proper **Permissions**.



Using Polls Display Portlet

Do you want to display a specific poll's results in the Intranet? The **Polls display** portlet would be a useful tool for that.

In the **Polls display** portlet, the **Poll Votes** for the given **Question,** "**Is Liferay Book a proper book**", are displayed as **Percentage**, **Number of Votes**, **Last Vote Date**, and **Choice** names. The selected **Question** name is shown at the upper left and the total **Votes** are shown at the bottom left. By default, this portlet will display all the **Votes** for a given **Poll Question,** for a current **User** who has proper **Permissions**.

You can select different **Poll Questions** by simply clicking on the **Configuration** icon at the upper right of the **Polls Display** portlet. Then, you can select a **Question** from a list of **Poll Questions** to be published in the website by selecting the **Setup** tab. Furthermore, you can also configure **Permissions,** if you have proper access, by selecting **Permissions** tab.

There are only two **Permission** actions for the portlet: **View** and **Configuration**:

1. With **View Permission**, users can view the **Poll** results.
2. With **Configuration Permission**, users can update the **Poll Questions** to be published in the website and configure **Permissions**, such as reassign **Permissions** and delegate **Permissions** for **Users**, **User Groups**, **Organizations**, **Community** and **Guest**.

Using Polls Effectively

Generally speaking, **Users** (who have proper **Permissions**) or administrators can create multiple choice **Polls** that keep track of **Votes** and display results on the **Page** in the **Polls** portlet. On the one hand, the **Polls** portlet can manage several separate **Polls**. On the other hand, a separate portlet such as the **Polls Display** portlet can be configured to display a specific poll's results.

Actually, the **Polls** portlet acts as a voting application in order to take the public opinions. It provides users with scientifically sampled survey to assess public opinions. Meanwhile, it effectively uses the portal's customization and personalization features, and furthermore, allows an end user to customize the results shown.

As **Poll** administrators, you can easily add and delete the **Poll** topics. You can customize the portlet through actions such as changing the result title, reordering the **Poll** options and specifying whether the user can select multiple options.

In theory, **Polls** are scheduled to open and close at given times. As **Poll** administrator, you may view previous **Poll** results if you want to make use of this information for your statistical analysis. At the same time, you may configure portlet instance to determine which **Poll** is to be shown in the portlet.

However, there are some differences between survey and **Poll**. A survey is a multiple pages survey questionnaire, while a **Poll** is a one page questionnaire and is replaced by **Poll** results after voting., **Polls** consists of straightforward lists relating to questions and potential responses, either in the form of multiple choices or text. When information gathering requirements are simple, and you do not require the identification of the respondents, you can use **Polls**. Otherwise, you have to use survey.

Summary

This chapter instructed us, how to add and manage (view, update and delete) **Nodes** of **Wikis**, add **Pages** at the **Nodes** in **Wikis**, manage (view, update, delete and search) **Pages** for a given node in **Wikis**, use **permissions** for **Wikis** portlet and **Permissions** on **Nodes**, and publish **Wiki** articles in the intranet first. Then it discussed how to set up **Web Form** in order to collect **Users**' suggestions, to configure **Polls** and to display a survey in order to assess public opinion.

6

Internal Bloggings And RSS

In the intranet website "book.com", of "Palm Tree Publications", it is required to let small teams work on specific projects, share files and Blogs about project process, use HTML text editor to create or update files and Blogs, and employ RSS feeds. Liferay Blogs provide a straightforward Blog solution with features such as RSS support, **User** and **Guest Comments**, browseable categories, **Tags** and labels, and an entry rating system. Liferay RSS with subscription provides the ability to frequently read RSS feeds from within the portal framework. At the same time, Liferay WYSIWGs (What You See Is What You Get editors) provides ability to edit web content, including Blogs' content. Less technical persons can use WYSIWGs without sifting through complex code. This chapter will introduce us to working with Blogs, publishing them, building Blog content and working with RSS.

By the end of this chapter, you would have learnt how to:

- Add entries of Blogs.
- Manage (view, update and delete) entries of Blogs.
- Add comments for a given entry of Blogs.
- Use **Permission** on the Blogs portlet and entries of Blogs.
- Publish Blogs by Recent Bloggers portlet and Blogs Aggregator portlet.
- Build Blogs with WYSIWGs editor.
- Use RSS including RSS portlet, News Portlets and Weather portlet.

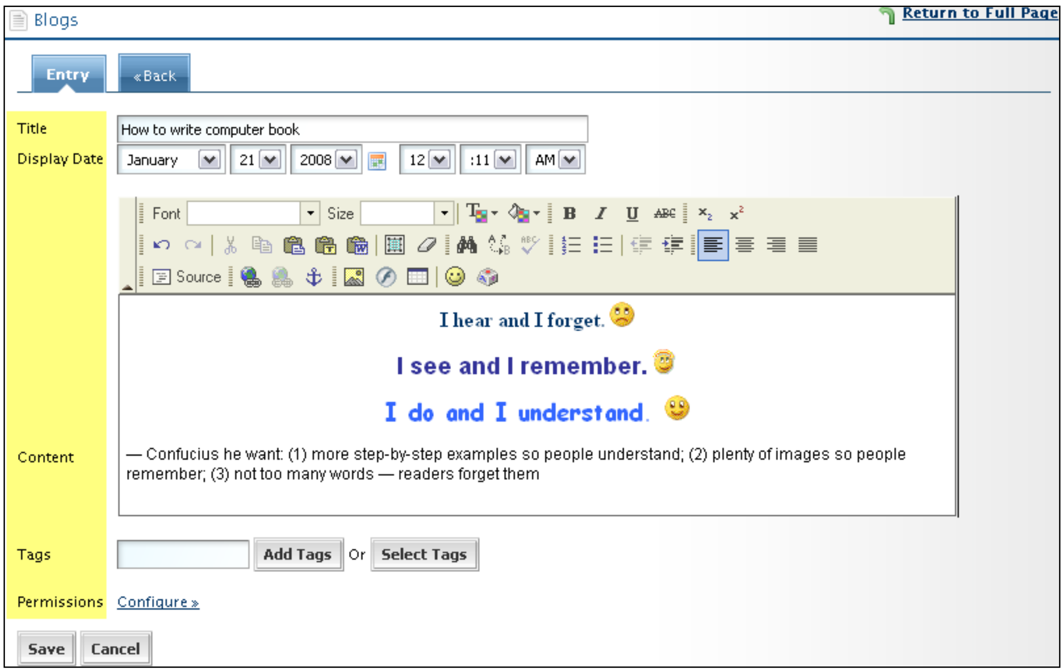
Working with Blogs

In order to let small teams working on specific projects share files and Blogs about project process, we should use Liferay Blogs at **Book Lovers** Community **Public Pages**.

As an administrator of the enterprise "Palm Tree Publications", you need to create a **Page** called "**Blogs**" under the page "**Community**", at the **Book Lovers** Community and moreover, add **Blogs** portlet in the **Page,** "**Blogs**". Then you are ready to create **Blogs** such as, "How to write computer book" and "Is your book sellable?".

Adding Entries

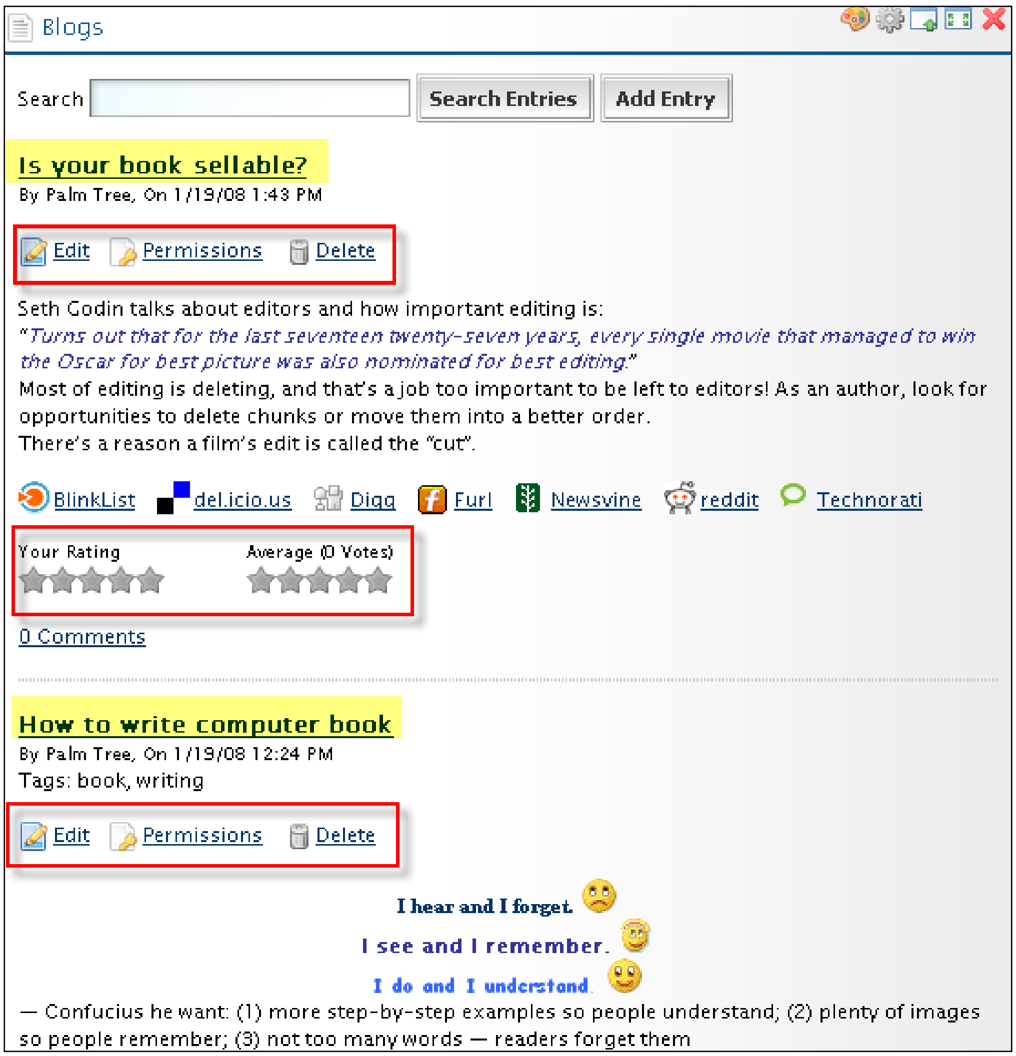
First of all, we need to create an **Entry** called "**How to write computer book**". Let's create the **Entry** now as follows:



1. Add a child page called "**Blogs**" of the **Page** "**Community**" in the **Book Lovers** Community, **Public Pages**.
2. If the **Blogs** portlet is not already present, add it in the **page** "**Blogs**" of the **Book Lovers** Community, where you have to manage the **Blogs** entries.
3. Click on the **Add Entry** button.
4. Input title, "**How to write computer book**", which could be duplicated.
5. Input **Display Date**—default date and time are current.
6. Input **Content**—text, graphics and any links—by HTML Text editor.
7. Press the button, **Select Tags,** or input tag and press the button **Add Tags,** if you need to add tags.

8. Set **Permissions** by clicking on the **Configure** link. To configure additional **Permissions**, click on the **More** link. Here, we just use the default settings.
9. Save inputs by pressing the **Save** button.
10. Return to the original page, by clicking the **Return to Full Page** arrow.

Of course, you can create other **Entries** that you may want. After creating the **Entry,** "**Is your book sellable?**", we can view **Entries**.



Managing Entries

After creating **Entries**, we can manage them easily.

Edit Entries

Entries are editable. For example, we need to change the title of the **Entry,** "**Is your book sellable?**" from value "**Is your book sellable?**", to the value "**How to write sellable book**". Let's do it as follows:

1. Locate the **Entry** "**Is your book sellable?**" that you want to edit.
2. Click on the **Edit** icon below the title, "**Is your book sellable?**".
3. Update the title, "**Is your book sellable?**", with new value, "**How to write sellable book?**".
4. Retain the values of **Display Date**, **Content**, and **Tags**.
5. Save inputs by pressing the **Save** button.

Delete Entries

Entries are removable. For instance, the **Entry,** "**How to write sellable book?**", is not wanted anymore. We have to remove this from the **Blogs** portlet. Let's delete it as follows:

1. Locate the **Entry,** "**How to write sellable book?**", that you want to delete.
2. Click on the **Delete** icon below the title, "**How to write sellable book?**".
3. A screen will appear asking if you want to delete this.
4. Click the **OK** button to confirm deletion.

Note that deleting an **Entry** will delete all related **Comments** which belong to this **Entry**.

Search Entries

The **Contents** of **Entries** are searchable. Suppose that as an administrator, you want to search **Entries** by the keyword "**them**". Let's search it as follows:

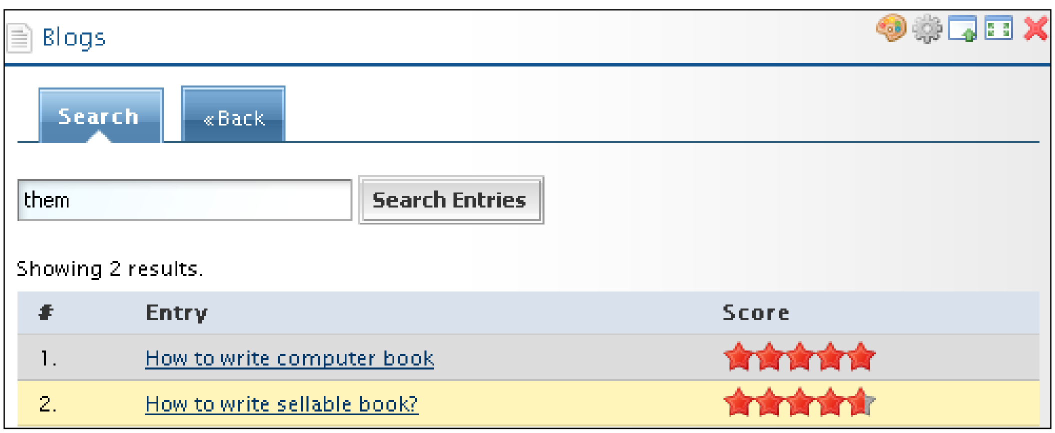
1. Find the button, **Search Entries** in the **Blogs** portlet.
2. Input the search criterion (that is keyword), "**them**".
3. Click on the **Search Entries** button.

4. A list of **Entries** appears at the bottom of the **Blogs** portlet. **Entries** are listed by **number**, **Entry** and **Score**. Obviously, **Entries** are displayed in the descending order of the **Score**.

Surely, you can search entries using any keyword. There is only one condition that you need to have proper **Permissions** (view) on the **Entries**. In other words, if you have no proper **Permissions** (view) on the **Entries**, you cannot view them by **Search**.

For example, as an administrator, you can simply change the **Permissions** on the **Entry,** "**How to write sellable book?**". For example, let the **Community User** have no **Permissions** (**view**) on this **Entry**. Now,try to log in as "**Lotti Stein**". You just input the search criterion, "**them**", and click on the button, "**Search Entries**". You will see the **Entry,** "**How to write sellable book?**". But when you click on its title, you will receive the message, "**You do not have the required permissions**".

> What's happening? This is something related to **Permissions** on the **Entries**. Refer to the section "*Using Permissions*".



Giving Your Rating

You can give your own rating for any **Entries,** if you have proper **Permissions** to view them. For instance, as an administrator, you have read the **Entry,** "**How to write computer book**" and want to give your rating as two stars. You simply click on the second star under "**Your Rating**" of the **Entry,** "**How to write computer book**".

Try to log in as "**Lotti Stein**", who can also read the **Entry** "**How to write computer book**" and wants to give her rating as three stars. You simply click on the third star under "**Your Rating**" of the **Entry** "**How to write computer book**". Now you will find that the average is two and half stars with the message, "**2 Votes**".

Employing RSS Feeds

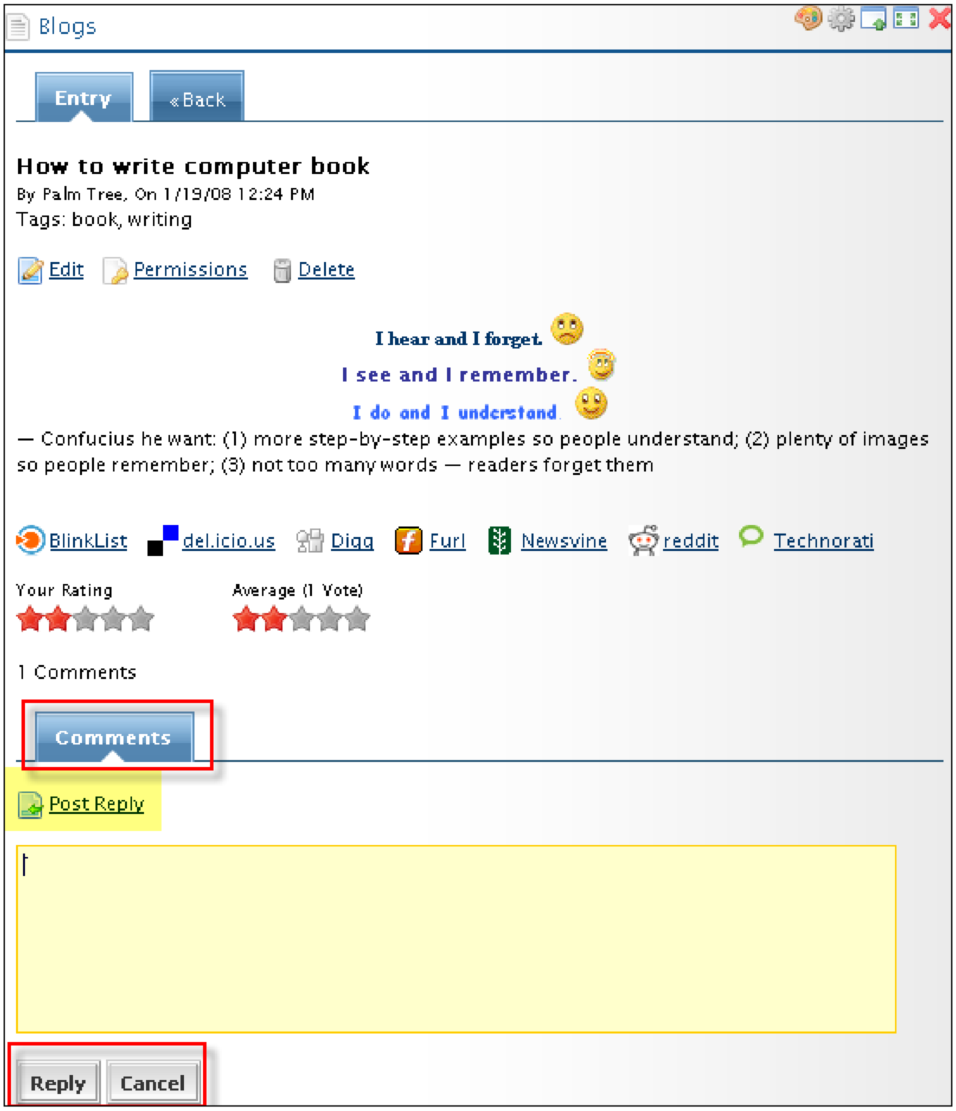
You can export **Blogs** as RSS feeds. Let's do it as follows:

1. Click on the **RSS Feed** icon ("Subscribe to this blog") at the bottom of the **Entries**.
2. **RSS Feeds Page** appears. All **Entries** are displayed with a brief content.
3. You can subscribe to the feed using different applications.
4. Locate the **Entry** (by title) that you want to view, and click on the link.
5. You will return to the **Entry** view **Page**.

Adding Comments

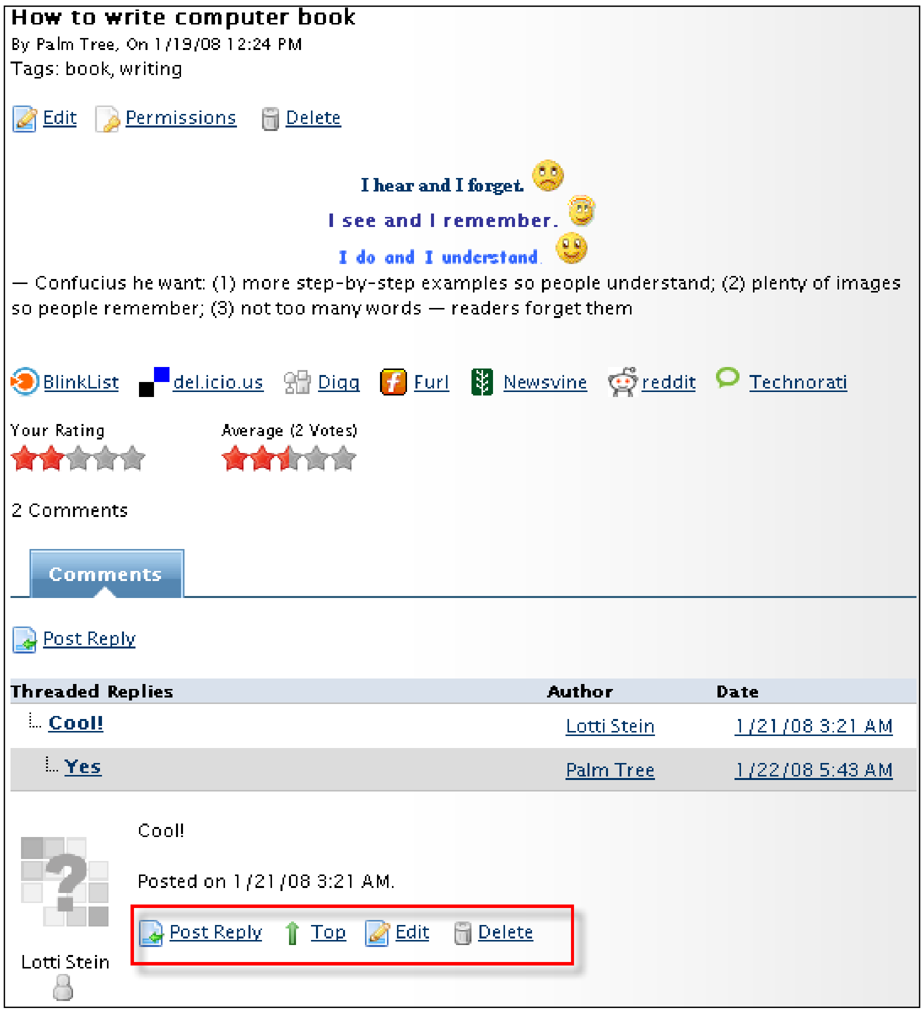
As stated above, the administrator has created an **Entry** called "**How to write computer book**". As a **User** of "Palm Tree Publications", "**Lotti Stein**" wants to review the **Entry** and add her **Comments,** "**Cool!**" Let's do it as follows:

1. Log in as "**Lotti Stein**".
2. Navigate to the **Book Lovers** community and select **Public Pages**; navigate to the **Community Page** and further to the **Blogs Page**.
3. Locate an **Entry** (by page up or page down) that you want to view; and click on the **Entry** (by title), "**How to write computer book**".
4. Under the **Comments** tab, click on the **Post Reply** link, if you want to add a new topic (or subject).
5. Or below **Subject**, click on the **Post Reply** link, if you want to add new sub topic or **Subject**.
6. Input text "**Cool!**".
7. Click the **Reply** button to save the input.


Blogs
Entry
«Back
How to write computer book
By Palm Tree, On 1/19/08 12:24 PM
Tags: book, writing
Edit
Permissions
Delete
I hear and I forget.
I see and I remember.
I do and I understand.
— Confucius he want: (1) more step-by-step examples so people understand; (2) plenty of images so people remember; (3) not too many words — readers forget them
BlinkList
del.icio.us
Digg
Furl
Newsvine
reddit
Technorati
Your Rating
Average (1 Vote)
1 Comments
Comments
Post Reply
Reply
Cancel

As an administrator, you can view **Comments** from "**Lotti Stein**", for the **Entry,** "**How to write computer book**" as follows:

1. Locate the **Entry,** "**How to write computer book**".
2. Click on the title of the **Entry,** "**How to write computer book**".



Moreover, you can also reply to a **Comment**. You locate the **Comment** to which you want to reply first. Then, click on the **Post Reply** icon at the bottom left of the **Comment**. Input **Comments**, and then click on the **Reply** button to save the inputs, or the **Cancel** button to cancel.

Furthermore, you can also edit a **Comment**. You click on the **Edit** icon at the bottom left of the **Comment**. You can change the **Subject** and the **Body**. Then, click on the **Update** button to save the changes, or the **Cancel** button to cancel the changes.

You can also delete a **Comment**. You click on the **Delete** icon at the bottom left of the **Comment**. A screen will appear asking if you want to delete this. Click **OK** to confirm deletion or **Cancel** to cancel deletion.

> Note that only the current **Comment** has been deleted on action. The low level **Comments** related to the current **Comment** will have a link to its parent **Comment**.

Finally, in order to go to the top of the **Comments**, simply click on the **Top** button at the bottom left of any **Comment**.

Using Permissions

We have used default settings for the **Blogs** portlet in the **Page,** "**Blogs**" of the **Page** "**Community**" under the **Book Lovers** Community. As mentioned earlier, when the administrator "Palm Tree" logs in, he/she will see the button, "**Add Entry**" in the **Blogs**. As we know, the **User** "**Lotti Stein**" is also a member of the **Book Lovers** community. Try to log in as "**Lotti Stein**", and you will see that there is no "**Add Entry**" button in the **Blogs**. Furthermore, you see the **entry,** "**How to write computer book**", without the **Action** icons (**Edit**, **Permissions** and **Delete**).

What's happening? This is something related to **Permissions**. There are two levels of **Permissions**: **Portlet Permissions** and **Permissions on Entries**.

Update Portlet Permissions

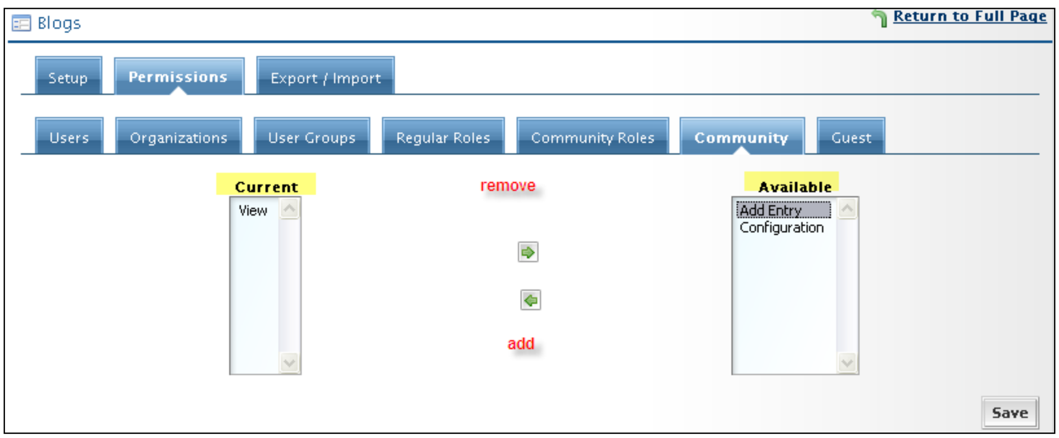
The following table shows **Permissions** related to the **Blogs** portlet. A **Community User** may set up all **Permissions** (marked 'X'), **View**, **Add Entry**, and **Configuration**, while a **Guest User** may set up **Permissions, View** and **Configuration**. By default, a **Community** has the **Permission** action **View** (marked '*'), and so does a guest user.

Action	Description	Community	Guest
View	Views this portlet	X, *	X, *
Configuration	Configures this portlet	X	X
Add Entry	Adds an **Entry** to the portlet	X	

Obviously, as a **User** of the **Book Lovers** Community, "**Lotti Stein**" has only **View Permission** on the portlet, **Blogs,** by default. Since the **Book Lovers** community has no "**Add Entry**" **Permission,** "**Lotti Stein**" also has no "**Add Entry**" **Permission**.

As an administrator, you may need to set up the **Community Users** having **Add Entry Permission,** as well as **View Permission** on the **Blogs** portlet. That is, you need to add the **Add Entry Permission** on the **Blogs** portlet at the **Book Lovers** community. Let's do it as follows:

1. Click on the **Configuration** icon at the top right of the **Blogs** portlet.
2. Then click on the **Permissions** icon from the **Actions** located next to the node.
3. Select the **Community** tab.
4. Select **Permission, Add Entry** in the **Available** box.
5. Click on the **Add** arrow.
6 Click on the **Save** button if you are ready.



Try to log in as "**Lotti Stein**", and you will see that there is a button, "**Add Entry**", next to the button, "**Search Entries**", in the **Blogs**. Furthermore, you can view **Entries** without any **Actions** icons (such as **Edit**, **Permissions** and **Delete**). You can also view and add discussions, but you still can not delete and update discussion (that is **Comment**). Let's change **Permissions** on the **Entry,** "**How to write computer book**", at the **Book Lovers** community.

Set up Permissions on Entries

The following table shows **Permissions** for the **Blogs Entries**. A **Community User** may set up all **Permissions** (marked 'X'): **View**, **Update**, **Delete**, **Permissions**, **Add Discussion**, **Delete Discussion**, and **Update Discussions**. A **Guest User** may set up the **Permission**, **View**. By default, a **Community** has **Permission** actions such as **View** and **Add Discussion** (marked '*'), while a **Guest User** has **Permission** action **View** only.

Action	Description	Community	Guest
View	Views the details of the **Entry**	X, *	X, *
Update	Updates the **Entry**	X	
Delete	Deletes the **Entry**	X	
Permissions	Controls the **Permissions** for the **Entry**	X	
Add Discussion	Adds the discussion for the **Entry**	X, *	
Delete Discussion	Deletes the discussion for the **Entry**	X	
Update Discussion	Updates the discussion for the **Entry**	X	

Obviously, as a **User** of the **Book Lovers** Community, "**Lotti Stein**" has only **Permissions, View** and **Add Discussion** on the **Entry,** by default. Since the **Book Lovers** community has no **Permissions** (such as **Update**, **Delete**, **Permissions**, **Delete Discussion** and **Update Discussion**), "**Lotti Stein**" has no **Permissions** (for example, **Update**, **Delete**, **Permissions**, **Delete Discussion** and **Update Discussion**) too. Thus, "**Lotti Stein**" cannot see the **Action** icons (**Edit**, **Permission**, and **Delete**) on the **Entries**. And also "**Lotti Stein**" does not have the **Actions** icons (such as, **Delete Discussion** and **Update Discussion**) on the **Comments**.

As an administrator, you may need to set up the **Community Users** having **Permissions,** (such as up **Update Discussion** and **Delete Discussion**) on the **Entry,** "**How to write computer book**". This means that you have to add **Permissions** (**Update Discussion** and **Delete Discussion**) on the **Entry,** "**How to write computer book**". Let's do it as follows:

1. Locate the entry "**How to write computer book**".
2. Click on the **Permissions** icon under the entry title.
3. Select the **Community** tab.
4. Select **Permissions**: **Delete Discussion** and **Update Discussion** in the **Available** box.
5. Click on the **Add** arrow, and
6. Click on the **Save** button if you are ready.

Try to log in as "**Lotti Stein**", and you can view **Entries** with no **Actions** (**Update**, **Delete** and **Permissions**). You can also view, add, delete and update discussion (**Comment**).

Similarly, as an administrator, you can set up the **Community Users** having **Permissions** (such as up **Update**, **Delete** and **Permissions**) on the **Entry,** "**How to write computer book**". Now, try to log in as "**Lotti Stein**", and you can view the **Entry,** "**How to write computer book**" with the **Actions** icons (such as **Edit**, **Permissions** and **Delete**).

Using Blogs Effectively

Generally speaking, a **Blog** (short for web-log) is a personal online content that is frequently updated for general public consumption. **Blogs** are a series of **Entries** posted to a single page in reverse-chronological order. Generally, they represent the author's personality or reflect the purpose to host the **Blog** at the Web site. Topics of blogs could be brief philosophical musings, links to other sites the author favors, and commentary on Internet and other social issues, and so on. A **Blog** content could include anything, from what is happening in a person's life, to what is happening on the Web, a kind of hybrid diary or guide site, and so on.

The author of a **Blog** is called a Blogger. Bloggers can syndicate their **Blog** content to subscribers using RSS. In general, blogs are frequent, chronological publications of personal thoughts and Web links.

Blog Types

There are various types of **Blogs** such as v-log, link-log, photo log, and so on. And each of them is different in the way the content is delivered and written.

Blogs can be classified by media type, such as a v-log (one comprising videos), a link-log (one comprising links), a sketch-blog (a site containing a portfolio of sketches), a photo-blog (one comprising photos), tumble-logs, art-log (a form of art sharing and publishing), and so on.

In addition, **Blogs** can be classified by devices, such as, a mo-blog (written by a mobile device like a mobile phone or a PDA).

Liferay Blogs Portlet

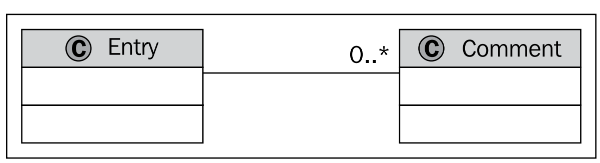
The Blogs portlet can help you publish information easily on the web. It helps in the rapid development of your community, and furthermore, gives your enterprise a platform to easily share information among different departments.

The Blogs portlet allows the users of the enterprise to manage web-log entries in a portal page. You can create, edit, and delete web-log entries, and change **Permissions** on **Entries**. In addition, it provides a simplified interface for creating web-logs and publishing them as RSS feed.

Liferay **Blogs** portlet has the following features:

- RSS feed capability for each **Blog** and all **Blogs** combined.
- Ability to view the list of all available **Blogs**.
- Calendar view for **Blog Entries**.
- Ability to navigate directly to "My Blog".
- Comments capability.
- A direct link for each **Blog Entry** and each **User Blog**.
- **Tags** and labels ability.
- An **Entry** rating system.

The following figure depicts the Liferay **Blogs** structure overview. Liferay **Blogs** is made up of a set of **Entries**. Each **Entry** may have many comments.



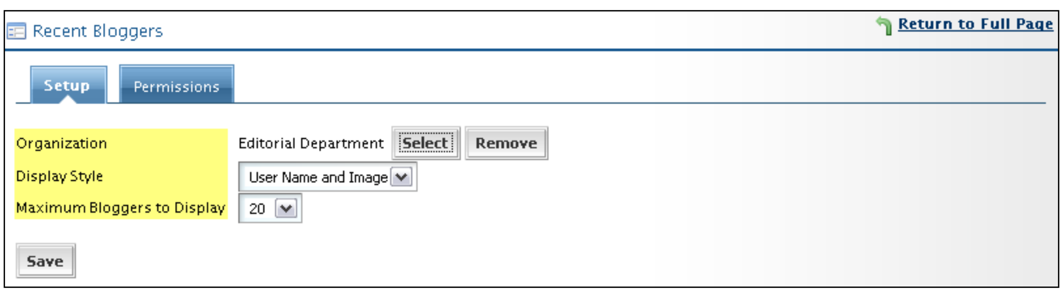
Publishing Blogs

We have discussed how to create **Entries** in order to let small teams working on specific projects share files and **Blogs** about project process. As the **User** at "Palm Tree Publication", you may have created a lot of **Entries**. You may be required to show a list of the latest **Users** from a given department, and show the latest **Posts** for a given department.

Using Recent Bloggers Portlet

Do you want to show a list of the latest **Users** from the **Editorial Department** of the **Book Lovers** community? Let's do it as follows:

1. Add the **Recent Bloggers** portlet in the page, "**Blogs**", of the **Book Lovers** Community where you want to show a list of users, if the **Recent Bloggers** portlet is not already present.
2. Click on the **Configuration** icon of the portlet.
3. By default, the tab, "**Setup**", is selected. You can select an organization such as the "**Editorial Department**".
4. Select the **Display Style**, such as, "**User Name and Image**".
5. Select **Maximum Bloggers to display**, such as "**20**".
6. Click on the **Save** button when you are ready.



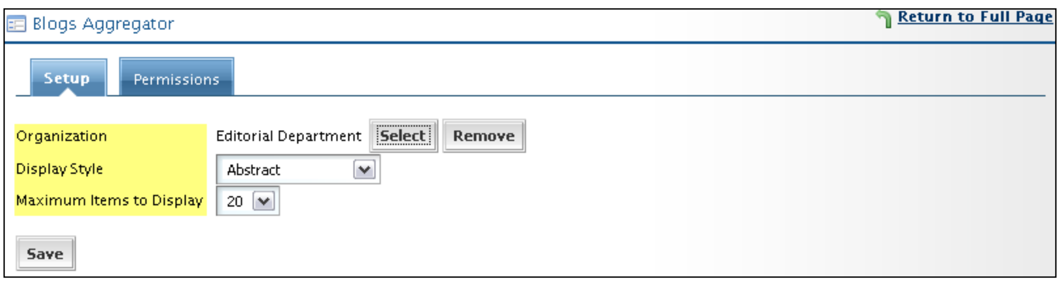
Of course, you can select another **Organization** such as "**Engineering Department**". The **Recent Bloggers** portlet will show a list of the latest users from the **Engineering Department** at the **Book Lovers** community. Also, you can remove the **Organization** if need be. In this case, the portlet will show a list of the latest users from any department at the **Book Lovers** community.

The **Recent Bloggers** portlet allows showing a list of the latest **users** of the portal who have written the post, **Entry**.

Using Blogs Aggregator Portlet

Do you want to show the latest posts from the **Editorial Department** at the **Book Lovers** community? Let's do it as follows:

1. If **Blogs Aggregator** portlet is not already present, add the **Blogs Aggregator** portlet in the page, "**Blogs**", of the **Book Lovers** Community where you want to show the latest posts.
2. Click on the **Configuration** icon of the portlet.
3. By default, the "**Setup**" tab is selected. You can select an **Organization** such as the "**Editorial Department**".
4. Select the **Display Style**, such as "**Abstract**". Other **Display Styles** are also available: "**Body and Image**", "**Body**", "**Abstract and Image**", "**Title**".
5. Select **Maximum Items to Display**, say,"**20**".
6. Click on the **Save** button when you are ready.

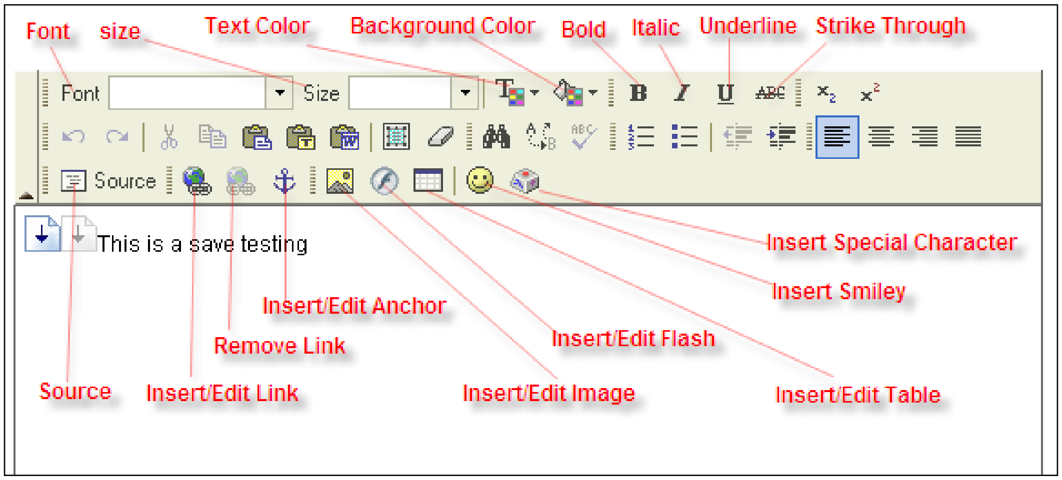


Surely, you can select other **Organizations** such as the "**Engineering Department**". The **Blogs Aggregator** portlet will show the latest posts from all the posts of the **Engineering Department** at the **Book Lovers** community. You can also remove the **Organization,** if needed. In this case, the portlet will show the latest posts from all the posts of any department at the **Book Lovers** community.

In general, the **Blogs Aggregator** portlet shows the latest posts from all the posts of any department at the **Book Lovers** community, and moreover, it exposes an aggregated RSS feed.

Building Blogs

We have discussed how to create an **Entry** such as "**How to write computer book**". The content of the **Entry** is simple but contains image and text with centre alignment. How do we align text, insert image and so on? These functions are related to the HTML text editor.



Liferay integrates FCKeditor as the default HTML text editor. Of course, it is possible that as an administrator, you can integrate other HTML editors in Liferay. Here, we just use FCKeditor as an example to build the contents of the **Blogs' Entries**.

> FCKeditor is a web-based HTML text editor with powerful formatting capabilities. It brings to the web much of the power of desktop editors such as MS Word. Moreover, it's lightweight and doesn't require any kind of installation on the client computer. URL: `http://www.fckeditor.net/`.

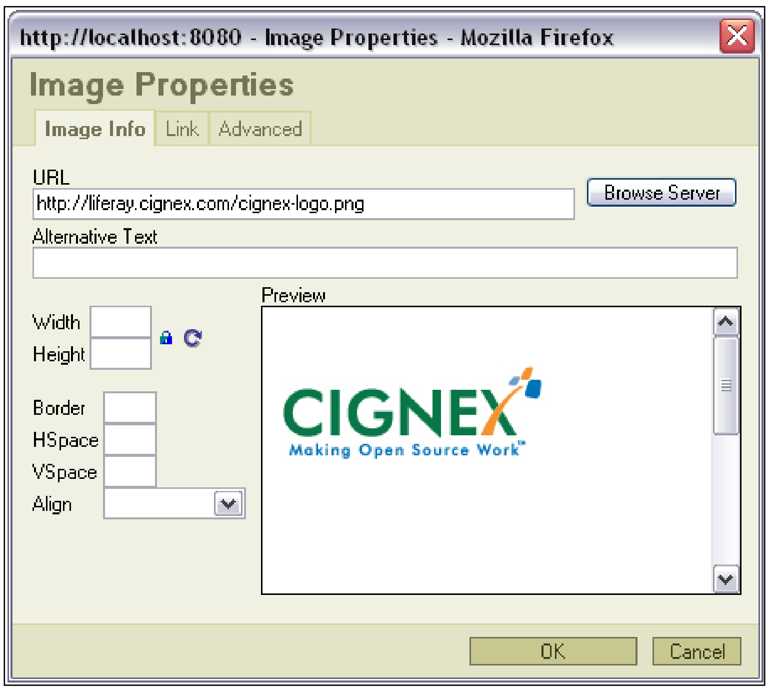
Let's consider the following use cases about HTML text editor:

- Use general functions on text: **Font**, **size**, alignment, **Color**, **Background Color**, copy, paste, list, and so on. You can use them easily.
- Insert an image.
- Insert links.
- Insert **Flash**, **Table**, **Smiley** and **Special Characters**.
- Edit **Source** directly.

Inserting Image

You can insert an image, either as an internal image (from Image Gallery) or as an external image (an URL outside of Liferay Portals). For example, if you want to insert an image with URL "`http://liferay.cignex.com/cignex-logo.png`" in the **Entry,** "**How to write computer book**", do the following:

1. Click on the **Edit** icon below the title, "**How to write computer book**".
2. Locate the position where you want to insert an image.
3. Click the **Insert/Edit** image in HTML Text Editor.
4. Enter a URL (External Image, by inputting URL and properties), say "`http://liferay.cignex.com/cignex-logo.png`".
5. Click the **OK** button when you are ready.



You can also insert an image, which is an internal image (from the Image Gallery) as follows:

1. Click on the **Edit** icon below the title "**How to write computer book**".
2. Locate the position where you want to insert an image.
3. Click the **Insert/Edit** image in HTML Text Editor.

4. Click the **Browse Server** (Internal Image) button.
5. Click the **Create New Folder** to add folder under the current folder.

> Any folders or images that are added here will be placed in the Image Gallery. The Image Gallery provides a centralized repository for images to be stored and it also provides a unique URL for each image.

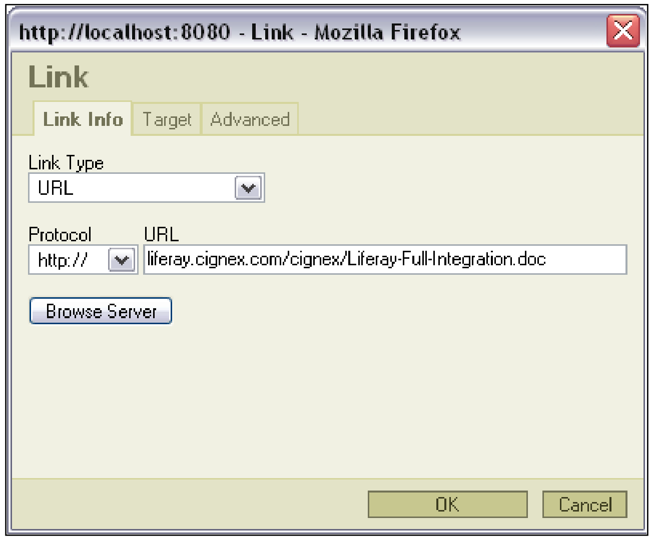
1. Type the name of the new folder and click **OK**.
2. Click on the newly created folder to add an image to it.
3. Click the **Browse** button and select an image.
4. Click the **Upload** button to add the image to the folder.
5. Click on the image and click **OK** to add the image to the document.
6. Click **Save** button to save the updates.

> In addition, you can insert an image or a flash or a document link from alfresco repository. It is called full RESTful integration between Liferay and Alfresco. In this case, Alfresco is used as a repository of Liferay. For more details, refer to Chapter 13.

Inserting Links

You can also insert internal links and external links. For example, if you want to insert a link with URL "`http://liferay.cignex.com/cignex/Liferay-Full-Integration.doc`" in the **Entry,** "**How to write computer book**", you can do the following:

1. Click on the **Edit** icon below the title, "**How to write computer book**".
2. Locate the position where you want to insert a link.
3. Select text and click **Insert/Edit** link.
4. You can add an URL directly (for external links) such as `http://liferay.cignex.com/cignex/Liferay-Full-Integration.doc`.
5. Click on the **OK** button if you are ready.



The internal links refer to any links in Liferay Portals, such as images in Image Gallery, documents in Document Library and pages. There are three types of resources related to internal links: document, image, and page. The external links refer to any links outside of Liferay Portals, where link types are URL, Link to anchor in the text, and Email. Protocols would be http, https, news, ftp, and others (internal URL, such as `"/c/document_library/get_file?folderId=10955&name=DLFE-109.gif"`) if link type is URL.

Link to A Document

If you need to link to a document, do the following:

1. In the **Resource Type** menu, select **Document**.
2. To link to a new document, select a **Community** in which the document will be stored.
3. Click **Create New Folder**. Any documents added here will be placed in the Document Library.
4. Enter the name of the new folder.
5. Click on the newly created folder to add a document to it. Click the **Browse** button and locate the document.
6. Click the **Upload** button to add the document to the folder.
7. Click on the document and click the **OK** button to link the document with the selected text.

Link to A Page

You may need to link to a page, say "**web/guest/home**". You can do it as follows:

1. In the **Resource Type** menu, select **Page**.
2. Select the Community where the page is located.
3. Click on the page that you want to link the selected text to, such as "**web/guest/home**".
4. Click **OK** to link the page with the selected text.

Link to An Image

You may need to link to an image. You can do it as follows:

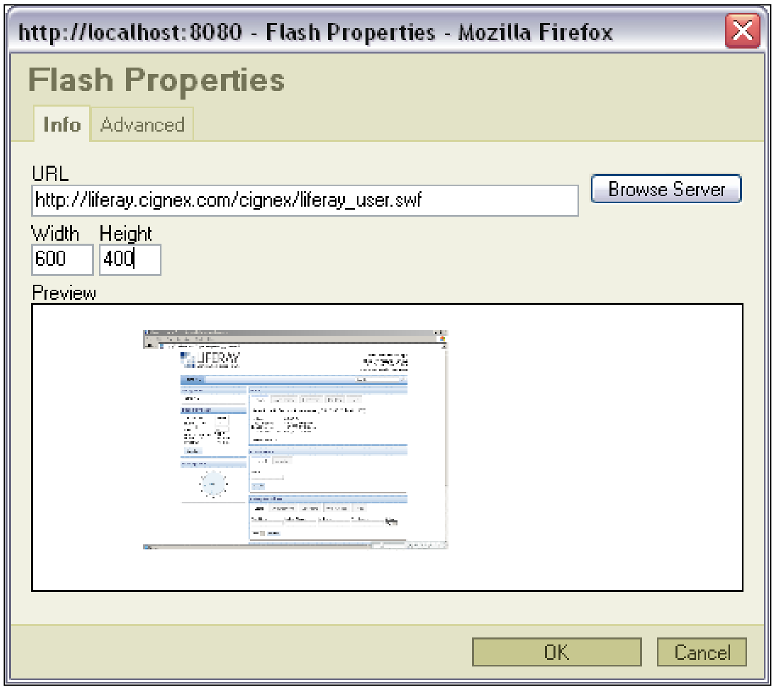
1. In the **Resource Type** menu, select **Image**.
2. Select the **Community** either where the image is located, or where it will be stored.
3. If the image is stored in the system, click on the image to link with the selected text and click **OK**.
4. To link to a new image, select a folder to upload the image to, or click **Create New Folder** to add a new folder to place the image in. Any images added here will be placed in the Document Library.
5. If you are using an existing folder, skip to step **Upload.**
6. Enter the name of the new folder.
7. Click on the newly created folder to add an image to it.
8. Click **Browse** and locate the image.
9. Click **Upload** to add the image to the folder.
10. Click on the image and click **OK** to link the image with the selected text.

Insert Flashes, Tables, Smiley And Special Characters

You can insert/edit a flash as follows:

1. Locate the position where the flash will be inserted.
2. Click **Insert/Edit Flash** in HTML Text Editor.
3. Enter a URL (of flash, by inputting URL and properties) at the **Info** tab; optionally, enter details at the **Advanced** tab. The HTML Text Editor will transfer data from the related URL.

4. To edit a flash, locate the flash first. Then right click to open **Flash Properties**.



Similarly, you can insert/edit a table as follows:

1. Locate the position where the table will be inserted.
2. Click **Insert/Edit Table** in HTML Text Editor.
3. To edit a table locate the table first. Then, right click to open **Table Properties**.

In addition, you can **Insert/Edit Smiley**, which is a set of icons, as follows:

1. Locate the position where the smiley will be inserted.
2. Click **Insert/Edit Smiley** in HTML Text Editor.
3. To edit smiley, locate **Smiley** icon first. Then, right click to open **Image Properties**.

You can insert/edit special character as follows:

1. Locate the position where the special character will be inserted.
2. Click **Insert Special Character** in HTML Text Editor.
3. To edit the special character, locate the table first. Then cut, copy, or paste it.

What is flash? Flash here refers to SWF, which is a proprietary vector graphics file format.

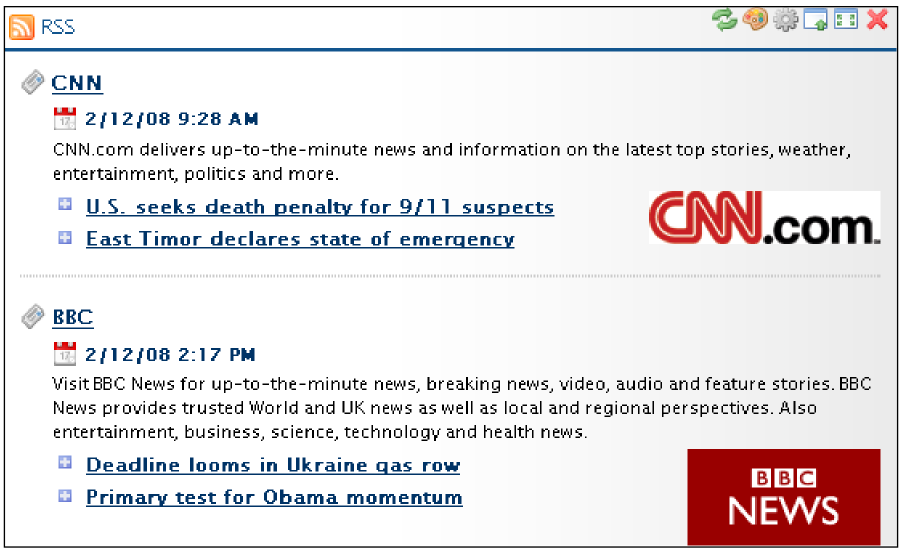
Editing Source

For advanced users, you can edit HTML source. To edit source directly, you simply click on the **Source** button. The following table shows possible HTML tags and examples for editing **Source** manually.

Action	HTML Tag	Examples
Insert Image	<img>	
Link to a document	<a>	<a href="/c/document_library/get_file?folderId=10955&name=DLFE-109.gif" />
Link to an image	<a>	<a href="/image/image_gallery?img_id=11138" />
Link to a page	<a>	<a href ="/web/guest/home" />
Insert Flash	<embed>	<embed width="600" height="400" type="application/x-shockwave-flash" pluginspage="http://www.macromedia.com/go/getflashplayer" src="http://liferay.cignex.com/cignex/liferay_user.swf" play="true" loop="true" menu="true"></embed>
Insert Smiley	<img>	
Insert Table	<table>	<table width="200" cellspacing="1" cellpadding="1" border="1"> <tbody> <tr><td> </td> <td> </td> </tr></tbody> </table>
Insert Special Character	none	"@"

Working with RSS

As an administrator, you may need to include formatted data (news) from external Really Simple Syndication (**RSS**) feeds. For example, you want to add **CNN** news feed (such as, `http://rss.cnn.com/rss/cnn_world.rss`) and **BBC** news feeds (such as, `http://newsrss.bbc.co.uk/rss/newsonline_world_edition/front_page/rss.xml`) in the page "**News**" under the **Page** "**Community**" at the **Book Lovers** Community. Whenever that RSS XML file is updated on the remote site, the page will reflect those updates on the next portal page reload.



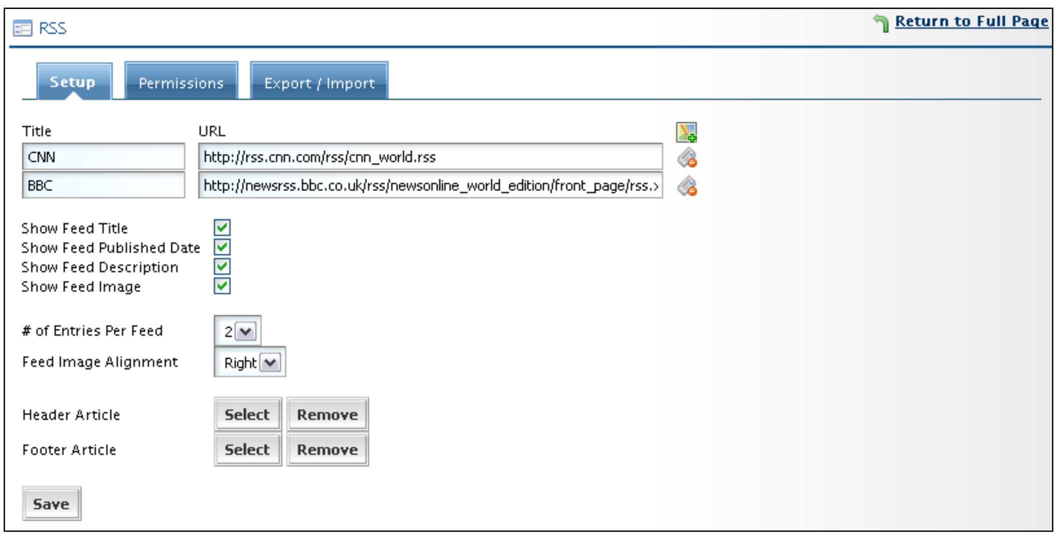
Let's add the **RSS** portlet at the page "**News**" first:

1. Add a child **Page** called "**News**" of the **Page** "**Community**" at the **Book Lovers** Community **Public Pages**.
2. Add the **RSS** portlet in the page "**News**" of the **Book Lovers** Community where you want to manage RSS feeds, if **RSS** portlet is not already present.

How to get the displayed news? You need to configure the **RSS** portlet as follows:

1. To set the feeds that you want displayed, click on the **Configuration** icon first at the top of the **RSS** portlet.
2. By default, the tab **Setup** is selected.
3. To add a feed, click on the **Add** icon first, then input title such as "**CNN**" and URL such as "`http://rss.cnn.com/rss/cnn_world.rss`".

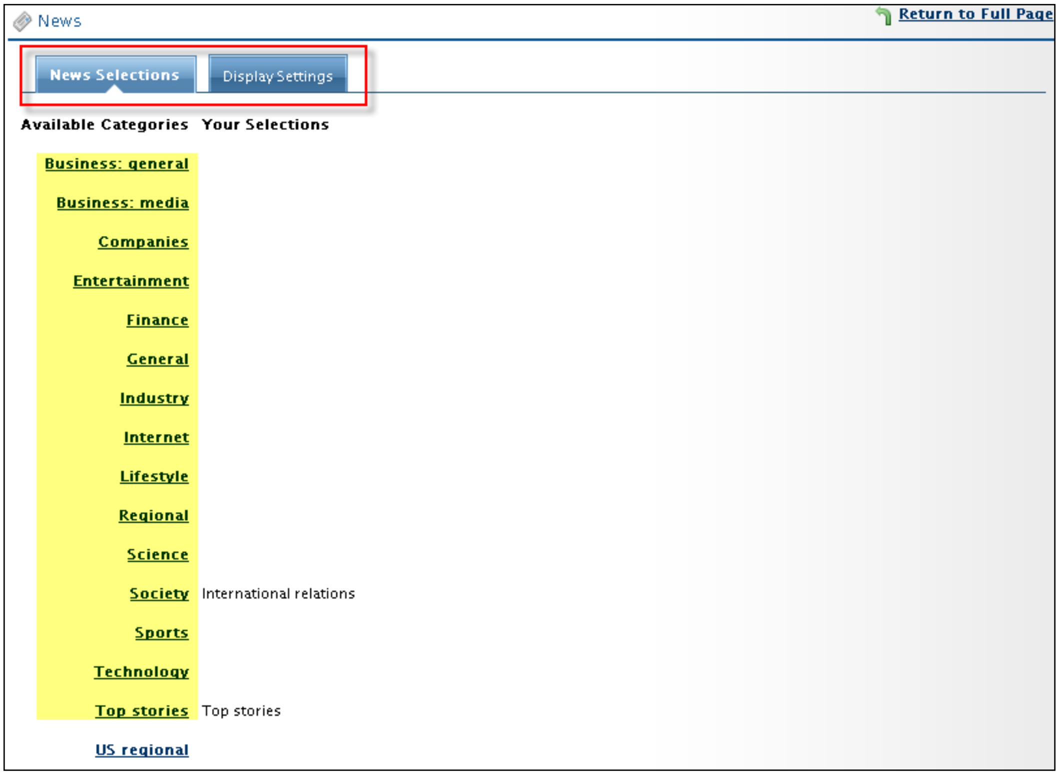
4. To add another feed, click on the **Add** icon first; then input title such as "**BBC**" and URL such as "`http://newsrss.bbc.co.uk/rss/newsonline_world_edition/front_page/rss.xml`".
5. To delete a feed, locate the feed and click on the **Delete** icon to the right of the feed.
6. To edit a feed, locate the feed, and click on the title and/or URL; change the title and URL as you want.
7. Select the **number of Entries Per Feed,** say "**4**" that you want displayed.
8. Click on the **Save** button to save the changes, and click on **Return to Full Page** arrow to return.



Of course, you can use other news feeds. In a word, to add a feed, simply click on **Add** icon first; then input the title and the URL.

Using News Portlet

As an administrator of "Palm Tree Publication", you may need to retrieve RSS news feed, such as "**International relations**" and "**Top stories**". Let's do it as follows:



1. If **News** portlet is not already present, add the **News** portlet to the **Page** "**News**", under the page "**Community**" where you need it.
2. To set the news that you want displayed in the **News** portlet, click on the **Preferences** icon first.
3. To select news, click one of the available categories such as "**Society**", and select multiple items such as "**International relations**" at the **News Selection** tab.
4. To select other news, click one of the available categories such as "**Top stories**", and select multiple items such as "**Top stories**", at the **News Selection** tab.
5. Click on the **Save** button to save the changes, and click on **Return to Full Page** arrow, to return.
6. To remove a selection, locate the selection under the **Display Setting** tab, and click on the **Delete** icon to the right of the box.
7. To change the order of selections, locate the selection under the **Display Setting** tab, and click on the **Move Up** or **Move Down** icon to the right of the box.

8. Select the **number of Entries Per Feed** under the **Display Setting** tab.
9. Click on the **Save** button to save the changes, and click on **Back** arrow to return.

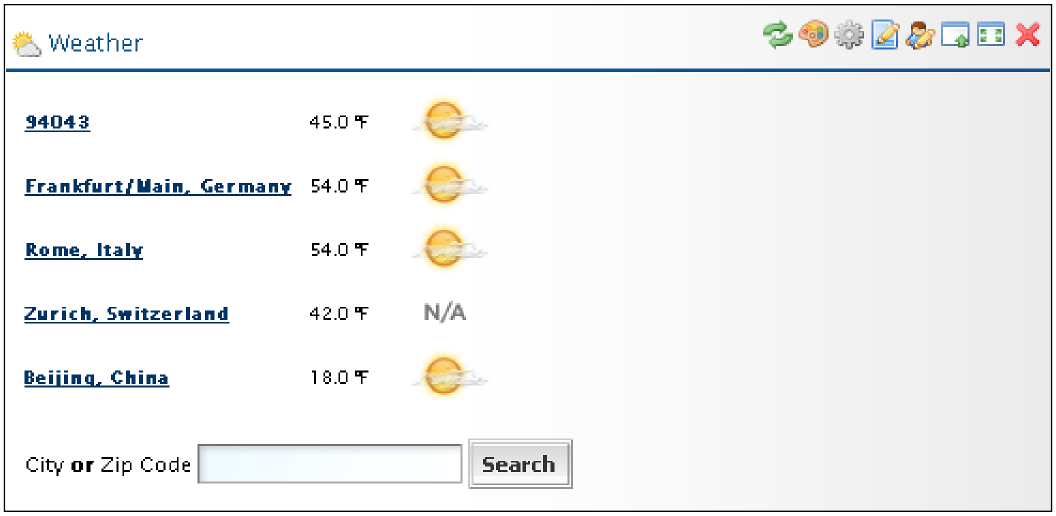
The **News** Portlet retrieves a RSS news feed, based on a URL, and displays it as HTML to the user. By default, Moreover Technologies is used as the news provider.

> Moreover Technologies is the premier provider of real-time news, current awareness and business information—pioneering the way online news is gathered, refined, categorized and delivered. URL: `http://w.moreover.com/categories/category_list.tsv2`.

Using Weather Portlet

As an administrator at "Palm Tree Publication", you may need to show the latest weather message in the **page,** "**News**" under the **page,** "**Community**". Since the enterprise has two locations: US (San Jose city) and Germany (Frankfurt/main city), the latest weather message about both US (San Jose city) and Germany (Frankfurt/main city) is required in the page, "**News**". At same time, we want to know the latest weather message about other cities, such as Rome (Italy), Zurich (Switzerland) and Beijing (China). Let's do it as follows:

1. If the **Weather** portlet is not already present, add the **Weather** portlet to the page, "**News**" under the **page,** "**Community**" where you need it.
2. To set the city or zip code that you want displayed in the portlet, click on the **Preferences icon.**
3. Enter one city or zip code per line. For example, 94043; Frankfurt/main Germany; Rome, Italy; Zurich, Switzerland; and Beijing, China.
4. Select temperature format, such as **Fahrenheit** and **Celsius**. Here, we select **Fahrenheit** which is default.
5. Click on the **Save** button to save the changes and finally, click on **Return to Full Page** arrow to return.



Of course, you can show the latest weather message about other cities around the World. Liferay **Weather** Portlet provides the ability to display the temperature and weather on a portal page. **Weather** portlet displays temperature and weather information for a given zip code or city. **Users** may also query temperatures and weather for alternate zip codes or city without any customization. By default, the Weather Channel is used as a weather message provider to bring the breaking weather to its viewers and users.

The Weather Channel (also TWC) is a U.S. cable and satellite television network that broadcasts weather forecasts and weather-related news 24 hours a day. URL: **http://weather.com**.

Using RSS Effectively

Generally speaking, a web feed is a XML-based document containing content items with web links to longer versions. For example, common sources for web feeds may include news websites, blogs, and structured information such as weather data, "top ten" lists of hit tunes to search results, and so on. **RSS** and **Atom** are two main web-feed formats.

The Atom applies to two standards (refer to RSS Specification at `http://www.rss-specifications.com`). The Atom Syndication Format (ASF) is an XML language used for web feeds and the Atom Publishing Protocol (APP) is a HTTP-based protocol for creating and updating Web resources.

In general, RSS is used to refer to the following formats:

- Really Simple Syndication (RSS 2.0)
- RDF Site Summary (RSS 1.0 and RSS 0.90)
- Rich Site Summary (RSS 0.91)

There are three formats of syndication that have emerged: RSS 2.0, RSS 1.0, and Atom. Which feed format do we choose? In general, the three formats are for three different goals:

- RSS 2.0—This is the simplest format (although extensible) available, to display links on articles of a site.
- RSS 1.0—to get information on the feed.
- Atom—requires special software to process, and has more requirements about format of data.

In short, RSS is a XML-based web content syndication format, compliant to the XML 1.0 specification.

RSS Specification

RSS, not a perfect format, is very popular and widely supported. Here, we briefly introduce RSS 2.0 specification.

> For more details related RSS specification, refer to the URL `http://www.rss-specifications.com/rss-specifications.htm`.

A RSS document has an element `<rss>` with an attribute version at the top level. The attribute version specifies the version of RSS that the document conforms to. Subordinate to the **<rss>** element is a single element **<channel>**, which contains information about the channel and its contents.

The following table depicts a list of the required channel elements, each with a brief description (refer to RSS Specification at `http://www.rss-specifications.com/`):

Element	**Description**
Title	The name of the channel.
Link	The URL link to the website corresponding to the channel.
Description	Phrase or sentence describing the channel.
Item	One item tag at least, for the content.

For example,

```
<rss version="2.0">
<channel>
    <title>Integration</title>
    <link>http://liferay.cignex.com/</link>
    <description>LDAP, SSO, Liferay and Alfresco Full integration
</description>
    <item>
    </item>
</channel>
</rss>
```

A channel may contain any number of items. An item represents content. The description is a synopsis of the content, while the link points to the full content.

For example:

```
<item>
        <title>Liferay and Alfresco - RESTFul Integration</title>
        <link>http://liferay.cignex.com/sesame</link>
        <description>Integration based on REST</description>
</item>
```

How It Works

Suppose there are web pages, which we want other websites to display. The set of pages is the RSS feed. The RSS system, which publishes articles and news, over the web, works as follows:

- An XML file defines the RSS feed, which holds URL, title and summary of each page to display.
- A **User**, who wants to read the feed on his computer, uses an RSS reader or its browser, and just adds the feed with the proper command of its software.
- Or a **User** displays the feed in a website—loading the RSS file from the provider, by extracting the URL of pages, and displaying titles and summaries.
- On visiting the website of the receiver, the script is launched first; it recalls the RSS file from the provider's website and displays a list of news from the extracted data.
- Visitors display a page from the provider by clicking on the title of the list.

Summary

This chapter has introduced to us how **Entries** in **Blogs**, are added, how they are managed (for example, view, update and delete), and how **Comments** are added on a given **Entry** of **Blogs**. Then it discussed how to use **Permission** on the **Blogs** portlet and **Entries** in **Blogs**. It also introduced ways to publish **Blogs** by **Recent Bloggers** and using **Blogs Aggregator** portlets, and to build **Blogs** with WYSIWGs editor. Finally, it discussed **RSS** and related portlets such as **RSS**, **News** and **Weather** portlets.

7
Shared Calendars, WSRP And Workflow

In the intranet website "book.com" of "Palm Tree Publications", we are required to provide calendar information to **Users** and share calendar among **Users** from different departments. At the same time, we are also required to provide workflow ability so that normal **Users** can submit requests, and the manager can take decisions based on these requests. Moreover, we are required to publish third party contents in the intranet website.

This chapter introduces calendar portlet to create, manage and search events, and to share calendar. Furthermore, it introduces workflow integration, WSRP (Web Services for Remote Portlets) proxy and other portlets.

By the end of this chapter, you will have learnt how to:

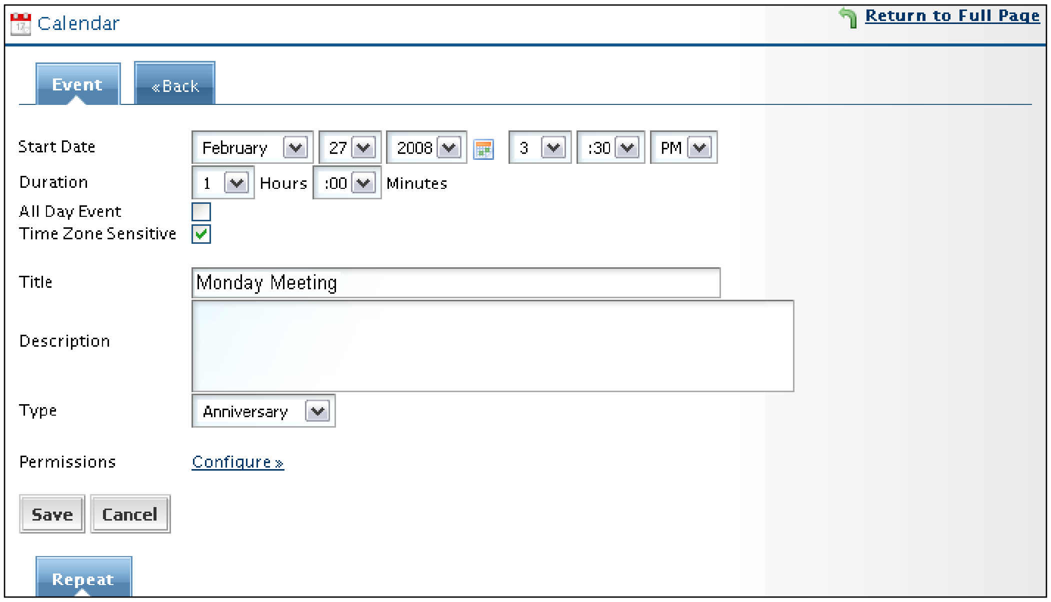
- Create, manage, and search events in calendar
- Share calendar by iCalendar
- Deploy workflows
- Manage workflow definitions
- Manage instances and tasks
- Employ WSRP
- Use other portlets such as web proxy, IFrame and flash

Working with Calendar

As an administrator at "Palm Tree Publications", you need to satisfy the basic business requirements incorporated in a featured business intranet such as scheduling meetings, sending meeting invitations, checking for attendees' availability and so on. Thus, you may need to provide an environment for **Users** to manage events, and share calendar at the **Page** "**Calendar**" under the **Page** "**Community**" of the **Book Lovers** community.

Adding Events

First of all, let's add an **Event,** "**Monday Meeting**", at the **Book Lovers** community as follows:



1. Add a **Page** named "**Calendar**" under the **Page,** "**Community**", of the **Book Lovers** community.
2. Add the **Calendar** portlet in the **Page,** "**Calendar**", of the **Book Lovers** Community where you want to manage **Events** and share **Calendar,** if **Calendar** portlet is not already present.
3. Click on the **Add Event** button.
4. Enter **Title** such as "**Monday Meeting**", **Description** such as "**First Meeting**", **Start Date**, **Duration**, **Type** such as "**Meeting**", and so on.
5. Set **Permissions** by clicking on the **Configure icon**.
6. To configure additional **Permissions**, click on the **More link**.
7. Select **Repeat Style** and **Reminder Style**.
8. Click the **Save** button to save the inputs.
9. The **Repeat Style** could be **Never (Do not repeat this event)**, **Daily**, **Weekly**, **Monthly and Yearly**.

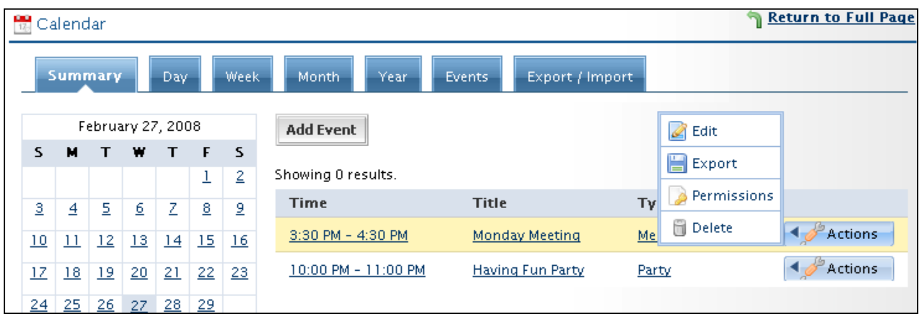
10. You can set up reminding style as, remind me, 15 minutes and again 5 minutes before the event by using any of the following: **Do not send a reminder**, **Email Address** (such as **admin@book.com**), **SMS, AIM, ICQ, MSN**, and **YM**. The minutes are configurable, say 30 minutes and again 15 minutes before the event.

Default **Event** Types include: **Anniversary**, **Appointment**, **Bill Payment**, **Birthday**, **Breakfast**, **Call**, **Chat**, **Class**, **Club-Event**, **Concert**, **Dinner**, **Event**, **Graduation**, **Happy-hour**, **Holiday**, **Interview**, **Lunch**, **Meeting**, **Movie**, **Net-event**, **Other**, **Party**, **Performance**, **Press-release**, **Reunion**, **Sports-event**, **Travel**, **TV show**, **Vacation**, **Wedding**, and so on. The **Types** of **Events** are configurable.

To reset the list of **Event Types**, simply change the portal properties directly as follows. Note that the display text of each of the **Event Types** is set in content language properties.

```
calendar.event.types = anniversary, etc.
```

Of course, you can add other **Events**. After adding an **Event** "**Having Fun Party**", you can view **Events** as shown in the following figure.



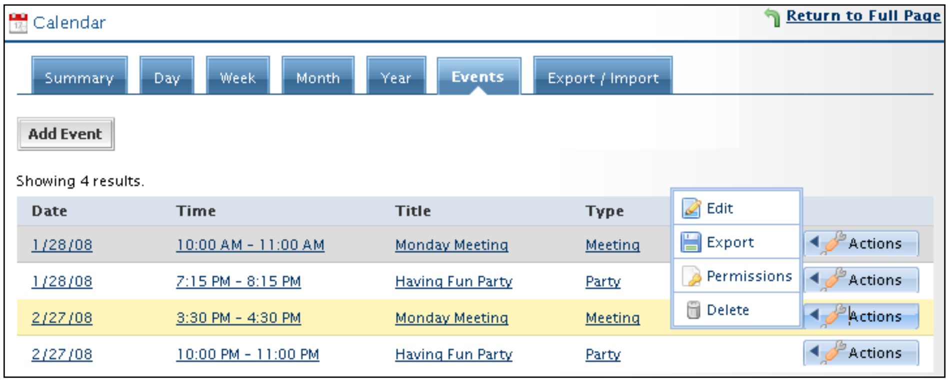
Managing Events

The Calendar portlet helps the portal users manage **Events** easily on the web. It helps in the rapid development of your **Community,** and gives your enterprise a platform to easily manage **Calendar Events** and shared calendar.

View Events

Events are viewable in various ways. **Calendar Events** are displayed by **Summary** view as **Event Time**, **Title**, **Type**, and a set of icons: **Edit**, **Export**, **Permissions**, and **Delete**. By default, this portlet will display all **Events,** which belong to the current day for current **User** having proper **Permissions**. The current month calendar is displayed on the left side and the current day is highlighted.

Normally, to view all **Events**, simply click on the **Events** tab as shown in the following figure. This portlet will display all **Events** for the current **User** having proper **Permissions**.



Similarly, to view **Events** by day, simple click on the **Day** tab. This portlet will display day-based events of the current week for the current **User** having proper **Permissions**. You can filter the **Events** by **Types**: **All Events** or one type such as **Meeting**. Or change **Day** by clicking on the left-arrow to decrease day or right-arrow to increase day.

Again, to view events by week, simply click on the **Week** tab as shown in the following figure. This portlet will display week-based events of the current month for the current **User** having proper **Permissions**. You can also filter the **Events** by **Types**: **All Events** or one **Type** such as **Party**. Or change **Week** by clicking on the left-arrow to decrease week period, or right-arrow to increase week period.

Once more, to view events by month, simply click on the **Month** tab. This portlet will display month-based events of the current year for the current **User** having proper **Permissions**. To change the **Month**, click on the left-arrow to decrease month number, or the right-arrow to increase month number.

To view events by the year, simply click on the **Year** tab. This portlet will display year-based events for the current **User** having proper **Permissions**. To change **Year**, click on the left-arrow to decrease year number, or the right-arrow to increase year number.

Edit An Event

Events are updatable. We have an **Event** called "**Having Fun Party**" currently. But now, we want to change the **Description** from "**a party**" to "**This is a special party for Lotti Stein**". Let's do it as follows:

1. Select the **Events** tab in the **Calendar** portlet.
2. Locate an **Event** such as "**Having Fun Party**" in the **Calendar** portlet, and click on the **Edit** icon from the **Actions** next to the event**.**
3. Update **Description** with value "**This is a special party for Lotti Stein**".
4. Maintain other values.
5. Click **Save** button to save the inputs.

Delete An Event

Events are removable. We have an **Event** called "**Having Fun Party**" currently. But for some reason, this **Event** is not wanted anymore. We have to delete this **Event**. Let's delete this **Event** as follows:

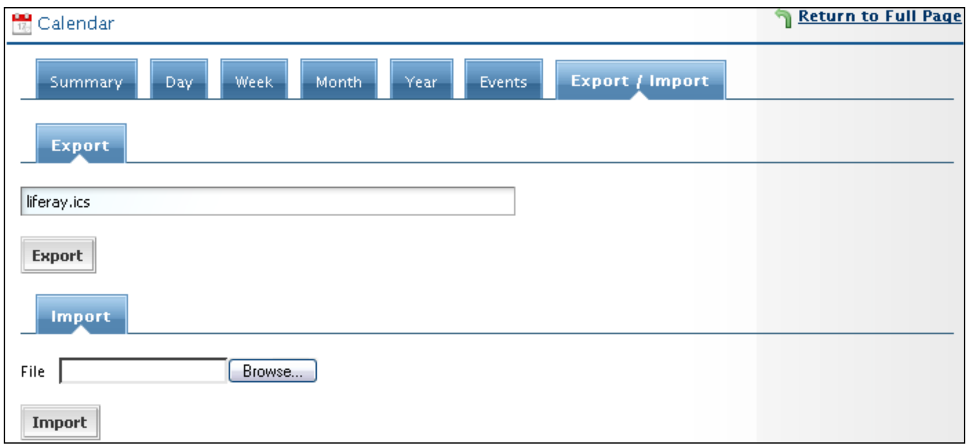
1. Locate an **Event** such as "**Having Fun Party**" that you want to delete.
2. Click the **Delete** icon from the **Actions** located next to the event.
3. A screen will appear asking if you want to delete this.
4. Click the **OK** button to confirm delete action.

> Note that deleting an **Event** will delete all related information that belongs to this **Event**.

Export/Import Events

Events are importable and exportable. As an administrator, you may have to import and export **Events** in the **Calendar** portlet. Let's do it as follows (see the following figure):

1. Select the **Export/Import** tab**.**
2. Input the **Export** file name.
3. Click the **Export** button to export **Events** to the given file.
4. Input a file name for importing, or click the **Browse ...** button to upload a file from the local machine.
5. Click the **Import** button to import **Events** to the portlet.



Liferay provides the ability to **Import** and **Export Events** from the **Calendar** portlet.

Setting up Email

As stated earlier, the system can remind you 15 minutes and again 5 minutes before the **Event** through email.As an administrator, you can change the email setting such as **Email From** and the **Event Reminder Email**. Let's do it as follows:

1. Click the **Configuration** icon on the upper right of the calendar portlet.
2. With the **Setup** tab selected, the **Name** and **Address** boxes appear under the tab, **Email From**. Change **Name** and **Address** that you want to update such as **Palm Tree** and **admin@book.com**.
3. Click the **Save** button to save the changes.

4. Select the **Event Reminder Email** tab to change the **Event** reminder email.
5. Click the **Save** button to save the changes.
6. If in need, click on the arrow, **Return to Full Page,** to return.

Your **Event Reminder Email** may have the following format:

Dear [`$TO_NAME$`],

This is an autogenerated email for the [`$PORTLET_NAME$`] portlet.

Your event with the title [`$EVENT_TITLE$`] will start at [`$EVENT_START_DATE$`].

Sincerely,

`[$FROM_NAME$]`

[`$FROM_ADDRESS$`]

`http://[$PORTAL_URL$]`

Sharing Calendar

We have used default setting for the **Calendar** portlet in the **Page,** "**Calendar**", under the **Page** "**Community**" at the **Book Lovers** Community. When the administrator,"**Palm Tree**", logs in, he/she will see the button, **Add Event**, as mentioned earlier. As we know, the **User** "**Lotti Stein**" is also a member of the **Book Lovers** community. Try to log in as "**Lotti Stein**", and you will see that there is no button, **Add Event**. Furthermore, you see the **Events** with one action icon, **Export**.

What's happening? This is something related to **Permissions**. In order to share **Calendar**, we have to consider two levels of **Permissions**, **Permissions** portlet and **Permissions** on **Events**.

Use Portlet Permissions

The following table shows **Permissions** for the **Calendar** portlet. A **Community User** may set up all **Permissions** (marked 'X'), **View**, **Configuration**, **Add Event** and **Export All Events,** whereas a **Guest User** may have **Permissions, View**, **Configuration** and **Export All Events**. By default, a **Community** has **View** action (marked '*'), and so does a **Guest User**.

Action	Description	Community	Guest
View	Views this portlet	X, *	X, *
Configuration	Configures **Permissions** for this portlet	X	X
Add Event	Adds an **Event** in this portlet	X	
Export All Events	Exports all **Events** from this portlet	X	X

Obviously, as a **User** of **Book Lovers** Community, "**Lotti Stein**" has only **View Permissions** on the **Calendar** portlet, by default. Since the **Book Lovers** community has no **Permission, Add Event**, "**Lotti Stein**" too has no **Permission, Add Event**.

As an administrator, you may need to set up the **Community Users** having **Permission, Add Event,** as well as **Permission, View,** on the **Calendar** portlet. That is, you need to add **Permission,Add Event**, on the **Calendar** portlet at the **Book Lovers** community. Let's do it as follows:

1. Click on the **Configuration** icon to the top-right of the **Calendar** portlet.
2. Then click on the **Permissions** tab.
3. Select the **Community** tab.
4. Select **Permission Add Event,** in the **Available** box.
5. Click on the **Add** arrow.
6. Click on the **Save** button if you are ready.

Permissions On Events

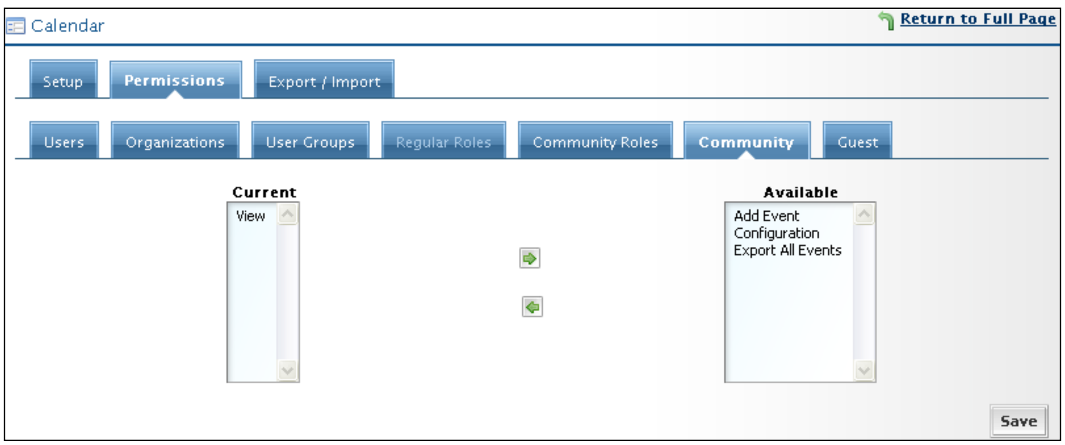
The following table shows **Permissions** for an **Event**. A **Community User** may set up **Permissions** (marked 'X'), **View**, **Delete**, **Permissions**, and **Update**, while a **Guest User** may set up **Permissions, View**, **Delete**, and **Permissions**. By default, a **Community User** has the **Permission** action (marked '*') **View,** and so does a **Guest User**:

Action	Description	Community	Guest
View	View the **event**	X, *	X, *
Delete	Delete the **event**	X	X
Permissions	Configure **permissions** for the **event**	X	X
Update	Update the **event**	X	

Obviously, as a **User** of the **Book Lovers** Community, "**Lotti Stein**" has only **View Permissions** on the **Events,** by default. Since the **Book Lovers** community has only the **Permission, View**, "**Lotti Stein**" too has only the **Permission,View**.

As an administrator, you may need to set up the **Community Users** having **Permission, Update,** as well as **Permission, View,** on the **Event,** "**Monday Meeting**". That is, you need to add **Permission, Update,** on the **Event**. Let's do it as follows:

1. With the **Events** Tab selected, locate the **Event Monday Meeting**.
2. Then click the **Permissions** icon from the **Actions** next to the event.
3. Select the **Community** tab.
4. Select **Permissions Update,** in the **Available** box.
5. Click on the **Add** arrow.
6. Click on the **Save** button, if you are ready.



Now as a **User** of **Book Lovers** Community, "**Lotti Stein**" has **Permissions, Update** and **Export,** on the **Event,** "**Monday Meeting**". Try to log in as "**Lotti Stein**", and you will see the **Actions** button with icons (**Edit** and **Export**) next to the **Event,** "**Monday Meeting**". But you see only one icon, "**Export**", next to the **Event,** "**Having Fun Party**", since the **Permissions** have been set up by default settings (only **Permission** "**View**").

Using iCalendar Effectively

Liferay **Calendar** portlet provides the ability to display calendar information and allows **Users** to create, manage, and search for **Events**. By this portlet, we can share **Events** across **Communities**, and set up event reminders to alert **Users** of upcoming **Events** through email, IM, or SMS (refer to more details at `http://www.wirelessdevnet.com/channels/sms/features/sms.html`). Liferay **Calendar** portlet has the following features:

- Support shared calendar—you can keep track of group-based events.

- Support Micro-format—you can transfer your calendar and **User** information via Web 2.0 standards. Data in micro-formats (hCard, hCalendar, and so on) could be easily used by and integrated with third-party applications.
- Support Calendaring—both iCal and Exchange, providing flexible import and export of **Events**.

> hCalendar is a simple, open, distributed calendaring and **Events** format, based on the iCalendar standard (RFC2445), suitable for embedding in XHTML, Atom, RSS, and arbitrary XML; while hCard is a simple, open, distributed format for representing people, companies, organizations, and places, using a 1:1 representation of vCard (RFC2426) properties and values in semantic XHTML, also suitable for embedding in XHTML, Atom, RSS, and arbitrary XML.

Liferay Calendar portlet supports iCalendar Standards. iCalendar is a standard (Requests for Comments—RFC 2445) for calendar data exchange. By this, **Users** can send event-based requests and tasks to other **Users** through email, while recipients of the iCalendar email can respond to the sender easily.

With a common data format, we can use iCalendar standard to store information about calendar-specific data such as to-do lists, appointments, events, and so on. Most of the popular calendaring tools, such as Lotus Notes, Outlook, Google Calendar, Zimbra and Apple's iCal also support the iCalendar standard.

> Request for Comments (RFC) documents are a series of memoranda encompassing new research, innovations, and methodologies applicable to Internet technologies. Refer to URL `http://www.rfc-editor.org/`

Use Core Object

In iCalendar, the core object (or called top-level object) is a collection of calendaring and scheduling information (refer to RFC2445 at `http://www.ietf.org/rfc/rfc2445.txt`. Normally, this information consists of a single iCalendar object. But it is possible to group multiple iCalendar objects together.

It must start with "`BEGIN: VCALENDAR`", and end with "`END: VCALENDAR`". The contents are called the "`i-cal-body`", consisting of a sequence of calendar properties, and one or more calendar components. The calendar properties (that is, attributes) apply to the calendar as a whole. The calendar components refer to collections of properties expressing a particular calendar semantic. For instance, a calendar component may specify an event, or free/busy time information, or an alarm, or a to-do list, and so on.

Here is a simple example:

```
BEGIN:VCALENDAR
VERSION:2.0
PRODID:-//PALM TREE PUBLICATIONS//EN
BEGIN:VEVENT
DTSTART:20081014T170000Z
DTEND:20081015T035959Z
SUMMARY: Day Editorial Party
END:VEVENT
END:VCALENDAR
```

There are many different types of components defined in the standard as described in the following table (refer to RFC2445 at `http://www.ietf.org/rfc/rfc2445.txt`).

Object	**Names**	**Description**
VEVENT	Events	Describes an event that represents a scheduled amount of time on a calendar.
VTODO	To-do	Describes a to-do item, that is, an action-item or assignment.
VJOURNAL	Journal entry	Describes a journal entry.
VFREEBUSY	Free/busy time	Describes either a request for free/busy time, a response to a request, or describes a published set of busy time.
VTIMEZONE	Time zone	Defines time zones.
VALARM	Alarms	Defines alarms.

Note that some components may include other components (VALARM is often included in other components), and some components are often defined to support other components defined after them (VTIMEZONE is often used this way).

Especially, under the VTODO, the UID field facilitates distribution of updates, that is, a scheduled event change. A type of globally unique identifier (UID) is generated when the event is generated first. If a later event is distributed with the same UID, it means the original one is replaced. An example UID might be "**Y2008S3C121M4@book.com**", for the 4th meeting of class 121 in semester 3 at "Palm Tree Publications".

Exchange Data

The iCalendar format describes calendar-based data such as **Events**. But it does not describe what to do with that data. Thus, other protocols are in need to implement actions to be done with this data. In general, the iCalendar format supports interoperability of calendar data, while the features are widely supported by iCalendar implementations.

iCalendar Transport-Independent Interoperability (I-TIP) (RFC 2446) defines a protocol to exchange iCalendar objects for the purposes of group calendaring, and scheduling between "Calendar Users" (CUs). It defines a set of methods such as PUBLISH, REQUEST, REPLY, ADD, CANCEL, REFRESH, COUNTER and DECLINE-COUNTER (negotiate/decline the counter-proposal).

iCalendar Message-based Interoperability Protocol—IMIP (RFC 2447) defines a method to implement I-TIP on standard Internet email-based transports.

Working with Workflow

As an administrator, you may need to provide an environment for **Users** to manage workflows at the **Page,** "**Workflow**", under the **Page,** "**Community**", of the **Book Lovers** community. For example, the **User,** "**Lotti Stein**", at the Editorial department submits a request, "request-holiday", and the manager, "**David Berger**", at the Editorial department reviews/approves/rejects the request via a workflow. First, let's set up workflow as follows:

1. Add a **Page** named "**Workflow**" under the **Page,** "**Community**", of the **Book Lovers** community.
2. If the **Workflow** portlet is not already present, add **it** in the **Page,** "**Workflow**", of the **Book Lovers** Community, where you want to let **Users** manage workflows by other portals.

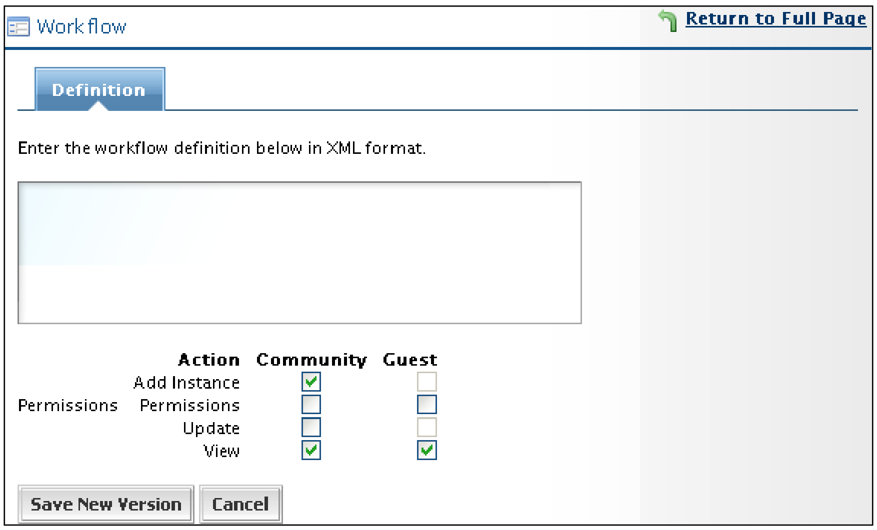
Now, you are ready to deploy a workflow.

Deploying Workflow

Suppose that a workflow, "**holiday**", was used for the above example. Let's deploy this workflow as follows:

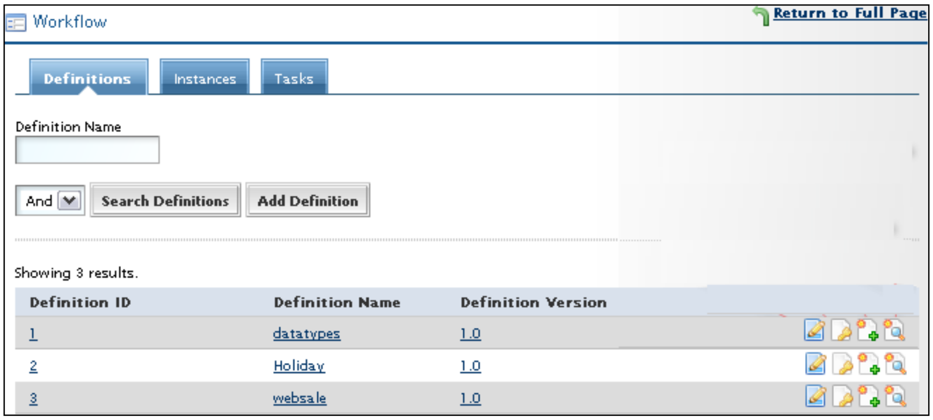
1. Navigate to the **Page,** "**Workflow**", under the **Page,** "**Community**", at the **Book Lovers** community.
2. Locate the **Workflow** portlet.

3. By default, the **Definitions** tab is selected as shown in the following figure. The **Workflow** portlet displays all the workflows that have been deployed in the system.
4. To deploy a workflow, say "**holiday**", click on the **Add Definition** button.
5. At this point, you can paste the contents of a definition XML.
6. Click the **Save New Version** button.
7. An error message will be displayed, if the input is invalid. A success message will be displayed, if the input is valid.



> In order to make **Workflow** work well, you have to deploy jbpm-web (WAR) and mule-web (WAR) or Servicemix-web (WAR) first. Refer to Chapter 10 to know how to deploy portlets. The **Workflow** portlet works well in version 4.3.4. Staging enhancement and Workflow is available in version 5.x. For more details, refer to Chapter 13.

Of course, you can deploy other workflow definitions, such as "**Websale**" and "**Datatypes**". After deploying workflow definitions "**Websale**" and "**Datatypes**", you can view workflows.



Managing Definitions

Since business processes may change over time, we have to manage every version of **Workflows**. To edit an existing **Workflow** version, simply click on the **Edit** icon located next to the definition name (or from the **Actions** next to the definition name). Update the XML in the text area first, and then click the **Save New Version** button.

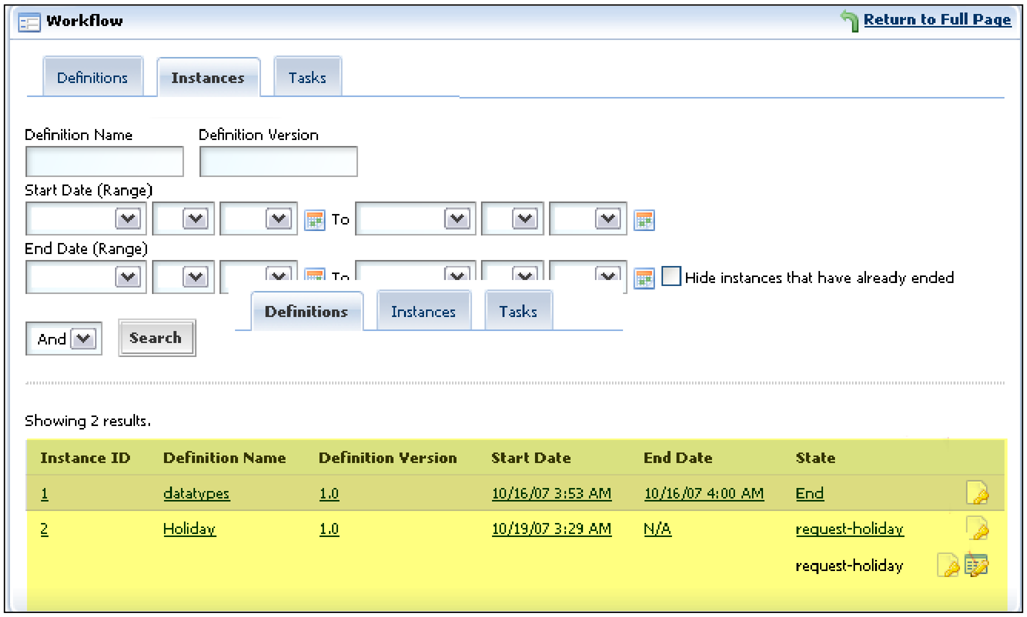
The new version number will be incremented by one from the previous version number. For example, the current version of **Workflow,** "**datatypes**", is **1.0**. Then the new version number of **Workflow,** "**datatypes**", would be **2.0**.

Managing Instances

Now a **Definition,** "**Holiday**", is deployed. We are ready to add a new **Instance** of a **Workflow Definition.** "**Holiday**". Let's do as follows:

1. By default, the **Definitions** tab is selected.
2. Locate the **Workflow Definition,**"**Holiday**", and simply click on the **Add Instance** icon.
3. A new instance will appear on the **Instances** tab.

Now, a **Definition** "**Holiday**" was deployed and an **Instance** of that **Definition** was started. It is up to the **User** to manage the life cycle of the **Instance**. **Instance** management is controlled from the **Instances** tab with an icon, "**Manage**".



You can view all **Instances** of a **Workflow Definition**. To view all the **Instances** of a particular **Definition**, click the **View Instances** icon. Finally, you can also search for a **Definition** by name using the **Definition Name** and **Definition Version** input boxes.

The **Instances** tab displays every **instance** of every version of every **Workflow** deployed in the system. They are listed alphabetically by **Definition Name** followed by **Definition Version**, **Start Date**, **End Date**, **State** and set of actions in descending order.

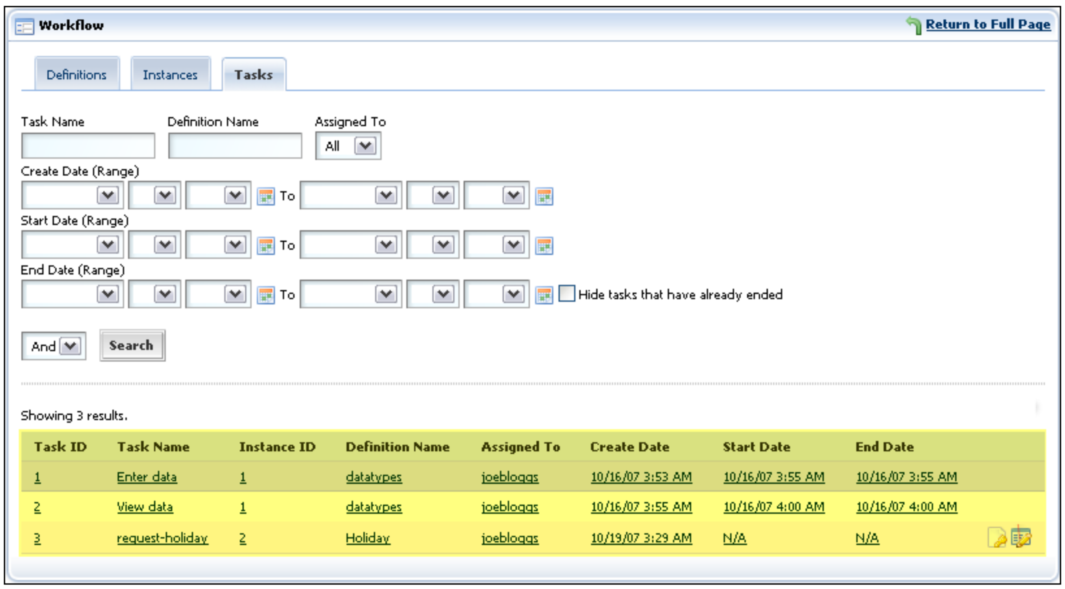
The **Instances** of **Workflow Definitions** are searchable. You can search **Instances** by **Definition Name** and **Definition Version**. The **Search** form at the top of the screen allows you to find specific **Instances** to manage. You display only active, running **Instances** by checking the box, **Hide instances that have already ended** checkbox. The date ranges also allow you to search by **Start Date** and/or **End Date**. In addition, you will see the first row for a given **Instance** that describes the state of the **Instance**, and following rows for a given **Instance** specify tasks that are associated with the current state. Frequently, the current state and current task have the same name.

You can play with the given **Instance** in its current state by the **Actions** in the right-most column in the results table. The **actions** will either be blank or appear with the **Manage** icon, and/or the **Permissions** icon.

Managing Tasks

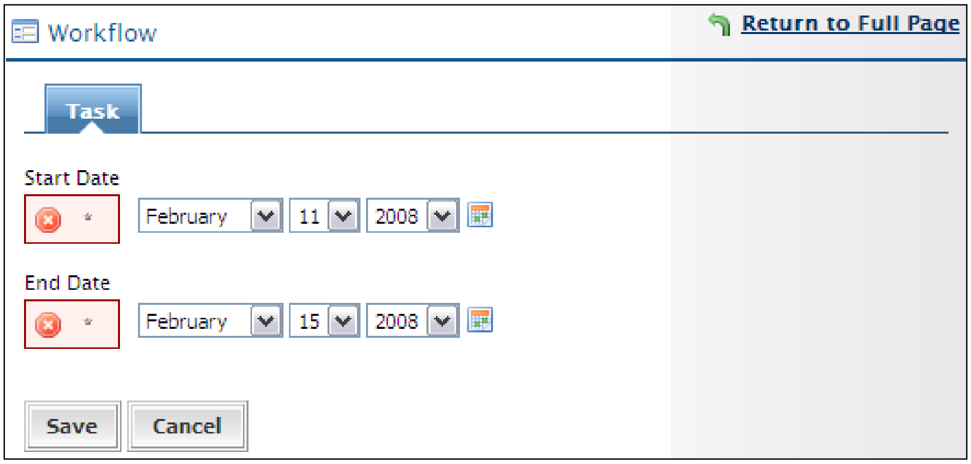
As a **User** at the Editorial department, "**Lotti Stein**" plans to use **Workflow** by sending a holiday request to the manager,"**David Berger",** for approval. Suppose that "**Lotti Stein**" has proper **Permissions to do so**:

1. Log in as "**Lotti Stein**".
2. Navigate to the **Page,** "**Workflow**", under the **Page,** "**Community**", at the **Book Lovers** community.
3. Locate the **Workflow** portlet.
4. Select the **Tasks** tab. You will find **Task Name,** "**request-holiday**", with an action icon, **Manage**.



5. Locate the **Task,** "**request-holiday**".
6. Click on the icon **Manage**.
7. Input the start day as say **Feb**. **11**, **2008**.
8. Input the end day as say **Feb**.**15**, **2008**.

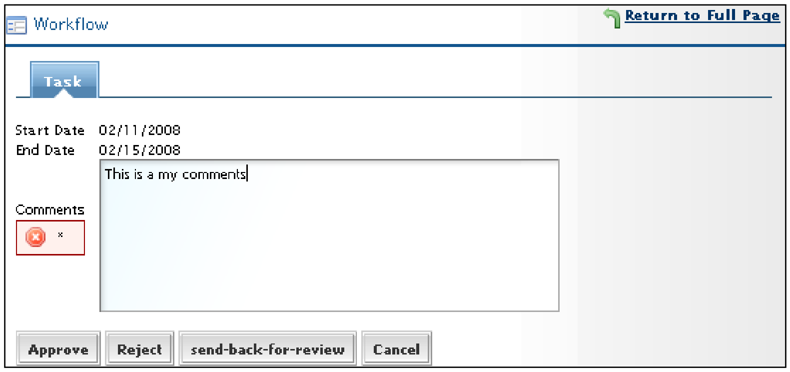
9. Click on the **Save** button when you are ready.



As a **User** of the Editorial department, "**Lotti Stein**" has sent a holiday request to the manager. Now it is up to the manager "**David Berger**", to **Approve** or **Reject** the request, or send the request back to the requester for review. As a manager at the Editorial department, "**David Berger**" has to take decisions based on the request:

1. Log in as "**David Berger**".
2. Navigate to the **Page,** "**Workflow**", under the **Page,** "**Community**", at the **Book Lovers** community.
3. Locate the **Workflow** portlet.
4. Select the **Instances** tab. You will find the **Task Name,** "**request-holiday**", with an action icon, **Manage**.
5. You can view the request **Start Date** and **End Date**.

6. Input your **Comments** as "**This is my comments**", as shown in the following figure:



7. Click the **Approve** button if you want to approve it, or click the **Reject** button if you want to reject the request. Click the **send-back-for-review** button, if you want to send it back for review.

Here, we only use the **Workflow,** "**Holiday**", as an example for tasks management and instances management. Of course, you can use other **Workflows** such as "**datatypes**", "**websale**", and your own workflows.

Using Permissions

We have used a default setting for the **Workflow** portlet in the **Page,** "**Workflow**", of the **Page,** "**Community**", under the **Book Lovers** Community. When the administrator "**Palm Tree**" logs in, he/she will see the button, **Add Definition**, as mentioned earlier. We know that the **User** "**Lotti Stein**" is also a member of the **Book Lovers** community. Try to log in as "**Lotti Stein**", and you will see that there is no **Add Definition** button. Further, you will also see the **Instances** without the **Action** icons,**Signal**, **Permissions** and **Manage**.

Why are the two cases different? This is something related to **Permissions**. There are four levels of **Permissions**: portlet **Permissions**, **Permissions** on **Definitions**, **Instances** and **Tasks**.

Portlet Permissions

The following table shows **Permissions** related to the **Workflow** portlet. A **Community User** may set up all **Permissions,** (marked 'X'): **View**, **Add Definition**, and **Configuration**, while a **Guest User** may set up **Permissions**, **View** and **Configuration**. By default, a **Community** has the **Permission** action **View** (marked '*') and so does a **Guest User**.

Action	Description	Community	Guest
View	Views this portlet	X, *	X, *
Configuration	Configures this portlet	X	X
Add Definition	Adds a **Definition** to the portlet	X	

Obviously, as a **User** of the **Book Lovers** Community, "**Lotti Stein**" has only **View Permissions** on the **Workflow** portlet, by default. Since the **Book Lovers** community has no **Add Definition Permission**, "**Lotti Stein**" too has no **Add Definition Permission**.

Permissions on Definitions

The following table shows **Permissions** related to the **Definitions** on the **Workflow** portlet. A **Community User** may set up all **Permissions** (marked 'X'), **View**, **Add Instance**, **Update**, and **Permissions**, while a **Guest User** may set up **Permissions**, **View** and **Permissions**. By default, a **Community** has **Permission** action **View** (marked '*') and so does a **Guest User**.

Action	Description	Community	Guest
View	Views this **Definition**	X, *	X, *
Update	Updates this **Definition**	X	
Permissions	Changes **Permissions** on this **Definition**	X	X
Add Instance	Adds an **Instance** to this **Definition**	X	

Obviously, as a **User** of the **Book Lovers** Community, "**Lotti Stein**" has only **View Permissions** on the **Definition,** by default. Since the **Book Lovers** community has no **Permission,** "**Add Instance**", "**Lotti Stein**" too has no **Permission,** "**Add Instance**".

Permissions on Instances

The following table shows **Permissions** related to the **Instances** on the **Workflow** portlet. A **Community User** may set up all **Permissions** (marked 'X'), **Manage**, **Signal** and **Permissions**, while a **Guest User** may set up **Permissions, Permissions**. By default, neither a **Community** nor a **Guest User** has a **Permission** action.

Action	Description	Community	Guest
Manage	Manages the **Instance**	X	
Signal	Signals the **Instance**	X	
Permissions	Changes permissions on this **Instances**	X	X

Permissions on Tasks

The following table shows **Permissions** related to the **Tasks** on the **Workflow** portlet. A **Community User** may set up all **Permissions** (marked 'X'), **Manage** and **Permissions**, while a **Guest User** may set up **Permission, Permissions**. By default, neither a **Community** nor a **Guest User** has a **Permission** action.

Action	Description	Community	Guest
Manage	Manage this **Task**	X	
Permissions	Change permissions on this **Task**	X	X

Using Workflow Effectively

In the case where a portal is used as the foundation of a website, the **Users** are responsible for using the tools provided by the portal for laying out a website, its **Pages**, the contents of each **Page**, assigning layouts, themes, friendly URLs and so on. **Workflow** provides the ability to take what is essentially a working copy of a layout (that is portal **Page**) and its associated assets called the process assets, and send them through a process. Throughout the **Workflow,** the process assets should be previewed. **Workflow** could be different across **Organizations,** and thus any solution should provide the opportunity for an **Organization** to define its workflow.

The **Workflow** portlet provides the ability to manage the **Workflows** at the presentation layer. Further, it allows the **Users** to create and edit **Workflows** using a simple drag and drop style interface.

The Workflow portlet works based on ESB (Enterprise Service Bus), a switching station between services. The portal also needs a **Workflow** service. Although there are several different **Workflow** engines that would satisfy the needs, you have high flexibility in choosing the one you want to use. Therefore, the portal will directly access the ESB, and the ESB will then decide on which **Workflow** component to use, to access the **Workflow** service. Thus, no matter how many ways the **Workflow** service changes, the portal would never be directly impacted. The ESB provides a mechanism to plug in services, and you can therefore update services easily with little or no impact to the portal configuration. Currently both Service-Mix and Mule are useful for these purposes.

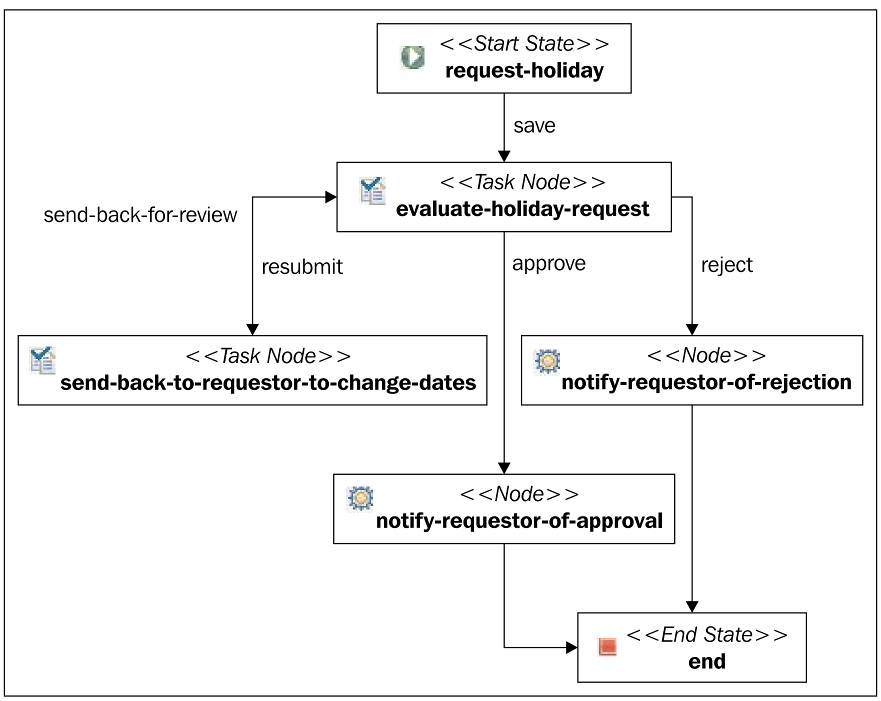
Service-Mix is truer to the traditional definition of an ESB (it adheres to the Java Business Integration (JBI) JSR-208 specification), whereas Mule is based on ESB (it doesn't adhere to the specification) and is more flexible. In short, Mule is a bit easier to configure and set up and running. However, Service-Mix has a smaller footprint than Mule has.

Define Business Process

The following figure depicts a business process example called holiday. The **Start State** is called "**request-holiday**", followed by the "**Task Node**", "**evaluate-holiday-request**". Then the following could apply to the **Task** "**send-back-for-review**", "**resubmit**", "**approve**" and "**reject**". Finally, there is an **End State,** "**End**".

Business processes in jBPM are defined by XML documents (called process definitions) written in jBPM Process Definition Language (JPDL). These XML specify the following:

- The entities such as the process roles known as swim-lanes, the various states such as "**Start State**" known as **Nodes**
- The **Tasks** such as "**evaluate-holiday-request**" associated with each **Node** such as "**notify-requestor-of-approval**"
- The transitions from one **Node** to the next
- The variables associated with each **Task's** form
- The **Roles** associated with each **Task**
- The external actions executed on entry or exit of a **Node**



> JBoss jBPM is a workflow and BPM (Business Process Management) engine that enables the creation of business processes that coordinate between people, applications and services. With its modular architecture, jBPM combines easy development of workflow applications with a flexible and scalable process engine. The jBPM process designer graphically represents the business process steps in order to facilitate a strong link between the business analyst and the technical developer.

Integrate with Users, Groups And Roles

Workflow can be integrated with **Users**, groups, and **Roles**. You can use process roles named swim-lanes associated with **Users**, groups, and **Roles** In JPDL.

```
<swimlane name="approver">
  <assignment class="*" config-type="field">
    <type>user</type>
    <companyId>book.com</companyId>
    <id>10838</id>
  </assignment>
</swimlane>
```

As shown, the "`approver`" `swimlane` is associated with the `user`, "**David Berger**" who has a User ID "`10838`", and belongs to a Company ID,"`book.com`". That is, "**David Berger**" is acting as an approver.

Similar to associating a `user` with User ID, you can also associate a `user` such as "**David Berger**" with a `swimlane` by email address, such as "`david@book.com`", as shown in the following XML snippet.

```
<swimlane name="approver">
    <assignment class="*" config-type="field">
      <type>user</type>
      <companyId>book.com</companyId>
      <name>david@book.com</name>
    </assignment>
  </swimlane>
```

As shown in the previous XML, the "`approver`" `swimlane` is associated with the `user`, "**David Berger**", who has an email address, "`david@book.com`", and belongs to a Company ID, "`book.com`."

```
<swimlane name="approver">
  <assignment class="*" config-type="field">
    <type>group</type>
    <companyId>book.com</companyId>
```

```
      <id>1116</id>
    </assignment>
  </swimlane>
```

In the previous XML, the "`approver`" `swimlane` is associated with any `user` that belongs to a `group` with the Group ID, "`1116`" (which defaults to the **Book Lovers** community), and Company ID, "`book.com`". In other words, the "`approver`" `swimlane` is assigned to the pool of "**Book Lovers**" **Users**. If one of the "**Book Lovers**" **Users** were to manage an approver task, this **User** would automatically be assigned to all other approver **Tasks** in the **Workflow**.

```
  <swimlane name="approver">
    <assignment class="*" config-type="field">
      <type>group</type>
      <companyId>book.com</companyId>
      <name>Book Lovers</name>
    </assignment>
  </swimlane>
```

The previous XML shows an alternative way to associate the "`approver`" `swimlane` with the `Book Lovers` community using the actual **Community's** `name`. Again, as the **Community** names must be unique per Company ID, this format accomplishes the same results as the previous XML.

```
  <swimlane name="approver">
    <assignment class="*" config-type="field">
      <type>role</type>
      <companyId>book.com</companyId>
      <id>11123</id>
    </assignment>
  </swimlane>
  <swimlane name="approver">
    <assignment class="*" config-type="field">
      <type>role</type>
      <companyId>book.com</companyId>
      <name>MB Topic Admin</name>
    </assignment>
  </swimlane>
```

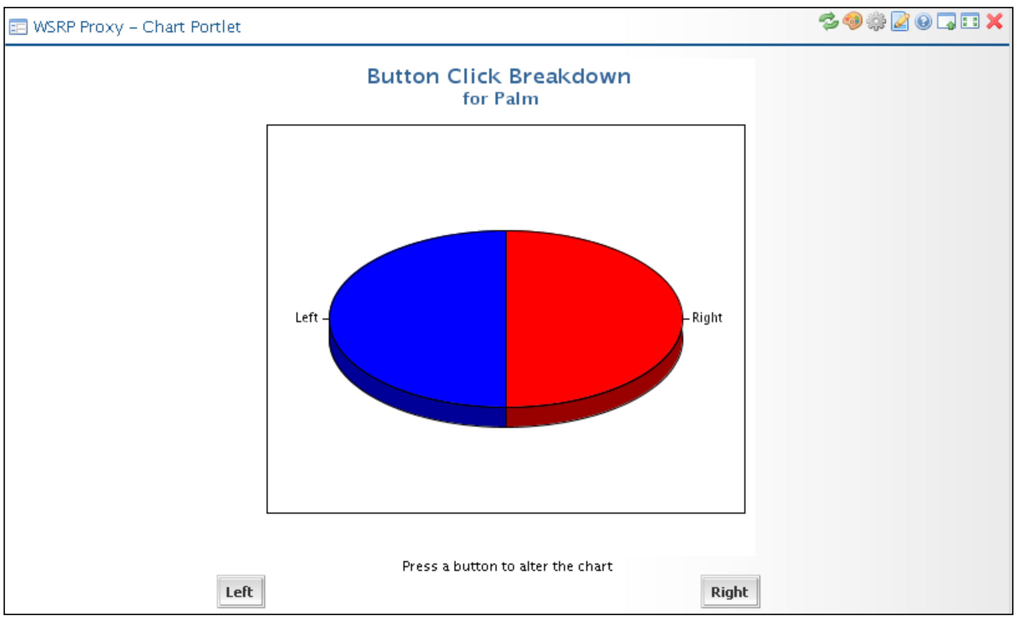
As shown above, the two XML snippets are very similar to the Group XML snippets. But both of them associate their `swimlanes` with a `role`, the first XML uses the Role ID, "`11123`", and the second XML uses the role's unique name, "`MB Topic Admin`".

> For more details about jPDL, refer to jPDL specification at `http://docs.jboss.com/jbpm/v3/userguide/jpdl.html`

Working with WSRP

As an administrator, you may need to access portlets' contents published by other portals such as "`http://portalstandards.oracle.com:80/portletapp/portlets`" across the Internet using Web Services at the **Page,** "**Media**", under the **Page,** "**Community**", of the **Book Lovers** community. Let's do it as follows:

1. Add a **Page** named "**Media**" under the **Page,** "**Community**", of the **Book Lovers** community.
2. Add the **WSRP Proxy** portlet in the **Page,** "**Media**", of the **Book Lovers** Community where you want to access portlets' contents published by other portals, if the **WSRP Proxy** portlet is not there.
3. By default, you will see the contents as shown in the following figure.

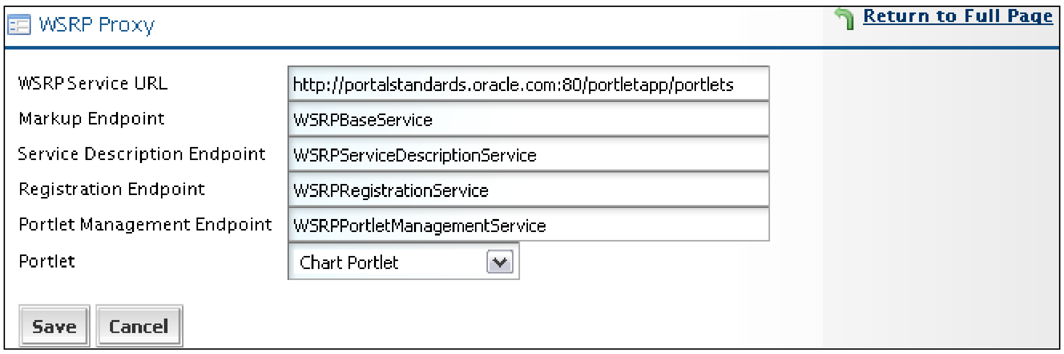


How do you get it? Here are the options to change **Permissions,** and change the portlets and their contents as follows:

1. Click the **Configuration icon to the upper right, to change Permissions if you have proper access right.**
2. Click the **Preferences icon to the upper right to edit local and remote preferences.**
3. **Press the Edit Local Preferences link.**

The following figure depicts how to use **Edit Local Preference**.

1. Edit **WSRP Service URL, Markup Endpoint, Service Description Endpoint, Registration Endpoint, Portlet Management Endpoint**.
2. Further, select a portlet such as **Chart Portlet** from the **Portlet** list.
3. Press **Save** button to save the changes.



In addition, you can use **Edit Remote Preference**. For a given producer, you can change title, and then press the **OK** button to keep the current setup, or press the **Apply** button to apply the changes.

Using WSRP Effectively

WSRP (Web Services for Remote Portlets), as an OASIS-approved network protocol standard, is employed for communications with remote portlets. The WSRP specification defines a web-service interface to interact with presentation-oriented web services.

The WSRP specification defines ways to plug remote web services as portlets into the pages of online portals and other user-facing applications. Here is a simple flow: First, portal or application owners embed a web service from a third party into a portlet easily; then interactive content and services, which are updated from the provider's servers, are displayed in the portlet dynamically.

> OASIS (Organization for the Advancement of Structured Information Standards) is a not-for-profit consortium that drives the development, convergence and adoption of open standards for the global information society. URL: `http://www.oasis-open.org/`

Why Use WSRP?

There are a set of scenarios that motivate WSRP functionality. Here, we just list some of them as follows:

- Aggregation engines use content hosts (such as portal servers) to provide portlets as presentation-oriented web services.
- Portal uses content aggregator (such as portal servers) to consume presentation-oriented web services and integrate them into a portal framework.

WSRP is also useful for web development. It involves the following features:

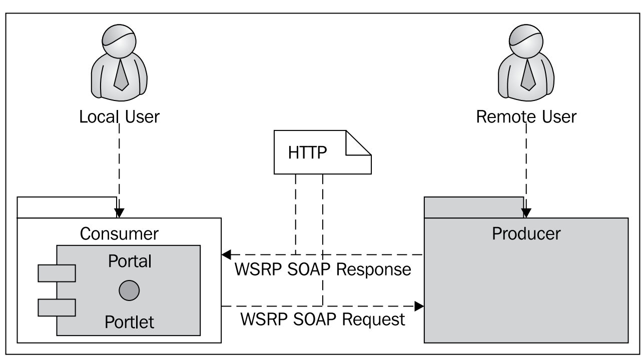
- It decouples the deployment and delivery of applications.
- It delivers both the data and its presentation logic.
- It requires little or no programming for implementation.

In addition, WSRP provides a lot of additional benefits, such as interoperability and portability. Normally, Liferay can act as both a consumer and producer of WSRP. But, some disadvantages of WSRP are its slowness, its lack of wide adoption, and so on.

How Does It Work?

WSRP involves two integral components:

- The remote application, called a WSRP producer, implements standards-based Web Services using the SOAP (Simple Object Access Protocol) specification over HTTP. Producers are normally created by third-party implementations of WSRP.
- A WSRP consumer acts as a portal application. Typically, the consumer application refers to the producer's WSDL (Web Services Description Language). The consumer directly accesses the producer when the portal is active.



In short, the WSRP defines a collection of Web services and data objects that enable remote consumption of portlets. WSRP allows the Consumer to get UIs exported from a remote portal server ("Producer"). It is different from traditional paradigm which constructs local UI widgets that connect to remote server components. WSRP defines four Web service interfaces briefly:

- Service Description Service—a registry of portlets, available to a portlet consumer.
- Markup Service—generating portlet markup and executing actions, in order to change the portlet state.
- Portlet Management Service—cloning producer portlets in order to reflect consumer-specific states, destroying portlets, and getting portlet metadata, and so on.
- Registration Service—if the producer supports on-line registration, it lets consumers register themselves.

> For more details about WSRP, refer to WSRP specification at `http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=wsrp`.

Using Web Proxy Portlet

As an administrator, you may need to bring in content from external sites into the portal such as "`http://liferay.cignex.com`" at the **Page,** "**Media**", under the **Page,** "**Community**", of the **Book Lovers** community. Let's do it as follows:

1. Add **Web Proxy** portlet in the **Page,** "**Media**", of the **Book Lovers** Community where you want to bring content from external sites into the portal, if **Web Proxy** portlet is not already present.
2. Click on the **Configuration** icon to the top-right of the portlet.
3. By default, **Setup** tab is selected. Input value "`http://liferay.cignex.com`" for URL.
4. Keep default values for others.
5. Click on the **Save** button when you are ready.
6. Click on the **Return to full Page** arrow icon to return to the main view.

Of course, you can input another URL. After inputting the value "`http://liferay.cignex.com`" as URL, you can view your **Page** with content from external sites.

The Web Proxy portlet allows **Users** to bring in content from external sites, supporting various authentication schemes, and using XSL to rewrite content from external sites. In fact, **Web Proxy** is a JSR 168 compliant portlet for a downstream web site. By default, the **Web Proxy** portlet displays only the content of the tag `<BODY>`, while we can use custom XSLT to transform the data from the downstream site.

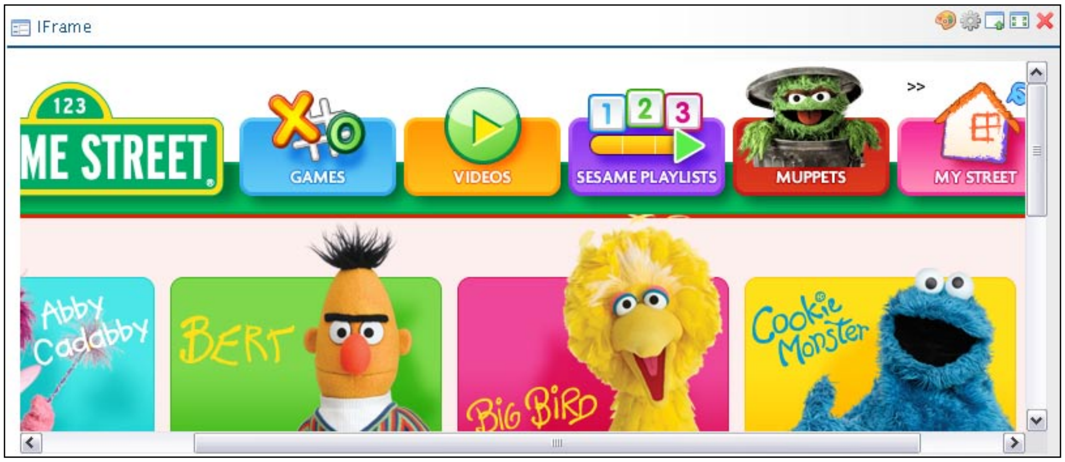
The **Web Proxy** portlet provides ability to seamlessly integrate with web-based services regardless of the implementation technology. In addition, **Web Proxy** provides abilities for authentication (such as NTLM), clipping, content caching, for passing user-specific information to the back-end application, and so on.

Using IFrame Portlet

As an administrator, you may need to create an inline frame that contains another document or website such as "`http://sesamestreet.cignex.com`" at the **Page,** "**Media**", under the **Page,** "**Community**", of the **Book Lovers** community. Let's do it as follows:

1. Add the **IFrame** portlet in the **Page,** "**Media**", of the **Book Lovers** Community where you want to create an inline frame that contains another document, if the **IFrame** portlet is not already present.
2. Click on the **Configuration** icon to the top-right of the portlet.
3. By default, the **Setup** tab is selected. Input value "`http://sesamestreet.cignex.com`" for Source URL.
4. Keep default values for others.
5. Click on the **Save** button when you are ready.
6. Click on **Return to full Page** arrow icon to return to main view.

Of course, you can input another URL. After inputting the value "`http://sesamestreet.cignex.com`" source URL, you can view your **Page** with an inline frame that contains another document or website.



What Are The Differences Between IFrame And Web Proxy?

There are several differences between the **IFrame** and **Web Proxy** portlets. The **IFrame** portlet is simpler than the **Web Proxy** portlet. The downstream site via the **IFrame** portlet is often more faithfully rendered.

The **Web Proxy** portlet however has several advantages. An **IFrame** is like a window onto another site, while the **Web Proxy** portlet behaves more like a portlet, providing a block of HTML in your portal page. The following are the main differences between **IFrame** and **Web Proxy**:

- **IFrame** doesn't resize easily to accommodate the size of the downstream content, while **Web Proxy** portlet does the same by putting a fixed size `<div>` into the XSLT around the content.
- **The IFrame** URLs take you out of the portal. This is often not the behavior you'd expect from a portlet.The **Web Proxy** portlet can be configured either way using the "scope" preference.
- **IFrame** exposes the whole downstream site to the public.
- The content of **IFrame** is unchangeable. It means that while it looks exactly like the downstream site, it may not look like the rest of the portal. However, the **Web Proxy** portlet allows you to modify the XSLT that transforms the content.

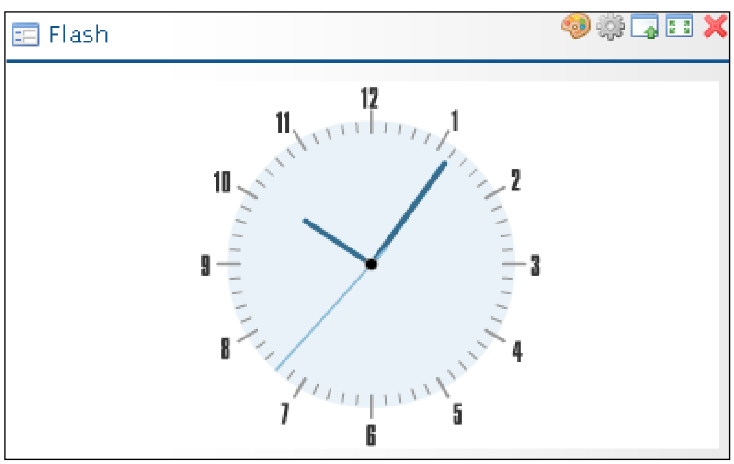
- **IFrame** shows everything from the downstream site, while the **Web Proxy** Portlet allows for "web clipping" using custom XSLT. This means you get only what you want.
- Finally, **IFrame** works on most browsers, except the ones with XHTML specification. Web proxy would probably be a better choice under most circumstances.

Using Flash Portlet

As an administrator, you may need to show a **Flash** movie clock such as "`/flash/analogclock.swf`" at the **Page** ,"**Media**", under the **Page,** "**Community**", of the **Book Lovers** community. Let's add the flash movie as follows:

1. Add **Flash** portlet in the **Page,** "**Media**", of the **Book Lovers** Community where you want to show a flash movie, if the **Flash** portlet is not already present.
2. Click on the **Configuration** icon to the top-right of the portlet.
3. By default, the **Setup** tab is selected. Input value "`/flash/analogclock.swf`" for Movie.
4. Keep default values for other flash attributes and flash variables.
5. Click on the **Save** button when you are ready.
6. Click on **Return to full Page** arrow icon to return to main view.

Of course, you can input other flash movies. After inputting flash movie "`/flash/analogclock.swf`", you can view your page with a flash movie-clock as shown in the following figure:



In general, Liferay provides a set of portlets to incorporate other technologies with it at the presentation layer. Besides the portlets such as **Flash**, **IFrame** and **Web Proxy**, Liferay also provides support for Laszlo, Velocity, JSP, Struts, PHP, Perl, Spring MVC, and so on.

Summary

First, this chapter discussed how to create, manage (edit, delete, add, view), and search **Events** in a **Calendar**, and how to share calendar using iCalendar. Then,it discussed how to deploy **Workflows** and how to manage **Workflow Definitions**, **Instances** and **Tasks**. Finally it showed us how to employ WSRP proxy effectively, and other portlets such as **Web Proxy**, **IFrame** and **Flash,** smoothly.

8

Content Management and Publishing

In the intranet website "book.com" of "Palm Tree Publications", a lot of web contents are required to be managed and published. Liferay Journal not only provides high availability to publish, manage, and maintain web content and documents, but also separates content from layout. This chapter will introduce us to managing and publishing images first. Then, it will discuss how to manage and publish documents. Finally, it will focus on the articles' creation, management and publishing.

By the end of this chapter, you will have learned how to:

- Add folders and sub folders for images.
- Manage (view, search, edit, delete) folders and sub folders.
- Add images in folders and manage (view, search, edit, delete) images.
- Set up permissions on folders and images.
- Add folders and sub folders for documents.
- Manage (view, search, edit, delete) documents, add **Comments**, give your rating, view version history.
- Set up **Permissions** on folders and documents.
- Publish documents.
- Manage (view, search, edit, delete) structures.
- Manage (view, search, edit, delete) template.
- Manage (view, search, edit, delete, approve, preview) articles.
- Set up **Permissions** on Journal, articles, templates and structures.
- Publish articles.
- Employ other CMS tools.

Working with Image Gallery

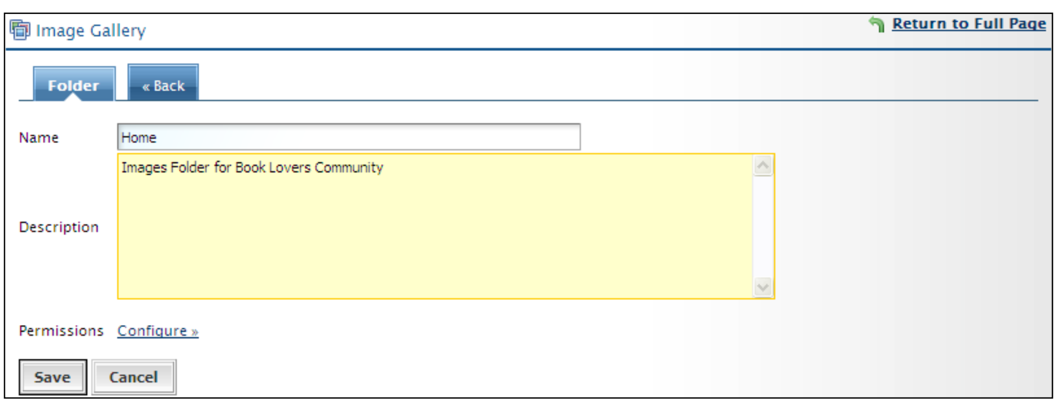
In order to let small teams manage web contents and publish web contents easily, we should use Liferay Journal. Before creating web contents, we have to prepare a set of images and documents. Let's see how to manage images first.

As an administrator of "Palm Tree Publications", you need to create a page called "**Images**" under the page "**Admin**" at the **Book Lovers** Community and moreover, add the **Image Gallery** portlet in the page, "**Images**". Further, you need to create folders such as "**Home**" and "**Liferay**", and sub folders such as "**Book**", in order to hold a set of images. At the same time, you need to group all images into different folders for easy use and management.

Adding A Folder

First of all, we need to create a folder called "**Home**", which contains a number of images. Let's do it as follows:

1. Add a page called "**Image**" under the **Page** "**Admin**" at the **Book Lovers** Community **Private Pages**, if the page is not already present.
2. Add the **Image Gallery** portlet in the **Page** "**Images**" of the **Book Lovers** Community where you want to manage images, if the **Image Gallery** portlet is not already present.
3. Click the **Add Folder** button.
4. Enter a **Name,** "**Home**", and a **Description,** "**Images Folder for Book Lovers Community**", as shown in the following screenshot.
5. Set **Permissions** by clicking on the **Configure** link. To configure additional **Permissions**, click the **More** link. Here, we just use default settings.
6. Click the **Save** button to save the inputs.

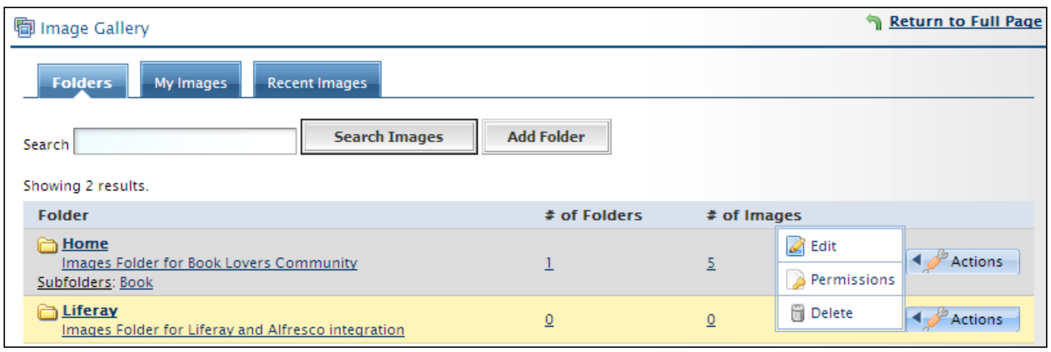


Adding A Sub Folder

Suppose that we need to create a **Subfolder** named "**Book**" under the folder, "**Home**", which will contain a set of images for "Liferay Book". Let's do it as follows:

1. Locate the **Folder,** "**Home**"; click the link of the **Folder,** "**Home**".
2. Click the **Add Subfolder** button.
3. Enter a **Name** such as "Book" and a **Description** such as "Images folder for book".
4. Set **Permissions** by clicking the **Configure** link. To configure additional **Permissions**, click the **More** link. Here, we just use default settings.
5. Click the **Save** button to save the inputs.

Of course, you can create other **Folders** as siblings of the **Folder,** "**Home**". After adding a **Folder,** "**Liferay**", we can view **Folders** as shown in the following figure.



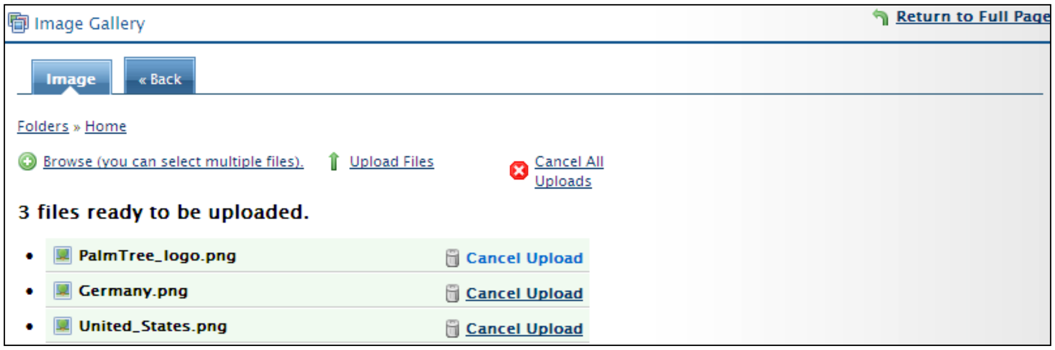
Obviously, all **Folders** or **Subfolders** names form a folder tree. The names of **Folders** or **Subfolders** must be unique at the same level in the folder tree. The names could be the same at different levels.

Adding An Image

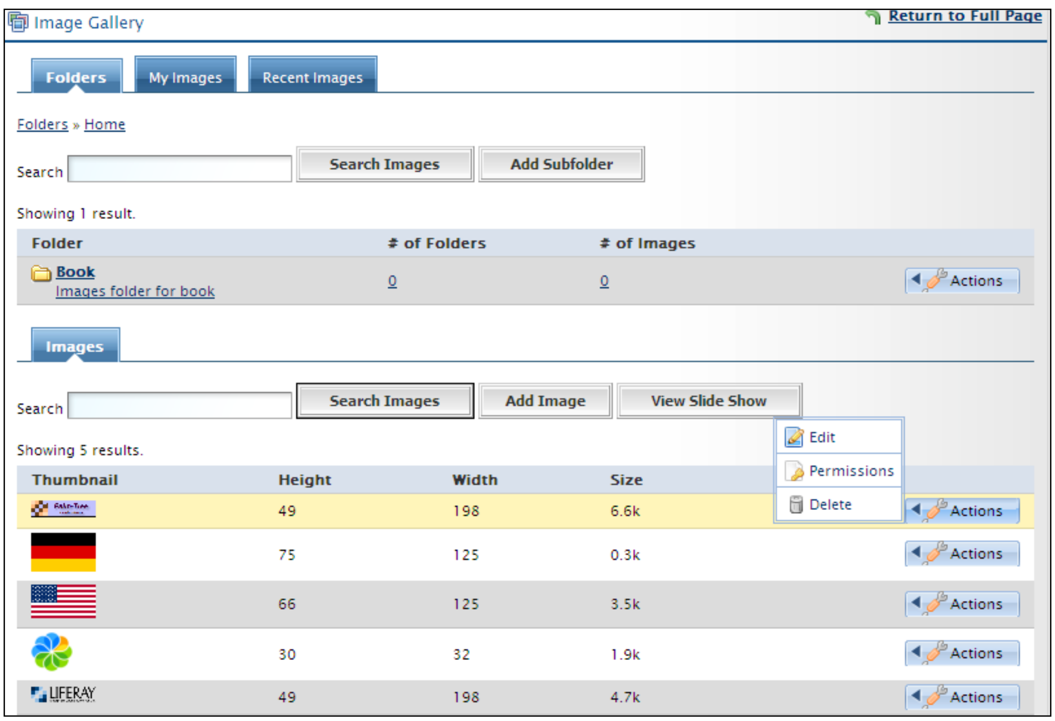
Finally, we can add an image in a given **Folder**. Suppose that we need to add a logo of "Palm Tree Publications" in the folder "**Home**". Let's do it as follows:

1. Locate the folder "**Home**"; click on the link of the **Folder** "**Home**".
2. Click the **Add Image** button.
3. Click the **Browse** icon to find an **Image,** "**PalmTree_logo.png**", in the local machine. Should you wish, you can browse multiple files, such as "**United_States.png**" and "**Germany.png**" as shown in the following figure.

4. Click the **Upload Files** icon to upload files.



Of course, you can add other **Images**. After adding **Images** "`liferay_logo.png`" and "`alfresco_logo.png`", we can view all images under the folder "**Home**" as shown in the following figure.



Managing Folders

Folders and **Subfolders** are editable. For example, you may need to change the description of the **Folder, "Liferay"**, from "**Images Folder for Liferay and Alfresco integration**" to "**Images Folder for Integration**". Let's do is as follows:

1. Locate the **folder** "**Liferay**" that you want to edit.
2. Click the **Edit** icon from the **Actions** located next to the folder.
3. Maintain the value of **Name** and update the **Description** of the selected **Folder** "**Images Folder for Liferay and Alfresco integration**" with the value "**Images Folder for Integration**".
4. Click the **Save** button to save the changes.

You can update the **Name** as well. For example, we can update the **Name** "**Liferay**" with the value "**Liferay-Alfresco**".

Optionally, you can change the parent **Folder** by selecting a **Folder** as the parent **Folder** of the **Folder** or **Subfolder**, or merging the **Folder** with the parent **Folder**, or removing the parent **Folder**. If you remove the parent **Folder**, the current **Folder** will become a **Folder** at the root level.

Folders or **Subfolders** are removable. For example, if the **Folder** "**Liferay-Alfresco**" is not wanted anymore, you can remove it. Let's do it as follows:

1. Locate the **Folder** "**Liferay-Alfresco**" that you want to delete.
2. Click the **Delete** icon from the **Actions** located next to the folder.
3. A screen will appear asking if you want to delete this. Click **OK** to confirm deletion.

Note that deleting a **Folder** will delete all related **Subfolders** and **Images** which belong to this folder.

Managing Images

After adding **Folders** and **Images**, you can manage **Images** easily. You can view **Images** as a slideshow, search images, edit images and delete images.

View Images as a Slideshow

Images are viewable. To view an **Image**, simply click on the link of an **Image**. For example, you want to view the **Image,** "**PalmTree_logo.png**" under the **Folder,** "**Home**". You can just click the link of the **Folder** "**Home**" first, and then locate the **Image,** "**PalmTree_logo.png**. Finally, click the link of the **Image**. A new window will appear showing a full-size image of "**PalmTree_logo.png**".

Optionally, you can view your own **Images,** by clicking the tab **My Images** in the **Image Gallery** portlet and you can also view the recent **Images** by clicking the tab **Recent Images,** in the **Image Gallery** portlet.

All **Images** from a folder can be viewed as a slideshow. For example, if you want to view all **Images** under the **Folder,** "**Home**" as a slideshow, click the **Folder** "**Home**" first, and then click the **View Slide Show** button. A new window will appear showing a full-size **Image** and a set of commands such as **previous**, **play**, **pause**, **next**, and **speed selection**, and so forth.

Search Images

Images are searchable. There are three options to search **Images**. You can search **Images** from the root, search **Images** from the current folder only, or search **Images** both in the **current Folder** and its **Subfolders**.

Suppose that there is an **Image,** "**Sesame Street Logo**", under the **Folder,** "**Book**", which is **Subfolder** of the **Folder,** "**Home**", and there is also an **Image,** "**Sesame Workshop Logo**" under the **Folder,** "**Liferay-Alfresco**".

First, let's search **Images** from the root. In **Image Gallery**, simply input the keyword such as "**logo**", and click the **Search Images** button. A list of **Images** will appear including the above two **Images**.

Then, let's search **Image** from the **Folder,** "**Home**" and its **Subfolders**. In **Image Gallery**, locate the **Folder,** "**Home**", and click on the link of the **Folder** "**Home**". Simply input the keyword, "**logo**", and click the **Search Images** button below the **Folder** navigation **Folders » Home**. A list of **Images** will appear, except the **Image,** "**Sesame Workshop Logo**".

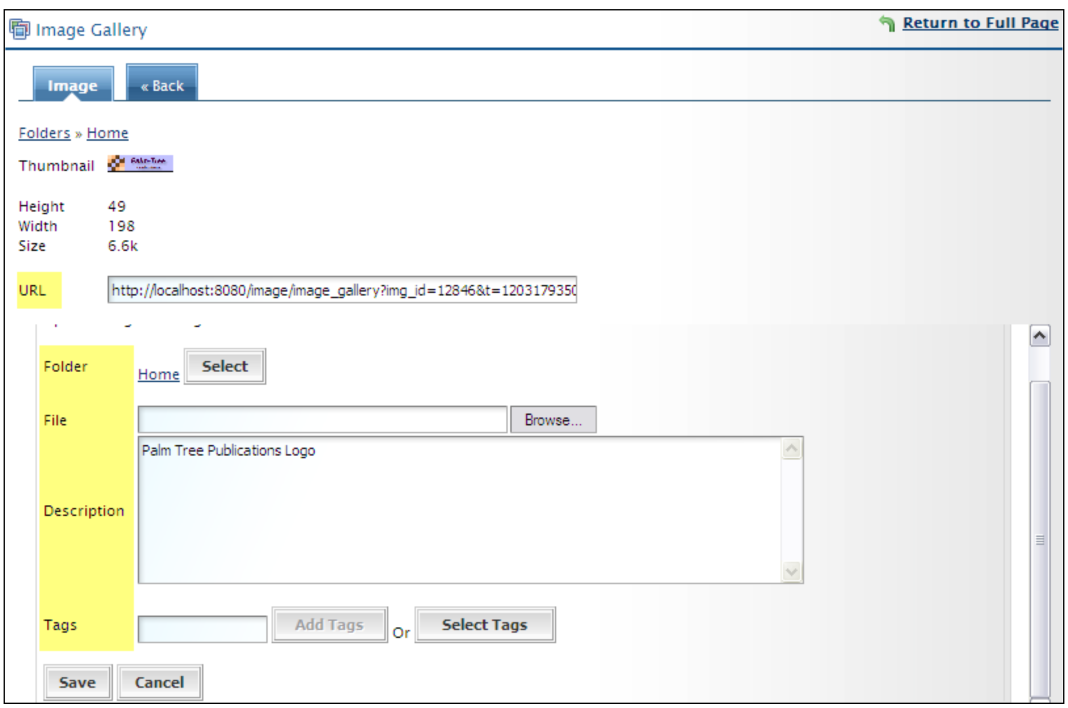
Finally, let's search **Image** from the **Folder,** "**Home**", only. Simply input the keyword, "**logo**", and click the **Search Images** button under the tab **Images**. A list of **Images** will appear, except the **Images,** "**Sesame Workshop Logo**" and "**Sesame Street Logo**".

Edit An Image

Images are editable. For example, you may need to change the **Description** of the **Image, "PalmTree_logo.png"**, under the **Folder, "Home"**, from "**PalmTree_logo.png**" to "**Palm Tree Publications Logo**". Let's do is as follows:

1. Click the folder "**Home**".
2. Locate the "**PalmTree_logo.png**" **Image** that you want to edit.
3. Click on the **Edit** icon from the **Actions** located next to the **Image**.
4. Update the **Description** of the selected **Image, "PalmTree_logo.png"**, with value, "**Palm Tree Publications Logo**".
5. Click the **Save** button to save the changes.

Optionally, you can change the **Folder** by selecting a **Folder** as shown in the following figure. At the same time, you can change the content of the **Image** by uploading another **Image** file. Furthermore, you can find a URL for the **Image** and reference the **Image** by this URL. For instance, you can refer an **Image** in an article. We'll see how to work with URLs, later.



Delete An Image

Images are removable. For example, the **Image,** "**alfresco-logo.png**", is not wanted anymore, and can be removed. Let's do it as follows:

1. Locate the **Image,** "**alfresco-logo.png**" that you want to delete.
2. Then click the **Delete** icon from the **Actions** located next to the image.
3. A screen will appear asking if you want to delete this. Click **OK** to confirm deletion.

Set up Permissions

We have used default settings for the **Image Gallery** portlet in the **Page,** "**Images**", of the **Page** "**Admin**" under the **Book Lovers** Community. As mentioned earlier, when the administrator "**Palm Tree**" logs in, he will see the button, **Add Folder**. As we know, the **User** "**Lotti Stein**" is also a member of the **Book Lovers** community. Try to log in as "**Lotti Stein**", and you will see that the **Add Folder** button is not there. Furthermore, you will also see that the **Folders,** "**Home**" and "**Liferay-Alfresco**" have no **Actions** icons.

Why? Different **Users** have different actions in the **Image Gallery** because of **Permissions**. Normally, there are three levels of **Permissions**: **Permissions** on portlet, **Permissions** on **folders** and **Permissions** on **Images**.

Use Permissions on Portlet

The following table shows **Permissions** on the **Image Gallery** portlet. A **Community User** may set up all **Permissions** (marked 'X'), **View**, **Add Folder**, and **Configuration**, while a **Guest User** may set up **Permissions**, **View** and **Configuration**. By default, a **Community** has **Permission** action **View** (marked '*'), and so does a **Guest User**.

Action	Description	Community	Guest
View	Views this portlet	X, *	X, *
Configuration	Configures this portlet	X	X
Add Folder	Adds a **Folder** to the portlet	X	

Obviously, as a **User** of the **Book Lovers** Community, "**Lotti Stein**" has only the **View Permissions** on the portlet **Image Gallery,** by default. Since the **Users** of the **Book Lovers** community have no **Add Folder Permission**, "**Lotti Stein**" also has no **Add Folder Permission**.

Use Permissions on Folders

The following table shows **Permissions** on **Folders**. A **Community User** may set up all **Permissions** (marked 'X'), **View, Add image**, **Add Subfolder**, **Delete**, **Permissions**, and **Update**, while a **Guest User** may set up **Permissions**, **View**, **Delete** and **Permissions**. By default, a **Community** has **Permissions, View** and **Add Image** (marked '*'), while a **Guest User** has only **View Permission**.

Action	Description	Community	Guest
View	Views this **Folder**	X, *	X, *
Add Image	Adds an **image** to the **Folder**	X, *	
Add Subfolder	Adds a **Subfolder** to the **Folder**	X	
Delete	Deletes the **Folder**	X	X
Permissions	Assigns **Permissions** on the **Folder**	X	X
Update	Updates the **Folder**	X	

Obviously, as a **User** of **Book Lovers** Community, "**Lotti Stein**" has only **View** and **Add Image Permissions** on **Folders,** by default.

Use Permissions on Images

Similarly, a **Community User** may set up all **Permissions** on **Images** (marked 'X'), **View, Delete**, **Permissions**, and **Update**, while a **Guest User** may set up **Permissions**, **View**, **Delete** and **Permissions**. By default, a **Community** has **Permission View** (marked '*'), and so does a **Guest User**.

Action	Description	Community	Guest
View	Views this Image	X, *	X, *
Delete	Deletes the Image	X	X
Permissions	Assigns permissions on the Image	X	X
Update	Updates the Image	X	

Using Images Effectively

An Image Gallery provides the ability to manage **Images**. Generally speaking, **Image Gallery** is a central repository of **Images** used via a unique URL.

The following diagram depicts an overview of an **Image Gallery,** conceptually. **Image Gallery** has a set of **Folders** associated with it. Each **Folder** may have many **Subfolders** associated with it. Each **Folder** (or **Subfolder**) may have a set of **Images**. And each **Image** has a unique **URL** to be referred.

Working with Document Library

In order to let small teams manage web contents and publish web contents, we need not only a set of images, but also a set of documents.

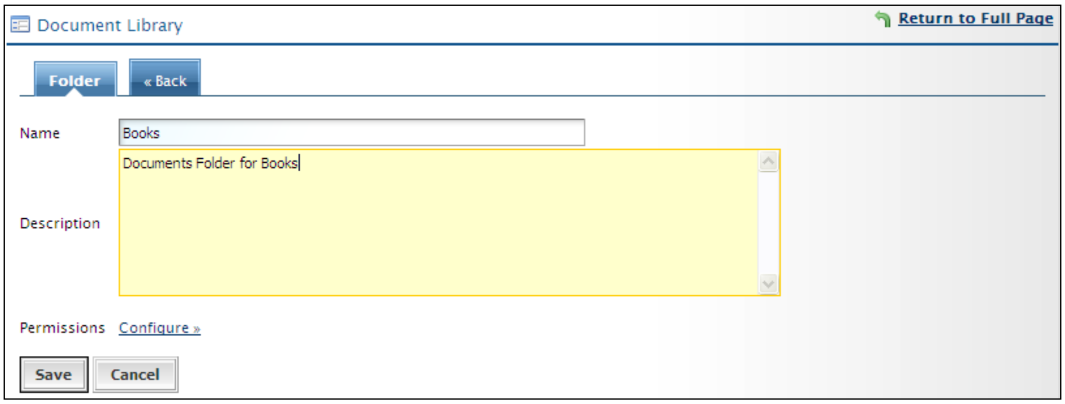
Thus, as an administrator of "Palm Tree Publications", you need to create a page called "**Documents**" under the **page,** "**Admin**" at the **Book Lovers** Community and moreover, add the **Document Library** portlet in the **Page,** "**Documents**". Furthermore, you need to create **Folders** such as "**Books**" and "**Integration**", and **Subfolders** such as "**Chapters**", in order to hold a set of documents. As with the **Image Gallery**, you can group all documents into different folders for easy use and management.

Adding A Folder

Before adding a document, we need to create a **Folder** called "**Books**", which contains a lot of documents. Let's do it as follows:

1. Add a page called "**Documents**" under the page "**Admin**" at the **Book Lovers** Community private pages, if the page is not already present.
2. If the **Document Library** portlet is not already present, add it in the page "**Documents**", of the **Book Lovers** Community where you want to manage documents.
3. Click the **Add Folder** button.

4. Enter a **Name,** "**Books**" and a **Description,** "**Documents Folder for Books**"as shown in the following figure.
5. Set **Permissions** by clicking on the **Configure** link. To configure additional **Permissions**, click on the **More** link. Here, we just use default settings.
6. Click the **Save** button to save the inputs.



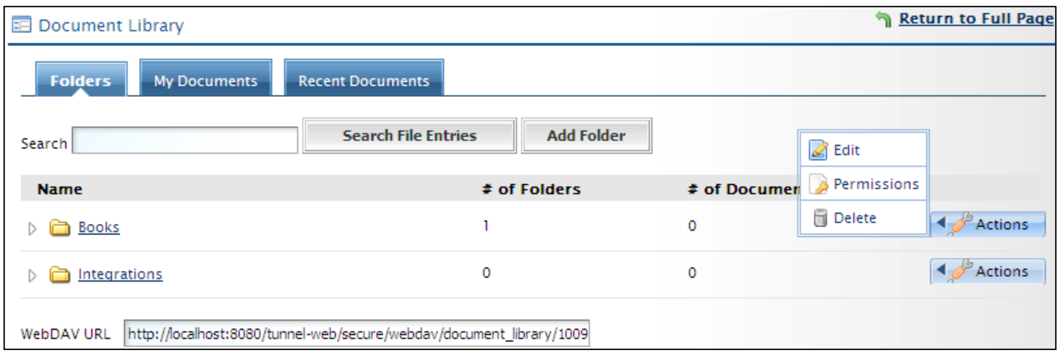
Adding A Subfolder

Suppose that we need to create a **Subfolder** named "**Chapters**" under the **Folder,** "**Books**", in which will be contained a set of documents for "**Liferay Book**". Let's do it as follows:

1. Locate the **Folder** "**Books**" and click on the link of the **Folder,** "**Books**".
2. Click the **Add Subfolder** button.
3. Enter a **Name** such as "**Chapters**", and a **Description** such as "**Documents folder for chapters**".
4. Set **Permissions** by clicking on the **Configure** link. To configure additional **Permissions**, click on the **More** link. Here we just use default settings.
5. Click the **Save** button to save the inputs.

Similarly, you can create other **Folders** as siblings of the "**Books**" **Folder**. After adding a **Folder,** "**Integrations**", we can view **Folders** as shown in the following figure. Specially, WebDAV URL is available for the root of the **Document Library**.

> For more details about WebDAV, refer to Chapter 10.



Adding A Document

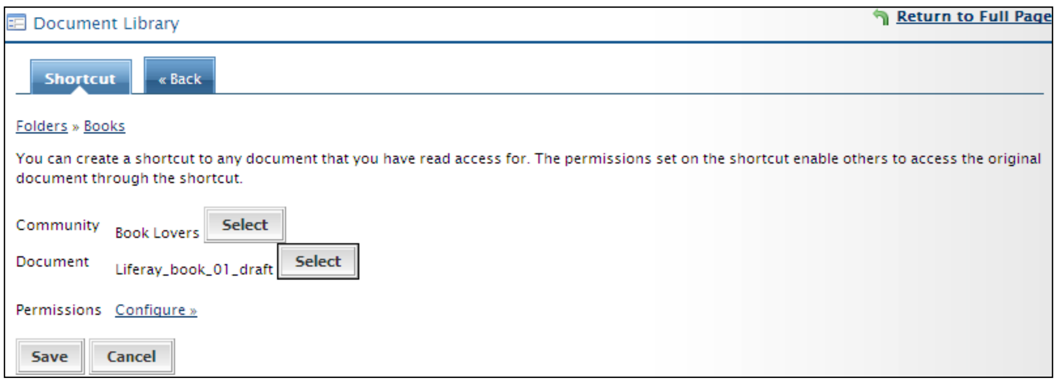
Finally, we can add **Files** for a given **Folder** as we have added **Images**. Suppose that we need to add a **File,** "**Liferay Book Chapter 1**", under the **Folder,** "**Books**". Let's do it as follows:

1. Locate the **Folder** "**Books**", and click on the link of the **Folder** "**Books**".
2. Click the **Add Document** button.
3. Click the **Browse** icon to find a **File,** "**Liferay Book Chapter 1**", (PDF) in the local machine. You can now browse multiple **Files**, such as "**Full RESTful integration of Liferay and Alfresco**" (text) and "**Full Integration of LDAP**, **SSO**, **Liferay and Alfresco**" (text).
4. Click the **Upload Files** icon to upload **Files**.

Add A Shortcut

You can create a **Shortcut** to any document that you have read access for, by clicking the **Add Shortcut** button, where you can select specific **Community** and **Document**. The **Permissions** set on the **Shortcut** enable others to access the original **Document** through the **Shortcut**. Suppose that we need to add a **Shortcut** under the **Folder**,"**Books**", for the **Document,** "**Liferay Book Chapter 1**". Let's do it as follows:

1. Locate a **Folder** such as "**Books**", and click on the "**Books**" link.
2. Click the **Add Shortcut** button.
3. Select the **Community** such as "**Book Lovers**".
4. Select the **Document** such as "**Liferay Book Chapter 1**" as shown in the following figure.
5. Set **Permissions** by clicking on the **Configure** link. To configure additional **Permissions**, click on the **More** link. Here, we just use default settings.
6. Click the **Save** button to save the inputs.



Managing Folders And Documents

The functions of managing **Folders** in **Document Library** are the same as that of managing **Folders** in **Image Gallery**. The **Folders** and **Subfolders** are editable and removable. For more details, you can refer to the previous section.

View Documents

Documents are viewable. Suppose that you want to view the **Document** "**Full RESTful integration of Liferay and Alfresco**" under the **Folder,** "**Books**". Let's do it as follows:

1. Click the **Folder** "**Books**".
2. Locate the **Document** "**Full RESTful integration of Liferay and Alfresco**" that you want to view.

3. Click the **View** icon from the **Actions** located next to the document.

Optionally, you can view your own **Documents** by clicking the tab, **My Documents,** of the **Document Library** portlet. Moreover, you can also view the recent documents by clicking the tab, **Recent Documents,** of the **Document Library** portlet.

Search Documents

Documents are searchable, like **Images**. There are three options to search **Documents**. You can search **Documents** from the root, search **Documents** from the current folder only, or search **Documents** both in the current **Folder** and its **Subfolders**. For more details, refer to the previous section.

Edit A Document

Documents are editable, similar to **Images**. For example, you may need to change the **Description** of the **Document,** "**Full RESTful integration of Liferay and Alfresco**" under the **Folder,** "**Books**" to the value, "**Full RESTful integration**". Let's do it as follows:

1. Click the **Folder** "**Books**".
2. Locate the **document,** "**Full RESTful integration of Liferay and Alfresco**" that you want to edit.

3. Click the **Edit** icon from the **Actions** located next to the document.
4. Update the **description** of the selected **document,** "**Full RESTful integration of Liferay and Alfresco**", with the value "**Full RESTful integration**".
5. Click the **Save** button when you are ready.

Optionally, you can change the **Folder** by selecting a **Folder**. At the same time, you can change the contents of the **Document** by uploading another **File**. As shown in the previous figure, updating the content of the **Document** will create a new **Version** of the **Document**. Furthermore, you can find a URL for the **Document**. You can reference the **Document** by this URL in an article.

Delete a Document

Documents are removable, just like **Images**. For example, the **Document,** "**Full RESTful Integration**", is not wanted anymore. So, you can remove it as follows:

1. Locate the **Document,** "**Full RESTful integration**" that you want to delete.
2. Then click the **Delete** icon from the **Actions** located next to the document.
3. A screen will appear asking if you want to delete this. Click **OK** to confirm deletion.

View Version History

Whenever the contents of the **Document** changes, a new **Version** of the **Document** is generated. To view **Versions**, first view the **Document** and then click on the **Version History** tab. For example, we want to view **Version History** of the document, "**Full RESTful integration**". Let's do it as follows:

1. Locate the **Document** "**Full RESTful integration**" that you want to view.
2. Then click the **View** icon from the **Actions** located next to the document.
3. By default, the **Version History** tab is selected, and all **Versions** of the document will appear below the button, **Compare Versions**.
4. Check the checkbox to the right of the **Version, say** "**1.0**", and then click on the **Compare Versions** button. A comparative result appears, such as, "**There are no differences between 1.0 and 1.1**".

Give Your Rating

As for an **Entry** of **Blogs**, you can give your own rating for any **Document**. For example, as an administrator, you can read the document "**Full Integration of LDAP, SSO**, **Liferay and Alfresco**" and give your rating, say two stars. You simply click the second star under "**Your Rating**" of the **Document**.

Log in as "**Lotti Stein**", and you can read the **Document,** "**Full Integration of LDAP**, **SSO**, **Liferay and Alfresco**" and can also give **Your Rating,** say four stars, by simply clicking on the fourth star under "**Your Rating**" of the **Document**. Now you will find the average is three stars, with a message, "**2 Votes**".

Add Comments

As stated above, the administrator has created a **Document** called "**Full Integration of LDAP**, **SSO**, **Liferay** and **Alfresco**". As a **User** of "Palm Tree Publications", "**Lotti Stein**" wants to review the **Document** and add **Comments** such as "**Need more details**". Similar to adding **Comments** on an **Entry** of **Blogs**, "**Lotti Stein**" can also add **Comments** on **Documents**.

Setup Permissions

Similar to the **Permissions** on the **Image Gallery**, there are three levels **Permissions** for the **Document Library**: **Permissions** on portlet, **Permissions** on **Folders** and **Permissions** on **Documents**.

Permissions on the **Documents Library** portlet are the same as those on the **Image Gallery**. For more details, refer to the previous section.

Use Permissions on Folders

The following table shows **Permissions** on **Folders**. A **Community User** may set up all **Permissions** (marked 'X'), **View, Add Document, Add Shortcut, Add Subfolder, Delete, Permissions,** and **Update**, while a **Guest User** may set up **Permissions**, **View, Delete** and **Permissions**. By default, a **Community** has **Permission** actions **View, Add Document, Add Shortcut,** and **Add Subfolder** (marked '*'), while a **Guest User** has only the **View** permission action.

Action	Description	Community	Guest
View	Views this **Folder**	X, *	X, *
Add Document	Adds a **Document** to the **Folder**	X, *	
Add Shortcut	Adds a **Shortcut** to the **Folder**	X, *	
Add Subfolder	Adds a **Subfolder** to the **Folder**	X, *	
Delete	Deletes the **Folder**	X	X
Permissions	Assigns **Permissions** on the **Folder**	X	X
Update	Updates the **Folder**	X	

Use Permissions on Document

Similarly, a **Community User** may set up all **Permissions** on **Document** (marked 'X'), **View, Add Discussion, Delete, Permissions,** and **Update**, while a **Guest User** may set up permissions, **View, Delete** and **Permissions**. By default, a **Community** has **Permission View** (marked '*'), as does a **Guest User**.

Action	Description	Community	Guest
View	Views this **Documen**t	X, *	X, *
Add Discussion	Adds discussion on the **Document**	X, *	
Delete	Deletes the **Document**	X	X
Permissions	Assigns permissions on the **Document**	X	X
Update	Updates the **Document**	X	

Publishing Documents

As stated before, we have discussed how to create **Folders** and how to add **Documents**. As an administrator at the enterprise, "Palm Tree Publication", you can publish documents in the page "**Documents**" under the **Page** "**Community**" at the **Book Lovers** Community **Public Pages**. At present, there are two ways to publish **Documents**: **Recent Documents** and **Document Library Display**.

First let's publish **Documents** using **Recent Documents** as follows:

1. Add a page named "**Documents**" under the page "**Community**" of the **Book Lovers** community.
2. Add the **Recent Documents** portlet in the **Page,** "**Documents**", of the **Book Lovers** Community.
3. A set of recent **Documents** will appear in this portlet.

Then let's publish **Documents** using **Document Library Display** as follows:

1. Add **Document Library Display** portlet in the page, "**Documents**", of the **Book Lovers** Community.
2. A set of **Folders** with **Documents** will appear in this portlet. You can navigate the **Documents** by clicking on the **Folders'** names.

Using Documents Effectively

Document Library acts as a centralized repository with versioning and library services such as check-in, check-out, and so on. It is backed by a JCR-170 compliant Java Content Repository (Jackrabbit).

Apache Jackrabbit is a fully conforming implementation of the Content Repository for Java Technology API (JCR). URL: `http://jackrabbit.apache.org/`

Using OpenOffice, documents can be converted automatically to multiple formats. For example, the **Document** "**Full RESTful integration of Liferay and Alfresco**" is in plain text format. Thus we can download it as text file. At the same time, it has been converted into DOC, ODT, PDF, RTF, SXW, and so on. What's happening? The following table shows possible formats for automatic conversion via OpenOffice. Obviously, the plain text of the above document has been converted into **Portable Document Format**, **OpenDocument Text**, **OpenOffice.org 1.0 Text**, **Rich Text Format**, **Microsoft Word**, and so on.

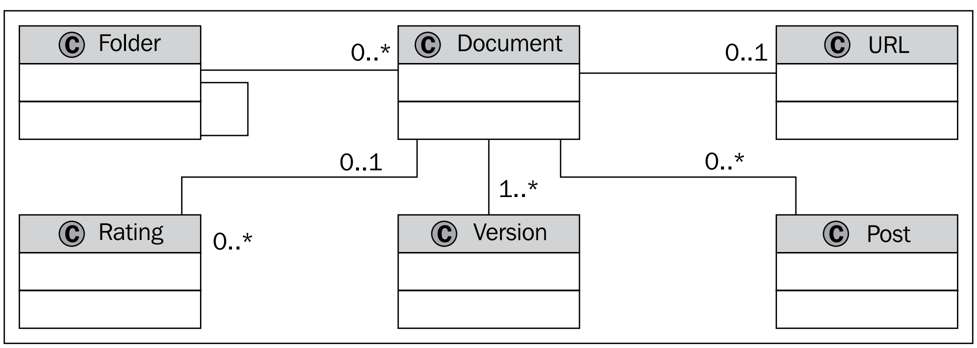
Category	From	To
Text Formats	OpenDocument Text (`*.odt`)	Portable Document Format (`*.pdf`)
	OpenOffice.org 1.0 Text (`*.sxw`)	OpenDocument Text (`*.odt`)
	Rich Text Format (`*.rtf`)	OpenOffice.org 1.0 Text (`*.sxw`)
	Microsoft Word (`*.doc`)	Rich Text Format (`*.rtf`)
	WordPerfect (`*.wpd`)	Microsoft Word (`*.doc`)
	Plain Text (`*.txt`)	Plain Text (`*.txt`)
Spreadsheet Formats	OpenDocument Spreadsheet (`*.ods`)	Portable Document Format (`*.pdf`)
	OpenOffice.org 1.0 Spreadsheet (`*.sxc`)	OpenDocument Spreadsheet (`*.ods`)
	Microsoft Excel (`*.xls`)	OpenOffice.org 1.0 Spreadsheet (`*.sxc`)
	Comma-Separated Values (`*.csv`)	Microsoft Excel (`*.xls`)
	Tab-Separated Values (`*.tsv`)	Comma-Separated Values (`*.csv`)
		Tab-Separated Values (`*.tsv`)
Presentation Formats	OpenDocument Presentation (`*.odp`)	Portable Document Format (`*.pdf`)
	OpenOffice.org 1.0 Presentation (`*.sxi`)	Macromedia Flash (`*.swf`)
	Microsoft PowerPoint (`*.ppt`)	OpenDocument Presentation (`*.odp`)
		OpenOffice.org 1.0 Presentation (`*.sxi`)
		Microsoft PowerPoint (`*.ppt`)
Drawing Formats	OpenDocument Drawing (`*.odg`)	Scalable Vector Graphics (`*.svg`)
		Macromedia Flash (`*.swf`)

How to get it? In the **Admin** portlet, you can select the **Server** tab, and then the **OpenOffice** tab. Then, you simply click the checkbox **Enable**. If OpenOffice was installed in a remote machine, just change the host and port accordingly. Finally, click the **Save** button when you are ready. That's it!

> OpenOffice.org is a multiplatform and multilingual office suite and an open-source project. URL: `http://www.openoffice.org/`

More interestingly, you can easily export and then import **Documents** (and other content such as **Images**, articles, **Message Boards**, **Wiki**, and so on to another server. How to do it? Simply click the **Configuration** icon of the portlet first. Then, select the **Export/Import** tab. Following the processes, you can export and import contents smoothly.

The following diagram depicts a conceptual overview of the **Document Library**. The **Document Library** has a set of **Folders**. Each **Folder** may have many **Subfolders** associated with it. Each **Folder** (or **Subfolder**) may have a set of **Documents**. Each **Document** has a unique referred **URL**. Each **Document** may have a number of **Comments** (that is, **Posts** and **Replies**) and **Ratings** associated, and each **Document** may have a list of **Versions**.



Adding And Managing Articles

Finally, we are ready to create an article based on the above **Images** and **Documents**. For example, we need to create an article called "About us" with **Texts**, **Images** and **Links** to **Documents** as shown in the following figure (named as **Original Required View**). Obviously, Liferay Journal would be very useful for this purpose.

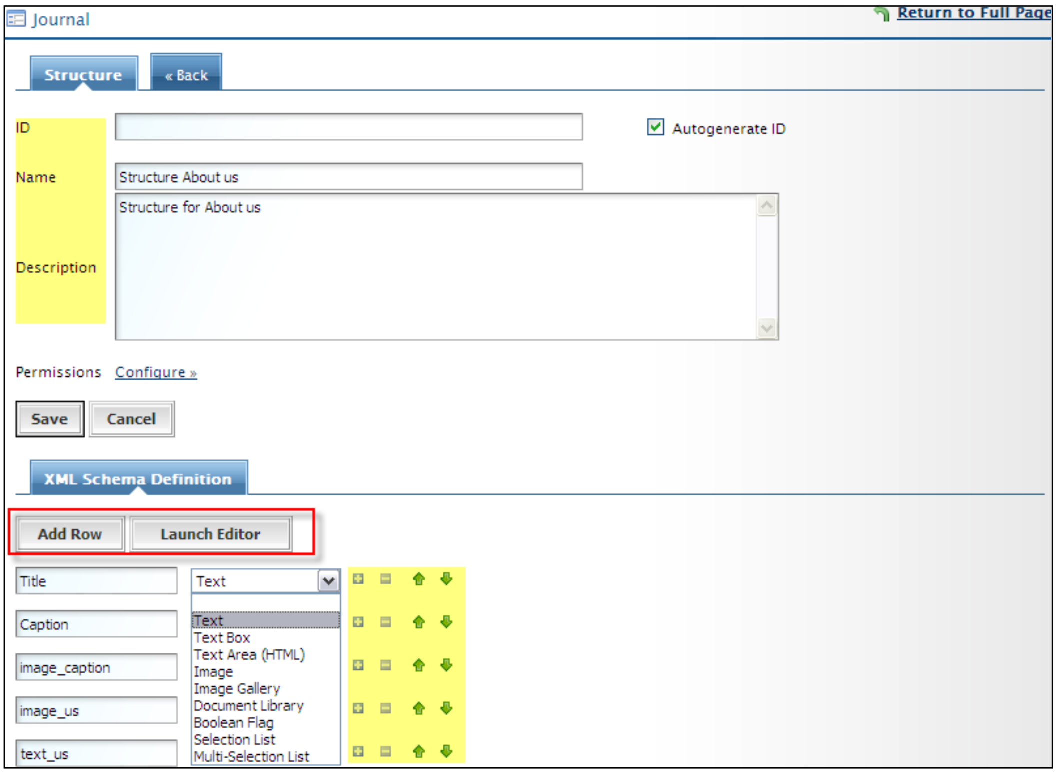
Thus, as an administrator of the enterprise "Palm Tree Publications", you need to create a **Page** called "**Articles**", under the **Page** "**Admin**" at the **Book Lovers** Community and moreover, add the **Journal** portlet in the page, "**Articles**" first. Let's build this article.

Adding A Structure

First of all, we need to create a structure for the above article. A **Structure**, named "**Structure About us**", defines the dynamic parts of the article "About us". Let us create the **Structure** as follows:

1. Add a page named "**Articles**" under the **Page** "**Admin**" of the **Book Lovers** community.
2. Add the **Journal** portlet in the **Page,** "**Articles**", of the **Book Lovers** Community.
3. Click the **Structures** tab.
4. Click the **Add Structures** button.
5. Check the box **Auto Generate ID**, input **Name** "**Structure About us**", description "**Structure for About us**".
6. Set **Permissions** by clicking on the **Configure** link. To configure additional **Permissions**, click on the **More** link. Here, we just use default settings.
7. Add a row such as "**Title**", by clicking on the **Add Row** button, and select the type of the row, such as **Text**.

8. Add more rows such as "**Caption**", "**image_caption**" and so on.
9. Optionally, you can click the **Up** icon and the **Down** icon next to the row, to change the order of rows; or click the **Add** icon next to the row to add a sub row; or click the **Remove** icon next to the row to delete the current row.
10. Click the **Save** button when you are ready.



Of course, you can add other **Structures** as well. After adding a **Structure,** "**one image**", we can view **Structures**.

Managing Structures

When **Structures** are created, it is simple to manage them. You can either edit a **Structure** or delete a **Structure**. Each **Structure** has a unique referred URL.

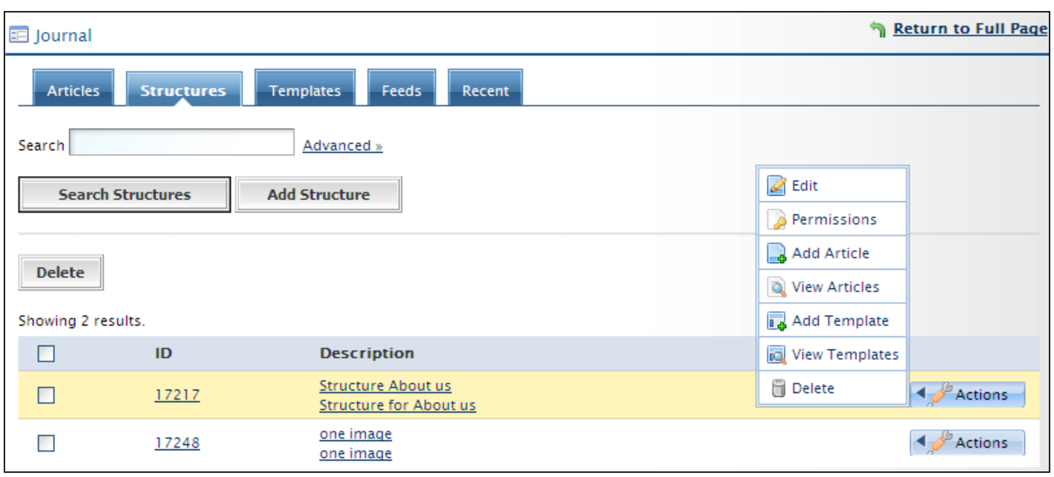
View Structures

By clicking the **Structures** tab in the **Journal** portlet, you can view **Structures** with paginations. You can view the **Templates** for a given **Structure** by clicking the **View Templates** icon. Or you can add **Templates** for a given structure by clicking the **Add Templates** icon. Furthermore, you can view the **Articles** related to a given structure by clicking the **View Articles** icon, or you can add **Articles** associated to a given **Structure** by clicking the **Add Article** icon.

More interestingly, you can download the **Structure,** and back it up in the local machine. For example, we need to download the **Structure,** "**one image**". Let's do it as follows:

1. Locate the **Structure** "**one image**" that you want to update.
2. Then click the **Edit** icon from the **Actions** located next to the **Structure**.
3. Click the **Download** button. The **Structure** in XML schema will appear in your browser. Just save it as XML schema in your local machine, if you want. Actually, the unique URL of the structure is used for reference.

In addition, you can find structures either through basic **Search,** or **Advanced Search**. To **Search Structures**, simply click the **Search Structures** button for both basic **Search** and **Advanced Search**. You can switch the basic **Search** interface into **Advanced Search** interface by clicking the **Advanced >>** link, or you can switch the **Advanced Search** interface into **Basic Search** interface by clicking the **>> Basic** link.



Edit A Structure

Structures are editable just like documents and images. For example, you may need to add a row of the structure, "one image", with the name, "Title". Let's do is as follows:

1. Locate the **Structure** "**one image**" that you want to update.
2. Then click the **Edit** icon from the **Actions** located next to the structure.
3. Add a row such as "**Title**", by clicking on the **Add Row** button; and select the type of the row such as **Text**.
4. Optionally, you can launch an editor to update the rows directly, if you know XML schema, by clicking the **Launch Editor** button first. Then you can use either **Plain** or **Rich** editor types, to update the XML schema. Finally, click the **Update** button.
5. Click the **Save** button when you are ready.

Delete a Structure

Structures are removable just like **Documents** and **Images**. Suppose that the **Structure** "**one image**" is not wanted anymore, you can delete it as follows:

1. Locate the **Structure** "**one image**" that you want to delete.
2. Then click on the **Delete** icon from the **Actions** located next to the structure.
3. A screen will appear asking if you want to delete this. Click **OK** to confirm deletion.

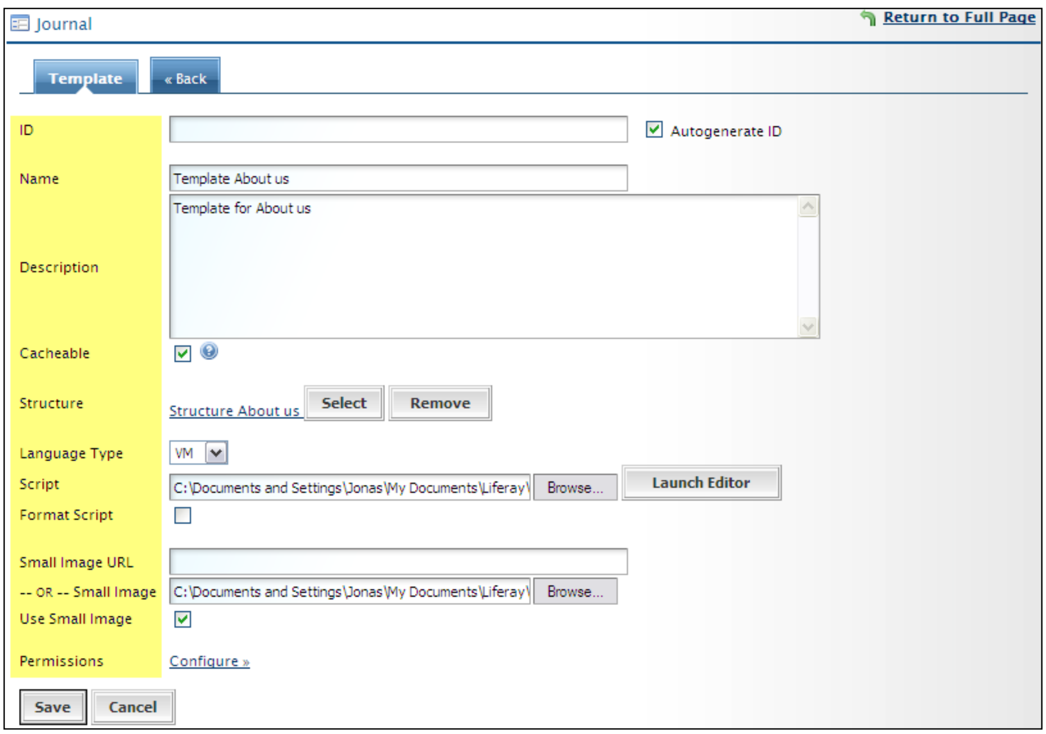
> Note that you cannot delete a **Structure** which is used by **Templates**. In order to delete this **Structure**, you need to edit the **Templates** and remove the **Structure** association first. Then, you can delete the **Structure**.

Adding A Template

Next, we need to create a **Template** for the above **Article**. A **Template**, named "**Template About us**", is a pattern to rapidly generate the **Article** "**About us**". Let's create the **Template** as follows:

1. Click the **Templates** tab.
2. Click the **Add Templates** button.
3. Check the box, **Auto Generate ID**, input **Name,** "**Template About us**", description "**Template for About us**".

4. Select **Structure** such as "**Structure About us**", by clicking the **Select** button next to the **Structure**.
5. Select the **Language Type,** such as "**VM**" (that is, Velocity Macro).
6. Upload a **Template** script file, such as "**template.vm**" from the local machine, by clicking the **Browse…** button next to the **Script**.
7. Upload a small image such as "**template.png**", from the local machine by clicking the **Browse…** button, next to the **Small Image**.
8. Check the checkbox, **Use Small Image**.
9. Set **Permissions** by clicking on the **Configure** link. To configure additional **Permissions**, click on the **More** link. Here, we just use default settings.
10. Click on the **Save** button when you are ready.



Surely, you can add other **Templates** that you want. After adding a **Template,** "**Template one image**", associated with the **Structure,** "**one image**", we can view **Templates**.

Managing Templates

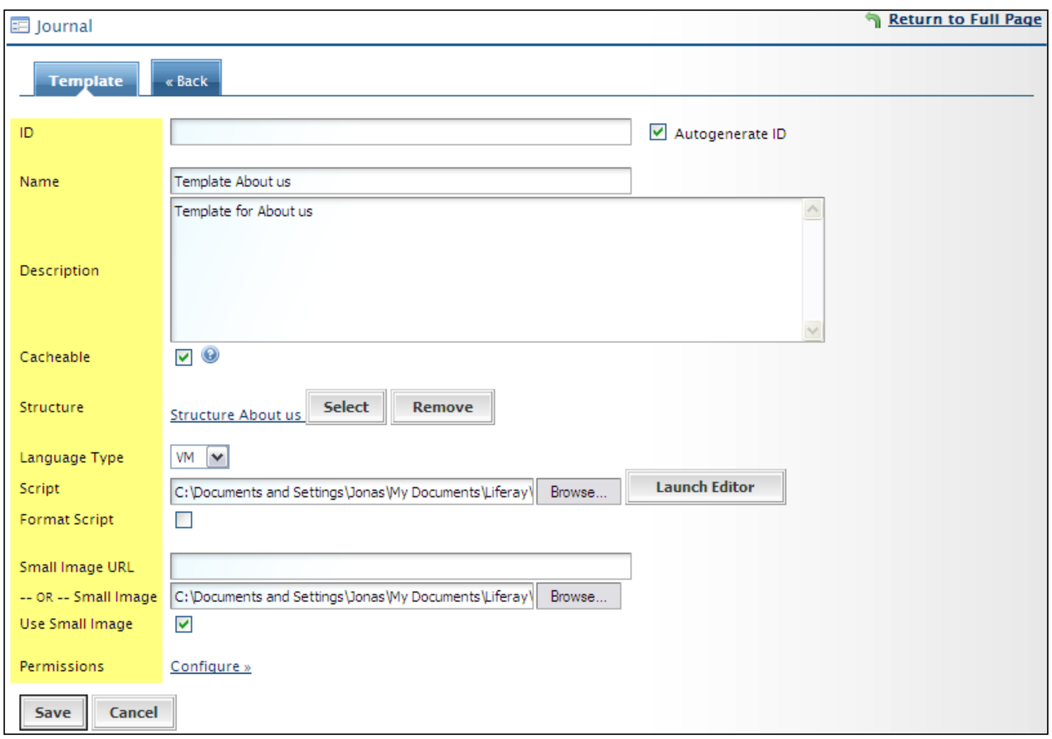
Similar to managing **Structures**, you can either edit a **Template** or delete a **Template**. Each **Template** may have a structure associated with it and moreover, it has a unique URL to be referred.

View Templates

By clicking the **Templates** tab in the **Journal** portlet, you can view **Templates** with paginations. You can edit the **Structure** associated with a given **Template** by clicking the **Edit Structure** icon. Furthermore, you can view **Articles** related to a given **Template,** by clicking the **Views Articles** icon or you can add an article associated with a given **Template** by clicking the **Add Article** icon.

Similarly, you can download the **Template** via the unique URL, and backup it in local machine like **Structure**.

In addition, you can query **Templates** either through basic **Search,** or **Advanced Search,** as in **Structures**.



Edit A Template

Similar to Structures, Templates are also editable. For example, you may need to change the expression of the **Template,** "**Template one image**", with a new item, "**Title**", according to the structure, "**one image**". Let's do it as follows:

1. Locate the **Template,** "**Template one image**" that you want to update.
2. Then click the **Edit** icon from the **Actions** located next to the **Template**.
3. Launch an editor to update the content of the **Template,** by clicking the **Launch Editor** button first. Then you can use either **Plain** or **Rich** editor types to update the content such as, adding the new item according to the **Structure** "**one image**". Finally, click the **Update** button.
4. Click the **Save** button when you are ready.

Delete A Template

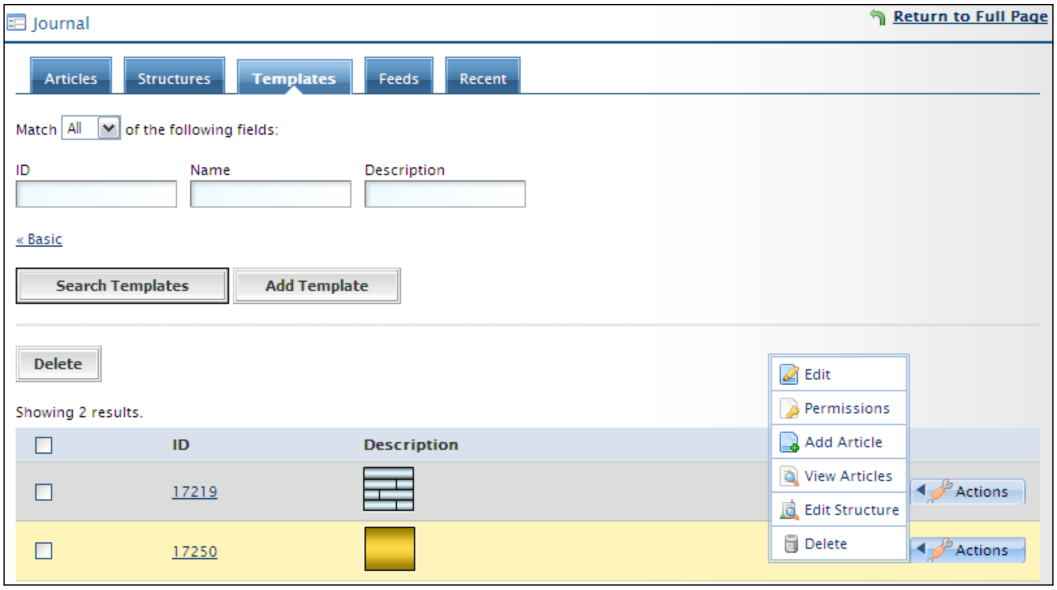
Similar to Structures, Templates are also removable. Suppose the **Template,** "**Template one image**", is not wanted anymore ,we can delete it as follows:

1. Locate the **Template,** "**Template one image**" that you want to delete.
2. Then click on the **Delete** icon from the **Actions** located next to the template.
3. A screen will appear asking if you want to delete this. Click **OK** to confirm deletion.

> Note that you cannot delete a **Template** which is used by **Articles**. In order to delete this **Template**, you need to edit **Articles** and remove the **Template** association first. Then, you can delete the **Template**.

Adding An Article

When **Structures** and **Templates** are ready, we can create the **Article,** "**About us**", now. An **Article** is the actual content of the web **Page**, which may be associated with a **Template** and a **Structure**. Let's create the **Article** as follows:



1. Click the **Articles** tab.
2. Click the **Add Article** button.
3. Use **Auto Generate ID**; input a **Name** such as "**About us**", a **Description** such as "**Article for About us**".
4. First, select a **Structure** such as, "**Structure About us**", by clicking on the **Select** button next to the **Structure**. Then, select a **Template** such as "**Template About us**".
5. Alternatively, select the **Template** such as "**Template About us**", by clicking the **Select** button next to the **Template**. The content pieces will change, following the **Structure** and **Template**.
6. Set **Permissions** by clicking on the **Configure** link. To configure additional **Permissions**, click on the **More** link. Here, we just use default settings.
7. Optionally, you can input an **Abstract** for this **Article**. Input a **Description** such as "**Article About us for a page**"; upload a small **Image** such as "**article.png**", from a local machine by clicking the **Browse...** button next to the **Small Image**. Check the checkbox, **Use Small Image**.
8. In addition, you can set up the **Schedule**, such as **Display Date**, **Expiration Date,** and **Review Date.**
9. Or click the button, **Select Tags,** if you want to select existing tags or click the button, **Add Tags,** if you need to add new **Tags**.

10. Click on the **Save** button when you just want to save it, or click on the **Save and Continue** button, when you want to save and continue the current work. Or click on the **Save and Approve** button when you want to save it and moreover, approve it. Here, we click on the **Save and Approve button.**

> Note that an **Article** can be approved or not approved. Only approved **Articles** can be used in the **Pages**.

Of course, you can add other **Articles** that you want. After adding an **Article** such as "**Article one image**", associated with the **Template** "**Template one image**", we can view **Articles**.

Managing Articles

Each **Article** may have a **Template** and a **Structure** associated. After adding a set of **Articles**, you can edit, delete, preview, search and approve **Articles**. Moreover, you can make **Articles,** expired or restore an expired **Article,** or create new versions of **Articles**.

View Articles

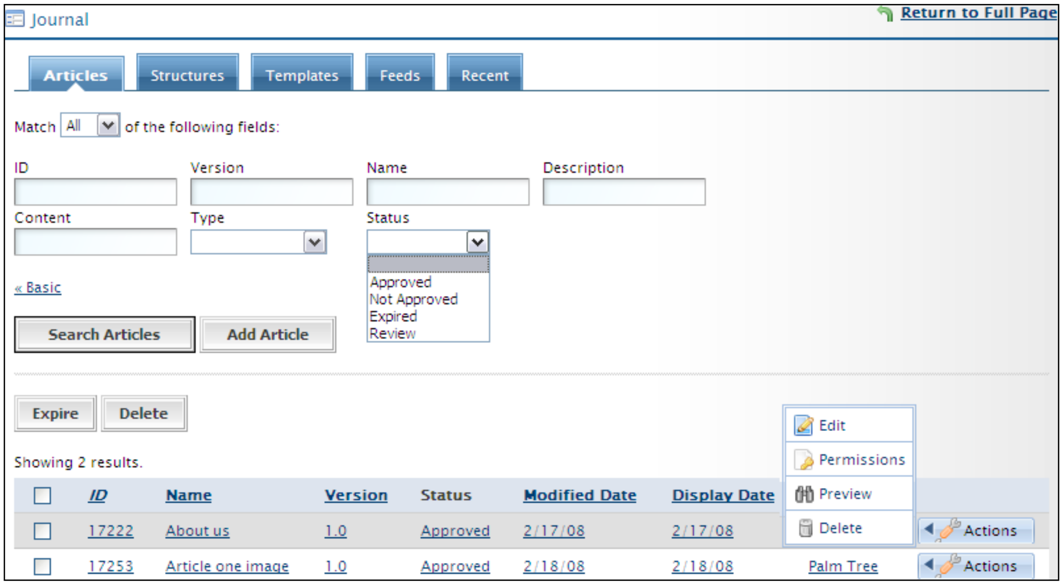
By clicking the **Articles** tab in the **Journal** portlet, you can view **Articles** with paginations (if there are a lot of **Articles**). You can edit the **Article** by clicking the **Edit** icon from the **Actions** next to the article.

To view recent **Articles**, **Structures** and **Templates** that you can access, simply click the **Recent** tab in the **Journal** portlet. Moreover, you can also add feeds (**RSS**) and manage feeds in the **Journal** portlet. **RSS** types such as **Atom 1.0** and **RSS 2.0,** are supported as well.

Meanwhile, you can preview an **Article**. Suppose that you want to preview the **Article** "**About us**". Let's do it as follows:

1. Locate the **Article** "**About us**" that you want to update.
2. Then click the **Preview** icon from the **Actions** located next to the article.

In addition, you can query **Articles** either through basic **Search** or **Advanced Search** as in **Structures** and **Templates**. You can search by **Version**, **Content**, **Type** and **Status** in **Advanced Search,** as shown in following figure.



Edit An Article

Similar to Structures and **Templates, Articles** are also editable. For example, you may need to change the contents of the **Article,** "**Article one image**" with the other **Image,** "**PalmTree_logo.png**" according to the structure, "**one image**". Let's do it as follows:

1. Locate the "**Article one image**" that you want to update.
2. Then click the **Edit** icon from the **Actions** located next to the article.
3. Upload the **Image,** "**PalmTree_logo.png**", by clicking the **Select** button above the content piece **Image**.
3. Click the **Save** button when you are ready.

An **Article** may have a list of **Versions**. Suppose that the **Article,** "**Article one image**" **Abstract Description,** is updated with value ,"**Palm Tree Logo**", in a new **Version**. Let's do it as follows:

1. Locate the "**Article one image**" that you want to update.
2. Then click the **Edit** icon from the **Actions** located next to the article.
3. Update the **Abstract Description** with the value, "**Palm Tree Logo**".
4. Select the checkbox, **Increment Version on Save,** under the **Workflow**.
5. Click on the **Save and Approve** button when you are ready.

In addition, you can expire an **Article, or** restore an expired **Article**. Suppose that the **Article** "**Article one image**" has to be made expired. Let's do it as follows:

1. Locate the "**Article one image**" that you want to update.
2. Then click the **Edit** icon from the **Actions** located next to the article.
3. Click the **Expire** button under the **Workflow**.

Later, we may want to restore the **Article,** "**Article one image**", and also update it for other purposes. Let's restore it as follows:

1. Select the checkbox, **Never Auto Expire**.
2. Click the **Save and Approve** button.

Delete An Article

Articles are also removable just like **Structures** and **Templates**. Suppose that the **Article,** "**Article one image**", is not wanted anymore. Let's delete it as follows:

1. Locate the **Article** "**Article one image**" that you want to delete.
2. Then click on the **Delete** icon from the **Actions** located next to the article.
3. A screen will appear asking if you want to delete this. Click **OK** to confirm deletion.

> Note that after an **Article** has been deleted, you cannot restore it. If you do not want to delete it actually, you can just make it expired. Sooner or later, when you want to reuse this **Article**, you can restore it easily.

Setting up Journal

As an administrator of the enterprise, "Palm Tree Publications", you can set up **Journal**. You can configure **Email From**.

To configure the **Email From**, click the **Configuration** icon on **Journal**. On selecting the **Setup** tab, the following five sub-tabs appear: **Email From**, **Article Denied Email**, **Article Granted Email**, **Article Requested Email**, and **Article Review Email**.

With the **Email From** tab selected, you can change the name and address of the automatically sent emails.

The **Article Denied Email** tab allows the Administrator to edit the email that is sent whenever an article is denied. To disable email notification, uncheck the **Enabled** box. Click the **Save** button after making any changes.

Similarly, as an administrator, you can set up **Article Granted Email**, **Article Requested Email**, and **Article Review Email** as you want.

Updating Permissions

Suppose that "**David Berger**" is a content designer who can create **Structures** and **Templates**; "**Lotti Stein**" is a content writer who can write **Articles**; "**Rolf Hess**" is a content editor who can edit and approve **Articles**. Let's see what **Permissions** are present by default.

The following table shows **Permissions** on **Journal**. A **Community User** may set up all **Permissions** (marked 'X'), **View, Add Article, Add Feed, Add Structure, Add Template, Approve Article** and **Configuration**, while a **Guest User** may set up **Permissions, View** and **Configuration**. By default, a **Community** has the **View Permission** (marked '*'), as does a **Guest User**.

Action	Description	Community	Guest
View	Views this portlet	X, *	X, *
Add Article	Adds an **Article** to the portlet	X	
Add Feed	Adds a feed to the portlet	X	
Add Structure	Adds a **Structure** to the portlet	X	
Add Template	Adds a **Template** to the portlet	X	
Approve Article	Approves an **Article** on the portlet	X	
Configuration	Configures this portlet	X	X

As members of the **Book Lovers** community, "**David Berger**", "**Lotti Stein**" and "**Rolf Hess**" have only the **View Permission** on the **Journal** portlet, by default. How to implement the above requirements? Let's do it as follows:

1. Create a user group named **Content Designers**; and assign "**David Berger**" as its member.
2. Create a user group named **Content Writers**; and assign "**Lotti Stein**" as its member.
3. Create a user group named **Content Editors**; and assign "**Rolf Hess**" as its member.
4. Click the **Configuration** icon in the **Journal** portlet.
5. Select the **Permissions** tab, and furthermore, select the **User Group** tab.
6. Update **Permissions** on **Content Designers** with **Add Article, Add Feed, Add Structure, Add Template, Approve Article,** and **View**.
7. Update **Permissions** on **Content Writer** with **Add Article** and **View**.
8. Update **Permissions** on **Content Editors** with **Add Article, Approve Article** and **View**.

Thus, as a content designer, "**David Berger**" can create **Structures** and **Templates**; as a content writer, "**Lotti Stein**" can write **Articles**; as a content editor, "**Rolf Hess**" can edit and approve **Articles**. Try to log in as "**David Berger**", "**Lotti Stein**", or "**Rolf Hess**". You will have different **Permission** actions on the **Journal** portlet.

Using Permissions on Articles

We can set up **Permissions** based on individual **Articles**. The following table shows **Permissions** on **Articles**. A **Community User** may set up all **Permissions** (marked 'X'), **View, Add Discussion, Delete, Expire, Permissions,** and **Update**, while a **Guest User** may set up **Permissions**, **View, Add Discussion, Delete**, and **Permissions**. By default, a **Community** has **View** and **Add Discussion** (marked '*') **Permissions**, while a **Guest User** has only **View Permission**.

Action	Description	Community	Guest
View	Views this **Article**	X, *	X, *
Add Discussion	Adds an **Article** to the **Article**	X, *	X
Delete	Deletes this **Article**	X	X
Expire	Makes this **Article** expired	X	
Permissions	Assigns **Permission** on this **Article**	X	X
Update	Edits this **Article**	X	

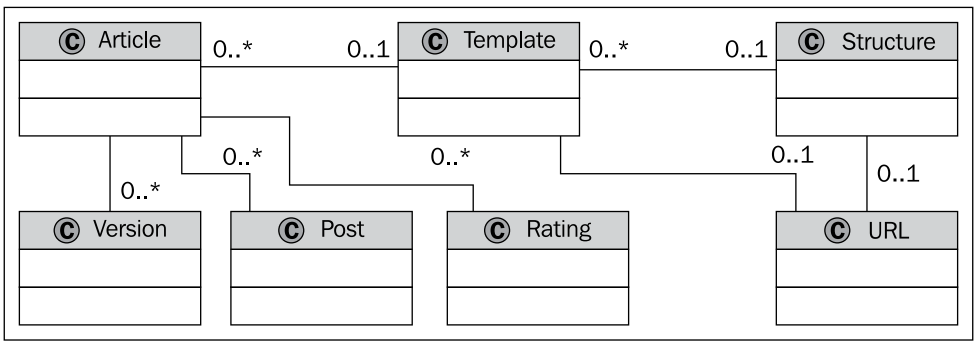
Using Permissions on Structures And Templates

We can set up **Permissions** based on individual **Structures** or **Templates**. The following table shows **Permissions** on **Structures** and **Templates**. A **Community User** may set up all **Permissions** (marked 'X'), **View, Delete, Permissions,** and **Update**, while a **Guest User** may set up **Permissions**, **View, Delete,** and **Permissions**. By default, a **Community** has **Permission** action, **View** (marked '*'), and so does a **Guest User**.

Action	Description	Community	Guest
View	Views this **Structure** or **Template**	X, *	X, *
Delete	Deletes this **Structure** or **Template**	X	X
Permissions	Assigns **Permission** on this **Structure** or **Template**	X	X
Update	Edits this **Structure** or **Template**	X	

Using Articles Effectively

The following diagram depicts the conceptual relationships between **Article**, **Template** and **Structure**. Normally, an **Article** may have one **Template** associated with it. It is possible that an **Article** may not use any **Template**, while a **Template** may serve many **Articles**. This is the reason why we can view **Articles** by a given **Template**. Each **Article** may have a number of **Comments** (that is, **Posts** and **Replies**) and **Ratings** associated, and each **Article** may have a list of **Versions**. More interestingly, each **Article** has different status: approved or not approved, expired, or reviewed.



Similarly, a **Template** may have one **Structure** associated, or a **Template** does not employ any **Structure**. Meanwhile, a **Structure** may serve many **Templates**. Thus, on the one hand, we can edit **Structure** by a given **Template**. On the other hand, we can view **Templates** and **Articles** by a given **Structure**. Each **Template** and **Structure** has a unique **URL** to be referred.

Build A Structure

Structure is an XML (Extensible Mark-up Language) definition of the dynamic parts of the **Article**. These parts may be text, a text box, a text Area (HTML), an **Image**, **Image Gallery**, **Document Library**, a Boolean flag (true or false), a selection list, multiple selection list etc. Actually, the **Structure** is a specific XML schema.

By **Structures**, we can unify the **Articles** with the same numbers and types of items. For example, the **Page** "**About us**" of "Palm Tree Publications" may have five **Articles**, each requiring a title, a caption and an **Image** for the headquarters, an **Image** and a text area for the US office, a text area and an **Image** for the Germany office. A **Structure** would be created with three **Images**, two texts, and two text areas, each named accordingly. This allows writers to create the individual **Articles** and other texts without needing to recreate the **Page Structure** for each **Article**.

Based on the example (**Original Required View**), the **Structure** lists out the eight content pieces:

- One text element named "`Title`" (1).
- One text box element named "`Caption`" (2).
- Two text area elements named "`text_us`" (5) and "`text_de`" (6); and a link to a **Document** "Open Source project" (8).
- Three image elements named "`image_caption`" (3), "`image_us`" (4), and "`image_de`"(7).

Below are real codes of **Structure** "**Structure About us**".

```
<root>
<dynamic-element name='Title' type='text'></dynamic-element>
<dynamic-element name='Caption' type='text_box'></dynamic-element>
<dynamic-element name='image_caption' type='image_gallery'></dynamic-
element>
<dynamic-element name='image_us' type='image_gallery'></dynamic-
element>
<dynamic-element name='text_us' type='text_area'></dynamic-element>
<dynamic-element name='text_de' type='text_area'></dynamic-element>
<dynamic-element name='image_de' type='image_gallery'></dynamic-
element>
</root>
```

Create A Template

Template (Web Template) is a pattern to rapidly generate and mass-produce web pages, associated to a **Structure**. A **Template** defines the layout of the **Article**, and determines how the content items will be arranged.

Templates used for creating **Articles** can be created in XSL, Velocity (VM), CSS and FreeMarker, and so on. You can create many **Templates** for one **Structure**. Or you can give the writers the discretion to decide the best layout.

The following are the real codes of the **Template,** "**Template About us**" in VM.

```
<html>
<head><title>$reserved-article-id.getData()</title></head>
<body>
  <table><tr><td align="center"><h1>$Title.getData()</h1></td></tr>
    <tr>
          <td width="60%"><font size="3" color="#0000A0">$Caption.
                    getData()</font></td>
          <td width="40%" align="center"><img src="$image_caption.
```

```
getData()"/></td>
    </tr>
  </table>
<table>
    <tr>
          <td width="30%" align="center"><img src="$image_
                                    us.getData()"/></td>
          <td width="70%">$text_us.getData()</td>
    </tr>
</table>
<table>
    <tr>
          <td width="70%">$text_de.getData()</td>
          <td width="30%" align="center"><img src="$image_
                                     de.getData()"/></td>
    </tr>
  </table>
</body>
</html>
```

Construct An Article

Article is the actual content of the web page, associated with a **Structure** and a **Template**. Each content piece is populated with actual texts and **Images**. Each **Article** is integrated with two status of **Workflow**, either approved or not approved. Meanwhile, each **Article** may have a set of dates associated, such as display date, expiration date, and review date, and so on.

There are three kinds of **Users** involved in **Article** lifecycle: designers, writers and editors. Typically, designers create **Structures** and **Templates** first. Then, **Articles** are written normally by writers, and editors edit and approve the **Articles**. Finally, **Articles** are displayed or expired by designers.

By default, **Article** types include **Announcements, Blogs, News, General, Press release** and **Test**.

Type Name	Description
Announcements	Publications for making known publicly.
Blogs	Frequent and chronological publications of personal thoughts and Web links.
News	Information about recent events or happenings.
General	General publications / information.
Press release	News that is sent out or released by the company making the news.
Test	Testing information.

It should be noted that these **Article** types are configurable. For example, you can configure **Articles** types in `portal-ext.properties` by removing **Test** as follows:

```
journal.article.types=announcements,blogs,general,news,press-release
```

Publishing Articles

We have used the **Journal** portlet to create contents (**Articles**) stored in CMS. Now, we are ready to publish contents to portal **Users** and **Guests**.

Suppose that there are two **Pages**, "**Articles**" and "**About us**", under the **Page,** "**Home**" at the **Book Lovers** Community **Public Pages**. The **Page,** "**Articles**", will display all **Articles,** and **Users** can navigate these **Articles**, while the **Page,** "**About us**", will display the **Article,** "**About us**" only. Thanks to **Journal Content** and **Journal Articles**, these are very useful for these two scenarios.

Using Journal Content

As an administrator of "Palm Tree Publications", you need to create a **Page** called "**About us**" under the **Page** "**Home**" at the **Book Lovers** Community, and also add the **Journal Content** portlet in the **Page,** "**About us**". Finally, publish the **Article,** "**About us**", in the **Page,** "**About us**". Let's publish the **Article** as follows:

1. Add a **Page** called "**About us**" under the **Page,** "**Home**", at the **Book Lovers** Community **Public Pages,** if the **Page** is not already present.
2. Change the layout with the value "1-Column" by clicking the link **Layout Templates**.
3. If the **Journal Content** portlet is not present, add it in the page, "**About us**", of the **Book Lovers** Community where you want to publish the **Article**.
4. Select an **Article** by clicking the **Select Article** icon in the **Journal Content** portlet.
5. Locate the **Article** "**About us**", and select the **Article** by clicking the link **Name**.
6. Optionally, check the checkbox, **Enable Ratings,** if you want to enable **Ratings**; check the checkbox, **Enable Comments,** if you want to enable **Comments**. Here, we just use default settings.
7. Click the **Return to Full Page** arrow when you are ready.
8. Optionally, remove the border of the portlet by clicking the **Look and Feel** icon and unselecting the checkbox, **Show Border**. Click the **Save** button and click the **Remove** icon to return.

9. Open a new browser such as "Opera", and input URL with the value "`http://localhost:8080/web/booklovers/aboutus`", and you will see the page "**About us**", as shown in following figure.

Do you find any difference between this **Page,** and the **Original Required View**? Of course, all content pieces are the same as that of **Original Required View**, such as **Images**, texts and links. But the look and feel is slightly different. As stated earlier, the content designer can update the **Template,** "**Template About us**", with CSS to provide the best layout. In short, you can provide the best layout that you can imagine through **Templates** and CSS.

Using Journal Articles

As an administrator of "Palm Tree Publications", you need to create a **Page** called "**Articles**" under the **Page,** "**Home**", at the **Book Lovers** Community. You also have to and add the **Journal Articles** portlet in the **Page,** "**Articles**", and finally publish **Articles** in the **Page,** "**Articles**". Let's do it as follows:

1. Add a **Page** called "**Articles**" under the **Page,** "**Home**", at the **Book Lovers** Community **Public Pages,** if the **Page** is not present.

2. Change the layout with value "1-Column" by clicking on the link **Layout Templates**.
3. Add the **Journal Articles** portlet in the page, "**Articles**", of the **Book Lovers** Community where you want to publish **Articles**, if **Journal Articles** portlet is not present.
4. Click the **Configuration** link to modify the properties of the portlet.
5. Choose the **Community** such as "**Book Lovers**", **Article Type** such as "**General**", **Display URL**, **Display per Page**, **Order by Column**, and **Order by Type** as well.
6. Click the **Save** button.
7. Click on the **Return to Full Page** arrow when you are ready.

Do you find a list of **Articles** in the **Page** "**Articles**"? One of them is the **Article** "**About us**".

> Note that only approved **Articles** will appear in the **Journal Articles** portlet. You cannot see the **Articles** which are not approved or the ones which have expired.

Using Other CMS Tools

There are some other CMS tools, which are useful for web content publishing. Here, we just list some of them as follows:

- XML content: provides ability to publish XML-based content.
- Asset publisher: a generic front end to several content types and sources such as **Blogs Entry**, Bookmarks Entry, **Document Library Document**, **Image Gallery Image**, **Journal Article**, and last but not the least, Tagged Content.
- Nested portlets: holds one or more portlets inside. It provides nested portlets layout, that is, portlets within portlets.

Summary

This chapter covered how to add **Folders** and **Subfolders** for **Images**; how to manage **Folders** and **Subfolders**; how to add **Images** in **Folders** and manage **Images**; and how to set up **Permission** on **Folders** and **Images**. It also discussed how to add **Folders** and **Subfolders** for **Documents**; how to manage **Documents**, how to add **Comments**, how to give your **Rating** and view **Versions**; how to set up **Permission** on **Folders** and **Documents** and how to publish **Documents**. Further, it also introduced us to **Structure** management, **Template** management and **Article** management. It emphasised on how to build **Articles** based on **Structures** and **Templates**, and how to set up **Permissions** on **Journal**, **Articles**, **Templates** and **Structures**. Finally, it discussed how to publish **Articles** and to employ other CMS tools. In short, Liferay Journal does not only provides high availability to publish, manage, and maintain web contents and documents, but also separates contents from the layout.

9
Chat and Instant Messaging

In the intranet website `book.com` of "Palm Tree Publications", as an administrator, you are required to provide an environment for employees to enjoy chatting, instant messaging, mailing, and SMS text messaging with others. This chapter will introduce to us, how to enjoy instant messaging. Then, it will discuss how to manage emails. Finally, it will focus on SMS text messenger.

By the end of this chapter, you will have learnt how to:

- Add a participant for chatting.
- Manage (view and delete) participants in the chat portlet.
- Start chatting.
- Set up chat portlet.
- Manage (check, delete, forward, reply, search) mails.
- Set up mail portlet.
- Manage SMS text messenger portlet.

Working with Chat Portlet

In order to let employees enjoy chatting and instant messaging with others, we should use the Liferay **Chat** portlet. Let's experience how to enjoy chatting and instant messaging first.

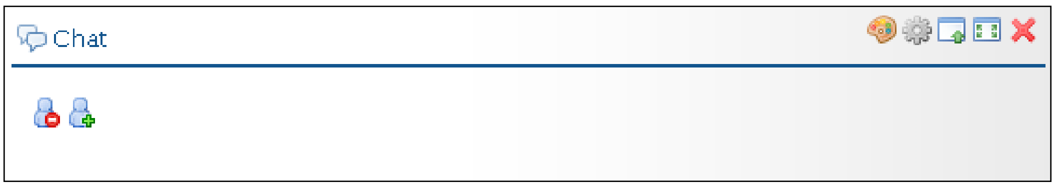
As an administrator of "Palm Tree Publications", you need to create a **Page** called "**Instant Messaging**" under the **Page,** "**Community**", at the **Book Lovers** Community and also add the **Chat** portlet in the **Page,** "**Instant Messaging**".

Adding a Participant

First of all, log in as "**Palm Tree**" and do the following:

1. Add a **Page** called "**Instant Messaging**" under the **Page,** "**Community**" at the **Book Lovers** Community **Public Pages,** if the **Page** is not already present.
2. Add the **Chat** portlet in the **Page,** "**Instant Messaging**" of the **Book Lovers** Community where you want to set up chatting and an instant messaging environment, if **Chat** portlet is not already present.

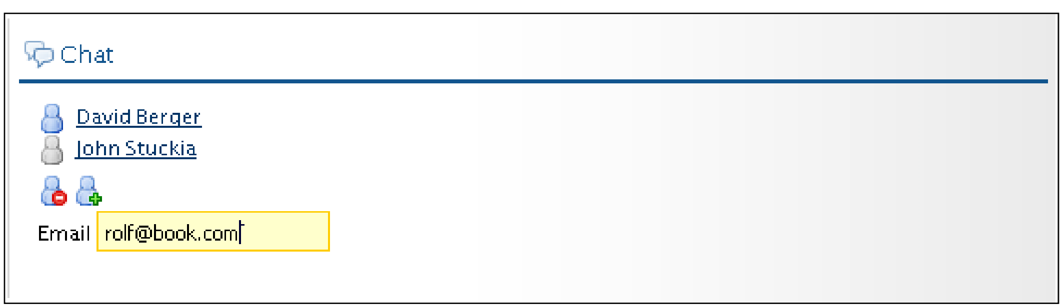
After adding the **Chat** portlet, you can view it as shown in the following figure.



Then, we need to add a participant in the **Chat** portlet. As an editor at the Editorial department, "**Lotti Stein**" wants to ping the manager, "**David Berger**", online and further share some comments about Liferay books. Let's do it as follows:

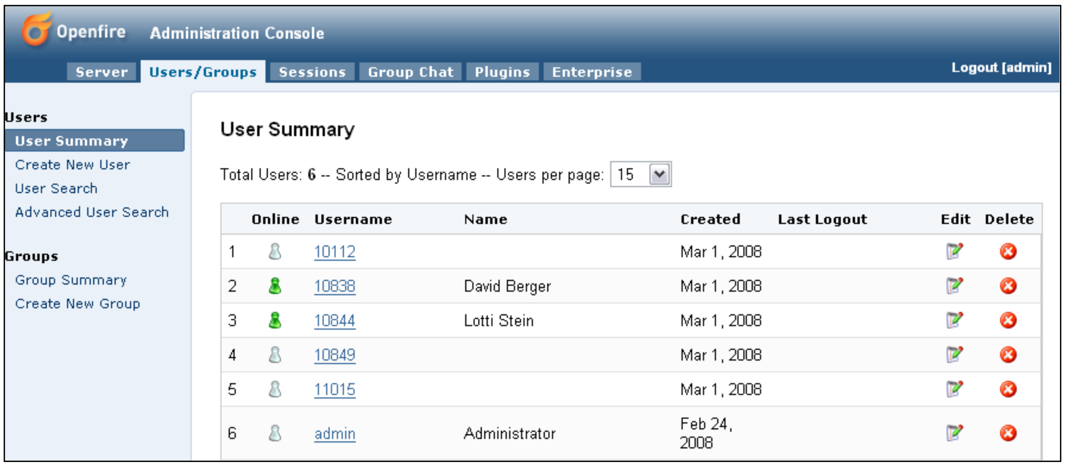
1. Login as "**Lotti Stein**" first.
2. Go to the **Page,** "**Instant Messaging**", " under the **Page,** "**Community**", at the **Book Lovers** Community **Public Pages**.
3. Click on the **Add** icon.
4. Input a participant's email address, such as "**david@book.com**".
5. Press the **Enter** key.

You will see the participant's full name appear, such as "**David Berger**". After adding more participants, such as "**John Stuckia**" and "**Rolf Hess**", you can view all participants as shown in the following figure.



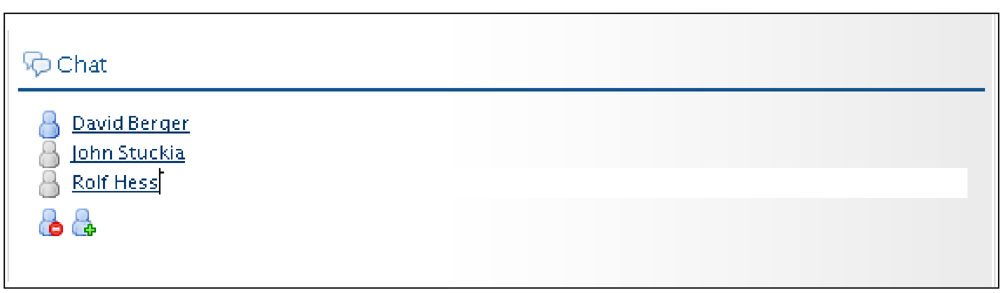
Managing Participants

All the **Users** you've invited will appear as a list of participants. If the **User** "**David Berger**" is online ,then the icon to the left of the **User** name becomes light blue. Otherwise, it remains light gray; for example, **User** "John Stuckia". As shown in the following figure, only two **Users** ("**David Berger**" and "**Lotti Stein**") are online in the server. For details about **OpenFire**, refer to the forthcoming section.



The participants are removable. For example, "**Lotti Stein**" wants to remove a participant "**Rolf Hess**", from the list of participants. Let's do it as follows:

1. Locate the participant, such as "**Rolf Hess**".
2. Click on the icon to the left of the **User** name, such as "**Rolf Hess**". You will see that the participant "**Rolf Hess**" is highlighted.
3. Click the **Remove** icon. This participant will be removed from the list of participants.

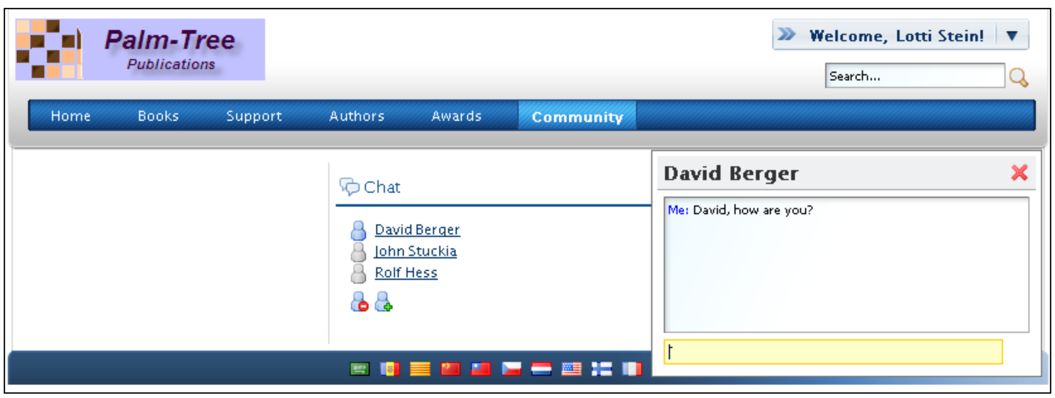


In short, to remove a **User** from the list of participants, simply locate the **User** you want to remove by clicking on the icon to the left of the **User** name. Then, click the **Remove** icon. The selected **User** name will be removed from the list of participants.

Starting Chatting

Irrespective of whether the participants are online or not, you can begin to **Chat** with them. For example, as an editor of editorial department, "**Lotti Stein**" wants to start chatting with the manager, "**David Berger**". Let's do it as follows:

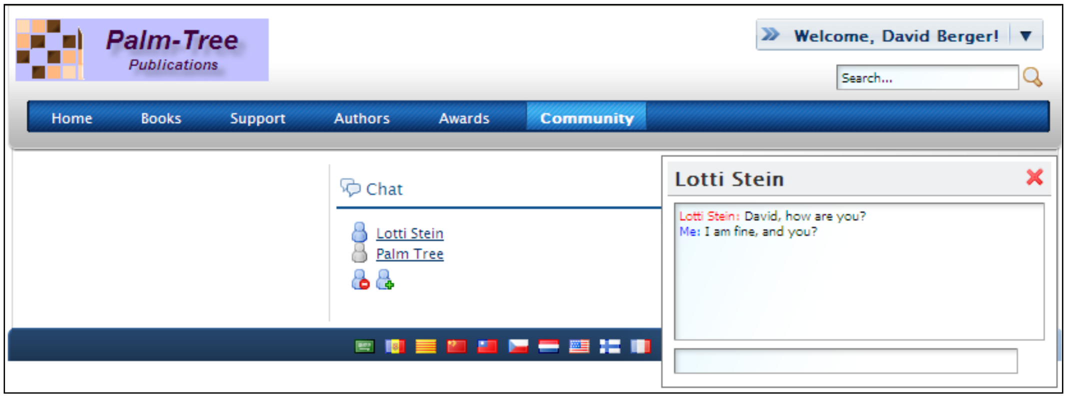
1. Locate the participant, "**David Berger**".
2. Click the **User** name, ,"**David Berger**".
3. A **Chat** box will appear.
4. Input the message, "**David**, **how are you**?"
5. Press the **Enter** key. Your messages will appear starting with the keyword, **Me,** in the message box (as shown in the following figure).



As a manager of the editorial department, "**David Berger**" will have to do the following, to receive the messages from "**Lotti Stein**":

1. Login as "**David Berger**" in new browser.
2. Go to the **Page,** "**Instant Messaging**" under the **Page,** "**Community**" at the **Book Lovers** Community **Public Pages**.
3. Locate the participant, "**Lotti Stein**".
4. Click the **User** name, "**Lotti Stein**".
5. A chat box will appear with the messages from "**Lotti Stein**".
6. Input the message, "**I am fine, and you?**"

7. Press the **Enter** key. Your messages will appear starting with the keyword "**Me**:" in the message box and the messages sent by the other **User, Lotti Stein**" here, will appear starting with the **User's** name as shown in the following figure:



Generally, to start chat, locate the **User** you want to chat with, by the **User** name first. Click on the **User** name link. A **Chat** box will appear. You can chat with many **Users** at the same time. To do this, just click on the **Users'** name link. Each **Chat** box is only for one unique **User**.

The **Chat** box contains the **User's** name on the upper left. You can close the current **Chat** box by clicking on the mark **X** to the upper right.

> Note that the **Chat** box is hidden in your current **Page** initiatively. Whenever a new message comes from the **User,** you are chatting with, the **Chat** box will pop up with the new message and possible previous messages.

To send messages, simply input your messages in the message input box first, and then press the **Enter** key. Your messages will appear starting with the keyword, **Me,** in the message box, and the messages sent by the other **Users** will appear starting with their **User** names.

How Does It Work?

Liferay **Chat** portlet (AJAX Instant Messaging) allows **Users** to automatically chat over XMPP (Jabber) protocol with other **Users**. Instant Messaging lets members interact with other members in real time. A private room may exists for customers which could give them access to others.

Liferay **Chat** portlet integrates with a Jabber server, that is, OpenFire. This session will introduce Instant Messaging, AJAX, and Jabber (OpenFire).

> OpenFire (previously known as Wildfire Server) is a real-time collaboration (RTC) server, adopted open protocol for instant messaging, XMPP (also called Jabber). URL: `http://www.jivesoftware.com/products/openfire/`.

Use Instant Messaging

Instant messaging (IM) acts as a form of real-time communication among **Users,** based on typed text. It allows easy collaboration. In contrast to email, the participants know whether the peer is available. Conversations by instant messaging can be saved for later reference.

One of the Instant Messaging protocols is Extensible Messaging and Presence Protocol (XMPP).

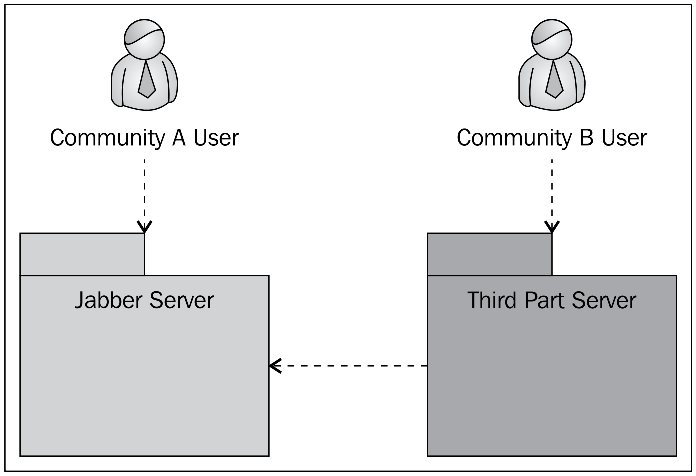
> XMPP is an open, XML-inspired protocol for near-real-time, extensible instant messaging (IM) and presence information. It is the core protocol of the Jabber Instant Messaging and Presence technology. URL: `http://www.xmpp.org/`.

On the one hand, XMPP is based on open standards, different from other instant messaging protocols. Similar to email, XMPP is an open system where a **User** having a domain name and a suitable Internet connection can run a Jabber server, and talk to others on other servers.

On the other hand, another useful feature of the XMPP system is, transports, also called gateways. Through this, **Users** can access networks using other protocols. These protocols can be other instant messaging protocols, such as SMS or Email. The case is different from multi-protocol clients, as **Users** can access XMPP server at the server level. That is, it communicates with other servers through gateway services, which are running on a remote server.

Another interesting feature of XMPP is the HTTP binding behind restricted firewalls.

For instance, **Community A User** wants to chat with **Community B User**. **Community A User** and **Community B User** have accounts on the Jabber Server and the Third Part Server respectively. When **Community A User** types in and sends his/her message, a sequence of events is set in action, as shown in the following figure:



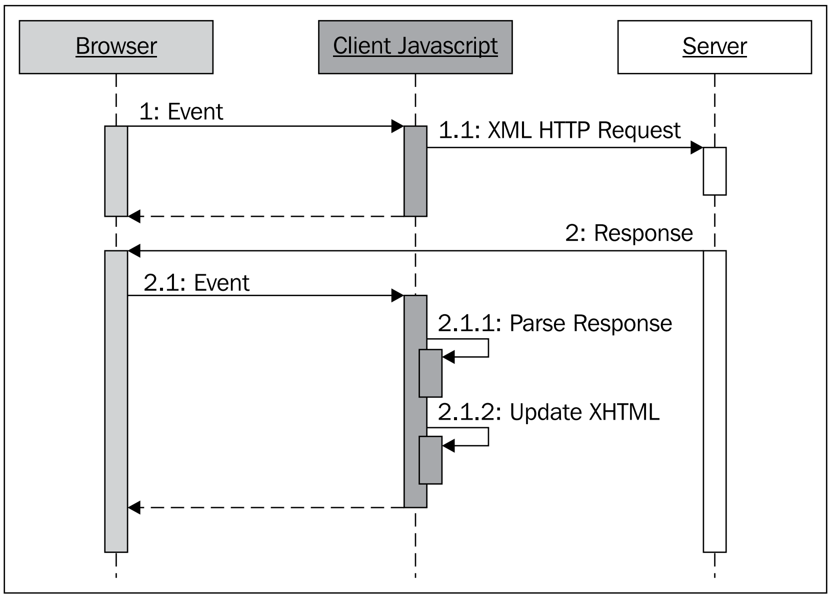
- **Community A User's** client sends his/her message to the Jabber Server.
    - If **Third Part Server** is blocked on Jabber Server, the message is dropped.
- The **Jabber Server** opens a connection to the Third Part Server.
- The Jabber server delivers the message to **Community B User**.
    - If **Jabber Server** is blocked on **Third Part Server**, the message is dropped.
- If **Community B User** is not currently connected, the message is stored for later delivery.

> Jabber is the Linux of instant messaging—an open, secure, ad-free alternative to consumer IM services. URL: `http://www.jabber.org/`

Employ AJAX

AJAX is Asynchronous JavaScript and XML. In short, AJAX makes portal **Pages** feel more responsive, by exchanging minimum amounts of data with the server. Thus, the entire portal **Page** does not have to be reloaded, when the **User** requests a change. You can use AJAX to increase the portal **Page's** interactivity, usability, functionality and speed.

In other words, AJAX acts as an asynchronous data transfer mechanism, that is, HTTP requests, between the browser and the portal server, allowing portal **Pages** to request a few bits of information from the server, instead of whole portal **Pages**. The AJAX makes portal applications smaller, faster and more user-friendly as shown in the following figure:



In general, AJAX is based on the following standards:

- JavaScript—Scripting language of the Web
- XML—Extensible Markup Language
- XHTML (or HTML)—Extensible Hypertext Markup Language
- CSS—Cascading Style Sheets

AJAX follows web standards supported by all major browsers. Thus, AJAX applications are browser and platform independent. The main advantage of AJAX is the separation of data, format, style, and function.

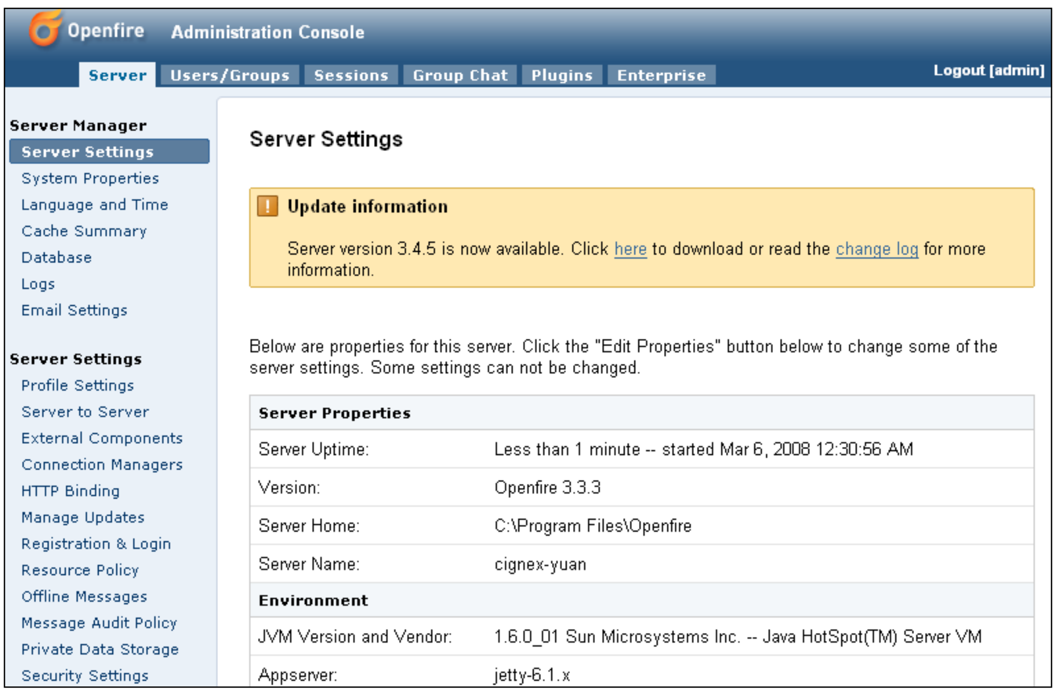
Using Chat Portlet Effectively

The **Chat** portlet allows **Users** to chat over XMPP protocol with other logged-in **Users** automatically. In order to use the **Chat** portlet effectively, let's set up an XMPP server and configure Liferay.

Set up XMPP Server

First, we have to set up a XMPP (Jabber) server. Suppose that we use **OpenFire** as an XMPP (Jabber) server. Here are the steps to set up **OpenFire** as follows:

1. Create a folder, and name it **OpenFire.**
2. Download the **OpenFire.**
3. Extract the file to the **OpenFire** folder.
4. Open the **OpenFire** folder and furthermore, `bin`.
5. Click on `openfire_x_x_x.exe` or unzip `openfire_x_x_x.tar.gz`.
6. Click **Launch Admin**.
7. Proceed with configuring **OpenFire** based on your requirements, as shown in the following figure.



Configure Liferay

Then, you need to configure the XMPP server (such as **OpenFire**) with Liferay. You can simply open `portal-ext.properties` at `$LIFERAY_ROOT/webapps/Root/WEB-INF/classes`.

You just enter the following lines (Suppose that **OpenFire** and Liferay are on the same server):

```
jabber.xmpp.server.enabled=true
reverse.ajax.enabled=true
```

If you want to configure the integration by default settings, here are some options. The following is the complete set of properties related to the setup of XMPP server.

```
jabber.xmpp.server.enabled=false
jabber.xmpp.server.address=localhost
jabber.xmpp.server.name=localhost
jabber.xmpp.server.port=5222
jabber.xmpp.user.password=admin
```

You can also configure the **Chat** portlet when XMPP server is on a separate server. The following lines are a real example.

```
jabber.xmpp.server.enabled=true
reverse.ajax.enabled=true
jabber.xmpp.server.address=liferay.cignex.com
jabber.xmpp.server.name=liferay-cignex
jabber.xmpp.server.port=5222
jabber.xmpp.user.password=admin
```

> Note that you have to turn firewall off in Windows for the **Chat** Portlet to run properly.

Working with Mail Portlet

In order to let employees manage their emails, we can use the Liferay **Mail** portlet. As an administrator of "Palm Tree Publications", you need to create a **Page** called "**Mail**" under the **Page,** "**Community**" at the **Book Lovers** Community **Public Pages** and also add the **Mail** portlet in the **Page,** "**Mail**".

Experiencing Mail Management

First of all, login as "**Palm Tree**". Then, let's do the above as follows:

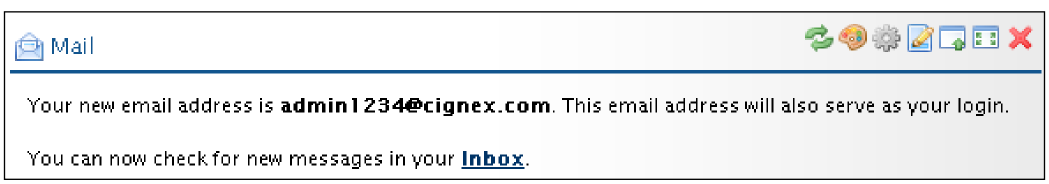
1. Add a **Page** called "**Mail**" under the **Page** "**Community**" at the **Book Lovers** Community **Public Pages,** if the **Page** is not already present.
2. If the **Mail** portlet is not already present, add it in the **Page,** "**Mail**" of the **Book Lovers** Community where you want to manage mails. You will see the **Mail** portlet as shown in the following figure.

[Let's assume that we set up the mail domain as "**cignex.com**" in the **Enterprise Admin** portlet for testing purposes, as we have a mail engine with this mail domain already. Of course, you could set up the mail domain as "**book.com**", or something else, if you had a mail engine with this mail domain in your hand.]

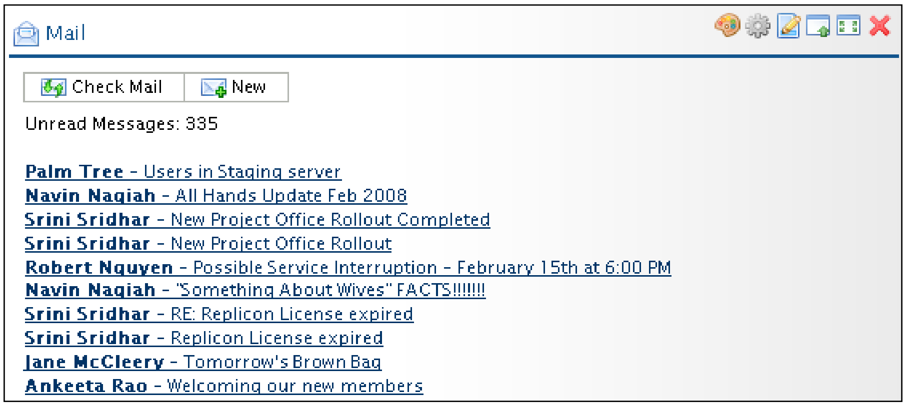
As an editor of the editorial department, "**Lotti Stein**", you may want to manage your mails in the mail domain, "**cignex.com**". You can first **choose a user name for your personal company** the **email address**, say "**admin1234**" and register. Let's do it as follows:

1. Login as "**Lotti Stein**".
2. Go to the **Page** "**Mail**" under the **Page,** "**Community**", at the **Book Lovers** community **Public Pages**.
3. Locate the **Mail** portlet.
4. Input the value for **User** name as "**admin1234**".
5. Click the **Register** button.

Your new email address is "**admin1234@cignex.com**". **This email address will also serve as your login,** as shown in the following figure.

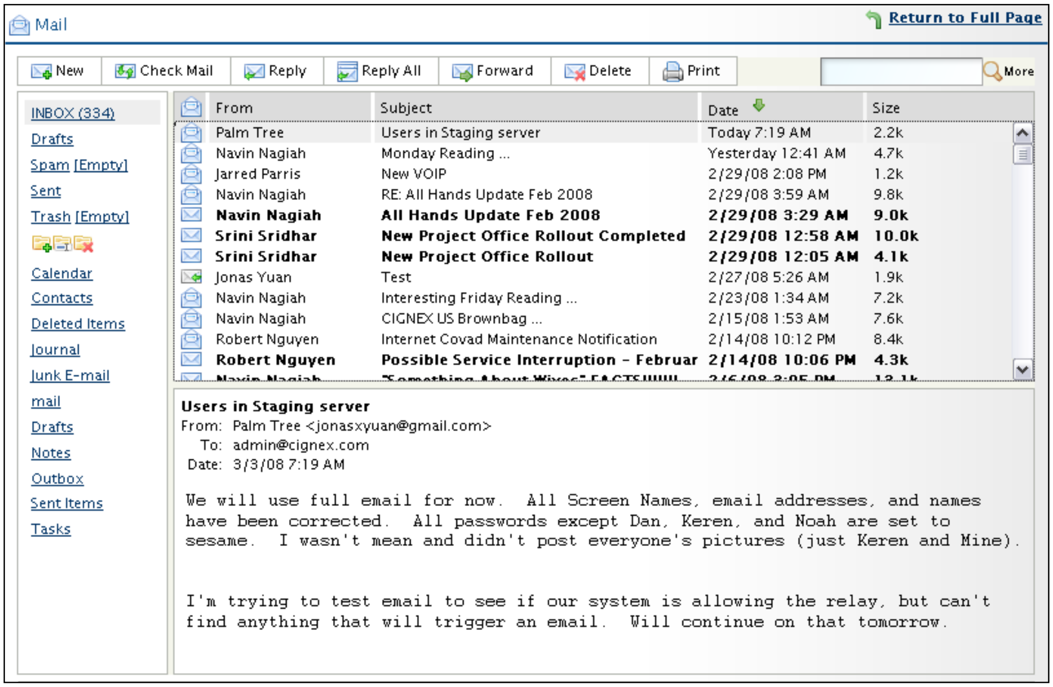


You can now check for new messages in your inbox, by clicking the **Inbox** link first. Then, you can view the **Unread messages**, and either **Check Mail** or create a **New** mail, as shown in the following figure:



You can go to the **Page** of **Mail** management by clicking on any link of **Unread Messages**, or **Check Mail** button or **New** button. Further, you can manage emails through the **Mail** portlet of your current account. Email management includes the following features (as shown in the following figure):

- Create a **New** email.
- **Check Mail**.
- **Reply to** an email.
- **Reply All** emails.
- **Forward** emails.
- **Delete** emails.
- **Print** emails, and
- Search.



Note that the first email with the subject, "**Users in Staging server**", is sent through the **SMS Text Messenger** portlet. For more details, refer to the forthcoming section.

How to Set up Mail Server?

In order to make the **Mail** portlet work, we have to set up a mail server with IMAP, POP and SMTP protocols. Suppose that the Enterprise "Palm Tree Publications" has a mail server with the domain "`exg3.exghost.com`", an account "`admin@cignex.com/admin1234`", and protocol IMAP, POP and SMTP. As an administrator, you need to integrate this mail server with **IMAP**, **POP** and **SMTP** protocol in Liferay. Let's do it as follows:

1. Find the file `ROOT.xml` in `$TOMCAT_DIR/conf/Catalina/localhost`.
2. Find the mail configuration first.
3. Then configure it as follows:

```
<!-- Mail -->
<Resource
name="mail/MailSession"
```

```
auth="Container"
type="javax.mail.Session"
mail.imap.host="exg3.exghost.com"
mail.imap.port="143"
mail.pop.host="exg3.exghost.com"
mail.pop.port="110"
mail.store.protocol="imap"
mail.transport.protocol="smtp"
mail.smtp.host="exg3.exghost.com"
mail.smtp.port="2525"
mail.smtp.auth="true"
mail.smtp.starttls.enable="true"
mail.smtp.user="admin@cignex.com"
password="admin1234"
mail.smtp.socketFactory.class="javax.net.ssl.SSLSocketFactory"
/>
```

In short, a **Mail** portlet is an AJAX web-mail client. We can configure it to work with any mail server. It reduces page refreshes, since it displays message previews and message lists in a dual pane window.

How to Set up Mail Portlet?

If you have proper **Permissions**, you can change the preferences of the **Mail** portlet. To change the preferences, you can simply click the **Preferences** icon to the upper right of the **Mail** portlet.

With the **Recipients** tab selected, you can find potential recipients from the **Directory** (**Enabled** or **Disabled**) and the **Organization** (**My Organization** or **All Available**). Click the **Save** button after making any changes.

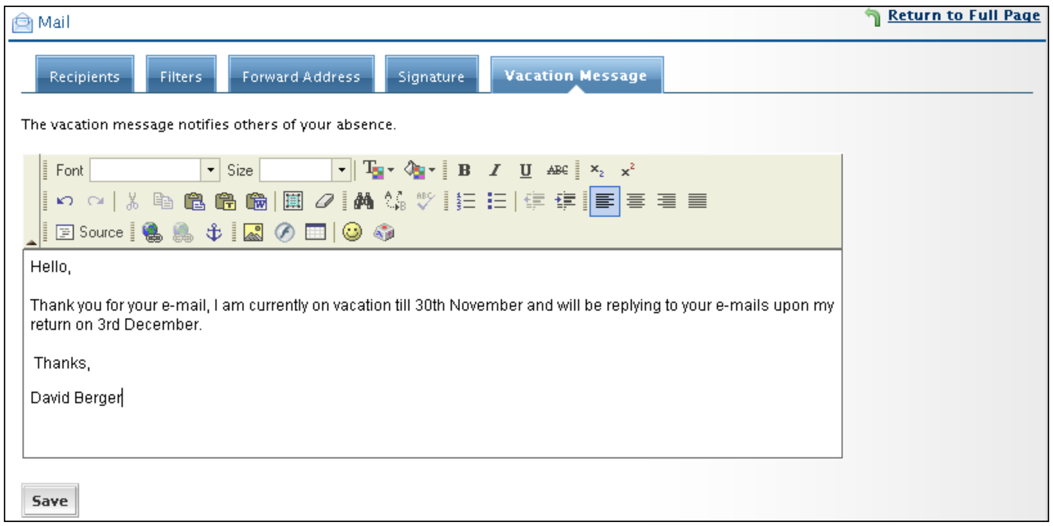
Using the **Filters** tab, you can set the values to filter emails associated with an email address to a **Folder**. Click the **Save** button after making any changes.

> Note that the maximum number of email addresses is ten. This number is also configurable at the `portal-ext.properties`

Similarly, the **Forward Address** tab allows all emails to be forwarded to the email address you want. Enter one email address **Per Line**. Remove all entries to disable email forwarding. Select **Yes** to leave, or **No** to not leave a copy of the forwarded message. Click the **Save** button after making any changes.

Further, the **Signature** tab also allows you to set up your signature using HTML text editor. The signature you have set up will be added to each outgoing message. Click the **Save** button after making any changes.

The **Vacation Message** tab allows you to set up vacation messages using HTML text editor. **The vacation message notifies others of your absence** (as shown in the following figure). Click the **Save** button after making any changes.



Using Permissions

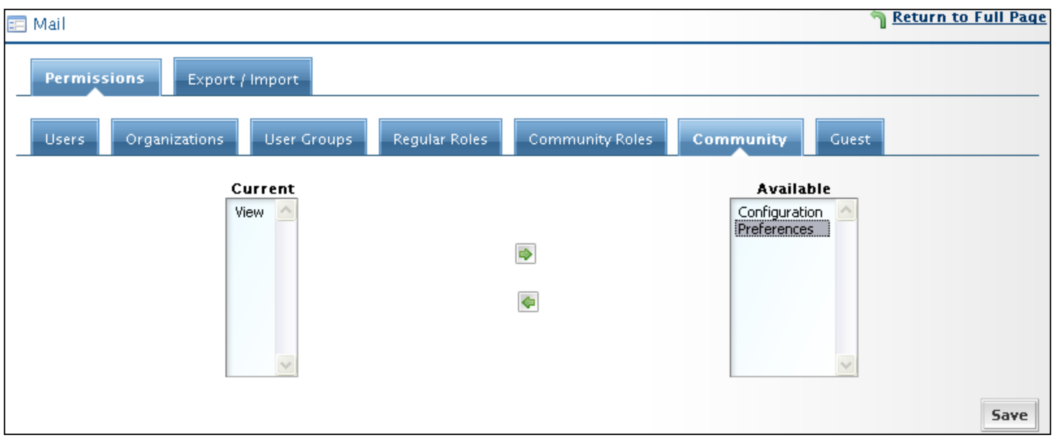
The following table shows **Permissions** for the **Mail** portlet. A **Community User** can set up all **Permissions** (marked 'X') while a **Guest User has** the **View**, **Configuration** and **Preferences Permissions**. By default, a **Community** (marked '*') as well as a **Guest User** has **View** action.

Action	Description	Community	Guest
View	Views this portlet	X, *	X, *
Configuration	Configures **Permissions** of this portlet	X	X
Preferences	Configures mail setting of this portlet	X	X

Obviously, as a **User** of the **Book Lovers** Community, "**Lotti Stein**" has only **View Permissions** on the **Mail** portlet, by default. Since the **Book Lovers** community has no **Permission** "**Preferences**", it follows that "**Lotti Stein**" too has no "**Preferences**" **Permission**.

As an administrator, you may need to set up the **Community Users** having **Permissions, Preference** as well as **View,** on the **Mail** portlet. Thus, the **Community User** can set up mail settings. That is, you need to add **Permissions** (**Preference**) on the **Mail** portlet at the **Book Lovers** community. Let's do it as follows (see the following figure):

1. Click on the **Configuration** icon to the top right of the **Mail** portlet.
2. Then click on the **Permissions** tab.
3. Select the **Community** tab.
4. Select **Permission**, **Preferences,** in the **Available** box.
5. Click on the **Add** arrow, and
6. Click on the **Save** button if you are ready.



Using Mail Portlet effectively

Liferay Portal can integrate with Washington IMAP + Sendmail, Cyrus IMAP + Postfix, and Dovecot + Postfix, as well as with Microsoft Exchange and other IMAP servers. As stated above, the mail server "`exg3.exghost.com`" is Microsoft Exchange server.

You can access your email through an IMAP server. If access is on IMAP, the portal does not have to know where to persist the mail.

> IMAP stands for Internet Message Access Protocol. URL: `http://www.imap.org/`.

One of the popular protocols used for email is IMAP, an application layer Internet protocol. IMAP operates on port 143 that allows a local client to access email on a remote server.

IMAP supports both connected and disconnected modes of operation. Until the **User** explicitly deletes them, email IMAP clients generally leave messages on the server. Moreover, IMAP offers access to the mail store.

IMAP has a lot of advantages. Here, we have listed just some of them:

- Use connected and disconnected modes of operation.
- **Users** can connect to the same mailbox simultaneously.
- **Users** have access to MIME message parts and partial fetch.
- Has message state information.
- Supports multiple mailboxes on the server.
- Provides ability for search on the server-side.
- Has a built-in extension mechanism.

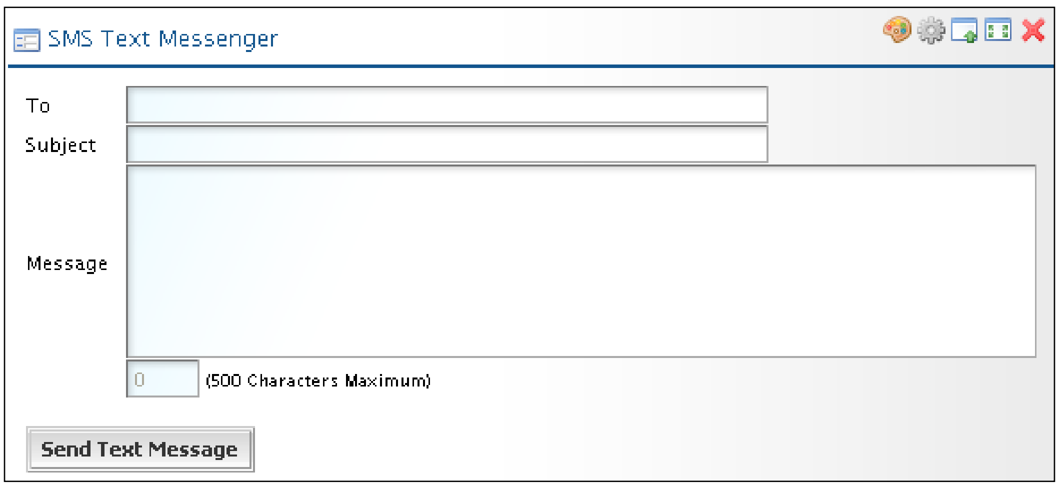
Working with SMS Text Messenger

In order to let employees send text message to others, anytime, we can use the Liferay **SMS Text Messenger** portlet. As an administrator of "Palm Tree Publications", you need to create a **Page** called "**SMS**" under the **Page** "**Community**" at the **Book Lovers** Community and add the **SMS Text Messenger** portlet in the **Page,** "**SMS**".

Using SMS Text Messenger

First of all, login as "**Palm Tree**". Then, let's do the above action as follows:

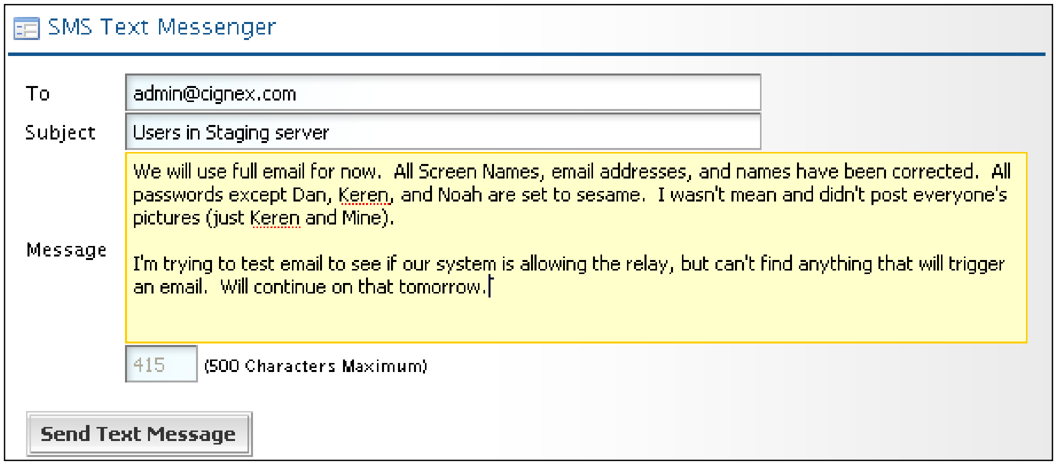
1. Add a **Page** called "**SMS**" under the **Page** "**Community**" at the **Book Lovers** Community **Public Pages,** if the **Page** is not already present.
2. Add the **SMS Text Messenger** portlet in the **Page,** "**SMS**" of the **Book Lovers** Community where you want to set up **SMS Text Messenger** (if this portlet is not already present). You will see the **SMS Text Messenger** portlet as shown in the following figure:



As an editor of the editorial department, "**Lotti Stein**" wants to send a **Message,** say "**Users in Staging server**", to a person, say"**admin@cignex.com**". Let's do it as follows:

1. Login as "**Lotti Stein**".
2. Go to the **Page** "**SMS**" under the **Page** "**Community**" at the **Book Lovers** community **Public Page**.
3. Locate the **SMS Text Messenger**.
4. Input value for **To** as "**admin@cignex.com**", **Subject** as "**Users in Staging server**" and a **Message**.
5. Click the **Send Text Message** button.

The **User** "**admin@cignex.com**" will receive this email sooner or later, as we have described in the previous section.



How to Set up SMTP?

In order to make **SMS Text Messenger** work well, we have to set up the mail server with SMTP protocol. Suppose that the Enterprise "Palm Tree Publications" has a mail server with a domain "`smtp.gmail.com`", an account "`jonasxyuan/jonas1234`", and a protocol, SMTP. As an administrator, you need to integrate this mail server with SMTP protocol in Liferay. Let's do it as follows:

1. Find the file `ROOT.xml` in `$TOMCAT_DIR/conf/Catalina/localhost`.
2. Find the mail configuration first.
3. Then, configure it as follows:

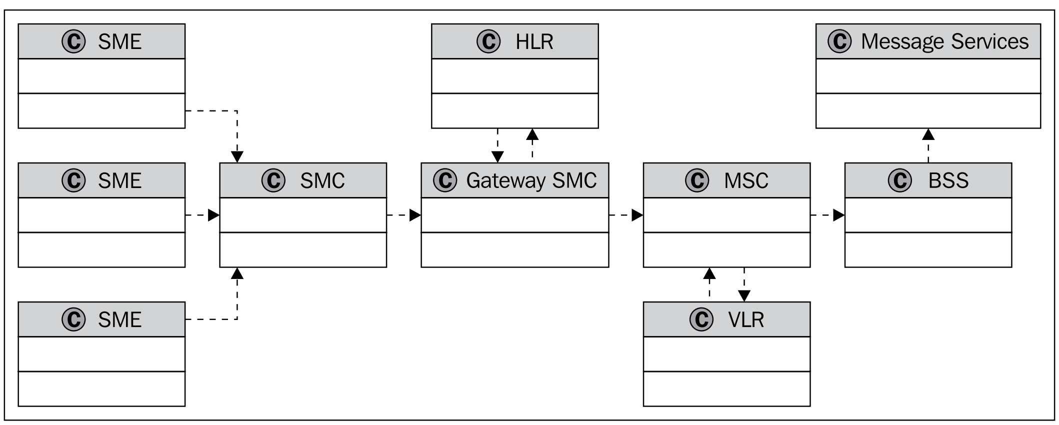
```
<Resource
name="mail/MailSession"
auth="Container"
type="javax.mail.Session"
mail.imap.host="smtp.gmail.com"
mail.pop.host="smtp.gmail.com"
mail.store.protocol="imap"
mail.transport.protocol="smtp"
mail.smtp.host="smtp.gmail.com"
mail.smtp.port="465"
mail.smtp.auth="true"
mail.smtp.starttls.enable="true"
mail.smtp.user="jonasxyuan"
password="jonas123456"
mail.smtp.socketFactory.class="javax.net.ssl.SSLSocketFactory"
/>
```

In short, the **SMS Text Messenger** portlet allows you to send SMS text messages from your portal page anytime.

Using SMS Effectively

The Short Message Service (SMS), called text messaging, is used to send short messages to and from mobile phones. It provides a mechanism for the delivery of short text messages over mobile networks, in order to transmit messages to and from mobiles. The text message from the sender can be stored in a central short message center, which then forwards it to the recipient. If the recipient is not available, the short message is stored temporally and will be sent later. SMS provides return receipts. Thus, the sender gets a brief message notification if the short message is delivered to the recipient.

You may need to read the following part, if you are interested in the organization of network elements for supporting SMS. Otherwise, you can leave it for your future needs. The following figure shows a typical organization of network elements in a network supporting SMS (refer to more details at `http://www.wirelessdevnet.com/channels/sms/features/sms.html`).



The **SMC** (Short Message Center) stores and forwards messages, to and from the message station. The **SME** (Short Message Entity) receives and sends short messages.

The SMS GWMS (SMS gateway **MSC**), a gateway **MSC**, can receive short messages. After receiving the short message from the message center, GMSC employs the SS7 (Signaling System #7) network to interrogate the current position of the mobile station from the **HLR** (home location register).

HLR, as a main database, holds information about the subscription profile of the mobile. It also maintains the routing information for the subscriber where the mobile is currently situated. The GMSC thus passes on the short message to the correct **MSC**.

MSC (Mobile Switching Center) switches connections between mobile stations.

A **VLR** (Visitor Location Register) communicates with each **MSC** and contains temporary information about the mobile. **MSC** switches the short message to the corresponding **BSS** (Base Station System), which transmits the short message to the mobile. The **BSS** is made up of transceivers, which send and receive information over the air interface, to and from the mobile station. The short message is passed over signaling channels, so that the recipient (for example, mobile) can receive this short piece of information, even if a data call or a voice call is going on.

Summary

This chapter discussed how to add a participant for chatting, how to manage (view and delete) participants in the **Chat** portlet, how to start chatting, and how to set up the **Chat** portlet first. Then it discussed how to manage (check, delete, add, reply, forward, search) emails and also to set up the **Mail** portlet properly. Finally, it discussed how to manage the **SMS Text Messenger** portlet and send SMS text messages.

10

Help Desk/Customer Support

The enterprise "Palm Tree Publications" may often provide help desk support to its customers via a toll-free number, website and/or e-mail. But in the intranet website "book.com", of "Palm Tree Publications", it is required to provide help desk and customer support—an information and assistance resource that troubleshoots problems related to websites. Liferay packages facilities that will help "Palm Tree Publications" design, develop, deploy, and support the websites. It offers unbeatable out-of-the-box functionality with over 60 JSR-168 / JSR-286 compliant portlets. With these portlets, we can easily build help desk assistances and customer support information on the web site of "Palm Tree Publications".

This chapter mainly discusses how to use a set of portlets in order to provide an information and assistance resource that troubleshoots specific requirements. Furthermore, it also introduces us to multilingual support and the usage of WebDAV. Finally, it provides brief guidance on how to develop new portlets to deal with specific requirements, in order to provide help desk assistances and customer support information efficiently.

By the end of this chapter you will have learnt how to:

- Use financial tools.
- Work with Google portlets.
- Employ religion tools.
- Use additional tools.
- Employ shopping portlets in the portal.
- Play with entertainment portlets in the website.
- Play with multiple languages.
- Use WebDAV.
- Develop your own portlets.

Working with Financial Portlets

In order to provide help desk and customer support related to financial tools, we should use a lot of portlets. Let's see how to provide help desk and customer support for financial purposes in the intranet first.

As an administrator of "Palm Tree Publications", first you need to create a **Page** called "**Financial**" under the the **Page**, "**Community**", at the **Book Lovers** Community **Public Pages**, and then add the required portlets in the **Page**, "**Financial**".

First of all, log in as "**Palm Tree**" and create a **Page** called "**Financial**" under the **Page**, "**Community**", at the **Book Lovers** Community. Let's do it as follows:

- Add a **Page** called "**Financial**" under the page "**Community**" at the **Book Lovers** Community **Public Pages** (if the **Page** is not already present).

Now you are ready to add portlets in the **Page** "**Financial**".

As an administrator at "Palm Tree Publications", you may need to build the **Financial Page** with following features:

- Perform pricing calculations.
- Use loan & mortgage payment calculations.
- Display the company's ticker symbol with stock price; and
- Perform foreign exchange rate calculations on the Intranet.

In order to provide the ability to perform pricing calculations and loan & mortgage payment calculations in the **Financial Page**, simply add the **Calculator** portlet and **Load it**. Now, normal **Users** from financial groups can use the **Calculator** portlet for performing pricing calculations, and moreover, use **the Loan Calculator** for loan & mortgage payment calculations on the **Financial Page**.

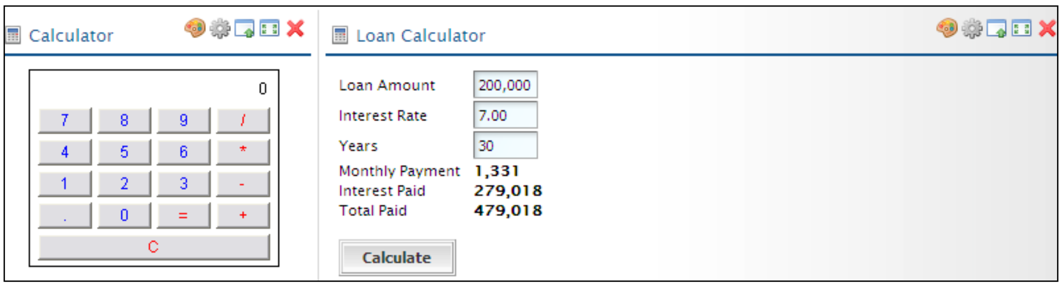
Similarly, in order to provide the ability to display the company's ticker symbol with stock price and to perform foreign exchange rate calculations in your page, simply add **the Currency Converter** and **Stocks** portlets in the **Financial Page**. Now, normal **Users** from financial group can use **Currency Converter** portlet for performing foreign exchange rate calculations and furthermore, use **the Stocks** portlet for displaying the company's ticker symbol with stock price on the **Financial Page**.

Using Calculator And Load Calculator

The Calculator portlet provides a basic calculator to perform mathematical calculations. Simply enter the numbers and operands, and the **Calculator** will perform pricing calculations and display the results dynamically as shown in the following figure.

The Loan Calculator refers to the loan & mortgage payment calculator. The **Loan Calculator** portlet provides the ability to determine what your monthly payments will be, and how much you'll owe when the loan is up and the payment falls due.

The Loan Calculator portlet also determines the monthly payments for any fixed-rate loan. Just enter the **Loan Amount**, **Interest Rate** and **Years**, and the **Loan Calculator** will do the rest. Click on the **Calculate** button to see how much interest you'll pay each month and over the lifetime of the loan. The **Loan Calculator** will also show extra **Interest Paid** and **Total Paid** as shown in the following figure.

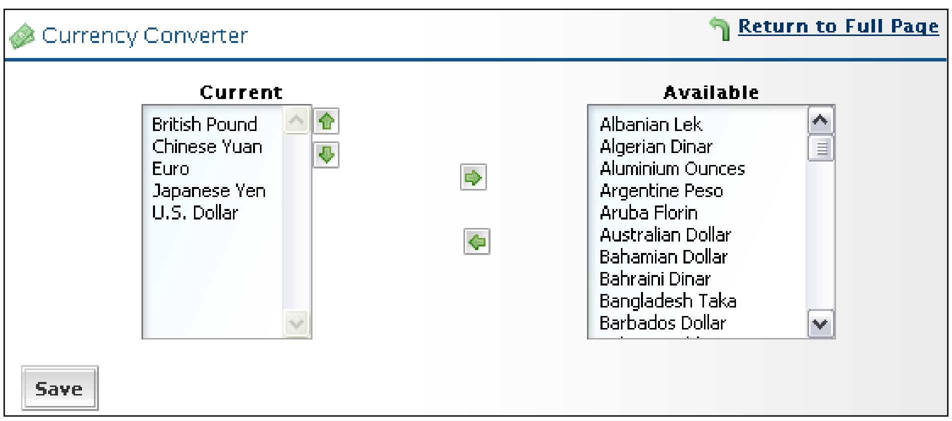


Using Currency Converter

It is pretty easy to use the **Currency Converter** portlet. Input the **Number, and** select the **from-symbol** and the **to-symbol** from the list first. Then, you can press the **Convert** button. The portlet will display foreign exchange rates as shown in the following figure.

You can also change current **Currency** by updating preferences, such as **GBP**, **CNY**, **EUR**, **JPY** and **USD**. Let's do it as follows:

1. Click the **Preferences** icon. There are two boxes for currencies. The **Current** box contains current currencies and the **Available** box contains available currencies which you may use.
2. You can change the order of currencies by selecting a currency such as "**Euro**" first, and then press the **Move Up** button to move up or press the **Move Down** button to move down.
3. You can remove a currency from the **Current** box. You simply select the currency such as "**Japanese Yen**" in the **Current** box, and then press the **Remove** button to the right.
4. Similarly, you can add a currency from the **Available** box to the **Current** box. You simply select the currency such as "**Chinese Yuan**" in the **Available** box, and then press the **Add** button to the left.
5. Click the **Save** button when you are ready as shown in the following figure.



The Currency Converter portlet allows you to perform foreign exchange rate calculations on the Intranet, using up-to-the-minute currency rates. More than 147 currencies are supported at present.

By default, **Yahoo Financial** is used as Service provider with the following URL access.

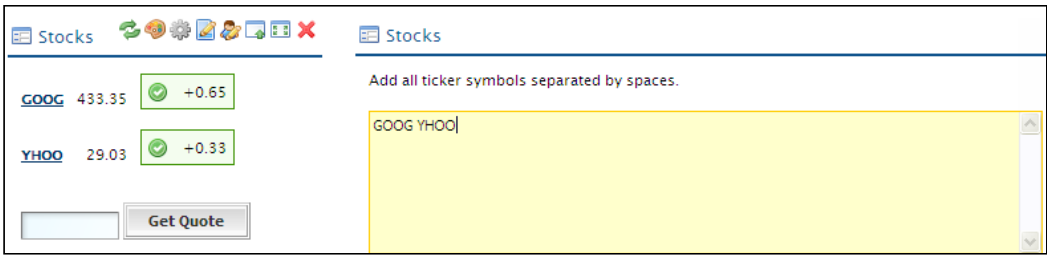
```
http://finance.yahoo.com/d/quotes.csv?s=symbols=X&f=sl1d1t1c1ohgv&
e=.csv
```

An example of the symbol would be **USD**, **GBP**, **EUR**, **JPY**, **CNY**, and so on.

Employing Stocks Portlet

The Stocks portlet provides personalized stock quotes in the portal. It allows access to global market indices. You can select the companies and indices to monitor and their order of appearance in the portlet. You can also view price and volume charts.

For example, you can allow normal users to customize their **Stock** portlets with their own portfolio of **Stocks** as shown in the following figure:



You can also change default ticker symbols. Let's do it as follows:

1. Click the **Preferences** icon of the **Stocks** portlet.
2. Input all ticker symbols, separated by spaces as in "**GOOG**, **YHOO**".
3. Click the **Save** button when you are ready.

By default, Yahoo Financial is used as Service provider with the following URL access:

```
http://finance.yahoo.com/d/quotes.csv?s=symbol&f=sl1d1t1c1ohgv&e=.
csv
```

An example of the symbol could be **YHOO**, **GOOG**, and so on.

You can view **Stock** information such as "**GOOG**". Let's do it as follows:

1. Input the **Stock** symbol such as "**GOOG**" first.
2. Then, click the **Get Quote** button.

3. The stock portlet delivers stock information including **intra-day/week chart, last price, net change, percent change, Open, Day High, Day Low**, and **Volume** as shown in the following figure.
4. Optionally, you change the chart by selecting **Days**, **Months** and **Years**.

Using Stocks Portlet Effectively

Moreover, Liferay provides the ability to configure the **Stocks** portlet application parameters. You can change the **Stocks** portlet application parameters, `<preferences-unique-per-layout>` and `<preferences-owned-by-group>` as follows:

> `Liferay-portlet.xml` at the `$TOMCAT_DIR/ROOT/WEB-INF` is the DTD for the Portlet Application parameters that are specific to Liferay Portal.

Preferences-Unique-Per-Layout

If the preferences for the **Stocks** portlet are unique across all pages, you should set up the `preferences-unique-per-layout` with the value, "`true`". If the preferences for the portlet has to be shared across all pages, you should set up the `preferences-unique-per-layout` with the value, "`false`". By default, we set the value to `true`.

Preferences-Owned-By-Group

If the group owns the preferences of the **Stocks** portlet in a group page, then you can set up `preferences-owned-by-group` with the value, "`true`". Otherwise, you can set up the `preferences-owned-by-group` with the value, "`false`". That is, the **Users** own the preferences at all times. By default, we just set the value to `true`.

If the **Stocks** portlet has `preferences-unique-per-layout` with the value, "`true`", and `preferences-owned-by-group` with the value, "`false`", then you can set up a different list of stocks for either a personal **Page** or a **Community Page**.

If the **Stocks** portlet has both `preferences-unique-per-layout` and `preferences-owned-by-group` with the values, "`false`", then you can set up a list of stocks shared across the personal **Pages** and a **Community's** set of **Pages**.

If the **Stocks** portlet has both `preferences-unique-per-layout` and `preferences-owned-by-group` with the value, "`true`", then you can set up a different list of stocks at a personal **Page**. Furthermore, if you are administrators, you can set a different list of stocks in this case for a **Community Page**, shared by all **Users** within a **Community**.

If the **Stocks** portlet has `preferences-unique-per-layout` with the value "`false`" and `preferences-owned-by-group` with the value, "`true`", then you can set up a list of stocks shared across personal **Pages**. In this case, if you are administrators, you can set up the portlet preferences for all the **Users** in a **Community Page**, and a list of stocks shared by all **Users** across a **Community's** set of **Pages**.

Working with Google Portlets

As an administrator of the enterprise, "Palm Tree Publications", you may need to create a **Page** called "**Help**" under the **Page** "**Community**" at the **Book Lovers** Community **Public Pages** and moreover, add the required portlets in the page, "**Help**". Let's do it as follows:

- Add a **Page** called "**Help**" under the **Page,** "**Community**" at the **Book Lovers** Community, **Public Pages,** if the **Page** is not already present.

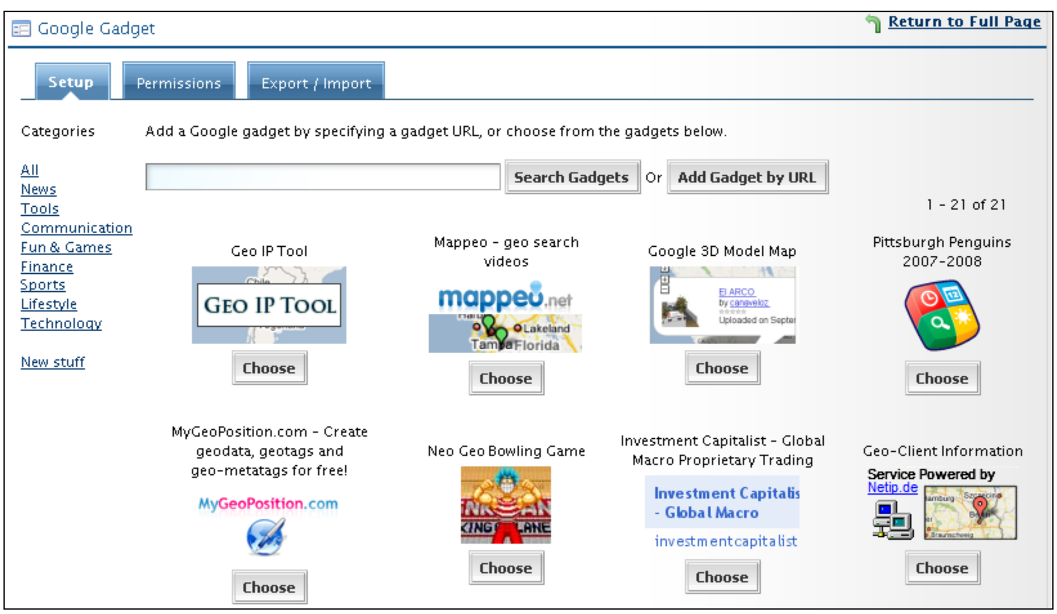
As an administrator at "Palm Tree Publications", you may need to build an advertising **Page** with the following features:

- Show locations for a given IP address.
- Show world clocks for locations, for example, US (California), Hong Kong, Germany, and Canada (Ontario).
- Enable text, image and video advertisements on the page, "**Help**".

Using Google Gadgets

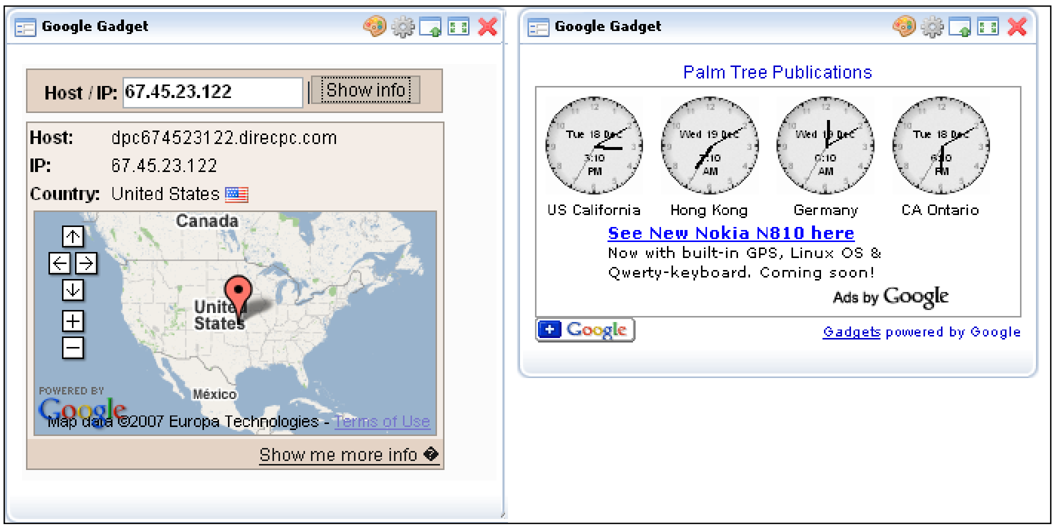
For the first two features, the **Google Gadgets** portlet would be helpful:

1. **Set up**: Add **Plugin Installer** portlet in the **Page**, "Admin", and install **Google Gadget** portlet.
2. Add **Google Gadget** portlet in the page, "**Help**".
3. Customize **Google Gadget**: To customize the **Google Gadget** portlet, use the **Configuration** icon on the portlet window. Once the **Setup** options are accessed, **Permissions** for the portlet can be changed.
4. Choose "**Geo IP Tool**" from the list of recommended **Google gadgets**. Press the **Save** button when you are ready, as shown in the following figure.



5. To create world clocks for the locations, **US California**, **Hong Kong**, **Germany**, and **CA Ontario** in the website, "Google Gadgets for Your Webpage", generate the code and copy it.
6. Choose "**obtain the Google Gadget code directly and paste it below**" and paste the code into the box as instructed.
7. Press the **Save** button when you are ready.

That's it! You got your custom **Google gadget**! **Google Gadget** portlet allows easy integration with Google Gadgets as shown in the following figure.



Gadget World Clock could be used for the intranet that displays multiple analog or digital clocks at the times in the selected time zones, or countries, or cities. You can synchronize the world clocks with the server to always display the correct time.

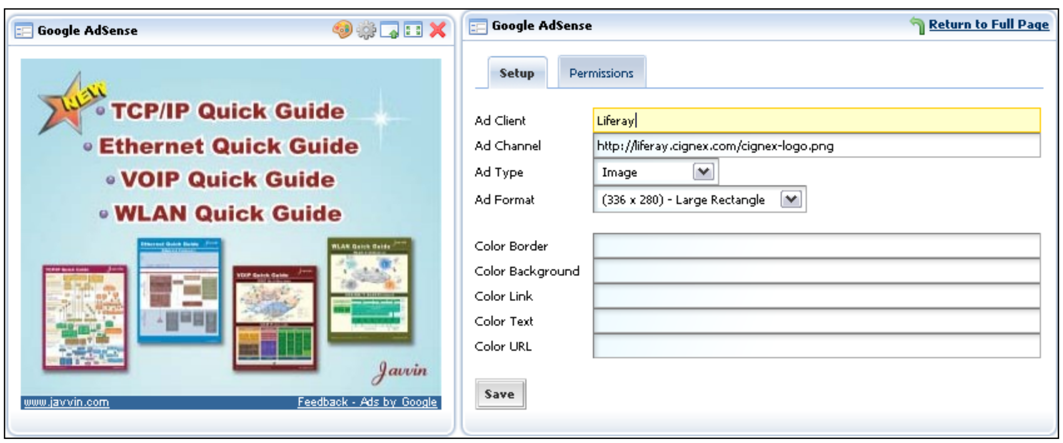
> Google Gadgets act as mini-applications built using HTML, with JavaScript, Flash, or Silver-light for dynamic behaviors. URL: `http://www.google.com/ig/directory?synd=open`

Employing Google AdSense

For the third feature, the **Google AdSense** portlet would be useful:

1. **Set up**: Open **Plugin Installer** Portlet in the **Page,** "**Admin**", and install the **Google AdSense** portlet.
2. Add the **Google AdSense** portlet in your page.
3. Customize Google AdSense: Customize the **Google AdSense** portlet using the **Configuration** icon on the portlet window. Once the **Setup** options are accessed, **Permissions** for the portlet can be changed.
4. Input the **Ad Client, Ad Channel, Ad Type, Ad Format**, and so on.
5. Press the **Save** button when you are ready.

That's it! You got your custom **Google AdSense**! **Google AdSense** portlet provides ability to allow easy integration with Google AdSense as shown in the following figure.



The AdSense API enables users to programmatically generate ad code snippets for insertion into a **User's** web **Pages**.

> Google AdSense, commonly just AdSense, acts as an ad serving program run by Google. The Website owners may enroll to enable text, image and, more recently, video advertisements on their sites. URL: `www.google.com/adsense`

Working with Religion Portlets

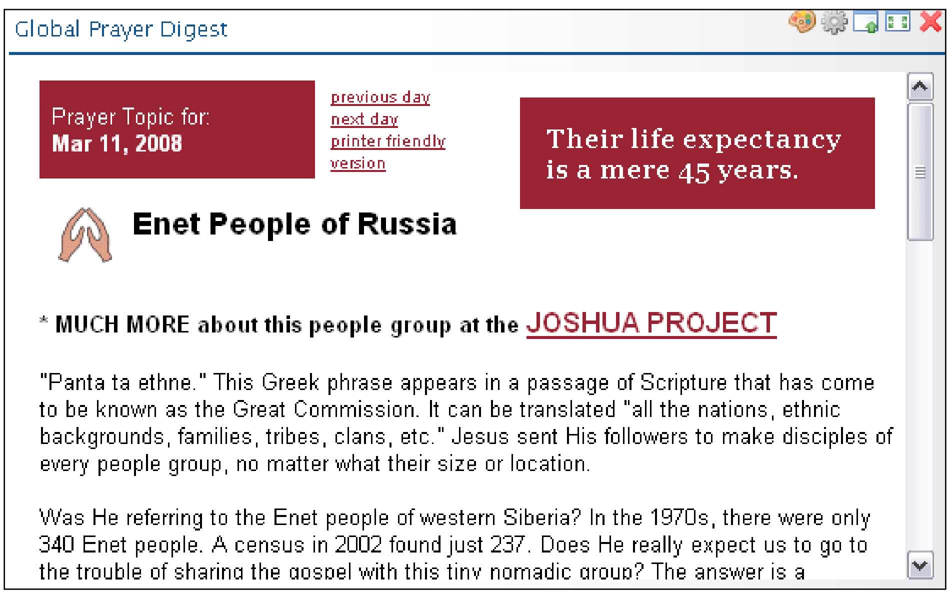
As a normal **User** at "Palm Tree Publications", you may need to build a personal religion **Page** with following features:

- Show a situation or concern, for which one can pray, in the **Page**.
- Show message about **Today in Christian History** in the **Page**.

As an administrator of "Palm Tree Publications", you may need to create a **Page** called "**Religion**" under the **Page** "**Community**" at the **Book Lovers** Community **Public Pages** and further, add the required portlets in the **Page,** "**Religion**". Let's do it as follows:

- Add a **Page** called "**Religion**" under the **Page** "**Community**" at **Book Lovers** Community **Public Pages,** if the **Page** is not already present.

To show a situation or concern on which to pray, you simply add the **Global Prayer Digest** portlet in the **Page,** "**Religion**", and you will see the situation or concern for which one can pray, as shown in the following figure.

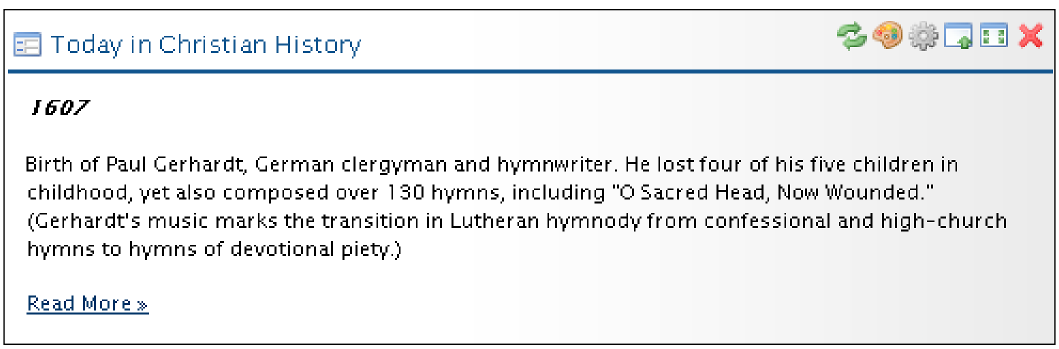


The Global Prayer Digest portlet provides the ability to allow simple integration with Global Prayer Digest.

The Global Prayer Digest is a daily prayer guide for those groups of people, who have not had the opportunity to encounter Christianity around the world, and the missionaries who serve the religion. The Prayer Digest gives a glimpse of what God is doing around the world each day, and what still remains to be done. The Adopt-A-People movement focuses on daily prayer for the unfinished tasks. It also gives biblical challenges, urgent reports, condensed missionary stories, exciting descriptions of un-reached people groups, and so on. More interestingly, it encourages people to provide a digest of a rich fuel of prayer for the world.

> The Global Prayer Digest acts as a key tool in a movement to help fulfill Christ's commission to make disciples of all the people on the earth, involving a daily discipline of learning, praying, and giving, to help reach the world's nearly 9,000 un-reached people groups. Un-reached people groups refer to groups which do not have churches in their own cultural or social setting. URL: `http://www.global-prayer-digest.org/`

To show a message about **Today in Christian History** in the **Page**, you simply add the **Today in Christian History** portlet in the **Page,** "**Religion**". You will see a story of **Today in Christian History** as shown in the following figure.



The Today in Christian History portlet allows simple integration with Today in Christian History.

> For more details about Today in Christian History, check URL: `http://www.studylight.org/his/tich`

Christians have been making history for over 2,000 years, founding a country or burning it for the sake of their beliefs. Until this day in Christian History, you can wow the visitors with interesting tidbits of history, every day of the year. To add this resource, you just cut and paste the following codes to the desired page:

```
<script language="Javascript" src="http://www.studylight.org/jscripts/
tichcode.cgi"></script>
```

Using Religion Portlets Effectively

Several portlets dealing with religious or spiritual topics are available. You can use them as prototypes for other similar portlets, including a scripture reference tool, a guide to prayer for the current world events, a daily historical events portlet, and so on.

Besides the above portlets, Liferay also provides other portlets dealing with religious or spiritual topics as follows:

- **The Bible Gateway** portlet allows linked integration with Bible Gateway.

> The Bible Gateway acts as a tool for reading and researching scripture online. It supports most Bible versions in the language or translation. Moreover, it provides advanced search capabilities, which allow readers to find and compare particular passages in scriptures, based on keywords, phrases, or scripture reference. URL: `http://www.biblegateway.com/`

- **The Gospel for Asia** portlet allows easy integration with Gospel for Asia.

> Gospel for Asia (GFA), a Christian missionary organization, spreads the Gospel to India and the surrounding countries, through native missionaries. It sets up churches among the world's most un-reached people groups - those who have never heard the Good News of Jesus Christ. URL: `http://www.gfa.org/`

- The **Random Bible Verse** portlet picks a verse number at random from a pre-selected list of verses.

The pre-selected list of verse numbers was statically specified in the file: `random-bible-verse.xml`. Flexibly the language of the random Bible verse is configurable by clicking on the **Preferences** icon. Once a verse number (and furthermore, the language) is selected, this portlet uses the service of Bible Gateway to reach the verse as follows.

```
http://www.biblegateway.com/passage/?search=*&version=*
```

If you want to add more verses, simply update the file: `random-bible-verse.xml`.

- **The Westminster Catechism** portlet provides the ability to view both Westminster larger catechism and Westminster shorter Catechism.

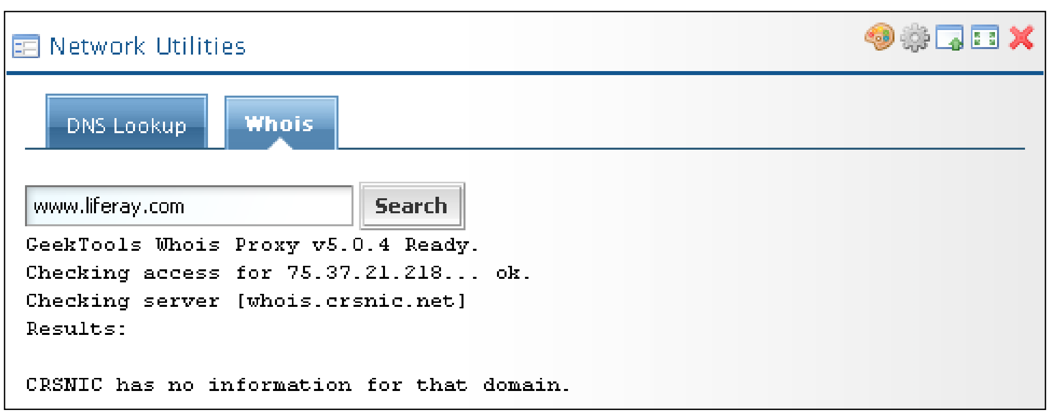
Westminster Catechism was statically specified in the file: `westminster-catechism.xml`. If you want to update Westminster (larger/shorter) catechism, simply update the file: `westminster-catechism.xml`.

Playing with Additional Tools

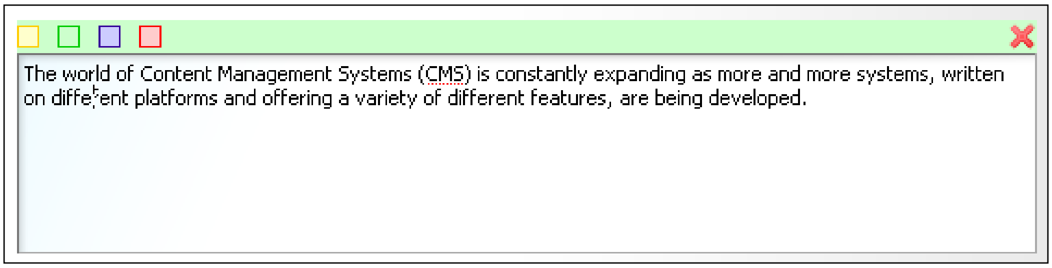
As a normal user at "Palm Tree Publications", you may need to build a specific **Page** with the following features:

- Resolve a hostname to the IP address in the **Page**.
- Add a quick note in the **Page**.
- Translate a text from English to German.
- Generate random password online.

The Network Utilities portlet would be helpful in resolving a hostname to an IP address in the **Page**. To use the Network Utilities, simply add the portlet in your **Page,** as shown in the following figure. With this portlet, you can resolve hostnames to IP addresses via DNS by inputting hostnames under the **DNS Lookup** tab and pressing the **Search** button, when you are ready. Moreover, you can lookup information in any WHOIS database by inputting hostnames under the **Whois** tab and pressing the **Search** button.

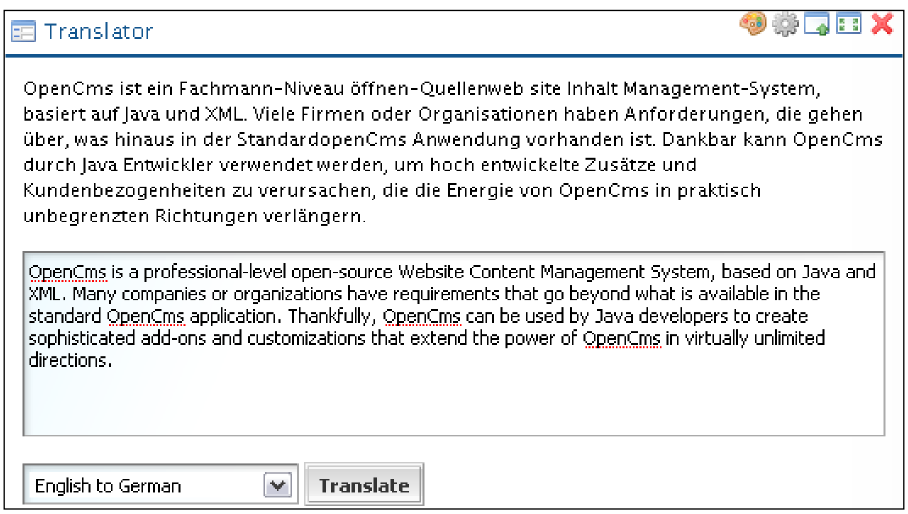


The Quick Note portlet would be useful in adding a quick note in the **Page**. To make a quick note, simply add th e**Quick Note** portlet in your **Page,** as shown in the following figure. With this portlet, you can input your quick note in the page, and choose a background color.



To translate a text, you can use the **Translator** portlet. To translate any text from English to German, first add the **Translator** portlet in the **Page**. Then input text in English such as "**Good Morning!**" and select the **English to German**. Press the **Translate** button when you are ready. The portlet will translate the text and furthermore, display the result, say "**Guten Morgen!**"

The Translator portlet allows easy integration with language translator, as shown in the following figure:



By default, Altavista Babel Fish Translation is used as Service provider with the following URL access.

```
http://babelfish.altavista.com/babelfish/tr?doit=done&urltext=Text
&lp=*
```

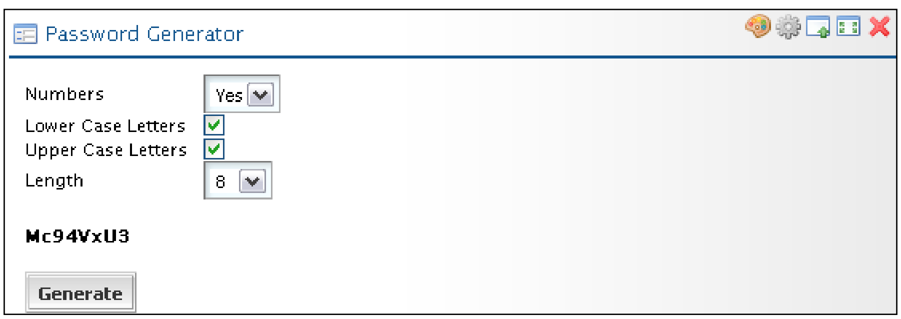
To set the default languages to translate a given text, simply update the following line at `portal-ext.properties`.

```
translator.default.languages=en_es
```

> AltaVista Babel Fish Translation provides a useful tool to communicate with non-English speaking or bilingual customers. It can be used to translate words, phrases, or entire web pages into more than 19 languages, including to and from English, Chinese, French, German, Italian, Japanese, Korean, Portuguese, and Spanish. URL: `http://babelfish.altavista.com/`

To generate a random password online, you can use the **Password Generator** portlet. To generate random password online, add the **Password Generator** portlet in your **Page** first. Then select options, such as, whether using **Numbers** or not, enabling **Lower Case Letters** and **Upper Case Letters**, and selecting the **Length** of password. Press the **Generate** button when you are ready.

The Password Generator portlet allows you to generate good, secure and random passwords easily, as shown in the following figure:



To summarize, Password Generator provides the ability to create passwords that are highly secure and extremely difficult to crack, since it uses an optional combination of **Lower** and **Upper Case Letters**, and **Numbers**.

In addition, Liferay provides a set of built-in useful portlets as additional tools:

- **The Analog Clock** portlet allows the display of analog clocks. Since "Palm Tree Publications" has geographically distributed teams in both US and Germany, coordination among teams is critical. It can be of tremendous help to have a clock that shows the time in both US and Germany, especially while trying to schedule meetings and events, or to know when employees would arrive to their desks.
- **The Dictionary** portlet links to Dictionary.com.

> Dictionary.com provides online dictionary search, translator, word of the day, crossword puzzles and word games, and vocabulary learning resources for many languages. URL: `http://dictionary.reference.com/`.

- **The Unit Converter** portlet provides the ability to convert area, length, mass, temperature and volume online.
- **The Sign In** portlet provides the ability to sign in, if you registered already, to deal with forgotten password issue, and to create new accounts.
- **The OpenID Sign In** portlet provides the ability to sign in via OpenID, if you have an OpenID already.

Experiencing Shopping Tools

Let's consider a scenario. As an administrator at "Palm-Tree publications", you may need to build a specific **Page** called "**Shopping**" for online shopping with the following functions:

- Ability to find rankings about a book, before buying it.
- Ability to manage online shopping—manage SKU (Stock Keeping Unit), pricing, descriptions, stock quantities, shipping and tax calculation, a shopping cart, order management, coupon management, checkout with credit card payments.

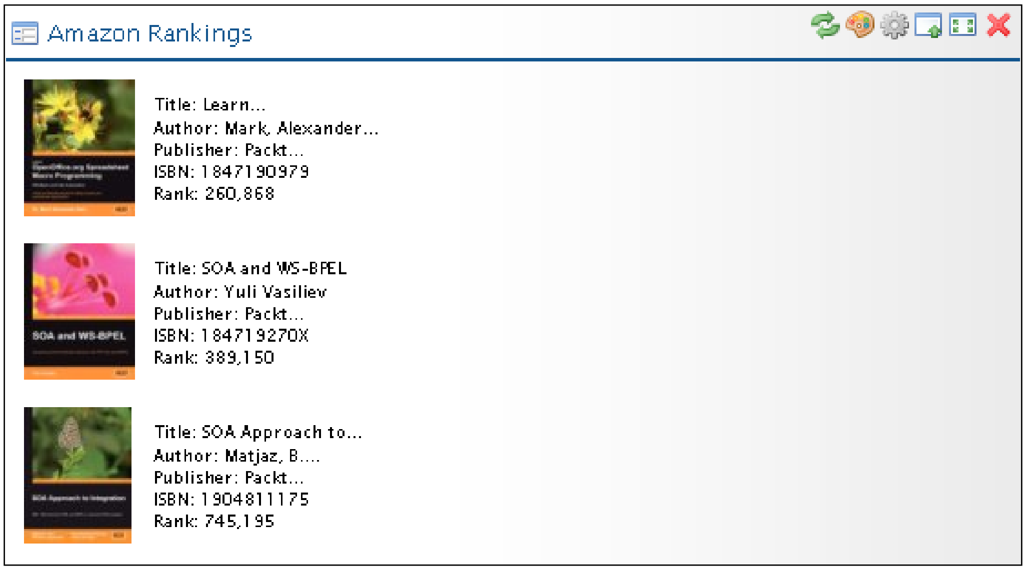
As an administrator of "Palm Tree Publications", you may need to create a **Page** called "**Shopping**" under the **Page** "**Community**" at the **Book Lovers** Community **Public Pages,** and add the required portlets in the **Page,** "**Shopping**". Let's do it as follows:

- Add a **Page** called "**Shopping**" under the **Page** "**Community**" at the **Book Lovers** Community **Public Pages,** if the **Page** is not already present.

To find rankings about a given book, the **Amazon Rankings** portlet would be useful:

1. First, add the following line into the file `portal-ext.properties`:
   ```
   amazon.license.0=0F8PF7VK38NX3T19QE02
   ```
2. Shutdown Liferay portal, if it is running.
3. Restart Liferay system, and login as an administrator, say "**Palm Tree**".
4. Add the **Amazon Rankings** portlet in the page where you want to show online shopping.

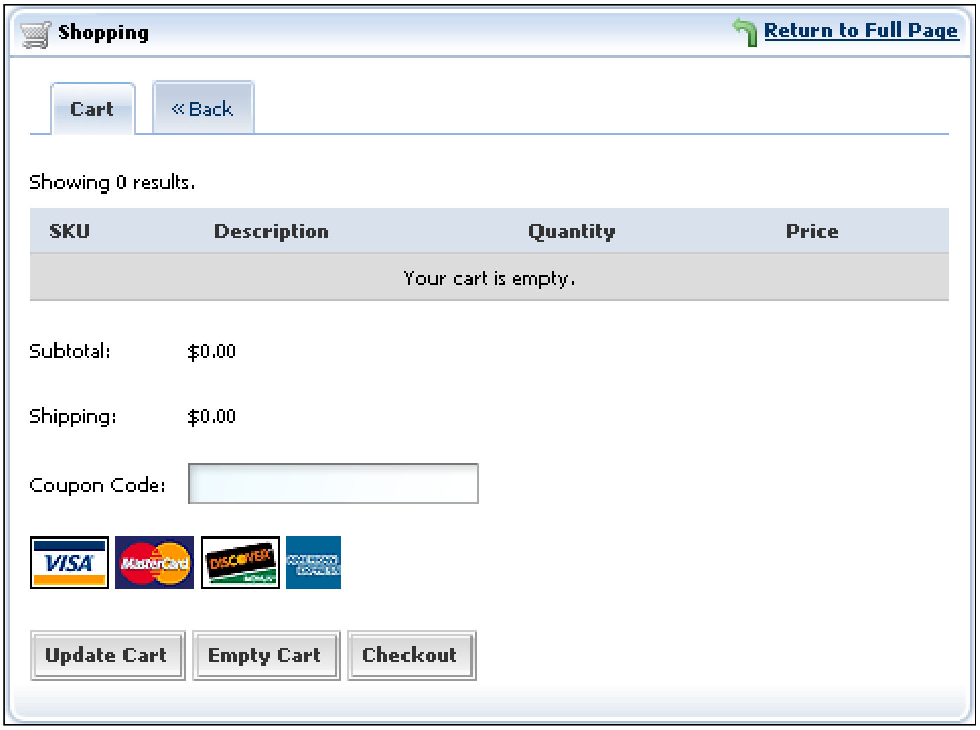
5. Configure the portlet by clicking the **Configuration** icon, and add all ISBN numbers separated by spaces as in "**1847190979 184719270X 1904811175**".
6. You will see the rankings of books as shown in the following figure.



[Note that you can enter a list of valid Amazon license keys. You can configure additional keys by incrementing the last number. The keys are used following a Round-Robin algorithm.]

The Amazon Rankings portlet provides the ability to display Amazon sales information on any number of items. You can use it as a prototype to collect Amazon data with other proprietary data or web services.

For shopping online, the **Shopping** portlet shown in the following figure, would be useful:



- First, add the following line into the file: `portal-ext.properties`:

If cart quantities have to be in multiples of the item's minimum quantity, you can set the following to true:

```
shopping.cart.min.qty.multiple=true
```

In order to forward a User to the **Cart Page,** when he or she adds an item from the **Category Page,** set the following to true. The item may have dynamic fields, and all items with dynamic fields will have to be forwarded to the item's details page, regardless of the following setting.

```
shopping.category.forward.to.cart=true
```

In order to show special items when you browse a category, set the following to true:

```
shopping.category.show.special.items=true
```

In order to show the availability of an item, you can set the following to true:

```
shopping.item.show.availability=true
```

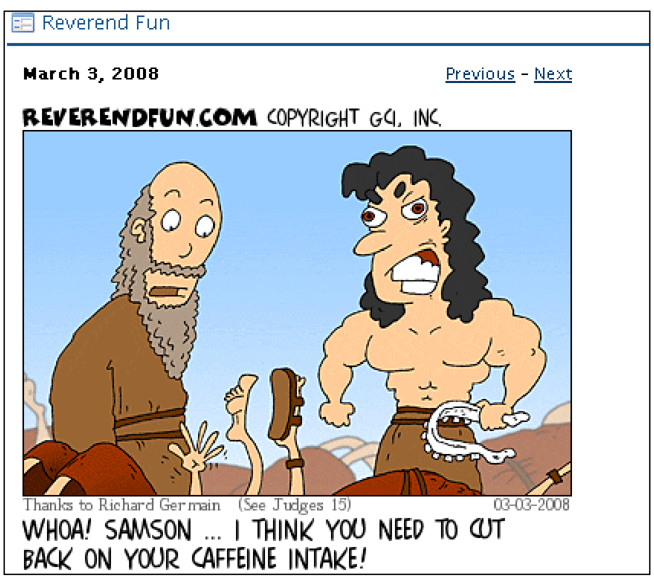
1. Shutdown Liferay portal, if it is running.
2. Re-startup Liferay system, and log in as an administrator say, "**Palm Tree**".
3. Add the **Shopping** portlet in the **Page** where you want to show online shopping.
4. Manage **SKU**, a shopping cart, order, coupon, checkout with credit card payments.

To summarize, the **Shopping** portlet offers inventory management including SKU (Stock Keeping Unit), pricing, descriptions, stock quantities, shipping and tax calculation, a shopping cart, order management, coupon management, checkout with credit card payments and more.

Enjoying Entertainment Tools

As an administrator at "Palm Tree Publication", you may need to include **Reverend Fun** in your web page. You can simply add the **Reverend Fun** portlet in the **Page** where you want to show **Reverend Fun**.

Reverend Fun is daily humor for people as shown in the following figure. Through this portlet, website **Users** can view daily humor or view some other day's humor, by clicking on the link **Previous** or **Next**.



Liferay offers unbeatable out-of-the-box functionality with over 60 JSR-168 / 286 compliant portlets, including entertainment tools. Besides the above mentioned **Reverend Fun** portlet, it also provides a lot of entertainment tools. Here, we list some of them as follows:

- **The Games** portlet provides the ability to show a campy rendition of **Hangman** and **Windows Classic**, **Minesweeper**, and so on.
- **The Words** portlet provides the ability to display lists of words that can be formed from the letters of any input.

Working with Multiple Languages

"Palm Tree Publications" needs the ability to accommodate global business environment with multilingual support. For example, you may be required to configure the website in German, since the enterprise has an office in Germany. Thus, as an administrator, you may have to configure the intranet with German language support.

It is quite easy to configure the web site with multilingual support. You can simply add the **Language** portlet to any **Page** and allow end-users to quickly select a different localization with one click. Let's do it as follows:

1. To change the current language into German language, you simply click on the icon, "**Deutsch (Deutschland)**", in the **Language** portlet.
2. The whole web site will appear in German language, and a sample is shown in the following figure.

Liferay provides the ability to handle many languages. You can pull out all language-specific texts, and store them in the `language.properties` file. When a **Page, say** "**Help**", is loaded, the portal will detect the language first, and then pull up the corresponding language file, and finally display the text in the correct language.

With this, you can do a lot of work as follows:

- Easily support as many languages as you can imagine.
- Have a central location for multiple languages.
- Change the way a certain word is translated. If you want, you could effectively rename the portlet, such as **Message Boards,** as **Forums**. Then the title will be translated according to the language you choose.

In short, there are many properties, including languages, which you can configure in order to customize the portal.

Removing an Unwanted Language

By default, Liferay supports all the following languages.

```
locales=ar_SA,ca_AD,ca_ES,zh_CN,zh_TW,cs_CZ,nl_NL,en_US,fi_FI,fr_
FR,de_DE,el_GR,hu_HU,it_IT,ja_JP,ko_KR,fa_IR,pt_BR,ru_RU,es_ES,sv_
SE,tr_TR,vi_VN
```

If you want to support English, German and Chinese only, you can simply remove the unwanted locales, and your locales value looks like this:

```
locales=en_US,de_DE,zh_CN
```

Priority of Language Files

Liferay provides many language files and every language file overwrites another language file. What is the priority of these language files?

There are three simple rules:

- `-ext` versions such as `language-ext_ de_DE.properties`, `language-ext_de.properties` and `language-ext.properties` take precedence over the non `-ext` versions.
- language-specific versions, such as `Language_ de_DE.properties` take precedence over the non-language-specific versions, such as `Language-ext_de.properties`.
- location-specific versions, such as `language_de.properties` take precedence over the non-location-specific versions, such as `Language-ext.properties`.

For German, here is a ranking:

- `Language-ext_ de_DE.properties`
- `Language_ de_DE.properties`
- `Language-ext_de.properties`
- `Language_de.properties`
- `Language-ext.properties`
- `Language.properties`

> Note that, you may find the entry in "`Language.properties`". So you may think that you just need to override the value by editing "`Language-ext.properties`". However, this will not change anything, since all values in "`Language.properties`" are also in "`Language_ de.properties`" and locale-specific definitions take precedence. Therefore, "`Language_de.properties`" will override any changes you have made in "`Language-ext.properties`". That is why, you edited the "`Language-ext_en.properties`" file.

You can edit the same files to change **Language Settings, Portlet Titles, Category Titles, Action Names, Messages** and any other text that is language dependant.

Using WebDAV

As an employee of "Palm Tree Publications", you may want to view articles from Journal and contents in the Document Library using WebDAV. Thus, as an administrator, you need to configure WebDAV.

For example, in the **Document Library** portlet, navigate to the specific **Folder,** such as "**Books**", and edit it by clicking the **Edit** button to the right of the **Folder,** "**Books**". There, you will see the direct WebDAV URL for that location. In the **Journal** portlet, navigate to the specific **Journal Template** and edit it. You should see the direct WebDAV URL for that **Template**.

Each WebDAV accessible resource has an associated URL. Let's use the WebDAV as follows:

1. Copy the WebDAV URL of the folder "**Books**"—`http://localhost:8080/tunnel-web/secure/webdav/document_library/10095/11116/Books`.
2. Paste the URL in the address of the browser.
3. You will be asked to authenticate with your user ID and password.

> WebDAV, Web-based Distributed Authoring and Versioning, refers to the set of extensions to the Hypertext Transfer Protocol (HTTP). It allows the **Users** to collaboratively edit and manage files on remote World Wide Web servers, and offers functionality to create, change and move documents on a remote server.

WebDAV Support in Liferay Portal includes:

- Users can productively manage portal content with familiar operating system conventions for **Folders** and **Documents**.
- Full support for OS such as Windows and Linux.

Both **Document Library** and **Journal** portlets support the WebDAV protocol. Thus, **Users** can upload and organize resources from both a web interface and the file explorer of their desktop operating system.

To summarize, Liferay Portal allows WebDAV URL connections from any server using HTTP or HTTPS by default. You can also have a more secure configuration through the properties in `portal-ext.properties` as follows:

```
webdav.servlet.hosts.allowed=
webdav.servlet.https.required=false
```

Developing Portlets

Liferay built-in portlets and community plugins (portlets) may not satisfy your specific requirements related to your website building. Fortunately, you can develop new portlets to reach your own specific needs. The remaining section will describe the portlet development briefly.

Developing a Java Portlet is similar to developing a Servlet based web application. Existing web application development frameworks such as Struts, JSF, Webwork, and so on. can be used through the use of bridges. Existing frameworks may be adapted directly, without the need of a bridge, such as the Spring Portlet MVC (Model-View-Controller) framework.

Here is an example of **Spring MVC** Portlets for Liferay Plugin-SDK:

1. Download plugins-SDK with **Spring MVC** portlets from `http://liferay.cignex.com/sesame/plugins-sdk.zip`.
2. Unzip `plugins-sdk.zip`; find `build.Jonas.properties`.
3. Rename `build.Jonas.properties` as `build.${username}.properties`.

4. Update entry (`app.server.dir`) in `build.${username}.properties`. Let it point to the Liferay Tomcat directory. For instance: `app.server.dir=C:/training/tomcat`.
5. Drop "`build.xml`" at `/portlets` to **Ant** view.
6. Develop and run **Deploy** at **Ant** view if you are ready.
7. Test portlets at Liferay runtime.…

In short, it is possible to use Liferay Service Builder or Plugin-SDK to develop your portlets, using the same service oriented architecture that Liferay Portal is based on.

Summary

This chapter discussed how to use a set of portlets to provide an information and assistance resource that troubleshoots specific requirements. Further, it also discussed multilingual support, and the usage of WebDAV. Finally, it provided guidance on how to develop new portlets to deal with specific requirements, in order to provide help desk assistances and customer support information efficiently.

11
Roll Out To Other Teams

The intranet website "book.com" of "Palm Tree Publications" is required to have the ability to build a **Community**, such as **Book Lovers**, where employees can share interests, and roll out to other teams. Liferay Communities provide the ability to create and manage **Communities** and their **Users**. A **Community** in Liferay has its own set of **Pages**, content management systems and **Permissions** management.

This chapter will provide a reference for administering **Communities**. It will include a discussion on how to create and manage **Communities**, as well as how to create and manage the **Pages** and **Users** within a **Community**. Moreover, it will introduce portal staging and publishing, manage staging workflow, community virtual hosting, and, in addition, a set of community tools - portlets.

By the end of this chapter, you will have learnt how to:

- Add a **Community.**
- Manage (edit, delete, search, join, leave) **Communities.**
- Add and manage the **Pages** and **Users** within a **Community.**
- Employ **Community** virtual hosting.
- Stage, preview and publish a web site.
- Manage staging workflow.
- Use **Community** tools, such as bookmarks, page comments, and so on.

Working with Communities

As an administrator at "Palm Tree Publications", you would need to provide an environment to roll out to other teams. Thus, you may need to provide an environment for **Users** to manage **Communities** at the page, "**Home**", of **My Community Private Pages**.

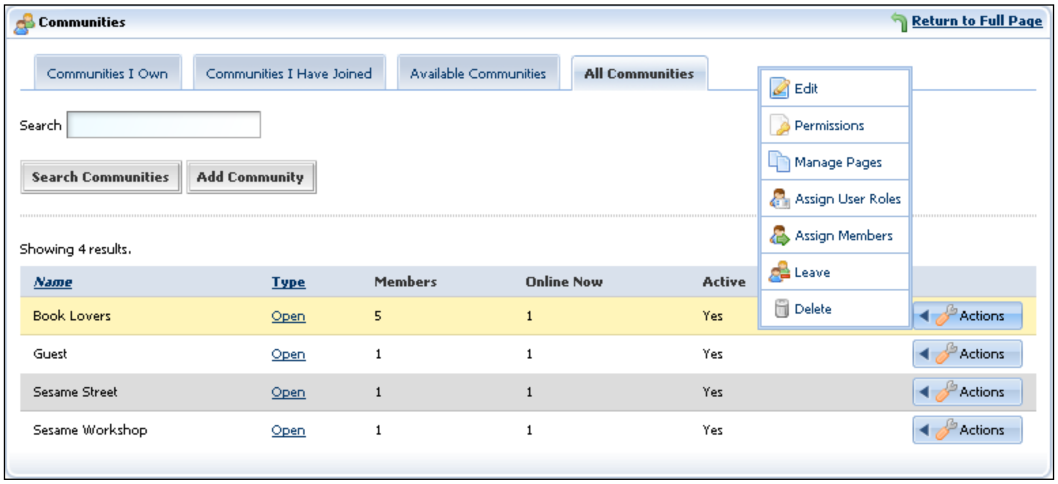
Adding A Community

First of all, we need to add the portlet, **Communities,** in the **Page,** "**Home**", and create a **Community,** "**Book Lovers**". Let's do it as follows:

1. Log in as an administrator, "**Palm Tree**".
2. Add a **Page** named "**Home**" of the **Book Lovers** community **Private Pages**.
3. Add the **Communities** portlet in the **Page,** "**Home**", of the **Book Lovers** Community where you want to manage **Communities,** if the **Communities** portlet is not already present.
4. Enter a **Name** for the **Community** such as "**Book Lovers**" in the **Name** input field, as shown in the following figure:

5. Optionally, enter a description for the **Community** such as "**A community for Book Lovers**" in the **Description** text area.
6. Select the **Open** value, if you want users to be able to join and leave this **Community** on their own. There are other values such as **Restricted** and **Private**.
7. Check the **Active** checkbox, if you want to activate this **Community** directly.
8. Click the **Save** button if you want to save the inputs.

Of course, you can create other **Communities**. After adding the **Communities,** such as "**Sesame Street**", and "**Sesame Workshop**", you can view all **Communities** as shown in the following figure:



Managing Communities

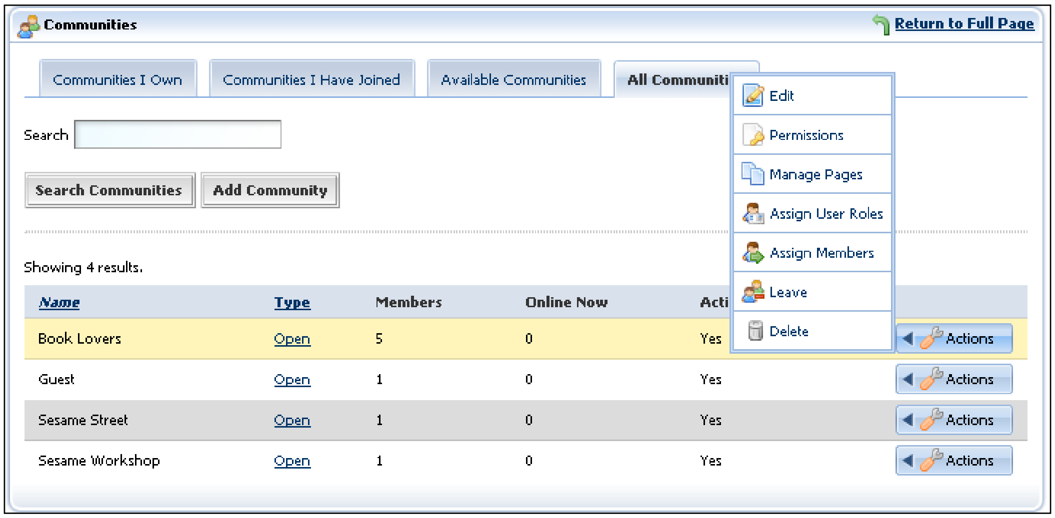
After having **Communities** ready, you can manage them easily. You can view **Communities**, search, edit and delete **Communities** as well.

View Communities

The **Communities** portlet will display related **Communities** in different ways as follows:

- **Communities** I Own.
- **Communities** I Have Joined.
- Available **Communities**.
- All **Communities**.

To view all communities, simply click on the **All Communities** tab in the **Communities** portlet, as shown in the following figure. **Communities** will appear with **Name**, **Type**, number of **Members**, number of members **Online Now**, and a set of icons, such as **Edit**, **Permissions**, **Configure Pages**, **Assign Members**, **Assign User Role**, **Join/Leave**, **Delete**, and so on.



Similarly, you can view the **Communities** that you own, by clicking on the **Communities I Own** tab; view the **Communities** which you have joined by clicking on the **Communities I Have Joined** tab; and view the open available **Communities** by clicking on the **Available Communities** tab.

Search Communities

To search **Communities** on any tab, simply type the search criterion in the **Search** input field first. Then, click the **Search Communities** button. The portlet will list the search results, that is, a list of **Communities**.

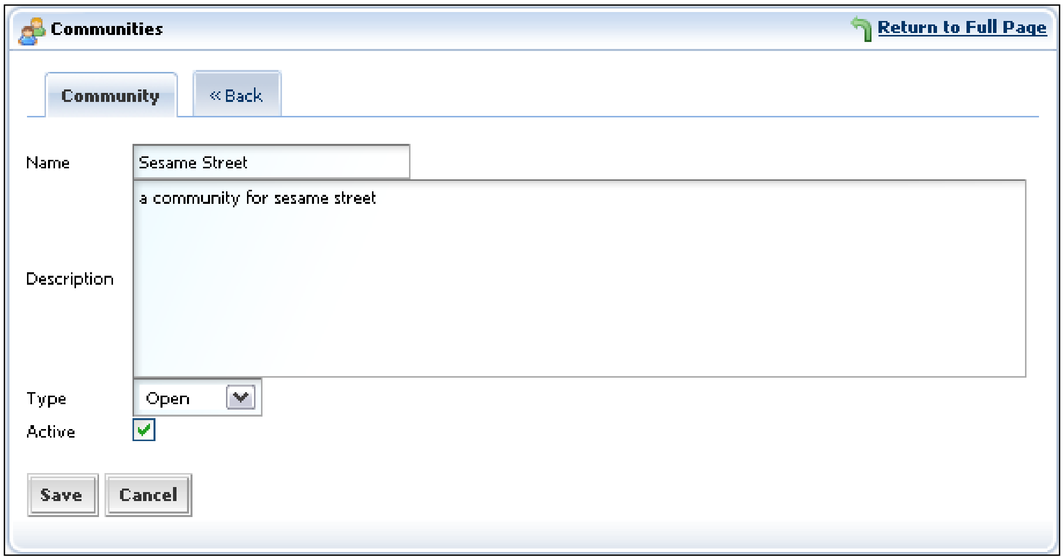
Edit A Community

Suppose that you want to update the **Description** of the **Community,** "**Sesame Street**", from "**a community of Sesame Street**" to "**an example community**". The following is a simple set of steps to edit the **Community** in the **Communities** portlet:

1. Locate the **Community** you want to edit on the **All Communities** tab.
2. Click the **Edit** icon from the **Action** to the right of the **Community,** "**Sesame Street**".

3. Type changes such as "**an example community**", in the **Description** input field.
4. Optionally, make changes in the **Name** text field, the **Type** selection and the **Active** checkbox.
5. Click the **Save** button if you want to save the changes, or click the **Cancel** button if you want to cancel these actions.

Similarly, you can edit a **Community** on the tabs: **Communities I Own, Communities I Have Joined** and **Open Communities**.



Delete A Community

Suppose that the **Community** "**Sesame Street**" is not wanted anymore. We can delete it following these simple steps:

1. On the **All Communities** tab, locate the **Community** you want to delete.
2. Click the **Delete** icon from the **Action** to the right of the **Community,** "**Sesame Street**".
3. A screen will appear asking if you want to delete the selected **Community**. Click **OK** to delete. Click the **Cancel** if you do not want to delete the selected **Community**.

Similarly, you can delete a **Community** on the tabs **Communities I Own, Communities I Have Joined** and **Available Communities**.

Note that deleting a **Community** will delete all **Pages** that belong to this **Community**. At the same time, the links of all the **Users** assigned to this **Community** will be released.

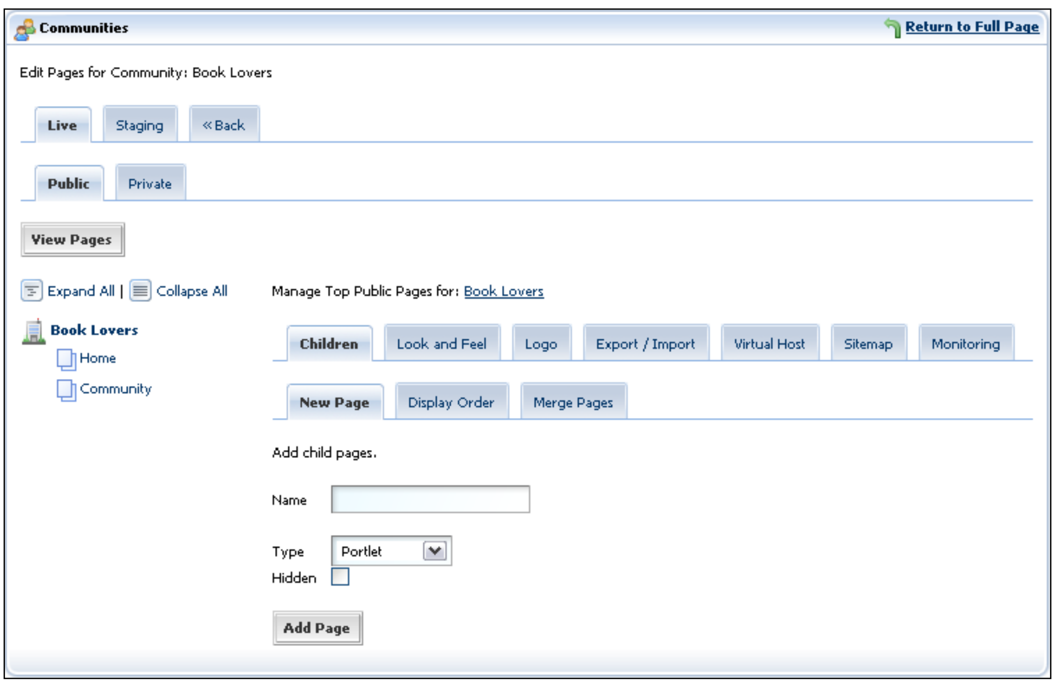
Managing Pages

A **Community** is just a shell which can contain a set of **Pages**. Through the **Communities** portlet you can manage **Pages** of a given **Community**.

View Pages

To view the **Pages** of a **Community**, first locate a **Community**, such as the "**Book Lovers**" community. Then click on the **Manage Pages** icon from the **Actions** to the right of the community.

The **Pages** that belong to the **Book Lovers** community are displayed in a tree structure on the left. Every **Page** can have child **Pages** as shown in the following **Pages**. To actually view these **Pages** in the portal, use the **View Pages** button.



To view all **Pages** in the tree structure, simply click on the **Expand All** button. To view only the top level **Pages**, and the root node, that is, **Community** name, in the tree structure, simply click on the **Collapse All** button.

To view all **Pages** in the **Public**, simply click on the **Public** tab; or click on the **Private** tab to view all **Pages** in the **Private**.

Further, you can also add, edit, delete the pages, as stated in Chapter 2.

Import And Export Pages

You can also import and export **Pages** in a given **Community,** such as "**Book Lovers**", as follows:

1. In the **Communities** portlet, click on the **Configure Pages** icon to the right of the community for which you want to import/export **Pages**.
2. Click on the **Import / Export** tab.
3. If you click on the **Export** button, it will export all the **Pages**, their layouts, their configurations, their look and feel, and their **Permissions** to a LAR file (Liferay Archive). After you click the **Export** button, you will be prompted with a dialog window asking where to save the file.
4. You can also import a LAR file into your current **Community**.
5. To import a LAR file, click on the **Browse** button, find the LAR file on your hard drive, and click the **Import** button.

> LAR file is a Liferay Archive. It includes all the **Pages**, their layouts, their configurations, their look and feel, and their **Permissions**.
>
> Note that importing an LAR file will overwrite any existing **Pages** with the **Pages** configured in the LAR file.

Monitor Pages

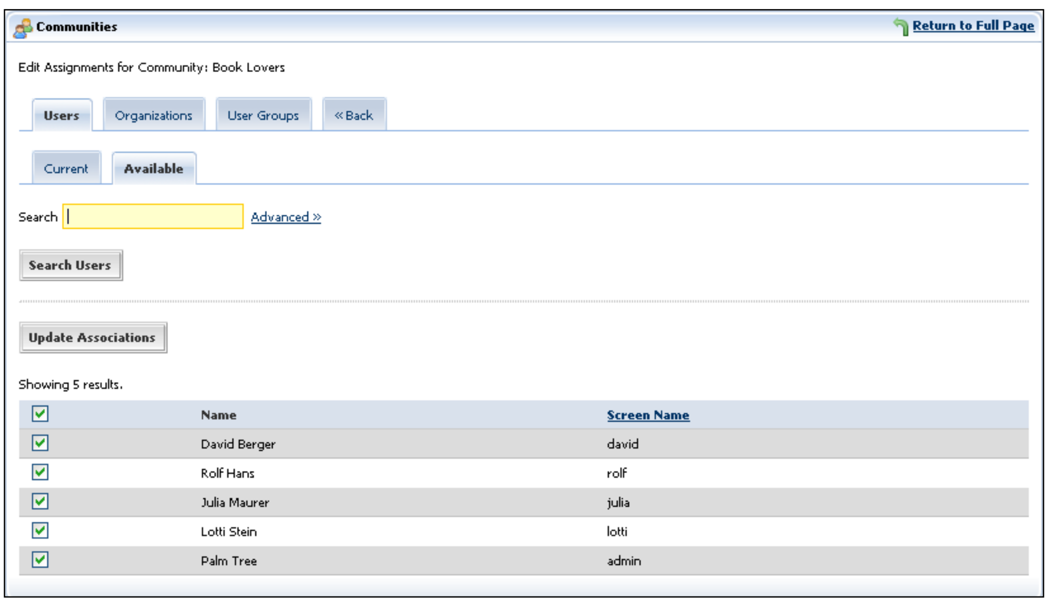
Suppose that you want to use Google Analytics (GA) to generate detailed statistics about the visitors to a website. Let's do it as follows:

1. In the **Communities** portlet, click on the **Manage Pages** icon to the right of the community for which you want to monitor **Pages**.
2. Click on the **Monitoring** tab.
3. Set the **Google Analytics ID** that will be used for this set of pages.
4. Click on the **Save** button to save the inputs.

Assigning Users to A Community

You can assign **Users** to a **Community** directly. You can assign **Users** "**David Berger**" and "**Lotti Stein**" to the **Community,** "**Book Lovers**" as follows:

1. Go to the **Communities** portlet.
2. Click on the **Assign Members** icon from the **Action** to the right of the **Community,** such as "**Book Lovers**", for which you want to assign **Users**.
3. When a **Community** is first created by "**Palm Tree**", only the **User** "**Palm Tree**" is assigned to it.
4. Click on the **Available** tab.
5. Use the **Search** form to search for the **Users,** such as "**David Berger**" and "**Lotti Stein**", whom you want to assign to this **Community,** directly.
6. Check the boxes to the left of the **Users,** "**David Berger**" and "**Lotti Stein**", whom you want to assign to this **Community,** directly.
7. Click the **Update Associations** button as shown in the following figure.
8. Alternatively, **Users** can assign themselves directly to the available **Communities** by joining them.



You can also assign **Users** to a **Community** indirectly through **Organizations** and **User Groups**. Suppose that you need to assign **Users** to the **Community,** "**Book Lovers**", by the **User Group,** "**Managers**". Let's do as follows:

1. Go to the **Communities** portlet.
2. Click on the **Assign Members** icon from the **Actions** to the right of the **Community** for which you want to assign **Users**.
3. Click on the **Available** tab.
4. Click on the **Organizations** or **User Groups** tabs.
5. In short, you can use the **Search** form to search for the **User Groups** that you want to assign to this **Community**. All the members of your selected **User Groups** will be assigned indirectly to this **Community,** via a link. However, for all intents and purposes, the **Users** will function as members of the **Community**.
6. Check the boxes to the left of the **User Groups that** you want to assign to this community.
7. Click the **Update Associations** button.

Similarly, you can assign **Users** to a **Community** indirectly, through **User Group**.

You can also assign **Users** indirectly to a **Community** by assigning **User Roles**. You can assign **User Role,** "**Content Creator**" to a **Community** through the following steps:

1. Go to the **Communities** portlet.
2. Click on the **Assign User Roles** icon from the **Actions** to the right of the community for which you want to assign users.
3. Click on the **Available** tab.
4. Use the **Search** form to search for the **Users** such as "**David Berger**" and "**Lotti Stein**", whom you want to directly assign to this **Community**.
5. Check the boxes to the left of the **User Group** "**Content Creator**" that you want to directly assign to this **Community**.
6. Click the **Update Associations** button.

Joining An Open Community

As **User** "**Lotti Stein**" of "Palm Tree Publications", suppose that you want to join the **Community,** "**Sesame Street**":

1. Go to the **Communities** portlet, and select the **Available Communities** tab. Locate a **Community,** such as "**Sesame Street**", which you want to join.
2. Click on the **Join** icon to the right of the community.
3. Assuming that **Community** already has **Pages** configured for it, the **My Places** menu will now have an entry for the **Community** you have just joined. Click on that **Community's** name, and you will be able to navigate to it.

Leaving An Open Community

As **User** "**Lotti Stein**" of "Palm Tree Publications", suppose that you want to leave the **Community,** "**Sesame Street**":

1. Go to the **Communities** portlet, and select the **Available Communities** tab.
2. Locate the **Community** such as "**Sesame Street**" which you want to leave.
3. Click on the **Leave** icon to the right of the community.
4. The **Community** you just left will no longer appear in the **My Places** menu, and you will no longer have access to it.

Updating Permissions

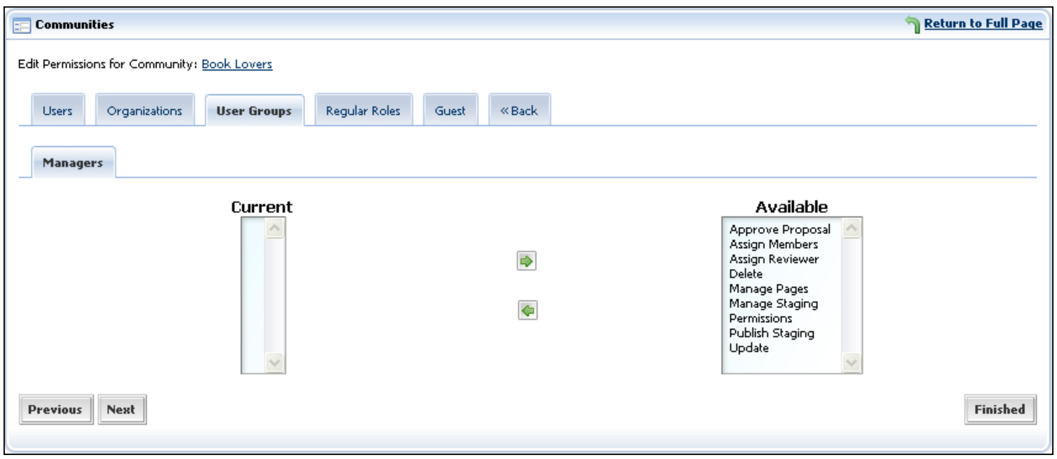
Suppose that as an administrator, "**Palm Tree**", of "Palm Tree Publications", you want to give the **User,** "**Lotti Stein**", **Permission** to manage the **Pages** in the **Community,** "**Book Lovers**". Let's do it as follows:

1. Go to the **Communities** portlet.
2. Locate the community "**Book Lovers**", where you want to change **Permissions**.
3. Then click on the **Permissions** icon from the **Actions** located next to the community.
4. Select the **Users** tab.
5. Find **User** "**Lotti Stein**"in the **Available** box.
6. Click on the **Update Permissions** button.
7. Select **Permissions**: **Manage Pages** in the **Available** box.

8. Click on the **Add** arrow.
9. Click on the **Finished** button, if you are ready, as shown in the following figure.

Now, as a **User** of the **Book Lovers** Community, "**Lotti Stein**" has the **Permission,** "**Manage Pages**", on the **Community,** "**Book Lovers**" finally.

Similarly, you can update **Permissions** by **Organizations**, **User Groups** such as "**Managers**", **Regular Role** such as "**User**", and **Guest,** as shown in the following figure:



The following table shows **Permissions** for a **Community**. A regular **User** may set up all **Permissions** (marked 'X'), **Approve Proposal**, **Assign Members**, **Assign Reviewer**, **Delete**, **Manage Pages**, **Manage Staging**, **Permissions**, **Publish Staging**, and **Update**, while a **Guest User** can set up only **Approve Proposal**, **Assign Reviewer**, and **Publish Staging** (marked 'X') **Permissions**.

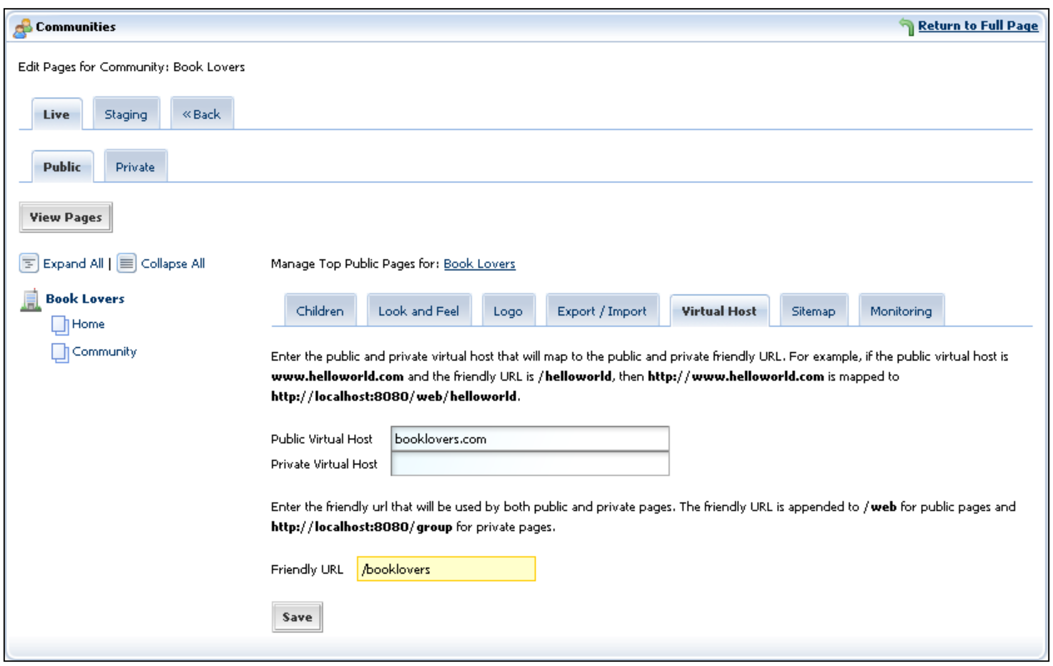
Action	Description	Regular User	Guest
Approve Proposal	Approves proposal	X	X
Assign Members	Assigns members	X	
Assign Reviewer	Assigns reviewers	X	X
Delete	Deletes the **Community**	X	
Manage Pages	Manages pages	X	
Manage Staging	Manages staging **Pages**	X	
Permissions	Changes the **Permission** of the community	X	
Publish Staging	Pusblishes the staging **Pages**	X	X
Update	Updates the **Community**	X	

Working with Community Virtual Hosting

Suppose that you have a domain name, booklovers.com, and you want to set up virtual hosting for the **Community,** "**Book Lovers**", on this domain. That is, end **Users** can visit all the **Pages** of the "**Book Lovers**" **Community** in the domain name.

Let's configure **Community** virtual hosting as follows:

1. Go back to the **Communities** portlet, and click on the "**Available Communities**" tab to list open **Communities**.
2. Locate the **Community,** "**Book Lovers**".
3. Click on the **Manage Pages** icon from the **Actions** to the right of the community for which you want to configure virtual hosting.
4. Click on the **Virtual Host** tab.
5. In the **Virtual Host** tab, enter the **Public Virtual Host** such as "**booklovers.com**", that will map to the public friendly URL.
6. Enter the friendly URL such as "**booklovers**" that will be used by **Public Pages,** as shown in the following figure.
7. Click on the **Save** button to save the changes when you are ready.



Using Virtual Hosting Effectively

Virtual hosting means to host more than one domain name on the same computer, mostly on the same IP address. There are two basic methods to fulfill virtual hosting: name-based, and IP address based or IP-based. Name-based virtual hosts are used with multiple host names in order to share the same web server IP address, while in IP-based virtual hosting, each site will point to a unique IP address. You can configure the web server with multiple physical network interfaces, virtual network interfaces on the same physical interface, or multiple IP addresses on one interface.

Liferay Community Virtual Hosting is an extension of the friendly URL functionality. It allows one or more **Communities** in a single portal instance, identified by separate and unique host names. End users only input the name of the host they expect to visit, into the address bar in the browser. Although, it appears to the users that they are visiting different web sites, they are in fact being directed to a single web server. In fact, based on the host name, the server determines the **Community** to be presented to the **User**.

Setup Virtual Hosting

There are two steps to set up virtual hosting. The first step is to ensure that a Domain Name Server (DNS) entry exists for each virtual host you want, and that every one of them points to the IP address of the server.

Next, set up a virtual host filter at `system.properties` as follows.

```
com.liferay.portal.servlet.filters.virtualhost.
VirtualHostFilter=true
```

> Note that, the virtual host filter maps hosts to both the **Public** and **Private pages**.

Working with Community Staging & Publishing

It is a basic requirement for the **Users** to have the capability to stage their work. That is, they need the ability to work on a working copy of the website first. At the same time, they need to manipulate this working copy and preview it, as if it were the web site. Moreover, they need the capability to have many "working copies" in progress at any point in time. More interestingly, **Users** should be able to preview a working copy at any time, without disrupting the live **Pages**.

Meanwhile, it also is required to manage staging properly. Let's consider one scenario. Here, we have the content creator who can create the pages in the staging, content producer who can approve the **Pages** or reject the **Pages** and return to the content creator. We have the content reviewer who can approve the **Pages** or reject the **Pages** and return it to the content producer. Ultimately we have the content editor who can either reject the **Pages** and return it to the content producer, or publish the **Pages**.

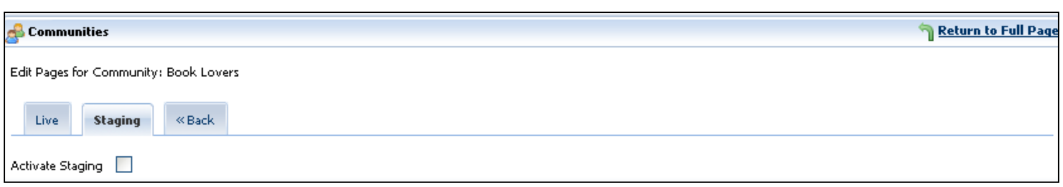
Let's implement these requirements as follows:

Using Community Staging

First of all, let's activate the staging as follows:

1. To access Staging, use the **Communities** portlet to go to the **Available Communities** tab.
2. Locate a **Community** first. Then click on the **Manage Pages** icon from the **Actions** to the right of the community.
3. There, you will see the **Live** tab and **Staging** tab. If you choose **Staging,** and activate it, the **Page** changes to show you how to copy the live branch into the staging branch, or vice versa.
4. It will create a copy of the site as a new virtual **Community**, which you can see and navigate, before pushing content as shown in the following figure.

To preview the **Pages** in the staging branch, simple click on the **View Pages** button under the buttons **Staging** and **Public**. The **Pages** in the staging server appear in a highlighted background color. You can view the pages in the staging branch and also add and remove portlets (that is, contents) of the pages.



Publishing Pages

Publishing is an ability to push one or more assets from staging to a live environment. Publishing should include the following features (as shown in the following figure):

- Publishing should include the capability to publish to local and remote systems.

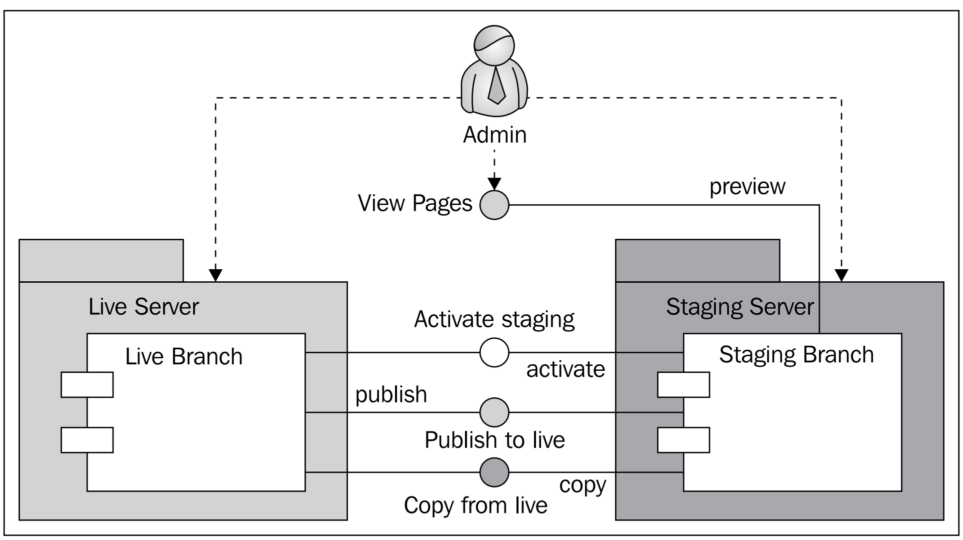
- Publishing should be as simple as the push of a button, or it should be included as a step in a workflow.
- Publishing should not disrupt the production environment except to effect the published change.

To publish the **Pages** in the **Staging Branch**, simply click on the **Publish to Live** button next to the button, **View Pages**. Portal will copy the **Staging Branch** into the **Live Branch**.

> Note that, the **Pages** in the **Live Branch** will be overwritten by the **Pages** in the **Staging Branch**.

To copy from the **Live Branch** to the **Staging Branch**, simply click on the button, **Copy from Live,** next to the **View Pages** and **Publish to Live** buttons. The following figure depicts how to **Activate Staging**, **Copy from live** to staging, publish from staging to live.

> Note that, the **Pages** in the **Staging Branch** will be overwritten by the **Pages** in the **Live Branch**.



Manage Staging with Workflow

Let's implement the previously mentioned scenario. First of all, let's create a set of **Roles** as follows:

1. Create a **Role,** "**Content Creator**", in the **Enterprise Admin** portlet.
2. Add a **User,** "**Lotti Stein**" with the **Permissions, View, Update and Delete** in the "**Content Creator**".
3. At the same time, define **Permission,** "**Manage Pages**", for the **Role,** "**Content Creator**", with the **Communities** portlet.
4. Create a **Role,** "**Content Producer**" in the **Enterprise Admin** portlet.
5. Add a **User,** "**Rolf Hans**", with the **Permissions, View, Update and Delete** in the "**Content Producer**".
6. At the same time, define the **Permissions,** "**Manage Pages**", "**Assign Reviewer**" and "**Approve Proposal**" for the **Role,** "**Content Producer**" with the **Communities** portlet.
7. Create a **Role,** "**Content Reviewer**" in the **Enterprise Admin** portlet.
8. Add a **User,** "**Julia Maurer**", with the **Permissions, View, Update and Delete** in the "**Content Reviewer**".
9. At the same time, define **Permission,** "**Approve Proposal**", for the **Role,** "**Content Reviewer**" with the **Communities** portlet.
10. Create a **Role** "**Content Editor**" in the **Enterprise Admin** portlet.
11. Add a **User,** "**David Berger**", with the **Permissions, View, Update and Delete** in the "**Content Editor**".
12. At the same time, define the **Permissions,** "**Approve Proposal**", "**Manage Pages**", "**Manage Staging**" and "**Publish Staging**" for the **Role,** "**Content Reviewer**" with the **Communities** portlet.

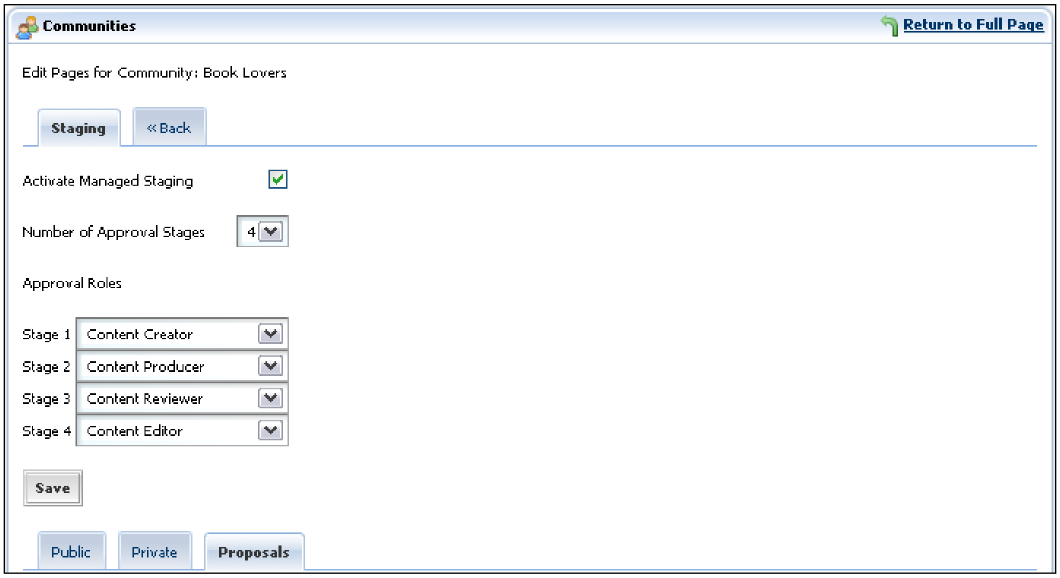
When **User Roles** are ready, we can configure managed staging workflow. Let's do it as follows:

- To access **Staging**, use the **Communities'** portlet and go to the **Available Communities** tab.

Now, we are ready to **Activate Managed Staging**. Let's use the **Community Roles** and set up staging and publishing workflow, as shown in the following figure:

1. Activate managed stages by checking on the checkbox.
2. Select the **Number of Approval Stages**, such as "4".
3. Select value of "**Content Creator**" for **Stage** "**1**".

4. Select value of "**Content Producer**" for **Stage** "**2**".
5. Select value of "**Content Reviewer**" for **Stage** "**3**".
6. Select value of "**Content Editor**" for **Stage** "**4**".
7. Click on the **Save** button when you are ready.



Now we have **Staging** and publishing workflow ready. Let's do it as follows:

1. Log in as a **Content Creator,** say "**Lotti Stein**".
2. Create a **Page,** such as "**Test**", with contents such as Bookmarks.
3. Input **Proposal** publication and assign **Reviewer,** such as "**Rolf Hans**".
4. Click the **Save** button when you are ready.
5. Log in as a **Content Producer,** such as "**Rolf Hans**".
6. You can view **Proposals** to either approve or reject.
7. You can also assign **Reviewer,** such as "**Julia Maurer**".
8. Log in as a **Content Producer,** say "**Julia Maurer**".
9. You can view **Proposals** to either approve or reject.
10. You can also assign **Reviewer,** such as "**David Berger**".
11. Then Log in as a **Content Producer,** such as "**David Berger**".
12. You can view **Proposals** and reject it.
13. Or you can publish it to **Live**.

Employing Community Tools

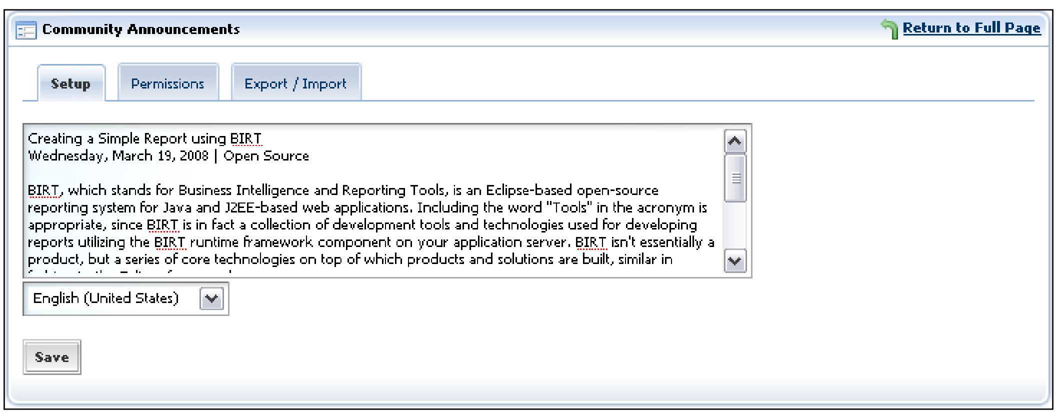
There are a set of portlets related to the community, such as bookmarks, directory, enterprise announcements, community announcements, invitations, communities, page comments and page rating. This section mainly introduces portlets including bookmarks, directory, announcements, invitation, page comments and page rating.

Using Announcements

Announcement is a brief message (typically ten seconds) that advertises a product or service or offers public service information. It is used mainly in the interval between **Pages** to capture the attention of the audience of both **Pages**.

The announcement portlets (either an enterprise such as "Palm Tree publications", or a **Community** such as "**Book Lovers**") display each specific announcement. They enable users to create, modify, delete and post announcements for the enterprise, "Palm Tree publications", or the **Community,** "**Book Lovers**".

The following are a set of simple steps for setting up the Announcement for "Palm Tree Publications":



1. Add the **Company Announcement** portlet to the **Page**, **Community**, if the **Company Announcements** portlet is not already present.
2. To set up the announcement that you want to display in the portlet, click on the **Configuration** icon as shown in the previous figure.
3. Select the **Setup** tab and input the announcement, such as "**Creating a Simple Report using BIRT** … ".
4. Click on the **Save** button to save the changes, and further, click on the **Back** arrow to return.

Working with Bookmarks Portlet

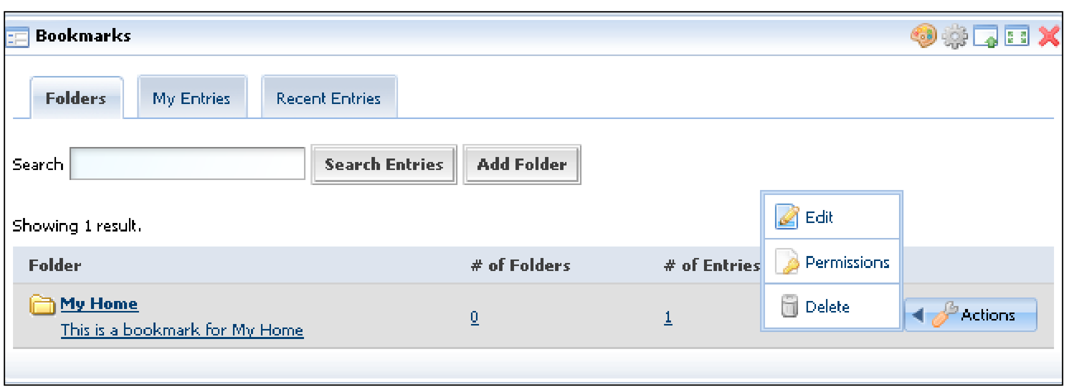
Bookmarks are retrievable names and URLs (that is, web page locations). Their primary purpose is to catalog and easily access web pages that **Users** have visited, either by name or by URL.

The **Bookmarks** portlet provides the ability for the **Users** to keep track of URLs in the portal. An administrator can use **Bookmarks** to publish relevant links to a group of **Users**.

To add a bookmark to the **Bookmarks** portlet, simply follow these steps in sequence:

1. Add the **Bookmarks** portlet to the **Page,** "**Home**", of the **Guest Community** where you want to show bookmarks, if the portlet is not already present.
2. To add a bookmark (called an entry) to an empty **Bookmarks** portlet, you should first add a **Folder**.
3. Click the **Add Folder** button.
4. Give a **Name** such as, "**My Home**", and **Description** such as, "**This is a bookmark for My Home**" for the **Folder**. The **Permissions** for the **Folder** determine what **Users** can do. To change the **Permissions**, simply click on the **Configuration** link. To change all **Permissions**, click on the **More** link.
5. Click the **Save button.**

Then you can view the Folder, as shown in the following figure. The **Folders** will appear with name, description, number of sub folders, **number of Entries**, and a set of **Actions**, such as **Edit**, **Permissions** and **Delete**.



1. To add a bookmark to the **Folder,** "**My Home**", click on the **Folder** name such as "**My Home**".

2. You can either add more **Folders** to further divide your bookmarks into more specific categories, or you can add a bookmark to the current folder. Click the **Add Entry** button**.**
3. Give a **Name** such as "**SSO, LDAP**, **Liferay and Alfresco**", URL such as "`http://liferay.cignex.com`", and **Description** such as "**Full integration of SSO**, **LDAP**, **Liferay and Alfresco**" to the bookmark. The **Permissions** for the bookmark determine what **Users** can do.
4. Click the **Save button** when you are ready.

Then you can view the **bookmarks** under the **Folder,** as shown in the following figure.

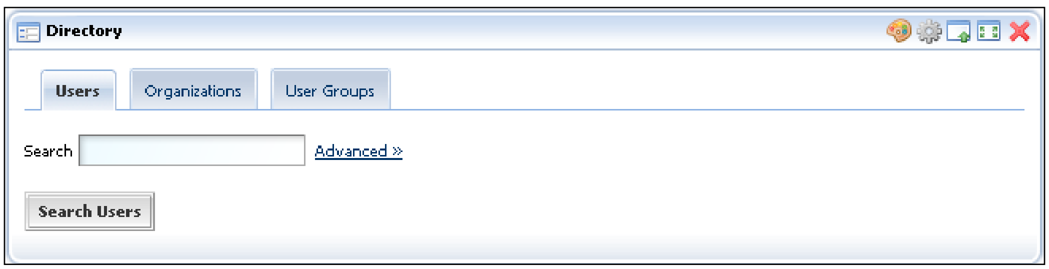
In short, the **Bookmarks** portlet provides a way for **Users** to store the names and URLs of Web sites. After a bookmark is created, you can click the link to open the site in a new browser window.

To view recent entries, you can simply click the **Recent Entries** tab. Similarly, to view entries which you have created, simply click the **My Entries** tab. The bookmarks will appear with entry name, URL, number of **Visits**, number of **Priority**, **Modified Date** and a set of **Actions,** such as **Edit**, **Permissions** and **Delete**. More interestingly, the number of visits will be updated dynamically when the site has been visited through the URL link in the **Bookmarks** portlet.

Using Directory Portlet

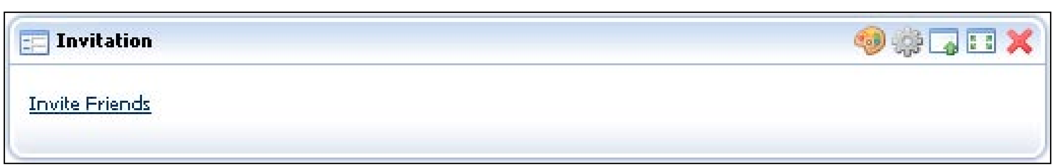
The **Directory** portlet provides the ability to display a list of **Users** registered on the portal. The **Directory** portlet displays personal information for individual **Users** and also gives listings of available **Organizations** and **User Groups**.

You can find **Users** through basic **Search,** as shown in the following figure. You just input the search criterion and click the **Search Users** button. Similarly, you can find **Users** through **Advanced Search**. You just click on the **Advanced** link first, and then input **Search** criterions for advanced search, and then click on the **Search Users** button. Moreover, you can find **Users,** by available **Organizations** as well as **User Groups**.



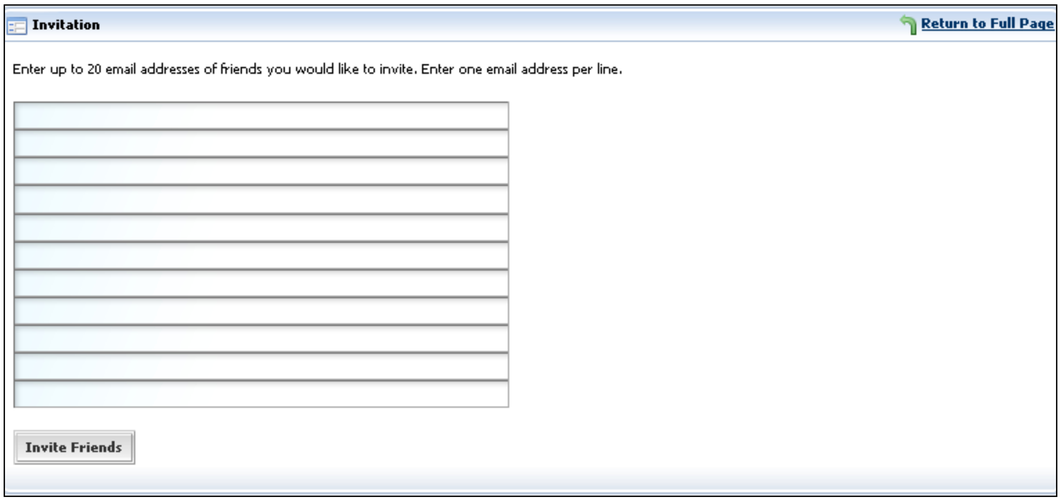
Working with Invitation Portlet

The **Invitation** portlet allows you to invite friends to come and see your web sites, or portal pages. The following are a simple set of steps to invite friends using the **Invitation** Portlet (as shown in the following figure):



1. Add the **Invitation** portlet in the page, "**Home**", of the **Guest Community** where you want to invite friends, if the portlet is not already present.
2. Click on the **Invite Friends** link.

3. **Enter up to 20 email addresses of friends** whom **you would like to invite**. **Enter one email address per line** as shown in the following figure.



4. Click on the **Invite Friends** button when you are ready**.**
5. **To change the email setup and Permissions for Users, simply click on the Configuration icon at the top right of the portlet.**

The number of email addresses of friends you would like to invite is configurable. You can change the number of recipients (at `system-ext.properties`) as follows:

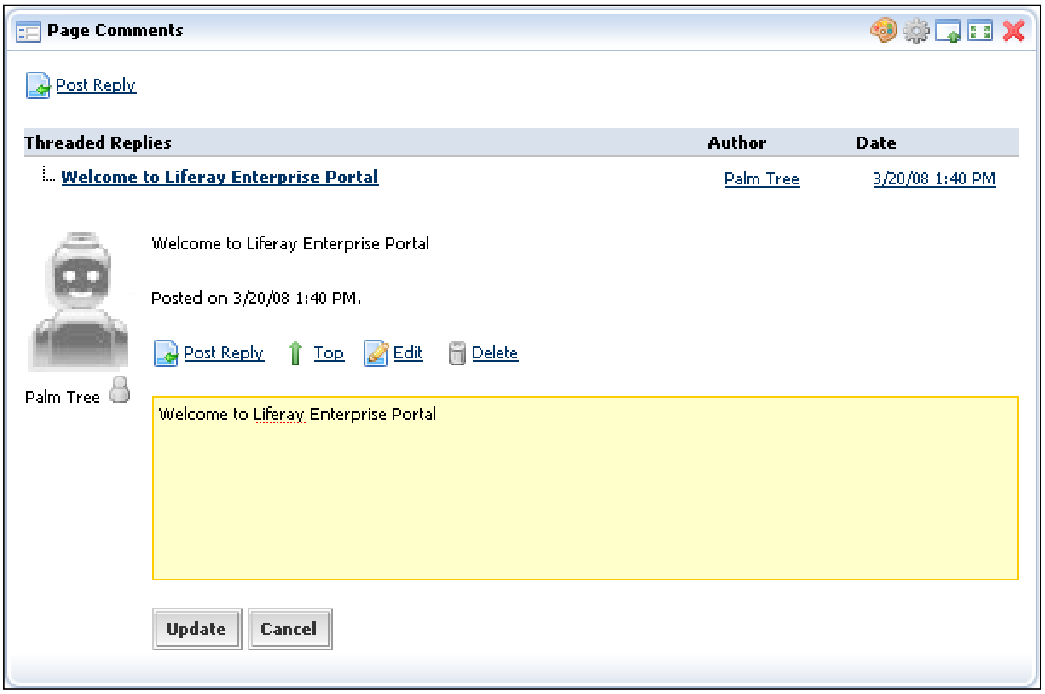
```
invitation.email.max.recipients=20
```

Using Page Comments Portlet

The **Page Comments** portlet allows you to add page comments easily in your portal page. Using this portlet, you can easily add, or edit, or delete **Page Comments**. Let's do is as follows:

1. Add the **Page Comments** portlet in the **Page,** "**Home**", of the **Guest community** where you want to add **Page Comments**, if the portlet is not already present.
2. Click the **Post Reply** link, if you want to add **Page Comments**.
3. Input your **Page Comments**. Click the **Reply** button to save the inputs, or the **Cancel** button to cancel the inputs.

4. You can edit **Page Comments** by clicking on the **Edit** icon first. Then, update the **Comments**. Click the **Update** button to save the changes, or the **Cancel** button to cancel the changes, as shown in the following figure.



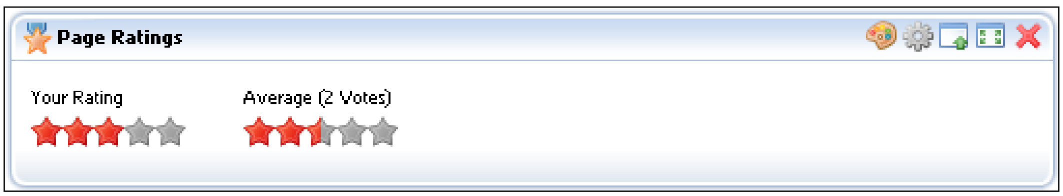
5. Alternatively, you can delete **Page Comments** by clicking on the **Delete** icon. A screen will appear asking if you want to delete this. Click **OK** to confirm deletion, or **Cancel** to cancel deletion.
6. If there are a lot of **Page Comments,** and you are not at the top of the portlet, you can go to the top, by clicking on the **Top** icon.

Working with Page Rating Portlet

The **Page Ratings** portlet allows you to add page rating in your portal page. This allows you to change page rating. Let's do it as follows:

1. Log in as the administrator, "**Palm Tree**".
2. Add the **Page Ratings** portlet in the page, "**Home**", of the **Guest Community Public Pages** where you want to change the **Page Rating** (if the portlet is not already present).

3. Click on the star to change **Your Rating,** such as three stars. The number of votes, such as only one, will appear. If you move your mouse to the stars below **Average**, you will find three stars.
4. Log in as **User,** "**Lotti Stein**".
5. Click on the star to change **Your Rating to say,** two stars. The number of votes will appear as two now. If you move your mouse to the stars below **Average**, the number of stars will appear, as say two and half, as shown in the following figure.



Summary

This chapter first introduced us to the **Communities** portlet, and discussed how to add a **Community**, and how to manage (edit, delete, search, join, leave) **communities**. Then it discussed how to add and manage the **Pages** and **Users** within a **Community** and how to employ **Community** virtual hosting . Further, it also discussed how to use stage, preview and publish a web site, and manage **Staging** workflow. Finally, it also discussed how to use **Community** tools, such as **Bookmarks**, **Page Comments**, and so on.

12
Search

In the intranet website "book.com" of "Palm Tree Publications", we are required to query **Message Boards** entries, **Blogs** posts, **Wikis Articles**, **Users** at Directory and contents at **Document Library**, bookmarks entries, **Images** at **Image Gallery**, and so on. Furthermore, a lot of contents are stored and managed in the alfresco server. Thus, it is also required to search alfresco contents in the intranet websites. Meanwhile, it would be very helpful to provide maps search and CSZ (City, State, and Zip code) search in the intranet websites as well as Google Maps and Google Search.

This chapter first will introduce a federated search for **Message Boards** entries, **Blogs** posts, **Wikis Articles**, **users** of Directory and the contents at **Document Library**, **Bookmarks** entries, and alfresco contents. Then, it will describe a CSZ search, maps search, Google Maps and Google search portlets. Further, it will also discuss the OpenSearch concept and the Journal content search portlet, in detail. Finally, this chapter will discuss how to use the sitemap for search engines, and how to deploy and manage search portlets.

By the end of this chapter, you will have learnt how to:

- Employ federated search.
- Integrate search against alfresco contents.
- Use CSZ search and map search.
- Employ Google search and Google maps.
- Understand OpenSearch within alfresco content portlet.
- Use Journal Content search.
- Configure sitemap for search engines.
- Deploy search portlets
- Manage search portlets.

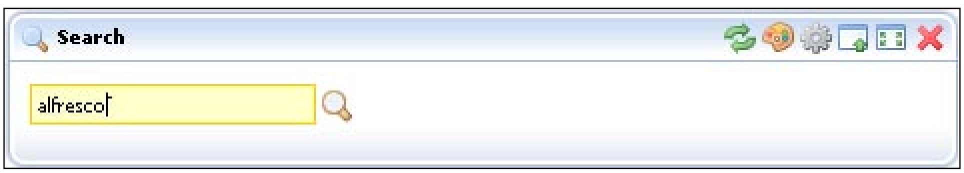
Working with Federated Search

It is very useful to provide federated search abilities, such as search for alfresco contents, **Blogs** entries, **Users**, **Bookmarks** entries, **Documents**, **Wiki Articles**, journal articles, and so on. in "book.com". Thanks to Liferay, there are a set of search portlets available for this requirement. In this section, let's work with these portlets.

Using Search Portlet

The **Search** Portlet is a JSR-168 compliant portlet that can be used for federated search. By default, Liferay itself is a search provider.

As shown in the following figure, the **Search** Portlet provides a federated search against **alfresco** content, **Blogs** entries, **Users**, **Bookmarks** entries, **Documents**, **Wiki Articles**, journal articles, and so on.



The following is a simple set of steps to use the **Search** portlet:

1. Add the **Search** portlet in the page, "**Home**", of the **Book Lovers** Community where you want to search, if the search portlet is not already present.
2. Input the **Search** criterion, "**Alfresco**".
3. Click the **Search icon.**
4. Optionally, you can set **Permissions** by clicking the **Configure icon to the upper right of the portlet**.

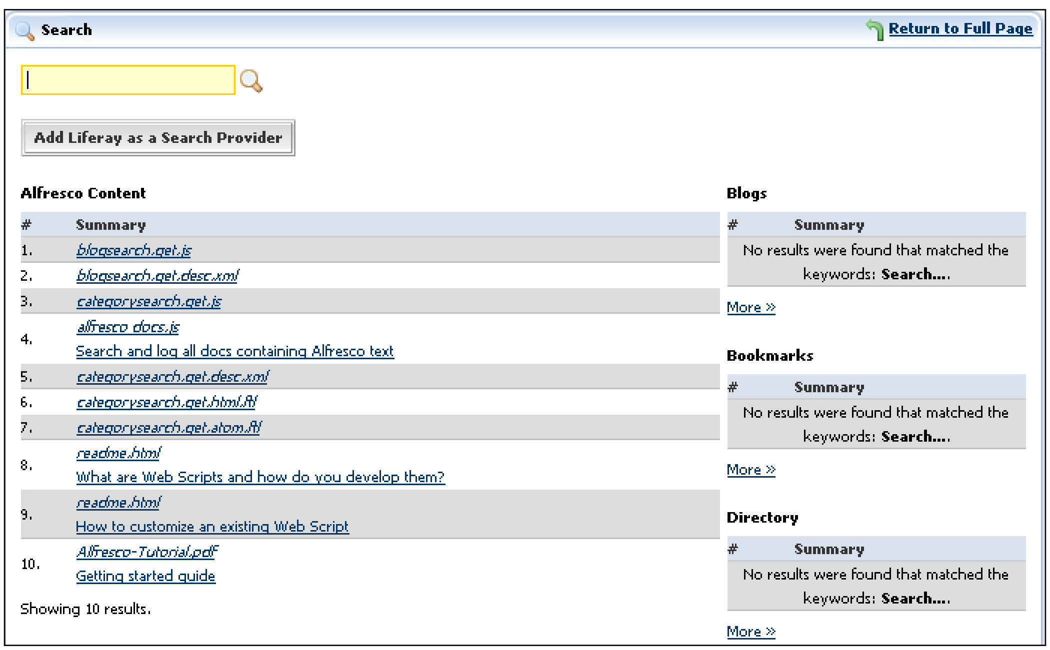
Liferay provides many portlets to support OpenSearch, such as **Message Boards**, **Blogs**, **Wikis**, Directory and **Document Library**, and so on. In addition, the **Alfresco Content** portlet also supports OpenSearch. Normally, these portlets have the following configuration:

```
<open-search-class>class-name</open-search-class>
```

The following figure depicts the **Search** results with the **Search** criterion, "**alfresco**". The search results include **alfresco** contents, **Message Boards** entries, **Blogs** posts, **Wikis Articles**, **Users** at Directory and contents at the **Document Library**, and so on.

How do we get the following results related to **alfresco** contents? Let's do it as follows:

1. Deploy alfresco web client application "`alfresco.war`" (for example alfresco version 2.1.1 enterprise version) to the **Folder.** `$TOMCAT_DIR/webapps/`.
2. Download the **Alfresco Content** portlet from community plugins.
3. Copy the plugin `WAR` file manually to the auto deploy configured directory `$USER_HOME/liferay/deploy`.
4. Copy Open search interface from `webapps/alfresco-content-portlet/WEB-INF/classes` to `$TOMCAT_DIR /webapps/ROOT/WEB-INF/classes`.
5. Configure open search as shown in the next section.
6. Shutdown the Liferay server.
7. Restart the Liferay server.
8. Play with the **Search** portlet.



Query Alfresco Content via OpenSearch

Alfresco does not ony provide the ability to expose its search engines via OpenSearch, but it also provides an aggregate OpenSearch feature in the Alfresco Web Client. Moreover, **alfresco** keyword search mimics the keyword search of the Alfresco Web Client.

First, let's view the search URL template as follows:

```
http://<host>:<port>/alfresco/service/api/search/keyword?q={search
Terms}&p={startPage?}&c={count?}&l={language?}
```

where:

- searchTerms = keyword or keywords to search.
- startPage (optional) = the page number of search results desired by the client.
- count (optional) = the number of search results per page (default: 10).
- language (optional) = the locale to search with (XML 1.0 Language ID for example en-GB).

Then in order to let the **Alfresco Content** portlet support OpenSearch, we need to simply set the `open-search-class` value (at `liferay-portlet.xml`) as follows:

```
<open-search-class>com.liferay.portlet.alfrescocontent.util.
AlfrescoOpenSearchImpl</open-search-class>
```

Finally, in Liferay portal, we need to let the **Search** Portlet know that the **Alfresco Content** portlet supports OpenSearch, and sets the values used to query Alfresco via OpenSearch as follows:

```
open.search.enabled=true
open.search.protocol=http
open.search.host=localhost
open.search.port=8080
open.search.realm=Alfresco
open.search.username=admin
open.search.password=admin
open.search.path=/alfresco/service/search/keyword
```

If the domain for alfresco server was `sesame.cignex.com`, and port number was `80`, we can set the values used to query Alfresco via OpenSearch as follows:

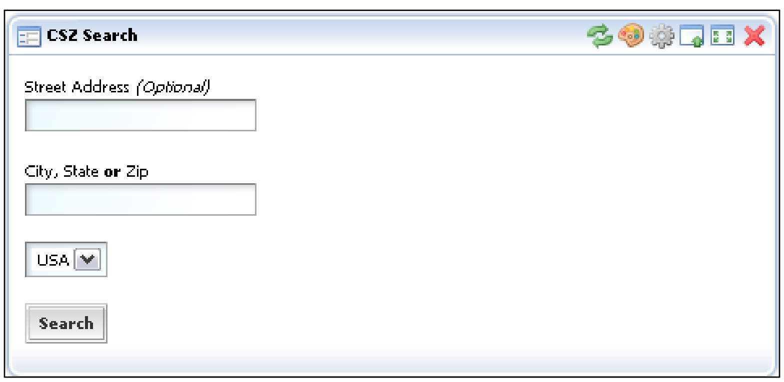
```
open.search.enabled=true
open.search.protocol=http
open.search.host=sesame.cignex.com
open.search.port=80
```

```
open.search.realm=Alfresco
open.search.username=admin
open.search.password=admin
open.search.path=/alfresco/service/search/keyword
```

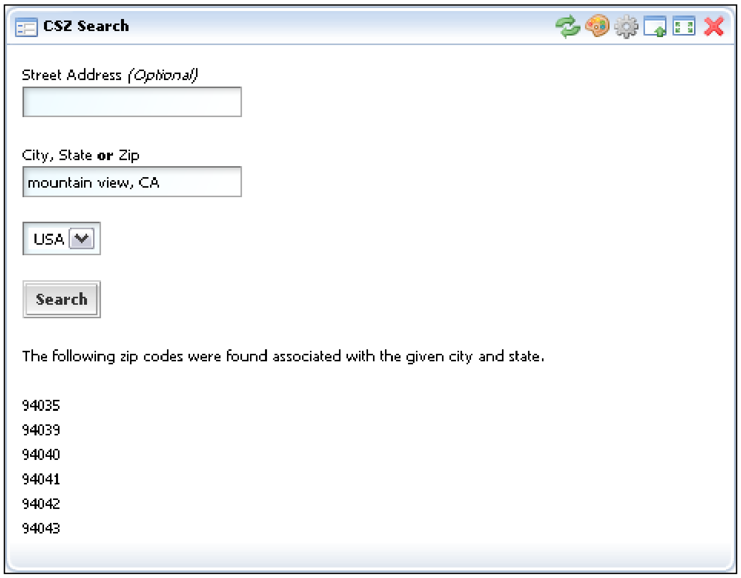
Using CSZ Search

Suppose that we want to find the zip codes for a city named "Mountain View" in the state of "California" in the USA. The CSZ search portlet would be very useful for doing this search.

1. Add the **CSZ Search** portlet in the **Page,** "**Home**", of the **Book Lovers** Community where you want to search, if the **CSZ Search** portlet is not already present.
2. Input the **City,** "**Mountain View**" and the **State,** "**California**" first.
3. Then click the **Search** button.
4. **The Zip** codes associated with the given **City** and **State** will appear.
5. Alternatively, you could input the **Zip** code first.
6. Then press the **Search** button.
7. **The names of the City** and **State** associated with the given **Zip** will appear.



The following figure depicts the **CSZ Search** example and search results. It shows all the related **zip codes** for the **City,** "**Mountain View**" and **State,** "**California**" in the **USA**.



In general, the **CSZ** (**City**, **State** and **Zip**) search portlet provides a way to **Search Zip** codes by address, **City** and **State**, or to **Search City** and **State** by **Zip** code. USPS ZIP code lookup is used as a web service provider.

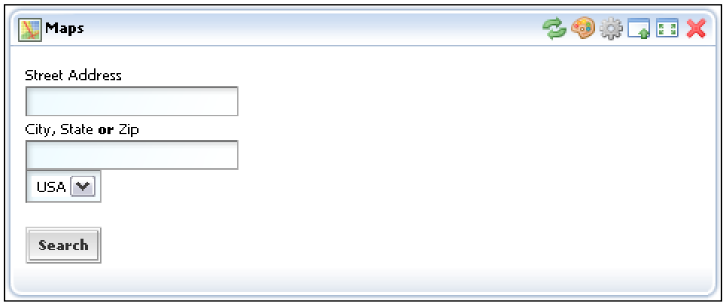
> USPS (U.S. Postal Service) provides services for ZIP code lookup, URL: `http://www.usps.com/zip4/`.

Using Maps Search

Suppose that we know the **City** name, say "**Mountain View**", and the **State** name, say such "**California**", in the **USA** and we want to find the related maps. The **Maps** portlet would be useful for this purpose.

1. Add the **Maps** portlet in the **Page,** "**Home**", of the **Book Lovers** Community where you want to search for maps, if the **Maps** portlet is not already present.
2. Input the **Address**, **City** as "**Mountain View**", **State** as "**California**", the related **Zip** code and the country as "**USA**" first.

3. Then press the **Search** button as shown in following figure:



A **Map** associated with the given **Address**, **City**, **State**, **Zip** code and country will appear as shown in the following figure:

In short, the **Maps** portlet provides the ability to find **Maps** by **Address**, **City**, **State**, **Zip** code and country. MapQuest is used as a web service provider.

> MapQuest is a map publisher and provides a free online Web mapping service. URL: `http://www.mapquest.com/`

Employing Google Search

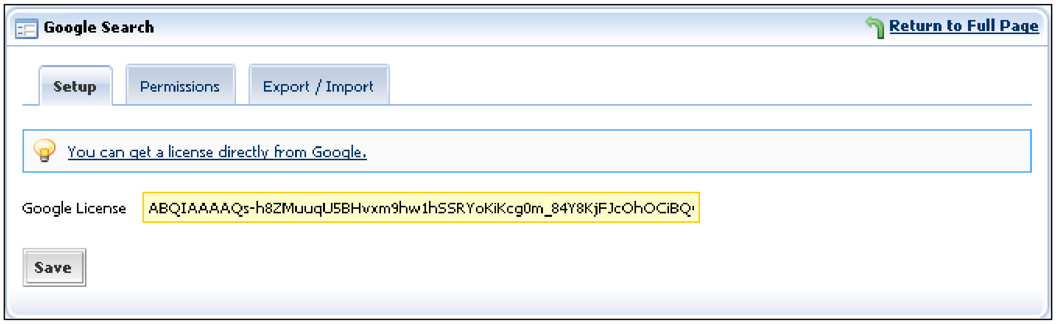
The Google Search portlet allows easy integration with Google Search. Google Search is used as a web service provider. First, let's hot deploy the **Google** portlet as follows:

1. Add the **Plugin Installer** portlet in the **Page,** "**Home**", of the **Book Lovers** Community where you want to manage plugins, if the **Plugin Installer** portlet is not already present.
2. Find the **Google Search** portlet either by browsing or through search.
3. Select the **Google Search** portlet by clicking on the related links.
4. After viewing the description of the portlet, click on the **Install** button.
5. The system will install the portlet which you have selected using the hot deploy mode.

Normally, there are two ways to install plugins portlets: auto deploy mode and hot deploy mode. For more on auto deploy mode, refer to the forthcoming section.

After deploying the **Google Search** portlet in the portal, we can configure the **Google Search** portlet as follows:

1. Add the **Google Search** portlet in the **Page,** "**Home**", of the **Book Lovers** Community where you want to search, if the **Google Search** portlet is not already present.
2. **The Google Search** portlet appears with **Configuration** and **Preferences** icons.
3. Click on the **Configuration** icon to the upper right.
4. By default, the tab **Setup** is selected.
5. Input **Google License** such as "**ABQIAAAAQs-h8ZMuuqU5BHvxm9hw1hRnqZIGs9ll2RH1BN33yRy U5baSXRSHFVtqcOk8OCuiJXGCnAoXaRQUhw"**; Surely, you can get a key online.
6. Press the **Save** button.
7. Optionally, configure permissions by selecting the tab **Permissions**.

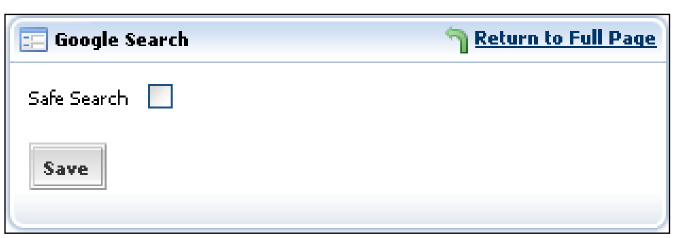


After configuring the **Google Search** portlet, we can search the contents now. The following figure shows the integration with Google search. Suppose that we want to search the keyword, "**Liferay**", using **Google Search**:

1. Input the **Search** criterion as "**Liferay**".
2. Select the type of **Search:** "**Search**" or "**Spell**".
3. Click the **Search** icon.

Actually, the **Search** portlet will use Google search services to search or check the spelling for a given keyword first. And then it will display the search results or spellcheck results.
You can also set up the preferences on the **Google Search** portlet as follows:

1. Click on the **Preferences** icon to the upper right of the portlet.
2. Then check the **Safe Search** checkbox as shown in the following figure.
3. Press the **Save** button.
4. Optionally, press the link **Return to full page** to return.



To summarize, the **Google Search** portlet provides an easy integration with Google Search.

Enjoying Google Maps

Suppose that we know the **Address,** say "**2675 Fayette Dr**.", the city name, say "**Mountain View**", the zip code say "**94040**", the state name, say"**California**" in the USA and we want to get related **Google Maps**. The **Google Maps** portlet would be useful for this purpose. First let's install **Google Maps** portlet by auto deployment as follows:

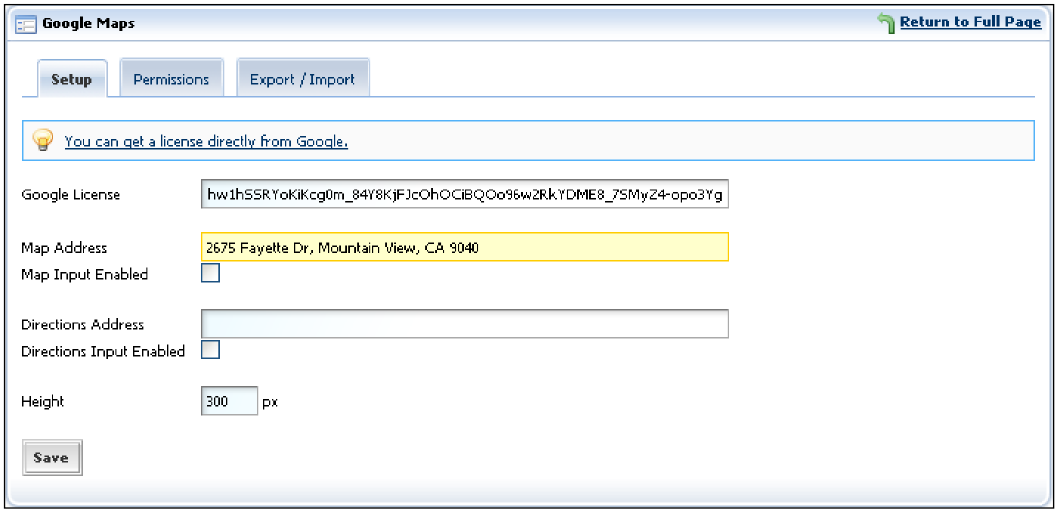
1. Download the **Google Maps** portlet from community plug-ins at the Liferay official website.
2. Rename the**Google Maps** portlet (`WAR` file) as "`Google-Search.war`".
3. Copy the `WAR` file to `$USER_HOME/liferay/deploy`.

After the **Google Maps** portlet is auto deployed, it is ready for use. Let's add it as follows:

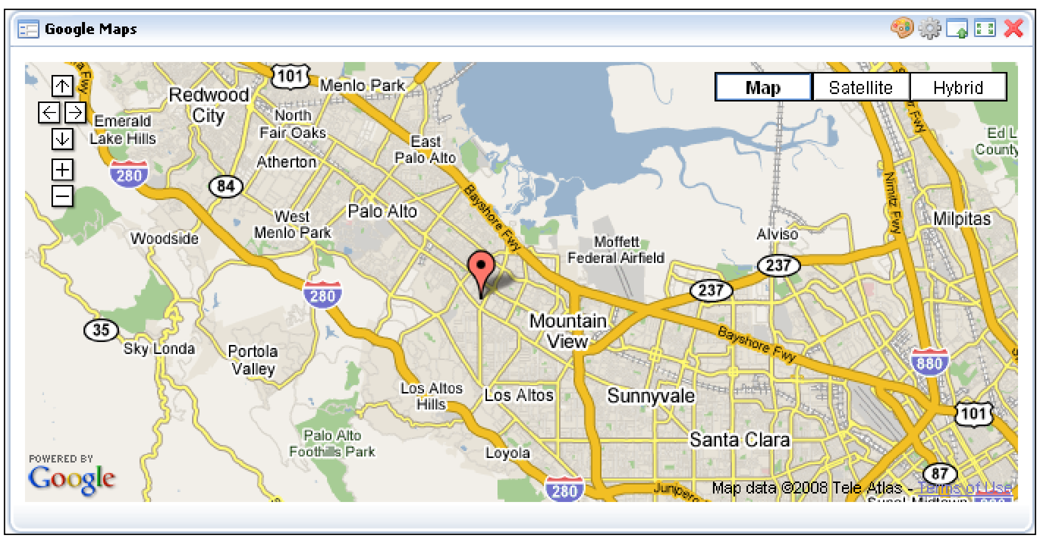
- Add the **Maps** portlet in the **Page,** "**Home**", of the **Book Lovers** Community where you want to search maps, if te **Maps** portlet is not already present.

Before using the **Google Maps** portlet, we have to configure it. Let's set up the **Google Maps** portlet as follows:

1. Click on the **Configuration** icon to the upper right.
2. The default selected tab is **Setup**; input **Google License** such as "**ABQIAAAAQs-h8ZMuuqU5BHvxm9hw1hSSRYoKiKcg0m_84Y8KjFJcOhOCiBQOo96w2RkYDME8_7SMyZ4-opo3Yg**" as shown in the following figure.
3. Input **Map Address**, and check the **Map Input Enabled** checkbox.
4. Input **Directions Address** and check the **Directions Input Enabled** checkbox.
5. Input the value for **Height,** say "300".
6. Press the **Save** button when you are ready.
7. To configure permissions, you can select the tab, **Permissions**.
8. Optionally, press the link **Return to full page** to return.



The following figure depicts the **Google Maps** portlet with an example of search results. It shows a map for the given **Address** ("**2675 Fayette Dr**.", in the city, "**Mountain View**", with the zip code, "**94040**", in the state of "**California**" in USA).



In short, the **Google Maps** portlet allows easy integration with Google Maps. Google Maps is used as a web service provider.

Google Maps provide directions, interactive maps, and satellite/aerial imagery of the United States. URL: `http:// maps.google.com`.

Using OpenSearch Effectively

As stated before, we use OpenSearch to integrate alfresco contents in the **Alfresco Content** portlet. So, what's OpenSearch? Why is OpenSearch useful?

OpenSearch is a collection of simple formats, which enable the sharing of search results (refer to OpenSearch at `http://www.opensearch.org`). Generally speaking, OpenSearch allows the publishing of search results in a format for syndication and aggregation. It is a useful way for both websites and search engines to publish search results in a standard and accessible format.

Design Principles

OpenSearch consists of the following elements (refer to OpenSearch at `http://www.opensearch.org`):

- Description: XML files that identify and describe a search engine.
- Query Syntax: describes where to retrieve the search results.
- RSS or Response: format for providing open search results.
- Aggregators: Sites that can display OpenSearch results.
- Auto-discovery: signals the presence of a search plug-in link to the **User,** and the link embedded in the header of HTML pages.

OpenSearch Description lists search result or responses for the given website. It provides support for multiple responses in any format. Generally speaking, RSS and Atom are the only ones formally supported by OpenSearch aggregators. However, other types, such as HTML are perfectly acceptable.

OpenSearch Specification

OpenSearch description document defines three kinds of elements in general: the **OpenSearch Query** element, the **OpenSearch URL** template syntax, and the **OpenSearch Response** elements.

OpenSearch description documents are referred to, via the following type:

```
application/opensearchdescription+xml
```

The XML Namespaces URI for the XML data formats described in this specification by default is:

```
http://a9.com/-/spec/opensearch/1.1/
```

Example of a simple OpenSearch description document:

```
<?xml version="1.0" encoding="UTF-8"?>
 <OpenSearchDescription xmlns="http://a9.com/-/spec/opensearch/1.1/">
   <ShortName>Web Search</ShortName>
   <Description>Use Book.com to search the Web.</Description>
   <Tags>Book website</Tags>
   <Contact>admin@book.com</Contact>
   <Url type="application/rss+xml"        template="http://book.com/
?q={searchTerms}&amp;pw={startPage?}&amp;format=rss"/>
 </OpenSearchDescription>
```

As shown in the following table, the root node of the OpenSearch description document is **OpenSearchDescription**. We can use this table as a reference for OpenSearch specification (refer to `OpenSearch at http://www.opensearch.org`).

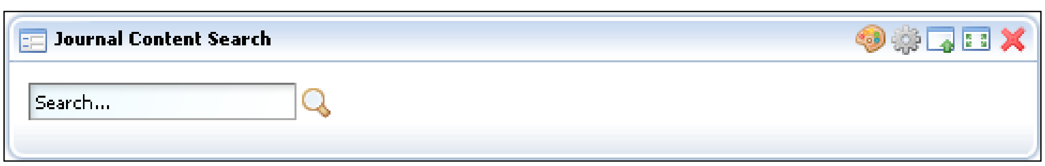
Element Name	Description
OpenSearchDescription	Is the root node of the OpenSearch description document.
ShortName	Contains a brief human-readable title that identifies this search.
Description	Contains a human-readable text description of the search engine.
URL	Describes an interface by which a search client can make search requests of the search engine.
Contact	Contains an email address at which the maintainer of the description document can be reached.
Tags	Contains a set of words that are used as keywords to identify and categorize this search content
LongName	Contains an extended human-readable title that identifies this search engine.
Image	Contains an image that identifies this search engine.
Query	Defines a search query that can be performed by search clients.
Developer	Contains the human-readable name or identifier of the creator or maintainer of the description document.
Attribution	Contains a list of all sources or entities that should be credited for the content contained in the search feed.
SyndicationRight	Contains a value that indicates the degree to which the search results provided by this search engine can be queried, displayed, and redistributed.

Element Name	Description
AdultContent	Contains a Boolean value that should be set to true, if the search results contain material intended only for adults.
Language	Contains a string, which indicates that the search engine supports search results in the specified language.
InputEncoding	Contains a string, which indicates that the search engine supports search requests encoded with the specified character encoding.
OutputEncoding	Contains a string, which indicates that the search engine supports search responses encoded with the specified character encoding.

Working with Journal Content Search

In the intranet "book.com", you will have lots of articles, sooner or later. In order to manage these articles easily, search functions become very important. The **Journal Content Search** portlet provides the ability to search for articles by types. Let's use the Journal content search as follows:

1. Add the **Journal Content Search** portlet in the **Page,** "**Home**", of **Book Lovers** Community, where you want to search the content of journal CMS articles, if the **Journal Content Search** portlet is not already present.
2. Input keyword, **Search** criterion, "**alfresco**" first.
3. And then click on the **Search** icon as shown in the following figure:

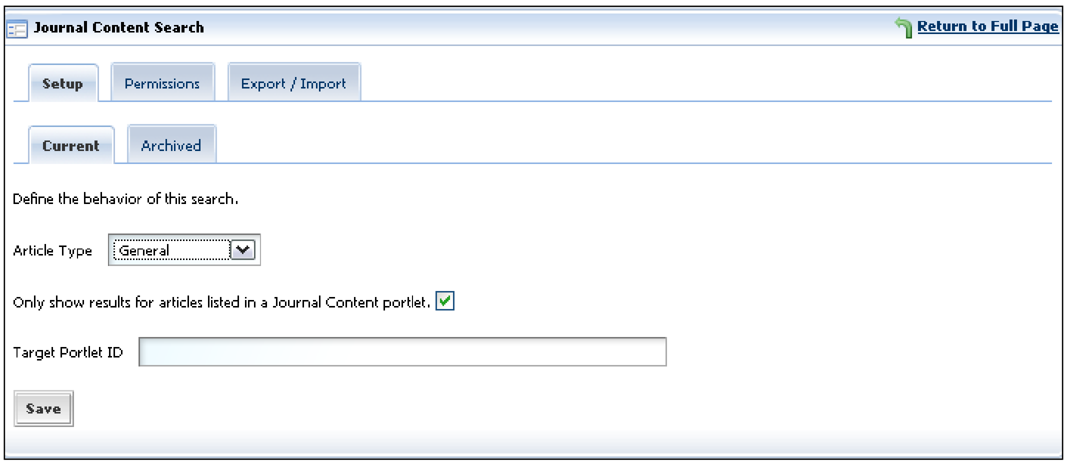


Setting up Search

It is simple to configure the **Journal Content Search** portlet. Suppose that we need to search articles with the type, **General**. Let's do it as follows:

1. Click on the **Configuration** icon to the upper right of the portlet.
2. With the **Setup** and **Current** tabs selected, there is an articles type list. You can select the **Article Type**, **General,** that you would like to limit the search to, as shown in the following figure.

3. Select the checkbox if you want to only show the results for the articles.
4. Input **Target Portlet ID,** if needed.
5. To search articles in Archive, click the **Archived** tab.
6. And then click the **Save** button to save the changes.
7. If needed, click on the arrow **Return to Full Page,** to return.



There are several default **Article Types**: **Announcements**, **Blogs**, **News**, **General**, **Press Release** and **Test**. As mentioned earlier, these types are configurable. If there is no type selected, this portlet will search any article within any type.

You can also change **Permissions** of the **Journal Content Search** portlet. You can simply click on the **Permissions** tab. You can change **Permissions** by **Users**, **Organizations**, **User Groups**, **Regular Roles** and **Guest**. Optionally, you can set up the features of exporting and importing.

Using Journal Content Search Effectively

Liferay provides search ability restricted to the content of Journal CMS articles. The portlet is called **Journal Content Search**, powered by the Apache Lucene search engine.

> Apache Lucene acts as a high-performance and full-featured text search engine. It is a suitable for almost any application that requires full-text search, especially cross-platform. URL: `http://lucene.apache.org/`

The Apache Lucene search engine has the following features:

- Ranked searching - best results returned first.
- Many powerful query types: phrase queries, wildcard queries, proximity queries, range queries and more.
- Fielded searching (for example, title, author, contents).
- Date-range searching.
- Sorting by any field.
- Multiple-index searching with merged results, and
- Simultaneous update and searching.

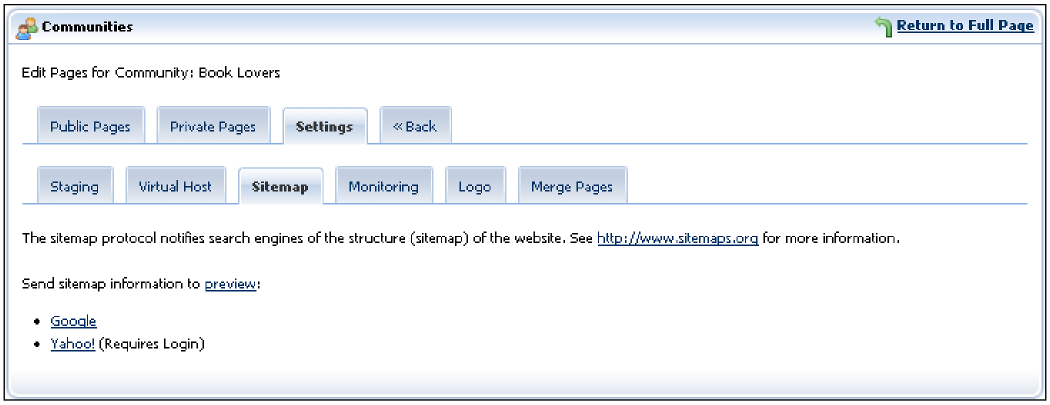
Adding Sitemap for Search Engines

Liferay provides the ability to generate the sitemap XML automatically for all public websites. By sitemap, we can easily inform the search engines about pages on the sites that are available for crawling.

Using The Sitemap

Suppose that, as an administrator of "Palm Tree Publications", you want to use the sitemap for the **Book Lovers** Community. Let's do it as follows:

1. Add the **Communities** portlet in the page, "**Admin**", of **My Community**.
2. Click the **All Communities** tab.
3. Locate the **Community Book Lovers**.
4. Click on the **Manage Pages** icon from the **Actions** to the right of the community for which you want to use the sitemap.
5. Click on the **Settings** tab first.
6. Click on the **Sitemap** tab further as shown in the following figure.



By clicking on the **Search Engine** links, the sitemap will be sent to them.

> Note that it's only necessary to do this once per site. The search engine crawler will automatically ask for the sitemap again, ever so often.

If you want to see the generated XML, you can click the **Preview** link. By this link, you may view what is being sent to the search engines. Here is an example of the sitemap XML for the **Book Lovers** Community.

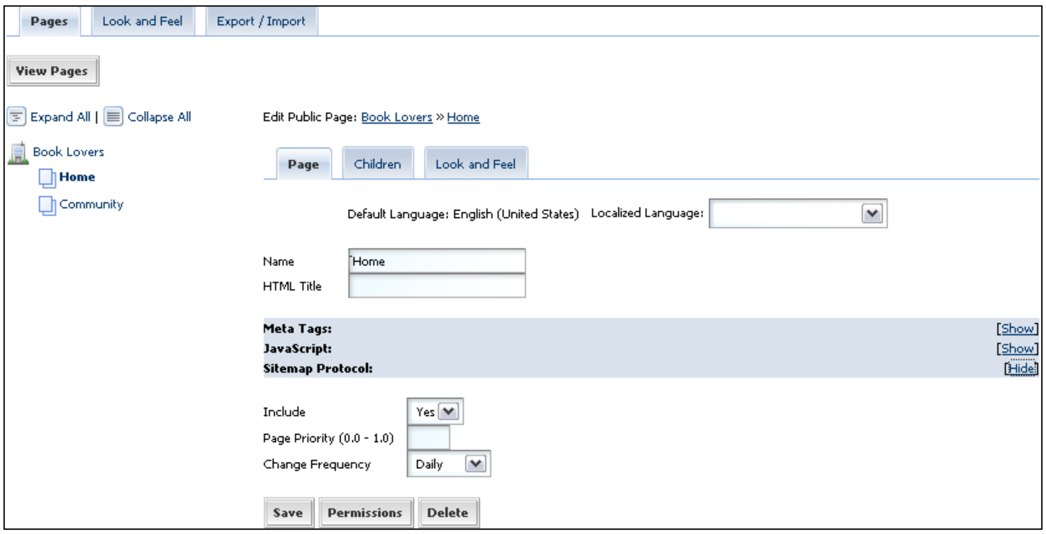
```
<urlset>
<url>
<loc>http://localhost:8080/c/portal/layout?p_l_id=10157</loc>
</url>
<url><loc>http://localhost:8080/c/portal/layout?p_l_id=10158</loc>
</url>
</urlset>
```

Customizing The Sitemap for Pages

Suppose that as an administrator of "Palm Tree Publications", you want to customize the sitemap for the **Page,** "**Home**", of the **Book Lovers** Community **Public Pages**. Let's do it as follows:

1. Locate the **Community Book Lovers**.
2. Click on the **Manage Pages** icon from the **Actions** to the right of the community for which you want to customize the sitemap.
3. Select the page, **Home**.
4. Click on the **Page** tab.

5. Click on the **Show** next to the **Sitemap Protocol.**
6. **Change Frequency**: such as **Daily** from a list of **Always**, **Hourly**, **Daily**, **Weekly**, **Monthly**, **Yearly**, **Never**, and so on.
7. **Page Priority**: such as **3.0**. A number from **0.0** to **1.0** indicates the priority of the page relative to other pages of the website.
8. **Include**: such as **Yes**, from a list of **Yes** or **No,** as shown in the following figure:



Using Sitemap Effectively

Simply, the sitemap protocol notifies the search engines of the structure (that is, sitemap) of the website (refer to Sitemaps at `http://www.sitemaps.org`). In short, the sitemap provides the ability to make newly added pages searchable by major search engines without additional configuration.

Sitemaps provides the ability to inform search engines about pages scrawling on their sites. We can benefit from Sitemaps in the following situations:

- Access all areas of a website through a browseable interface. Thus search engines can't find these pages with big contents such as "Archives" and "Database" easily.
- Use rich AJAX or Flash. Thus, search engines can't navigate through to get to the content.

We can generate a sitemap containing all accessible URLs on the site first. And then we can submit it to the search engines. Since search engines, such as Google, MSN, and Yahoo, support the same protocol, through a sitemap we could make the search engines having the updated **Pages** information.

Liferay sitemaps protocol makes any new **Pages** searchable by the major search engines, supporting automatically updating sitemap information, which is available for web-crawling.

XML Sitemap Format

You may be interested on the XML sitemap format. Here, we list some of the XML sitemap formats for reference. Otherwise, you can leave it for your future requirements.

The Sitemap protocol format consists of XML tags. All data values in a Sitemap must be entity-escaped. The file itself must be UTF-8 encoded.

The Sitemap must:

- Begin with an opening `<urlset>` tag, and end with a closing `</urlset>` tag.
- Specify the namespace (protocol standard) within the `<urlset>` tag.
- Include a `<url>` entry for each URL, as a parent XML tag.
- Include a `<loc>` child entry for each `<url>` parent tag.

As shown in the following table, other tags are optional. It is true that support for these optional tags may vary across search engines (refer to Sitemaps at `http://www.sitemaps.org`).

Attribute	Required	Description
`urlset`	Yes	Encapsulates the file and references the current protocol standard.
`url`	Yes	Parent tag for each URL entry. The remaining tags are children of this tag.
`loc`	Yes	URL of the page.
`lastmod`	No	The date of last modification of the file. This date should be in W3C Date-Time format. This format allows you to omit the time portion, if desired, and use YYYY-MM-DD.
`changefreq`	No	How frequently the page is likely to change. This value provides general information to search engines and may not correlate exactly to how often the page was crawled.
`priority`	No	The priority of this URL relative to other URLs on your site. Valid values range from 0.0 to 1.0.

Here is an example sitemap that contains just one URL and uses all optional tags, as shown here.

```
<urlset xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.sitemaps.org/schemas/sitemap/0.9
           http://www.sitemaps.org/schemas/sitemap/0.9/sitemap.xsd">
        <url>
                <loc>http://www.book.com</loc>
                <lastmod>2008-03-26</lastmod>
                <changefreq>daily</changefreq>
                <priority>0.8</priority>
        </url>
</urlset>
```

Deploying And Managing Search Portlets

As stated, we have used a lot of **Search** portlets. Before using these portlets, we need to deploy them in the portal first. There are several ways in which you can deploy **Search** portlets as follows:

- Hot deploy by **Plugin Installer** portlet.
- Update by **Update Manager** portlet.
- Manage by **Software Catalogue** portlet.

Using Plugin Installer for Hot Deploy

We can hot deploy the **Google Maps** portlet or other portlets via **Plugin Installer** portlet. **Plugin Installer** portlet allows portal administrators to administer and install plugins in the portal and pages. There are two ways to access the **Plugin Installer**:

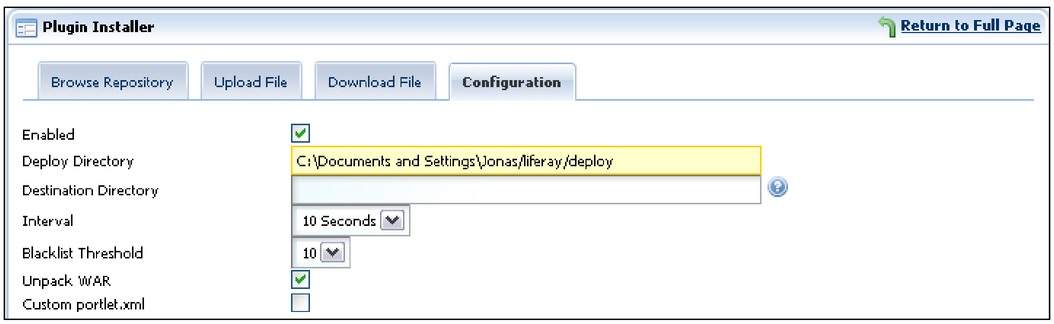
- By adding the **Plugin Installer** portlet directly to a portal **Page,** say **Page** "**Admin**" of **Book Lovers** Community.
- By clicking the **Add more portlets** from the **Admin** or **Update Manager** portlets.

We have auto deployed **Google Maps** earlier. Here, let's hot deploy **Google Maps** portlet as follows:

1. Add the **Plugin Installer** portlet to a portal **Page,** say the **Page** "**Admin**", of **Book Lovers** Community.
2. Click on the **Browse Repository** tab.
3. Input search criterion say, "**Google**".

4. Locate the **Google Maps** portlet.
5. Click the **Google Maps** portlet first.
6. Then click the **Install** button.
7. The **Plugin Installer** portlet will download the **Google Maps** portlet, and hot deploy it in the portal.

Similarly, you can upload the `WAR` file or download the `WAR` file via the **Plugin Installer** portlet. You can also set up the configuration for hot deployment. As shown in the following figure, you can enable the hot deploy, set up **Deploy Directory** and **Destination Directory**, and set the **Interval** such as **10 Seconds,** and **Blacklist Threshold** such as **10**, and so on.



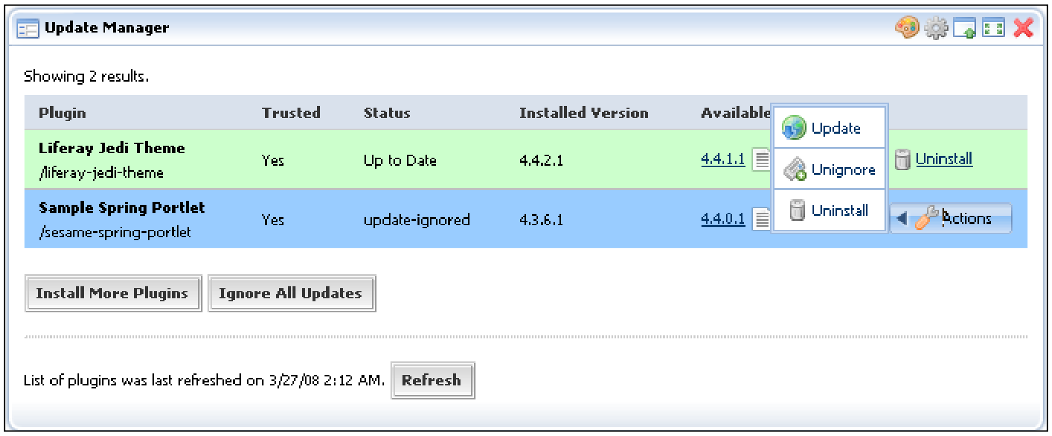
Using Update Manager

Suppose that you already have a **Search** portlet (that is, a **Sample Spring** portlet) in the portal (for example, version 4.3.6). Now you want to update the portlet to the current version (for instance version 4.4.2 or above). Let's do it as follows:

1. Add the **Update Manager** portlet to a portal **Page, say** "**Admin**" of **Book Lovers** Community.
2. Locate the portlet, "**Sample Spring Portlet**".
3. Click the **Update** icon from the **Actions** icon next to the portlet.
4. The **Update Manager** will search for the new version of the portlet first, and then it will update the portlet automatically.

Similarly, you can install more plugins by clicking the button, **Install More Plugins**, or you can ignore all updates by clicking the button, **Ignore All Updates**.

More interestingly, you can restore the update status of the portlet by clicking the **Unignore** icon from the **Actions,** next to the portlet. Thus, when the new version is ready, the **Update Manager** will show a message for updates. Or you can uninstall the portlet by clicking the **Uninstall** icon from the **Actions,** next to the portlet.



Using Auto Deployment

Besides the hot deploy, we can also use auto deployment. That is, we can perform a hot deploy through the file system, by copying the plugin `WAR` file manually to the auto deploy configured directory. Auto deployment is a very convenient way to access the file system, where portal is installed. It can also be used to automate the process, deploy to several servers in a cluster, and so on.

In order to use auto deployment, we need to configure auto deploy first. Let's do it as follows:

- Set the resource directory to scan for plugins to auto deploy.

  ```
  auto.deploy.deploy.dir=${resource.repositories.root}/deploy
  ```

For example, the resource repositories root is `/root/liferay`, then auto deploy directory would be `/root/liferay/deploy`.

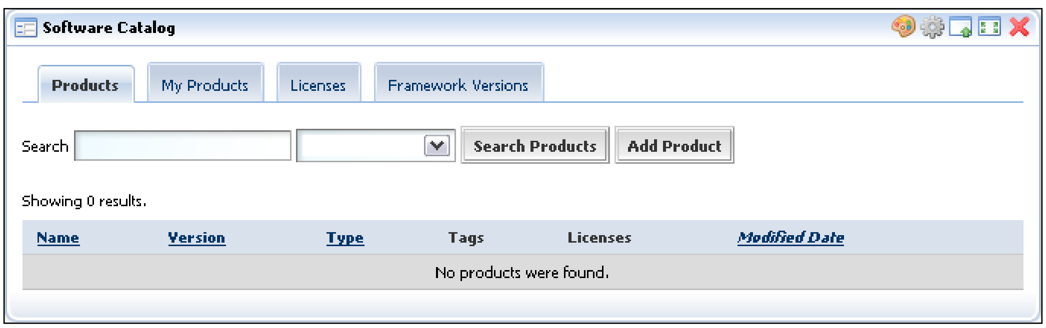
- Set the interval in milliseconds, for how often to scan the resource directory for updates.

  ```
  auto.deploy.interval=10000
  ```

Managing Search Portlets via Software Catalogue

Suppose that you have a product called the **Scheduling Content** portlet (scheduling the contents of pages with publishing dates). You can use the **Software Catalogue** portlet. Let's do it as follows:

1. Add the **Software Catalogue** portlet to a portal **Page, say** "**Admin**" of **Book Lovers** Community.
2. Click the **Add Product** button, as shown in the following figure.
3. Input product information, such as **Name, Type, Licenses, Author, Page URL, Tags, Short Description, Long Description and Permissions**.
4. Click the **Save** button when you are ready.



In addition, we can easily manage products using **Software Catalogue** portlet, such as **Search products**, view **My Products**, and manage **Licenses** and **Framework Versions**.

> Note that these tools are not only useful to deploy and manage **Search** portlets, but are also suitable for any plugin's (portlets) deployment and management.

Summary

This chapter discussed how to employ federated search, and how to integrate search against **alfresco contents** first. Then it discussed how to use the **CSZ Search** and **Map Search** portlets. More interestingly, it depicted how to integrate Google search and Google maps in the portal pages.Then, it discussed the OpenSearch concept. It also discussed **Journal Content Search** and how to configure sitemap for search engines. Finally, it discussed how to deploy **Search** portlets, and how to manage **Search** portlets in the portal pages.

13
Ongoing Admin Tasks

In the intranet website "book.com" of "Palm Tree Publications", we are required to manage servers, instances, and plugins. Further, we are also required to use password policies, to update the website settings, and to monitor **Users'** activities. Moreover, we also have to publish contents, which are stored in Alfresco. Liferay provides **Admin** portlet to manage servers, instances and plugins, and **Enterprise Admin** portlet to manage password policies and enterprise information settings, and to monitor **Users'** activities.

This chapter will introduce how to manage a server, instances and plugins via **Admin** portlet first. Then it will discuss how to use password policies, how to update the system –level settings, and how to monitor **Users'** activities in **Enterprise Admin** portlet. More interestingly, it will explain how to integrate Liferay with Alfresco. Finally, it will introduce how to integrate other systems in Liferay such as Ad Sever (such as OpenX) and Orbeon Forms.

By the end of this chapter, you will have learnt how to:

- Manage servers and instances
- Manage plugins in Admin Portlet
- Use password policies and update settings
- Monitor **Users'** activities in **Enterprise Admin** portlet
- Integrate Liferay with Alfresco by web service and web scripts
- Integrate Liferay with Other Systems such as Ad Server and Orbeon Forms

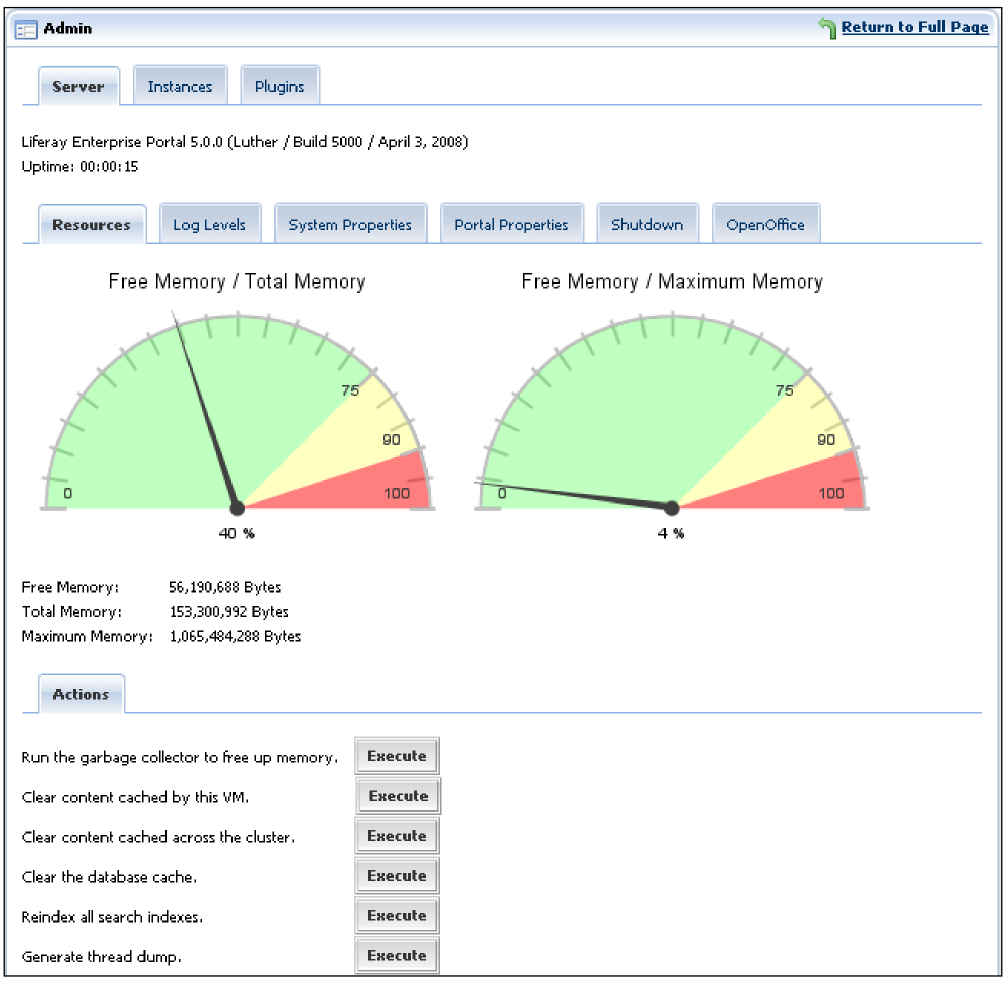
Working with Admin Portlet

As an administrator "**Palm Tree**", at the enterprise "Palm-Tree Publications", you can handle a lot of administration tasks on the portal. The first admin tool you can use is the **Admin** portlet. **Admin** portlet provides the ability to view server information, to create and manage instances, to update and install available portlets, **Themes** and layout **Templates**, and so on. This section will mainly introduce server management, instances management and plugins management.

Managing Server

First of all, we have to add the **Admin** portlet in the **Private Pages,** "**Home**". Let's do it as follows:

1. Log into the portal as an administrator, say "**Palm Tree**".
2. Add the **Admin** portlet in a **Page** named "**Home**" at **My Community Private Pages**.
3. **The Admin** portlet appears with a default view. You will see **Portal Version**, **Date** and **Uptime**.
4. Click the **More** link, and you will find more details such as memory usage related to portal administration tasks, as shown in the following figure.

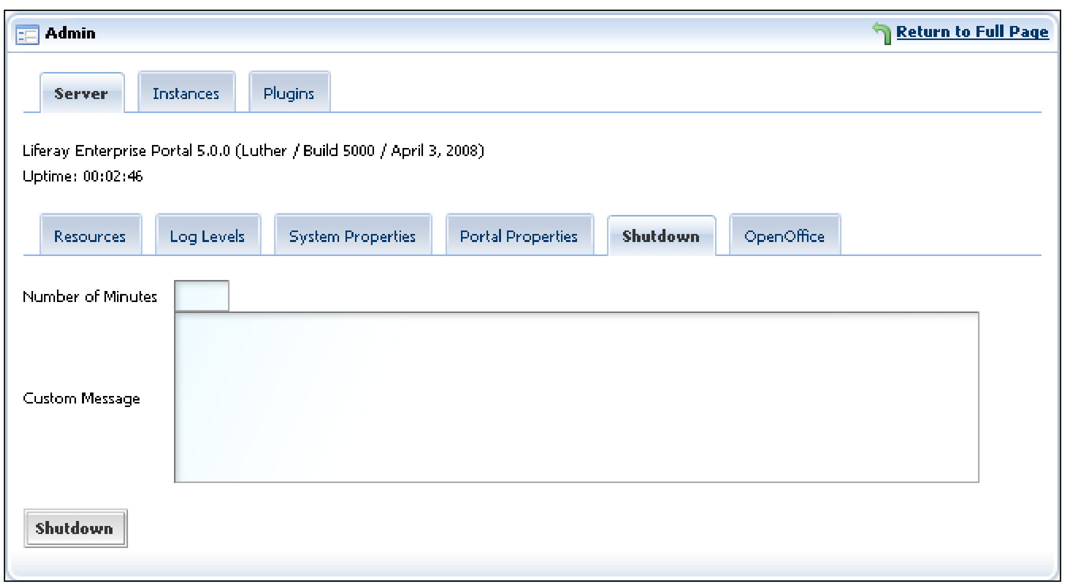


With the **Server** tab selected, you can also manage resources of the server, by clicking on the **Resources** tab, and then clicking the **Execute** button for the following tasks:

- **Run the garbage collector to free up memory**.
- **Clear content cached by this VM** (Virtual Machine).
- **Clear content cached across the cluster.**
- **Clear the database cache**.
- **Re-index all search indexes**.
- **Generate thread dump**.

With the **Server** tab selected, you can also shutdown the server as follows:

1. Click on the **Shutdown** tab.
2. Input the number of minutes, say "**5**", as the duration after which the server will be shut down in the **Number of Minutes** box.
3. Add notes such as "**shutdown server in 5 minutes**" in the **Custom Message** box.
4. Click the **Shutdown** button, as shown in the following figure.
5. Optionally, you can cancel the shutdown action. Enter the value "**0**" in the **Number of Minutes** box, and click the **Shutdown** button.



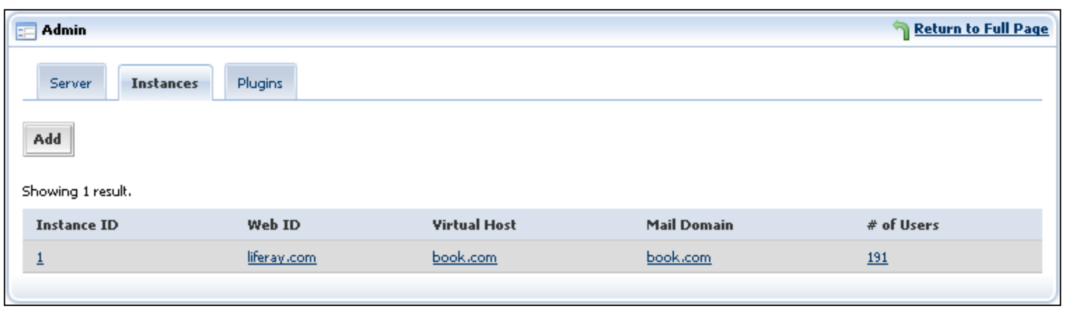
Moreover, with the **Server** tab selected, you can do the following jobs:

- Add category and update categories of logs by changing the levels (such as OFF, FATAL, ERROR, WARN, INFO, DEBUG, ALL, and so on) under the **Log Levels** tab.
- View system properties under the **System Properties** tab.
- Survey portal properties under the **Portal Properties** tab.
- Enable **OpenOffice** integration to provide document conversion functionality under the **OpenOffice** tab.

Managing Instances

The portal may have many instances. Fortunately, you can manage instances easily. Let's do it as follows:

1. Access the portal as the administrator, "**Palm Tree**".
2. Add the **Admin** portlet in the **Page,** "**Home**", of **My Community,** if it's not already present.
3. Click the **Instances** tab as shown in the following figure:
    - A list of instances will appear with **Instance ID**, **Web ID**, **Virtual Host**, **Mail Domain** and **Number of Users**.

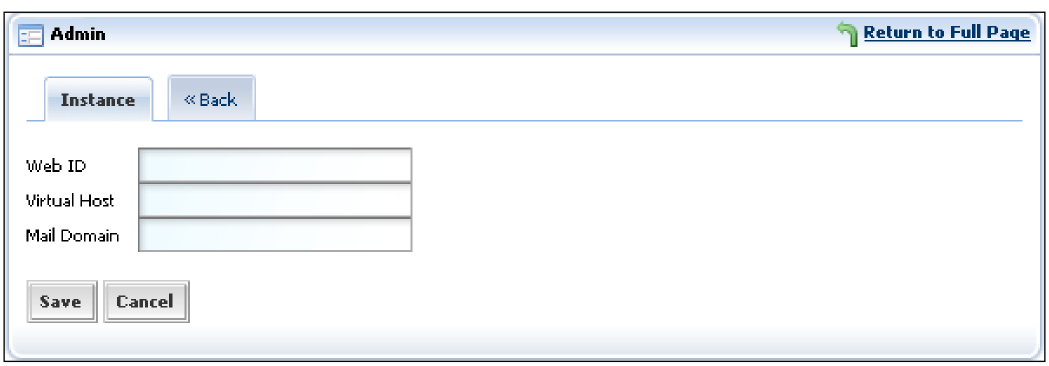


Instances are editable. Suppose that you want to edit the **Instance** with **Instance ID** "**1**" and reset the **Mail Domain** with value "**mail.book.com**". Let's do it as follows:

1. Locate the **Instance** with **Instance ID** "**1**".
2. Click the **Instance** name link such as **Instance ID, Web ID, Virtual Host, Mail Domain** and **Number of Users.**
3. Change the **Mail Domain** with the value, "**mail.book.com**".
4. Click the **Save** button, if you want to save your inputs.
5. Or click **Cancel** button, if you want to cancel your inputs.

You can also add a new **Instance**. Suppose that you want to add a new **Instance** with the domain name, "**staging.book.com**". Here are the steps necessary to create a new **Instance**:

1. Preparation: Use DNS configuration to assign a new domain to the server where Liferay is installed, such as "**staging.book.com**"; make sure all the necessary changes to external software (web servers, load balancers, firewalls, and so on) have also been done. Assume that the domain **staging.book.com** has been set up.
2. Access the portal as the administrator, "**Palm Tree**", and go to the **Admin** portlet. For example, add it to **My Community,** if it's not already present.
3. Click the **Instances** tab.
4. Click the **Add** button.
5. Fill the form fields as shown in the following figure:
    - **Web ID**: This is the identifier that will be assigned to this **Instance**. The domain name should be used. For example, **staging.book.com**.
    - **Virtual Host**: to access the portal instance. For example, staging.book.com.
    - **Mail Domain**: to assign email addresses to the users of this instance. For example: staging.book.com.
6. Click the **Save** button, if you want to save to your inputs.
7. Or click the **Cancel** button, if you want to cancel your inputs.
8. Now, you can access the newly created **Instance** in a different browser window. In this example, you can do it through the URL `http://staging.book.com`, if the port number "`80`" was applied, or `http:// staging.book.com:8080`, if you are accessing tomcat directly and is running in its default port.

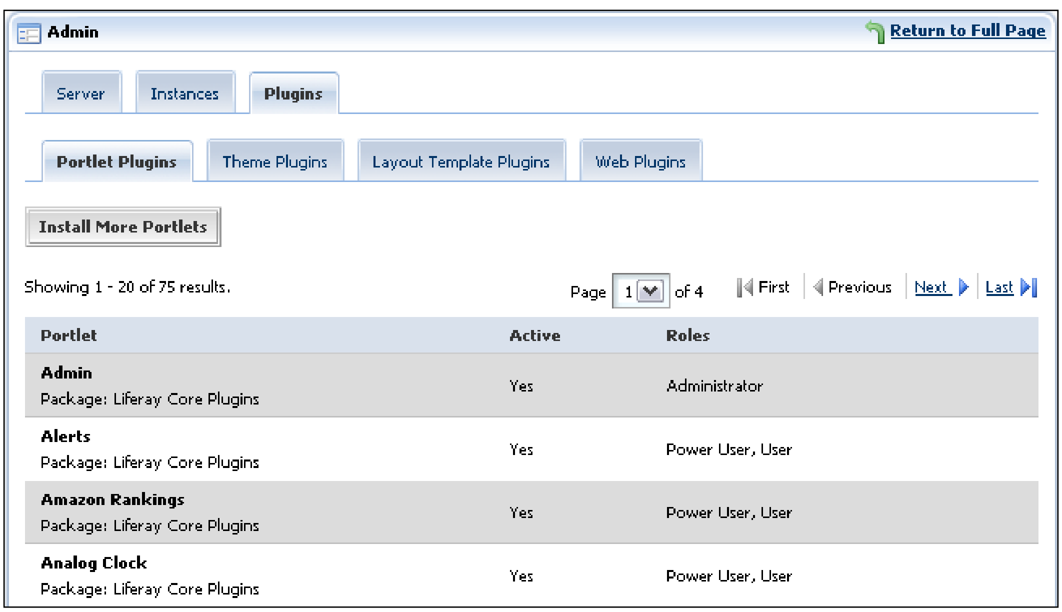


Liferay supports multiple portal **Instances** in a single installation in order to obtain a complete isolation of the **Users**, **Organizations**, **Communities** and any other data created through portlets. **Users** in one portal have no information about the other portal. The portals are separate by domains, and each portal exists in its own space identified by an ID (such as company's ID).

Liferay portal provides the ability to create new portal **Instances** directly from the web UI, with no need to restart the application server. More interestingly, this method works well with any application server. In a word, the creation and administration of portal **Instances** can be done by the **Admin** portlet.

Managing Plugins

The **Admin** portlet provides flexibility to manage **Plugins**, such as **Portlets**, **Themes** and **Layout Templates**. Through this portlet, you can not only view **Plugins** which have been installed, but also install more **Plugins** online, as shown in the following figure. This function is similar to that of the **Enterprise Admin** portlet, under the **Plugins** tab. The difference is that, in the **Enterprise Admin** portlet ,you can only view **Plugins and** not updates. But here, you can install more **Portlets** by clicking the **Install More Portlets** button.



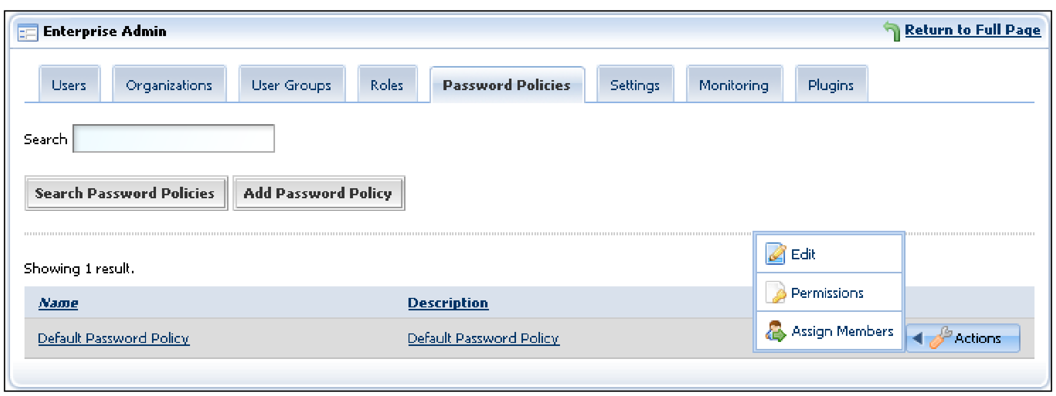
Working with Enterprise Admin Portlet

Enterprise Admin portlet provides administrative functions also. Using this portlet, we can not only access all **Organizations**, **Roles**, **User Groups** and **Users**, but also manage portal version information, enterprise information (such as **Organization** name, ticker symbol, address, logo, and so on), available **Portlets**/**Themes**/**Layout Templates**, current live sessions, authentication preferences, LDAP and SSO integration configuration, new **User** preferences, mail configuration, password policies, and more. We have discussed authentications in Chapter 3. This section will discuss password policies, enterprise information settings and current live sessions only.

Using Password Policies

As the administrator ,"**Palm Tree**", of "Palm Tree Publications", you may need to update the **Password Policies** and user account lockout. Let's do it as follows:

1. Log into the Portal as an administrator, say "**Palm Tree**".
2. Add the **Enterprise Admin** portlet in a **Page** named "**Home**" at **My Community Private Pages,** if the portlet is not already present.
3. Click the tab, **Password Policies**.
4. You can view the **Password Polices** with **Name**, **Description** and **Actions** with a set of icons (such as **Edit**, **Permissions** and **Assign Members**), as shown in the following figure:



You can either search the **Password Policies** by inputting the **Search** keyword and clicking the **Search Password Policies** button, or add the **Password Policies** by clicking the **Add Password Policy** button.

You can either update permissions by clicking the **Permissions** icon from the **Actions**, or change the members by clicking the **Assign Members** icon from the **Actions**.

Definitely, you can edit **Password Policies** by clicking the **Edit** icon from the **Actions** as shown in the following figure first. Then you can change the setting of **Password Policies** as follows:

You can use **Changeable** settings as follows:

- **Changeable**: Allow **User** to change his/her own password.
- **Change Required**: Requires the **User** to change his password when the **User** first logs in.
- **Minimum Age**: Determines how long a **User** must wait before changing his/her password again.

You can change **Password Syntax Checking** by clicking the checkbox, **Syntax Checking Enabled** first, and then configure the following items:

- **Syntax Checking Enabled**: Enable portal to check for certain words and length requirements.
- **Allow Dictionary Words**: Allow a dictionary word to be used as the password.
- **Minimum Length**: The minimum length of a password.

You can also change **Password History** by clicking the checkbox, **History Enabled,** first and then configure the following items:

- **History Enabled**: Enable tracking of password history, to prevent reuse of old passwords.
- **History Count**: The number of passwords to be kept in the history.

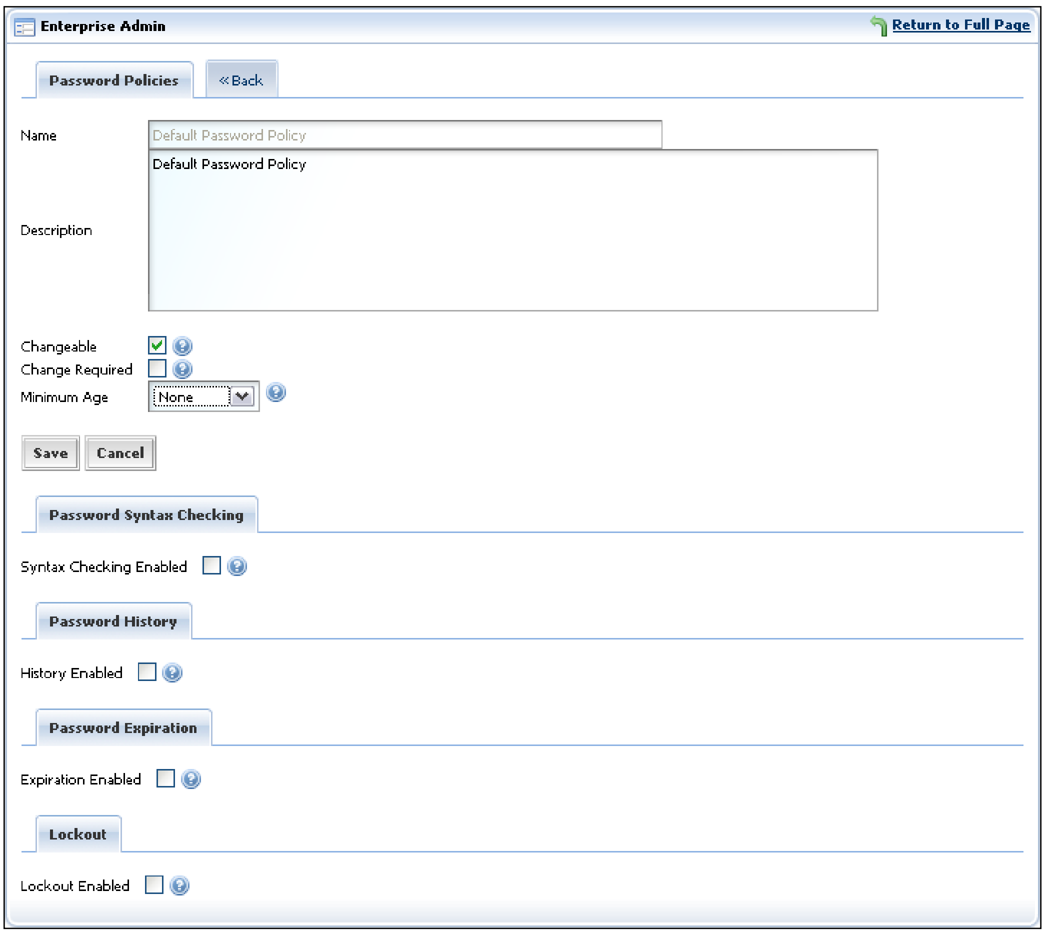
Similarly, you can update **Password Expiration** by clicking the checkbox, **Expiration Enabled,** and changing the following items:

- **Expiration Enabled**: Enable passwords to expire after a specified time.
- **Maximum Age**: The maximum time for which a password is valid, before it needs to be changed again.
- **Warning Time**: The duration, before a password expires, in which to warn the **User** of the upcoming password expiration.
- **Grace Limit**: The number of logins allowed after the password has expired.

To update User Account **Lockout,** you can click the checkbox, **Lockout Enabled,** and then configure the following items:

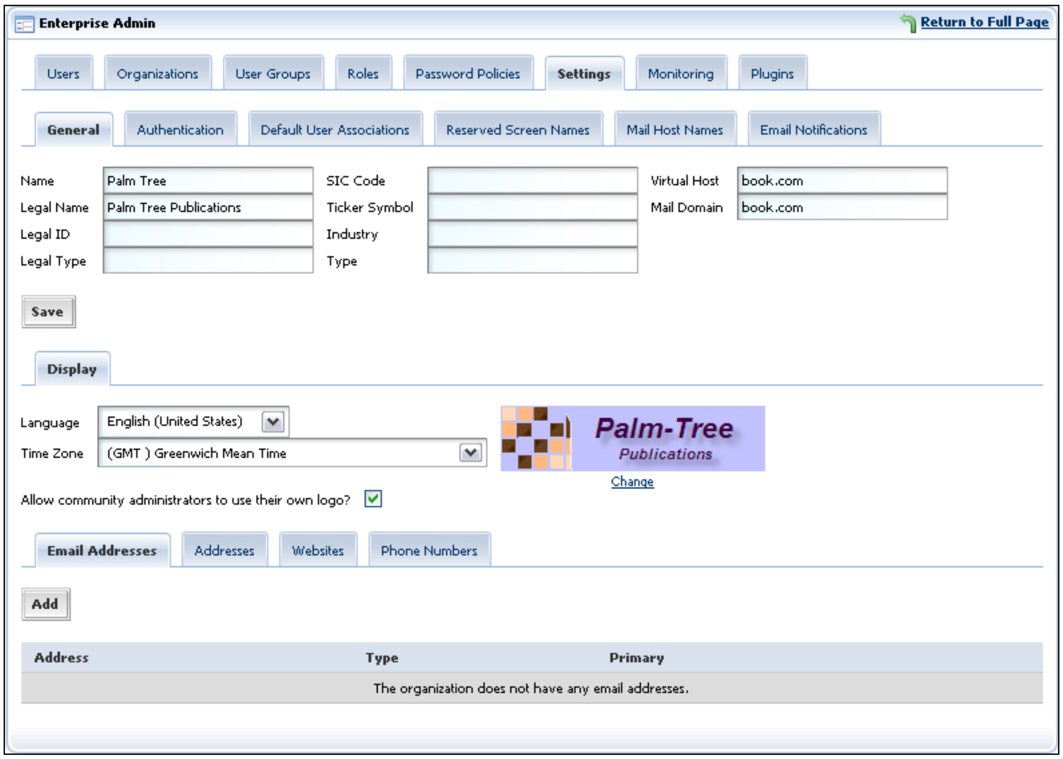
- **Lockout Enabled**: Enable **User** accounts to get locked out, after a specified number of failed logins.
- **Maximum Failure**: The maximum number of failed login attempts, before the account is locked out.
- **Reset Failure Count**: The duration before the "failed login count" is reset.
- **Lockout Duration**: The duration for which a User is locked out, preventing them from logging in.

In short, Liferay provides the ability to implement enterprise **Password Policies** and user account **Lockout**. **Password Policies** are managed internally from the **Enterprise Admin** Portlet.



Updating Settings

You can update enterprise information under the **Settings** tab, such as general configuration, authentication, default **User** associations, reversed screen names, mail host names and email notifications. The following figure depicts the main tabs which can be used to change the enterprise information in detail:



With the **General** tab selected, you can change the enterprise's information via the following steps:

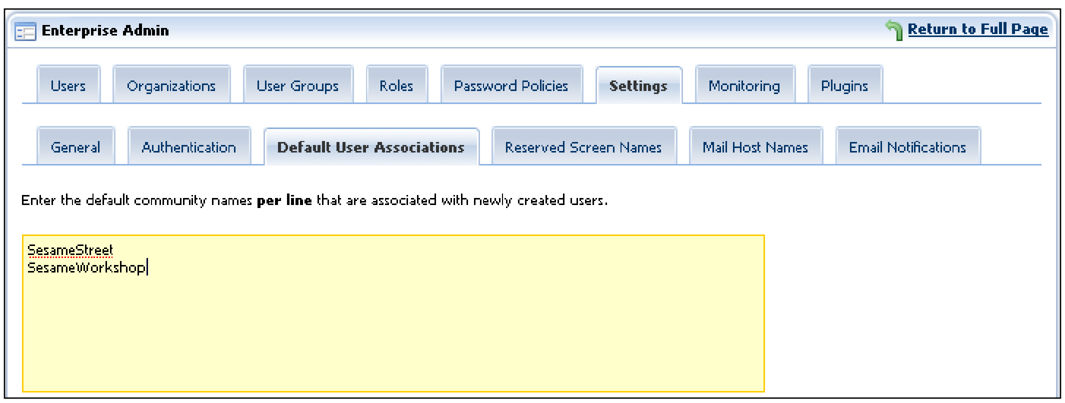
1. An enterprise's information can be viewed or edited from the **General** tab. For example, the **Mail Domain** box contains the domain names that the server will recognize.
2. Click the **Save** button after making any changes.
3. The default **Language**, **Time Zone**, and logo image can also be changed in the **Display** section.
4. Check the box if you allow community administrators to use their own logo.

5. Select a tab, such as **Email Addresses**, **Addresses**, **Websites**, and **Phone Numbers.**
6. Click the **Add** button, if you want to add email addresses, addresses, websites, or phone numbers.

Set up Default User Associations

Under the **Default User Associations** tab, you can change the default associations with the newly created **Users** as shown in the following figure. The following are the main steps to set up **Default User Associations**:

1. You can enter the default community names per line that are associated with the newly created users.
2. You can also enter the default role names per line that are associated with newly created users.
3. You can also enter the default user group names per line that are associated with newly created users.
4. Click the **Save** button after making any changes.



Update Reserved Screen Names

You can reserve the screen names under the **Reserved Screen Names** tab as follows:

1. You may enter one screen name per line to reserve the screen name.
2. You may also enter one user email address per line to reserve the user email address.
3. Click the **Save** button after making any changes.

Update Mail Host Names

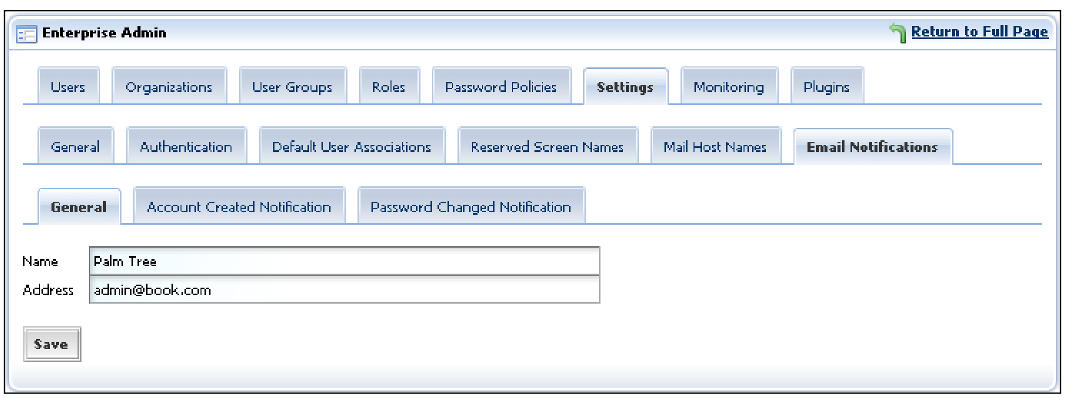
Under the **Mail Host Names** tab, you can change all additional mail host names as follows:

1. Enter one mail host name per line for all additional mail host names such as "**mail.book.com**".
2. Click the **Save** button after making any changes.

Update Email Notifications

Under the **Email Notifications** tab, you can change the configuration of email notifications, as shown in the following figure. The following are the main steps to update email notifications:

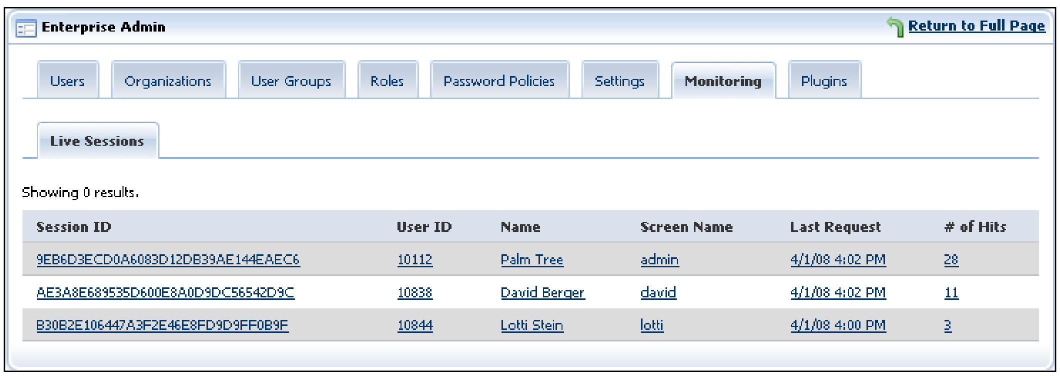
1. From the **General** tab, you can enter the **Name,** say "**Palm Tree**", and email **Address,** say "**admin@book.com**".
2. With the **Account Created Notification** tab selected, you can make changes to the default message that is automatically sent when accounts are created.
3. To disable new account emails, uncheck the **Enabled** box.
4. With the **Account Created Notification** tab selected, you can make changes to the default message that is automatically sent when a new password is created.
5. To disable new account emails, uncheck the **Enabled** box.
6. Click the **Save** button after making any changes.



Monitoring Users' Activities

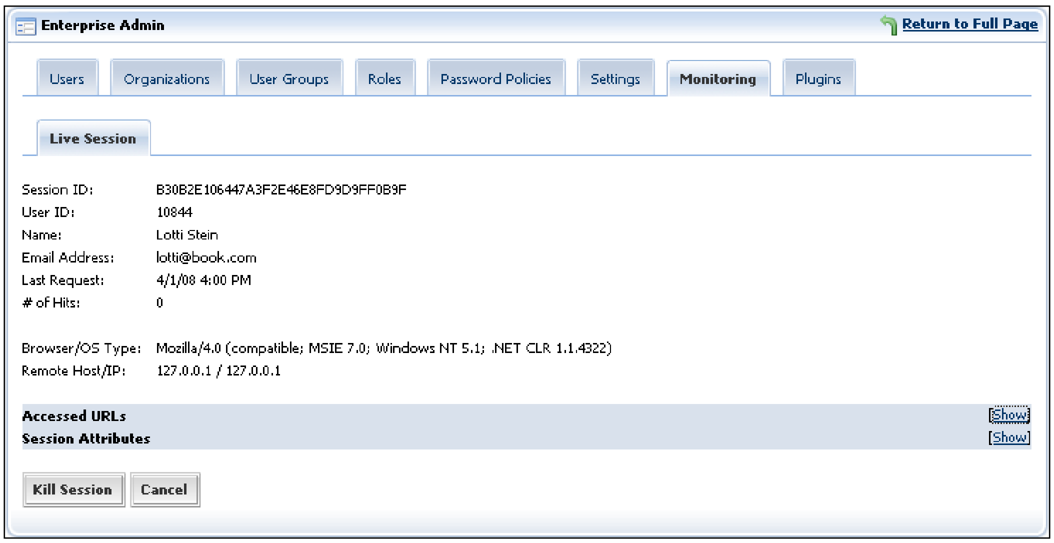
As an administrator, say "**Palm Tree**", at "Palm Tree Publications", you may need to monitor the **Users'** activities. Suppose that the **Users,** "**Lotti Stein**" and "**David Berger**", are online now. Let's monitor their activities as follows:

1. Log into the Portal as an administrator, say "**Palm Tree**".
2. Add the **Enterprise Admin** portlet in a **Page** named "**Home**" at **My Community Private Pages,** if the portlet is not already present.
3. Click the tab, **Monitoring**.
4. A set of live sessions will appear with **Session ID, User ID, Name, Screen Name, Last Request** and **Number of Hits** as shown in the following figure. For example, "**David Berger**" has **11** hits and "**Lotti Stein**" has **2** hits.



You can terminate a **User's** session. To end a **User's** session, select a session by clicking on the **User** name, "**Lotti Stein**", as a link first. Then in **Live Session,** click the **Kill Session** as shown in the following figure.

> Note that you cannot kill your own session.



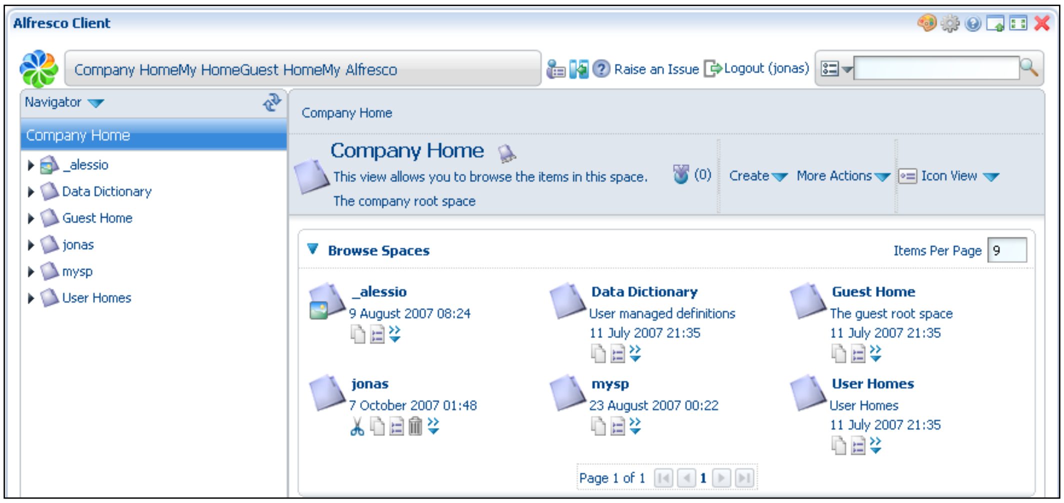
Integrating with Alfresco

Liferay provides the ability to fully integrate with Alfresco to take care of **Users**, **Communities** and **Permissions** synchronization so that **Users** can see Alfresco as a Liferay CMS and use it through Liferay portlets. These portlets include **Alfresco Client** and **Alfresco Content**.

> Alfresco is the leading open source for enterprise content management. The open source model allows Alfresco to employ best-of-breed open source technologies and contributions from the open source. URL: `http://www.alfresco.com/`

Using Alfresco Web Client

You can use Alfresco Web Client as a portlet in Liferay. That is, you use Alfresco content management system inside Liferay. The following figure shows **Alfresco Client** as a portlet in Liferay.



Liferay provides the ability to allow the publication of Alfresco contents through the portal. You can find **Alfresco Client** from the Liferay official web site, which provides an Alfresco package prepared for deployment:

1. Download the Alfresco Web Client war file. Rename the file as `alfresco.war`.
2. Increase the maximum memory. Edit to increase the memory size:

```
SET JAVA_OPTS="-Xms1024m -Xmx1024m -XX:MaxPermSize=128m -
Dfile.encoding=UTF8 -Duser.timezone=GMT -Djava.security.auth.
login.config=$CATALINA_HOME/conf/jaas.config"
```

3. Startup Tomcat. Log in as the administrator.
4. In the **Plugin Installer** portlet, click on the **Upload** tab.
5. Click **Browse,** and locate the `alfresco.war` file.
6. Click **Deploy**.
7. You can now add the **Alfresco Client** to your page.

Using Alfresco Content

Alfresco web services support remote access and bindings to any client environment. Web Services—SOA is recognized as a way forward for integrating disparate systems including Content Management and building new enterprise-wide solutions. Furthermore, Alfresco Web Scripts are ideal for building data access and updating APIs, simple UI components such as portlets, and integration adaptors. Alfresco OpenSearch has been hosted as a series of Web Scripts. Within Liferay SOA framework, we can export Alfresco content in portlets via Web Services or Web Scripts.

Enjoy Web Services

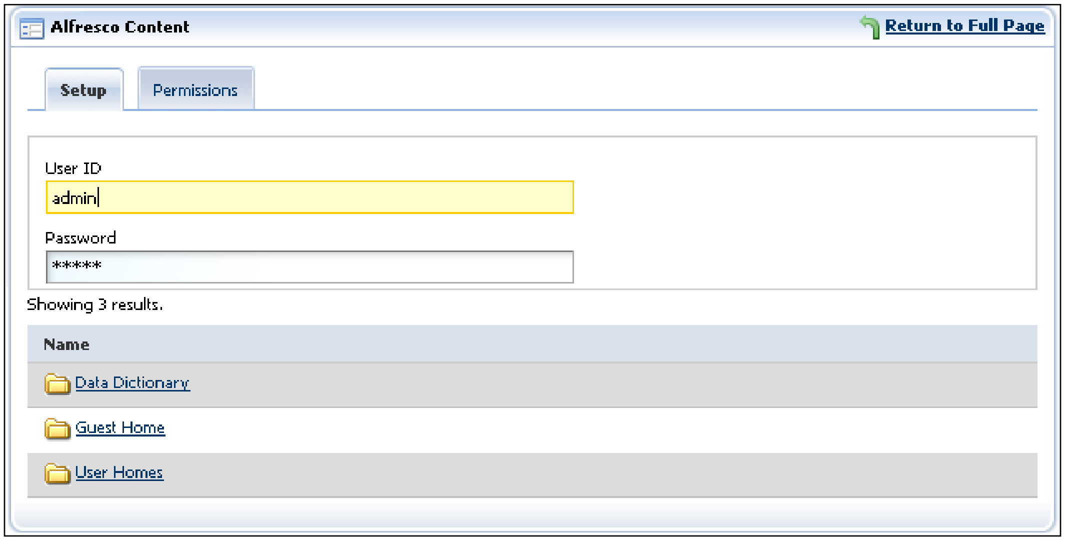
Web services are applications designed to support interoperable interaction over a network. In fact, web services are just Web APIs accessed over a network, such as the Internet, and executed on a remote system that hosts the requested services.

Alfresco Web Services is provided by Alfresco Repository. It supports remote access and bindings to any client environment. For example, alfresco community is already using PHP, Ruby and Microsoft .NET. Numerous standards and integration efforts are focused around Web Services—SOA is recognized as a way forward for integrating disparate systems including Content Management and building new enterprise-wide solutions. BPEL (Business Process Execution Language) plays an important role in orchestrating all these services.

Alfresco web services API include the following core Services:

- Authentication
- Repository—query and model manipulation
- Content—content manipulation
- Authoring—collaborative content creation
- Access Control—**Users**, groups, **Roles** and **Permissions**
- Administration—environment, configuration, export and import
- Dictionary—model descriptions
- Content Rules—automate content management behavior
- Classification—apply classifications and categories

The following figure depicts an example for **Alfresco Content**—web services portlet. You can navigate contents, search contents by OpenSearch, and set up default access account. After selecting the content, the portlet will display the content directly in the Portal.



Employ Web Scripts

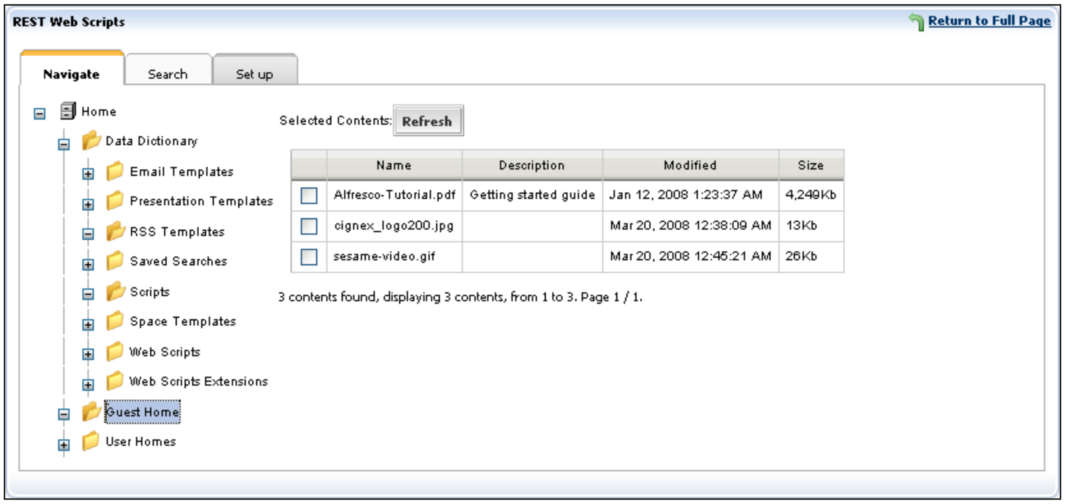
A Web Script provides a service on the web, where the service may perform any function. Web Scripts are suited for Content Management functions, as they are backed by the Alfresco Repository. Each Web Script is bound to a HTTP method and custom URL such as `http://sesame.cignex.com/cms_services/services?action=navigate`. A library of URLs may be built up to provide a complete (RESTful) HTTP API (for example, to download an image: `http://sesame.cignex.com/cms_services/services?action=download&uid=01232bda-f934-11dc-aef1-813a1994e4b0`).

Web Scripts allow us:

- to build custom URL-identified and HTTP accessible Content Management Web Services
- to turn your Alfresco Repository into a Content Management powered HTTP Server
- to easily access, manage and cross-link your content via a tailored RESTful API

The following figure depicts an example of the **Alfresco Content—Web Scripts** portlet. You can first navigate the contents dynamically by browse tree. After selecting content from the contents list, the portlet will display the content with its own format intelligently. For example, if content format is HTML, the portlet will display the content by HTML. If content format is PDF, the portlet will allow the **User** to download the content first, and then use local reader to open the content. Then, you can search the contents by keywords.

Finally, you can configure the Alfresco server connection, such as **Server URL**, **Default Account** for connection, and so on.



Use Alfresco as Liferay Direct Repository

Liferay has a wide range of portlets available freely for things such as **Blogs**, **Calendar**, **Document Library**, **Image Gallery**, **Mail**, **Message Boards**, **Polls**, **RSS Feeds**, **Wiki**, and many others. Liferay Portal also ships with Liferay Journal CMS (Content Management System), which provides basic ECMS (Enterprise Content Management Systems) features. If you want something beefier, then it will integrate with Alfresco.

When you integrate Alfresco with Liferay, you may need to consider the following questions:

- Do you want to integrate **Alfresco Contents** within Liferay articles?
- Do you want to use Alfresco document management as CMS repository of Liferay?
- Do you want to replace CMS in Liferay with Alfresco CMS in Liferay?

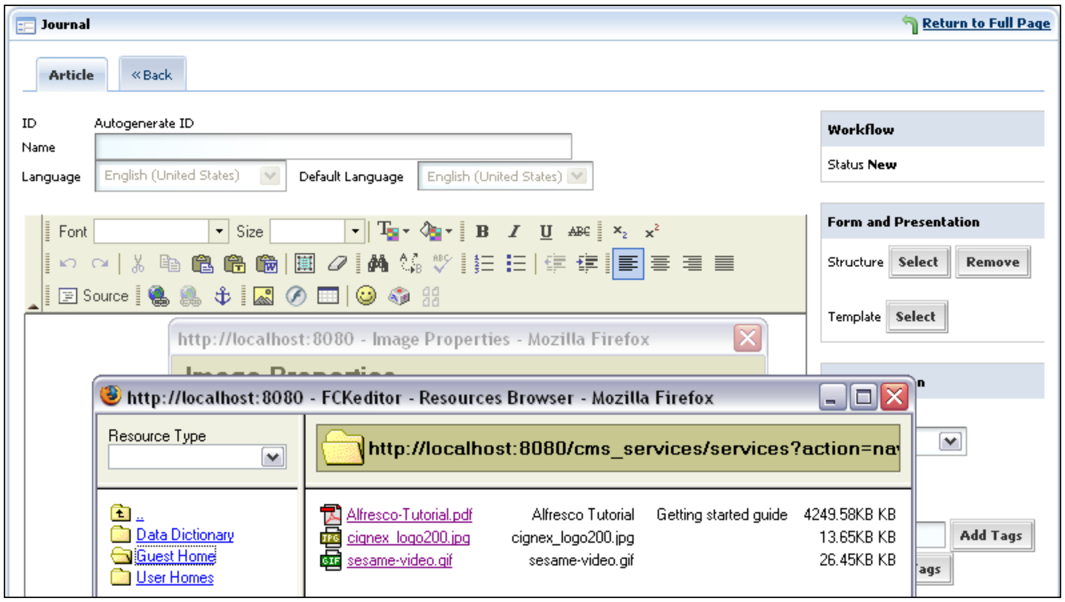
Here is a possible solution:

Alfresco CMS + Liferay Portal = Website

Let's use alfresco repository for Liferay repository as follows:

1. Add the **Journal** portlet in the current page.
2. Click the **Add Article** button.

3. In the editor, click the **Insert Image** icon next to the **Source** button and the **Insert Anchor** icon as shown in the following figure.
4. In the **Image Properties** windows, click the **Browse Server** button.
5. In the **Resources Browser** windows, you can browse folders (that is spaces in alfresco) and select files (such as image files) as shown in the following figure.



How does it work? Here are possible steps abstracted from the real website:

- Prepare web scripts in Alfresco server, such as search contents, update contents, get contents, download contents, and navigate spaces as folders.
- Prepare CMS services for searching contents, updating contents' metadata, getting contents' metadata, downloading contents and navigating spaces.
- In the editor, consume the CMS services replacing the Liferay **Image Gallery** services and **Document Library** services.

For example, you can get the bundled files and read-me messages from the web site `http://liferay.cignex.com/sesame/` and furthermore, you can play with it as a do-it-yourselfer.

Migrating Contents

Suppose that you already have contents stored in Liferay such as **Image Gallery** and **Document Library**. Now, you want to transfer these contents stored in Liferay into Alfresco. Let's do it as follows.

A portlet called **Alfresco Importer** provides services of content migration from Liferay Content Management repositories to alfresco repositories. Through Liferay services, the portlet gets all CMS contents with all communities; again by web services, the portlet writes all CMS contents into Alfresco repository, where the space names are created automatically by community's names. The following figure depicts the look and feel of the **Alfresco Importer** portlet.

You need to fill the following fields in the **Alfresco Importer** portlet:

1. **Alfresco username and password**: these fields will be used to connect to Alfresco through web services.
2. **Destination path**: this is the path of the Alfresco space in which the folders will be created, and the files imported. "Company Home" is the default root space.
3. You need to specify the **folders**' name that will be created for each CMS portlet. Then, three **folders** ("spaces" in alfresco terminology) will be created in Alfresco repository: one each for **Document Library**, **Journal Articles** and **Image Gallery**.

After you click on the **Import** button, the portlet will do the following steps:

- For each **community** in the current company, create a space in the root space (described in the second bullet step above). Each space's name will be the same as the **community's** name.
- Inside each **community's** space, create three folders with the names chosen (in third bullet step above).
- Import the files from **Document Library** and **Image Gallery**, keeping the same folder structure they have in these portlets. **Journal Articles** are imported to the same **Folder,** their content is merged with their **Templates** and the result is imported to Alfresco as HTML files.

> Note that when importing contents from CMS in Liferay to Alfresco repository, links, images, CSS, and JavaScript references in HTML generated article may not resolve correctly.

Integrating Liferay with LDAP, SSO And Alfresco

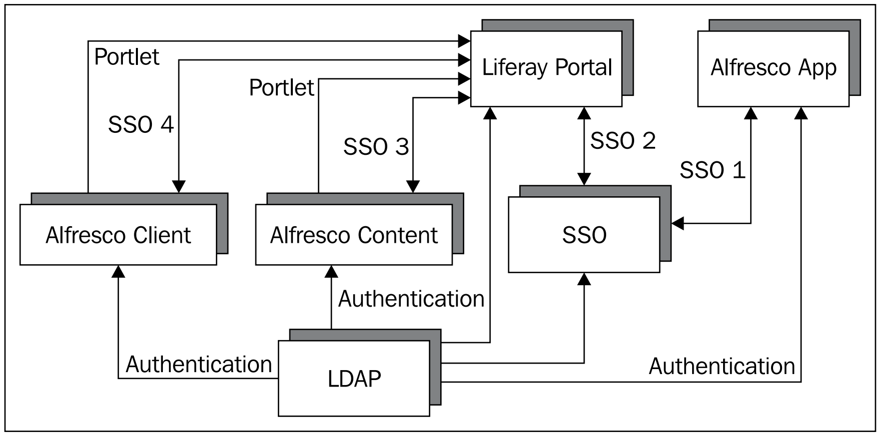
The following diagram shows full integration of **Liferay**, **Alfresco**, **LDAP** and **SSO** CAS. Here is a generic solution for full integration of **SSO** CAS and **LDAP** against Liferay Portal and **Alfresco Portlets**. Here is the generic solution of **SSO** CAS plus **LDAP** against:

- Alfresco Standalone Application—shown as **SSO 1**.
- **Liferay Portal** and, furthermore, **Alfresco** Portlets – shown as **SSO 2**, **SSO 3**, and **SSO 4**".

To integrate **SSO** CAS plus **LDAP** with **Liferay Portal** and **Alfresco** Portlets such as **Alfresco Client** portlet and **Alfresco Content** portlet, simply follow these steps in sequence:

1. First configure the **Liferay Portal** authenticating with **LDAP**.
2. Then configure the **SSO** CAS server authenticating with **LDAP**.

3. Finally configure the **Alfresco** portlets (**Alfresco Client** and **Alfresco Content**) authenticating with **SSO**.



For example, you can first log in to Alfresco standalone application `http://liferay.cignex.com:8090/alfesco` by a **User** account. You are asked to input authentication information here. You will see Alfresco web client standalone application. Then, click Liferay portal `http://liferay.cignex.com:8092/c/portal/login`. You will see that you don't have to log in to the Liferay portal. You are logged into the **Alfresco Web Client** portlet automatically. That is, web applications (Alfresco standalone application, **Liferay Portal** and portlets) share the same access ticket— to defer all authentications to a trusted central server (**SSO** and **LDAP**).

The full integration involves two main functionalities: filters in action for **Liferay Portal** and Alfresco applications, and portlets in action for any portlet in **Liferay Portal**. The following are some general instructions to implement these two main functionalities: filters in action and portlets in action.

Filters in action involve the following steps:

- Enhanced SSO Filter
- Authenticating **SSO** CAS Server with **LDAP**
- Enhanced validating URL in **SSO** CAS Server
- Authenticating with **LDAP**
- Automatic login

Portlets in action involve the following steps:

- Loading portlet
- Tracing current **User** from filter
- Authenticating portlet with **LDAP**
- Automatic login

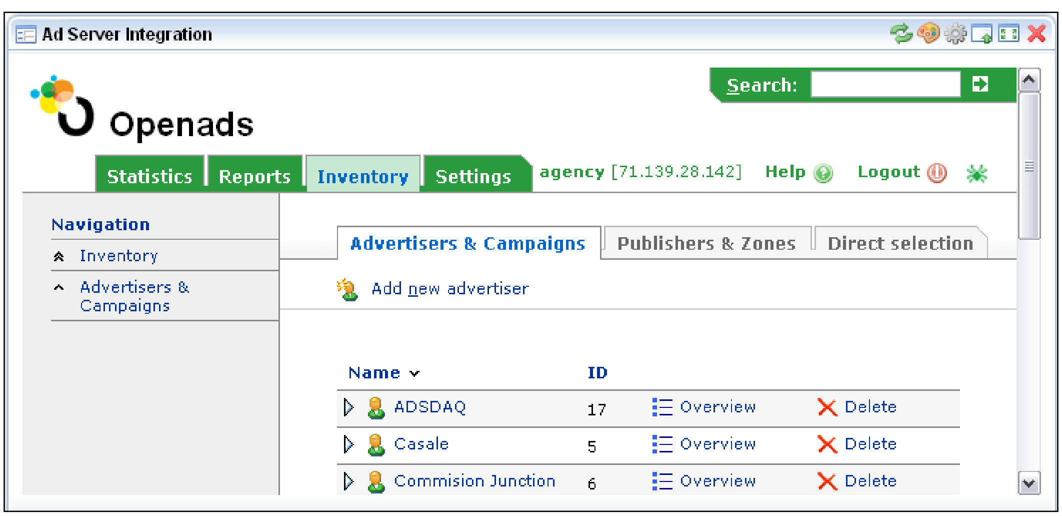
Integrating with Other Systems

As the world's leading open source portal platform, Liferay provides a unified web interface for data and tools scattered across many sources. Within Liferay portal, a portal interface is composed of a number of portlets—self contained interactive elements that are written to a particular standard. Since portlets are developed independently of the portal itself, and loosely coupled with the portal, they are apparently SOA (Service-Oriented Architecture). This section will discuss how to use SOA to integrate other systems.

Working with Ad Server—OpenX

The OpenX community has grown rapidly to become the web's largest ad space community. As a powerful ad serving solution, OpenX puts control over online advertising back in the hands of web publishers.

OpenX ad server gives site owners everything they need to generate revenue from their websites. Publishers can get complete control of banners and campaigns along with a tracking system, as shown in the following figure:



How do we integrate OpenX in Liferay? Here are some possible steps to do this:

- Consume web services from Ad Server in OpenX.
- Prepare **Ad** portlet to manage ads in Liferay.
- Prepare **Ad Display** portlet to publish **Ad Banners**.
- Deploy these two portlets (**Ad** portlet and **Ad Display** portlet) in Liferay.

The features are necessary in setting up the banners of the content of **Ads** portlet should include:

- Displaying ads (that is, banners) based on a specific day; for example, at Christmas, showing GUND's banner.
- Displaying ads based on a general day; for example, on Monday, display a Fisher-Price ad; on Tuesday, display a GUND ad.
- Displaying ads on percentage basis for the duration of a given day; for example, on Tuesday, display GUND 40%, and Fisher-Price 60%.

We can use ads server OpenX to manage information on companies including banners (called Ads repository), as well as the alfresco server for content repository. At the same time, we can get complete control of banners and campaigns along with a tracking system. Further, we can do more tasks such as these:

- Provide version feature for Ads in Liferay. Thus, we can see which ad version it was in the past.
- Separate **Ad Display** from **Ad** management in Liferay. In ads, **admin** will manage all possible ads with the above mentioned rules (similar to **Journal** portlet). **Ad Display** provides a way to display ads (similar to that of display articles in **Journal Content**) in any page.
- Schedule ads (that is, banners) in **Ad Display**, which is the same as that of articles in **Journal Content**. We can preview **Pages** on a specific date, say July 14th, including all updated **Pages**, home **Page**, and all scheduled articles and ads.

> OpenX is a hugely popular, free ad server for web publishers. It takes control, manages your advertising and makes more money from online advertising. URL: `http://www.openx.org/`

Working with Orbeon Forms

The Orbeon Forms WAR can be directly deployed into the Liferay portal through the following steps:

1. Download Orbeon Forms ZIP file.
2. Unzip Orbeon Forms ZIP file.
3. Drop `orbeon.war` into the Deploy Directory such as `$user-home/liferay/deploy`.
4. Create a new Liferay page called "Orbeon", and open that page.
5. Click the **Add Application** link from the drop-down menu.
6. You should see the **Orbeon Form** portlet appear in the menu.
7. Select **Add** to add the portlet to the page.
8. The portlet displays a welcome page with links to Orbeon Forms examples.
9. **Flickr Resize** example running in the portlet is shown in the following picture.
10. Enter one or more **Flickr tags** such as "**yellow stone**".
11. Press the **Find** button. You can then use the slider to resize the images returned.

> Orbeon Forms is an open source forms solution that handles the complexity of forms. URL: `http://www.orbeon.com/`

Working with Other Integrations

We can also integrate other applications such as Jasper Reports, Pentaho, Intalio, and so on. Here, we just discuss some of them.

Using Jasper Reports, we can easily integrate reporting tool in Liferay portal.

> Jasper Reports is an open source reporting tool that can write to screen, to a printer or into PDF, HTML, Microsoft Excel, RTF, ODT, Comma-separated values and XML files. URL: `http://www.jasperforge.org/jaspersoft/opensource/business_intelligence/jasperreports/`

Using Pentaho, we can add ETL capabilities for Business Intelligence (BI) inside the Liferay portal.

> Pentaho is an Open Source application software for reporting, analysis, dashboard, data mining, and workflow and Business Intelligence. URL: `http://www.pentaho.com`

Using Intalio|BPMS, we can integrate the BPMN and BELP inside the Liferay portal.

> Intalio|BPMS is the BPMS to natively support the BPMN and BPEL industry standards. URL: `http://www.intalio.com/`.

Summary

This chapter first introduced us to the **Admin** portlet, which provides the ability to view server information, to create **Instances**, and to view available **Portlets**, **Themes** and **Layout Templates**. Then it discussed the **Enterprise Admin** portlet which not only allows **Users** with **Permissions** to manage **Users**, **Organizations**, **User Groups**, and **Roles**, but also shows portal settings information, **Password Policies** besides monitoring **Users'** activities. In addition, it discusses full integration with Alfresco through web services and web scripts. Further, it also discussed full integration of **LDAP**, **SSO** CAS, Liferay and Alfresco to take care of **Users**, **Communities** and **Permissions** synchronization so that **Users** can see Alfresco as a CMS in Liferay and use it through Liferay portlets. Finally, it discussed other forms of integration such as Ad Server, which includes OpenX, Orbeon Forms, and so on.

In general, we have introduced Liferay, including Portal, Journal CMS, Collaboration suite and various integrations with other systems such as Alfresco, **SSO** and **LDAP**. We tried to explain why Liferay is a better solution for building dynamic and interactive web sites with web content management and web content publishing. Moreover, we also tried to expound how Liferay satisfies the current and future requirements of your website.

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