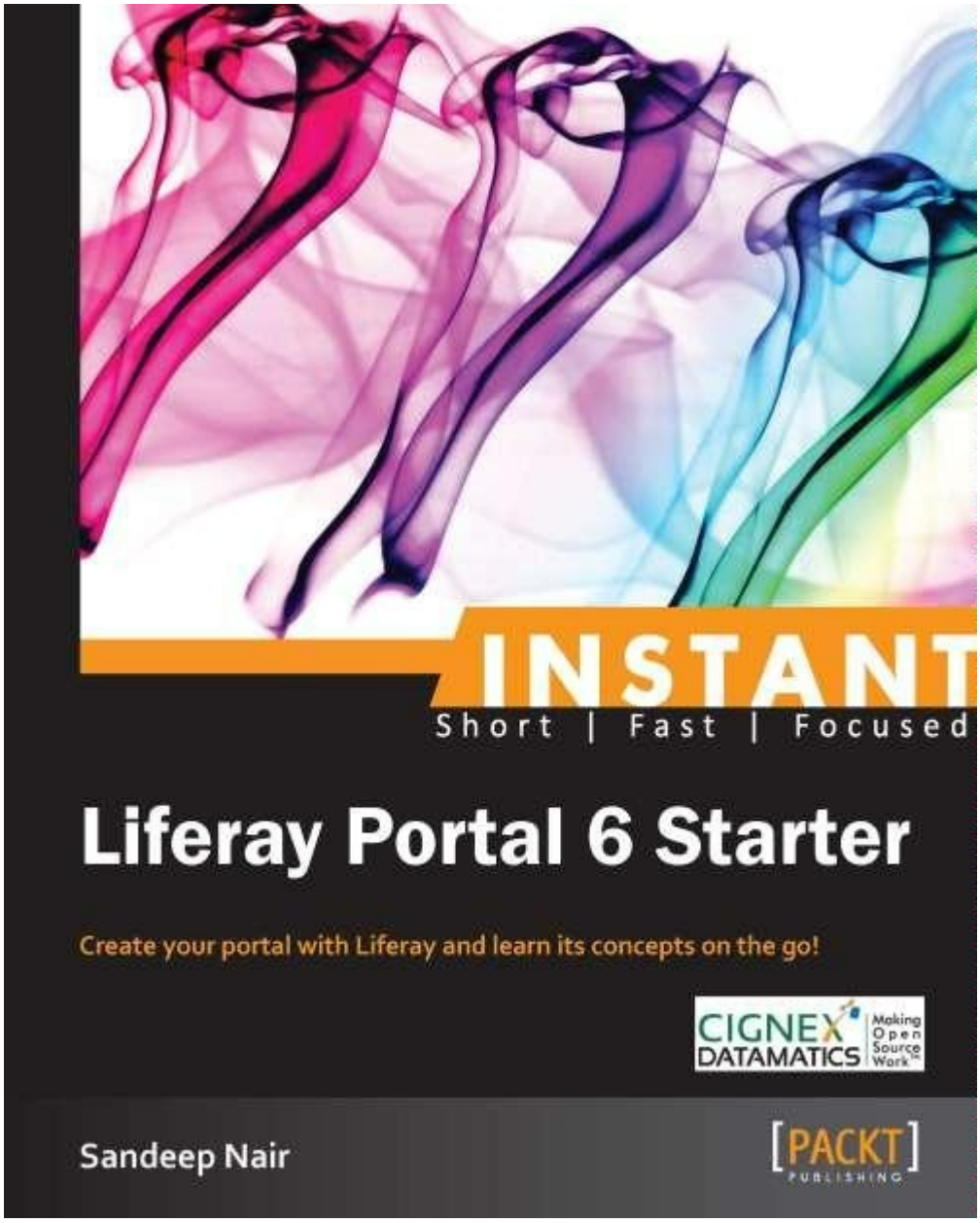

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Liferay Portal 6 Starter
Create your portal with Liferay and learn its concepts on the go!
CIGNEX DATAMATICS
Making Open Source Work
Sandeep Nair
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Instant Liferay Portal 6 Starter

Instant Liferay Portal 6 Starter

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Sandeep Nair has been working for Liferay for more than 4 years and has an overall of more than 7 years' experience in Java and Java EE technologies. He has executed projects using Liferay in various domains such as construction, financial, and medical fields, providing solutions which include Collaboration, Enterprise Content Management, and Web Content Management systems.

He has created a free and open source Google Chartlet plugin for Liferay which has been downloaded and used by people across 90 countries according to SourceForge.net statistics. Besides developing, consulting, and implementing solutions, he has also been involved in trainings for Liferay in other countries. Before he jumped into Liferay, he garnered experience in Java and Java EE platforms and worked in EJB, Spring, Struts, Hibernate, and Servicemix. He also has experience in using JitterBit, which is an ETL tool.

He has also co-authored *Liferay Beginner's Guide* by *Packt Publishing*.

When he is not coding, he loves to read books and write blogs.

I would like to thank my parents and my brother who always knew that there was an author in me and always supported me. A big thanks to Pratik Amin who approached me with the idea of writing this book; to Harsha Bharwani, the Commissioning Editor, who helped and guided me throughout the book writing process and Joel Goveya, my Project Coordinator, who made sure that I had everything I needed to write and deliver my chapters on time. Last but not least, I would like to thank my company CIGNEX Datamatics who paved the way for the writer in me, and made me capable enough to undergo the entire process of book writing on my own.

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Chapter 1. Instant Liferay Portal 6 Starter

Welcome to *Instant Liferay Portal 6 Starter*. This book is a newbie guide to understand the concepts of the Liferay portal. You will learn how to build a site from scratch and some of the key features of Liferay.

This document contains the following sections:

So, what is Liferay? will give you a quick understanding about portals and Liferay.

Installation and setup teaches you how to set up Liferay on your local machine.

Quick start will get you familiar with Liferay's interface. It will also teach you about user management, organizations, sites, roles, and permissions.

Top 5 features you need to know about demonstrates how to use features such as collaboration, document and content management, setting up workflows for content, and usage of Dynamic Data Lists.

People and places you should get to know tells you where to look for further reading.

So, what is Liferay?

Put simply, Liferay is an open source portal solution. Now many of you may ask what is a portal. So, let us first understand a little about portals.

Overview about portals

Well, to understand more about what portals are, let me throw some familiar words at you. Have you used, heard, or seen iGoogle, the Yahoo! home page, or MSN? If the answer is yes, then you have been using portals already.

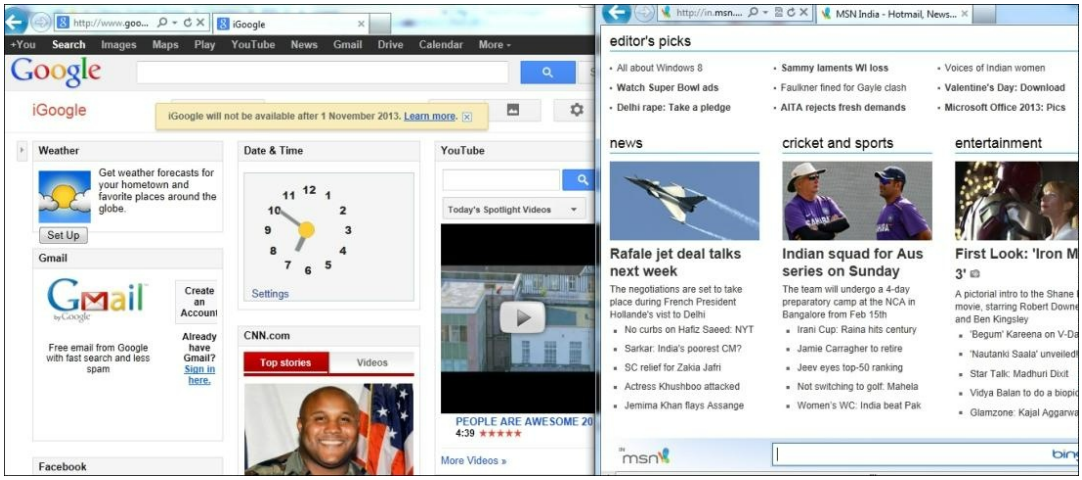
All these websites have two things in common.

- A common dashboard
- Information from various sources shown on a single page, giving a uniform experience

For example, on iGoogle, you can have a gadget showing the weather in Chicago, another gadget to play your favorite game of Sudoku, and a third

one to read news from around the globe, everything on the same page without you knowing that all of these are served from different websites! That is what a portal is all about.

So, a portal (or web portal) can be thought of as a website that shows, presents, displays, or brings together information or data from various sources and gives the user a uniform browsing experience. The small chunks of information that form the web page are given different names such as gadgets or widgets, portlets or dashlets.



Introduction to Liferay

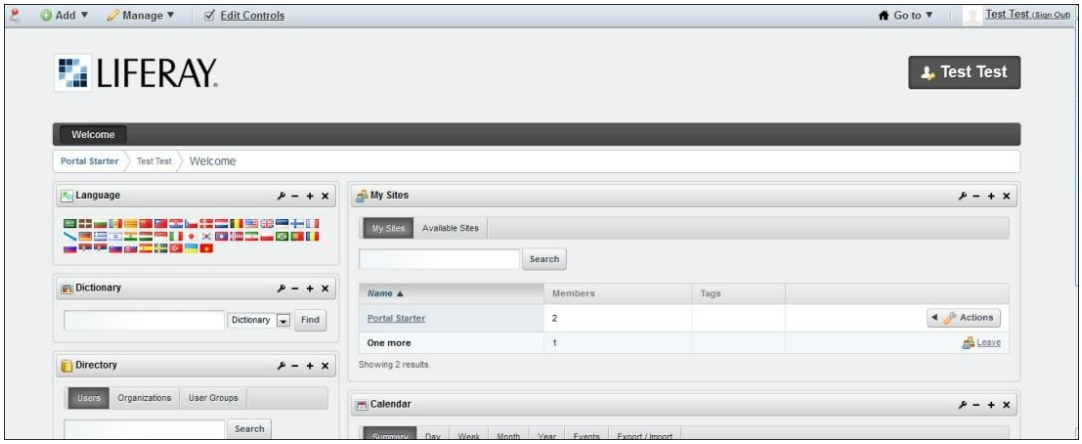
Now that you have some basic idea about what portals are, let us revisit the initial statement I made about Liferay.

Liferay is an open source portal solution.

If you want to create a portal, you can use Liferay to do this. It is written in Java. It is an open source solution, which means the source code is freely available to everyone and people can modify and distribute it.

With Liferay you can create basic intranet sites with minimal tweaking. You can also go for a full-fledged enterprise banking portal website with programming, and heavy customizations and integrations. Besides the powerful portal capabilities, Liferay also provides the following:

- Awesome enterprise and web content management capabilities
- Robust document management which supports protocols such as CMIS and WebDAV
- Good social collaboration features



Liferay is backed up by a solid and active community, whose members are ever eager to help. Sounds good? So what are we waiting for? Let's take a look at Liferay and its features.

Installation and setup

In four easy steps, you can install Liferay and run it on your system.

Step 1 – Prerequisites

Before we go and start our Liferay download, we need to check if we have the requirements for the installation. They are as follows:

- Memory: 2 GB (minimum), 4 GB (recommended).
- Disk space: Around 5 GB of free space should be more than enough for the exercises mentioned in the book.
- The exercises performed in this book are done on Windows XP. So you can use the same or any subsequent versions of Windows OS. Although Liferay can be run on Mac OSX and Linux, it is beyond the scope of this book how to set up Liferay on them.
- The MySQL database should be installed. As with the OS, Liferay can be run on most of the major databases out there in the market. Liferay is shipped with the Hypersonic database by default for demo purpose, which should not be used for a production environment.
- Unzip tools such as gzip or 7-Zip.

Step 2 – Downloading Liferay

You can download the latest stable version of Liferay from https://www.liferay.com/downloads/liferay-portal/available-releases.

Liferay comes in the following two versions:

- **Enterprise Edition**: This version is not free and you would have to purchase it. This version has undergone rigorous testing cycles to make sure that all the features are bug free, providing the necessary support and patches.
- **Community Edition**: This is a free downloadable version that has all the features but no enterprise support provided.

Liferay is supported by a lot of open source application servers and the folks at Liferay have made it easy for end users by packaging everything as a bundle. What this means is that if you are asked to have Liferay installed in a JBoss application server, you can just go to the URL previously mentioned and select the Liferay-JBoss bundle to download, which gives you the JBoss Application server installed with Liferay.

We will download the Community Edition of the Liferay-Tomcat bundle, which has Liferay preinstalled in the Tomcat server. The stable version at

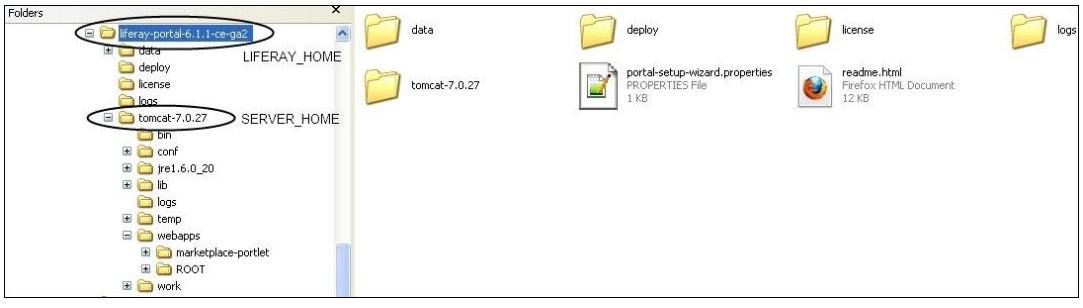
the time of writing this book was Liferay 6.1 GA2. As shown in the following screenshot, just click on **Download** after making sure that you have selected Liferay bundled with Tomcat and save the ZIP file at an appropriate location:



Step 3 – Starting the server

After you have downloaded the bundle, extract it to the location of your choice on your machine. You can see a folder named `liferay-portal-6.1.1-ce-ga2`. The latter part of the name can change based on the version that you download.

Let us take a moment to have a look at the folder structure as shown in the following screenshot:



The `liferay-portal-6.1.1-ce-ga2` folder is what we will refer to as `LIFERAY_HOME`. This folder contains the server, which in our case is tomcat-7.0.27. Let's refer to this folder as `SERVER_HOME`.

Liferay is created using Java, so to run Liferay we need **Java Runtime Environment** (**JRE**). The Liferay bundle is shipped with a JRE by default (as you can see inside our `SERVER_HOME`). So if you are running a Windows OS, you can directly start and run Liferay. If you are using any other OS, you need to set the `JAVA_HOME` environment variable.

Navigate to `SERVER_HOME/webapps`. This is where all the web applications are deployed. Delete everything in this folder except `marketplace-portlet` and `ROOT`.

Now go to `SERVER/bin` and double-click on `startup.bat`, since we are using Windows OS. This will bring up a console showing the server startup. Wait till you see the `Server Startup` message in the console, after which you can access Liferay from the browser.

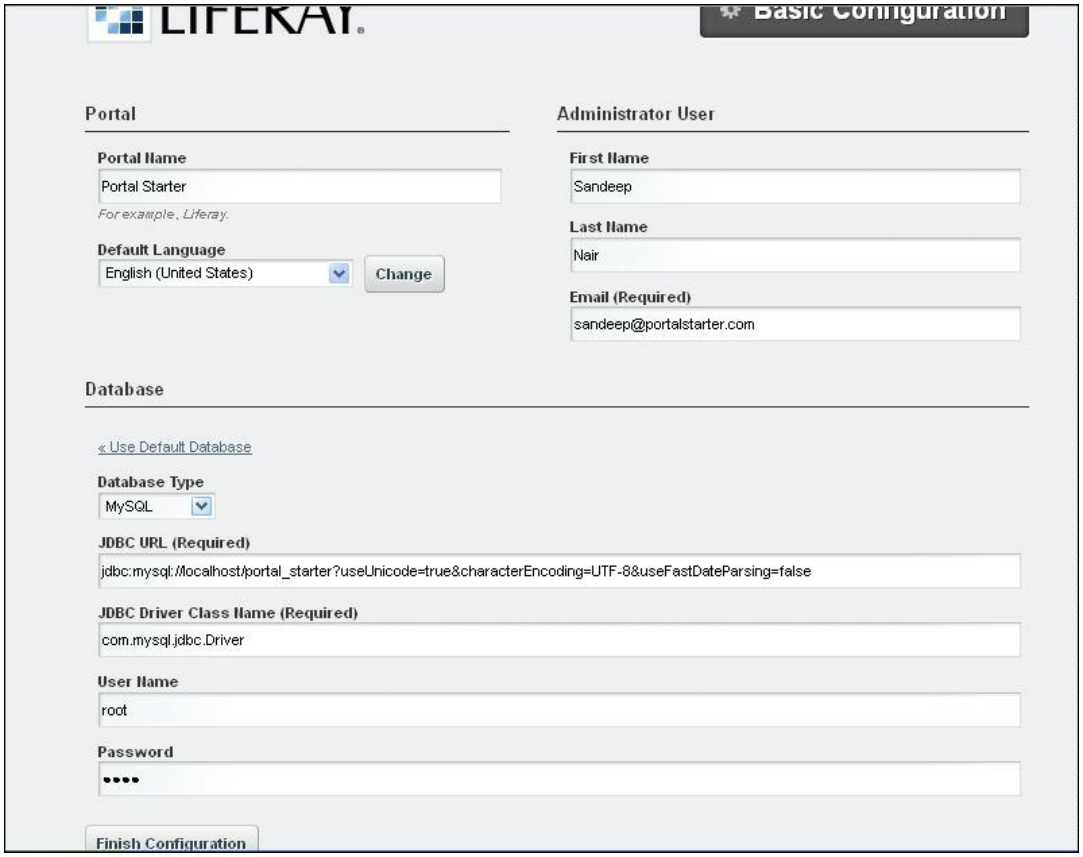
Step 4 – Doing necessary first-time configurations

Once the server is up, open your favorite browser and type in `http://localhost:8080`.

You will be shown a screen that performs basic configurations, such as changing the database and name of your portal, deciding what should be the admin name and e-mail address, or changing the default locale. This is a new feature introduced in Liferay 6.1 to ease the first-time setup, which on previous versions had to be done using the property file.

Go change the name of the portal, administrator username, and e-mail address. Keep the locale as it is.

As I stated earlier, Liferay is shipped with a default Hypersonic database which is normally used for demo purposes. You can change it to MySQL if you want, by selecting the database type from the drop-down list presented, and typing in the necessary JDBC details. I have created a database in MySQL by the name **Portal Starter**; hence my JDBC URL would contain that. You can create a blank database in MySQL and accordingly change the JDBC URL. Once you are done making your changes, click on the **Finish Configuration** button as shown in the following screenshot:



This will open up a screen, which will show the path where this configuration is saved. What Liferay does behind the scenes is creates a property file named `portal-setup-wizard.properties` and put all the configurations in that. This, as I said earlier, was created manually in the previous versions of Liferay.

Clicking on the **Go to my portal** button on this screen will take the user to the **Terms of Use** page. Agree to the terms and proceed further.

A screen will be shown to change the password for your admin user that you earlier specified in the **Basic Configuration** screen.

After you change the password, you will be presented with a screen to select a password reminder question. Select a question or create your own question from the drop-down list, set the password reminder, and move on.

And that's it!!

Finally, you can see the home page of Liferay. That's it and you are done setting up your very first Liferay instance.

Quick start

Now that you have set up Liferay, let's see some of its basic features, concepts, and functionalities.

Dockbar

Once you log in to Liferay using admin credentials, you are presented with a dashboard. Every logged in user will have a default **dockbar** at the top the screen as shown in the following screenshot:



This is the main area which an admin user will make use of the most to manage the site and control the behavior of the portal.

Using the dockbar, the admin user can perform the following actions:

- Add pages and portlets
- Manage pages, page layout, sites, and site memberships
- Manage Liferay functionalities by going to **Control Panel** in the admin area

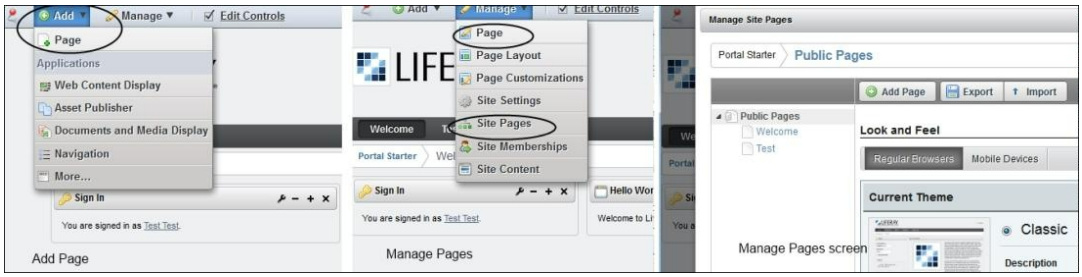
Pages, portlets, layout templates, and themes

In order to work with pages, portlets, layout templates, and themes, we need to know more about each of them. This section gives you an overview for each.

Pages

Pages are the building blocks of creating any website. In Liferay you can create and manage pages very easily.

To create a page, you can hover over the **Add** tab from the dockbar and click on **Page**. This will add a page to the current site. Alternatively, you can hover over **Manage** from the dockbar and click on **Page** to manage the current page or click on **Site Pages** to manage all the pages in the current site:



Portlets

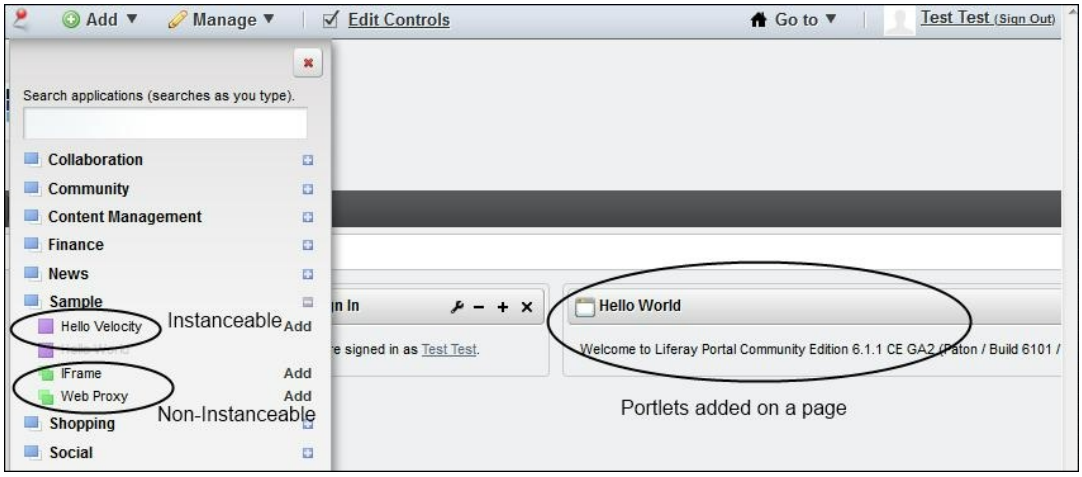
Portlets are the small widgets that can be added to the page. The power of any portal lies in the ability of having information from varied resources or repositories on the same page, without having the end user realize.

In Liferay you can add portlets by clicking on **Add** from the dockbar and selecting **More…** which would show a small window to select the out-of-the-box portlets that Liferay is shipped with.

Once the portlet gets added to the page, you can drag the portlet around to a location of your preference anywhere on the same page.

Portlets in Liferay are of two types:

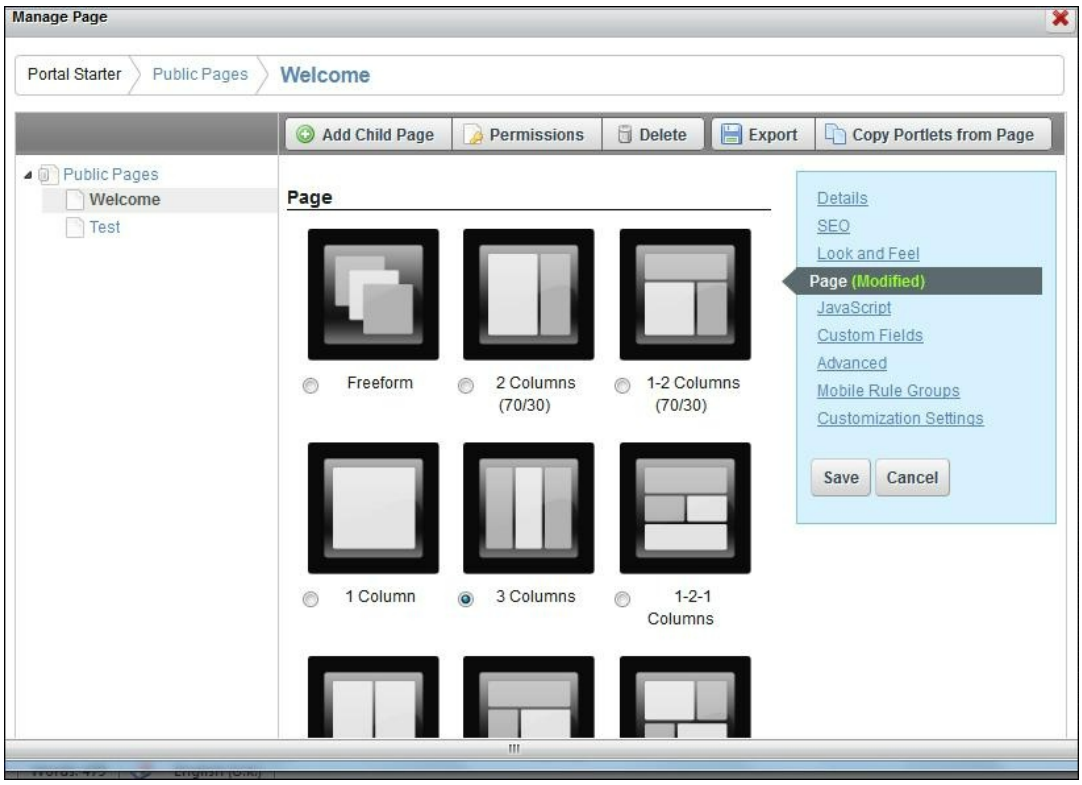
- **Instanceable**: Using this type of portlet, multiple instances of the same portlet can be added on the same page. Assume that there is a weather portlet, which shows the weather of some cities of a state. Now you may also want to add another weather portlet to show cities of other states on the same page. In such cases instanceable portlets come in handy.
- **Non-instanceable**: Using this type of portlet, only one instance of a particular portlet can be added on the page.



Layout templates

Layout templates are nothing but sockets where you can drag-and-drop your portlets. This is an easy way to organize your portlets around on a page.

You can choose a layout template by going to the **Manage** tab from the dockbar and clicking on **Page Layout**. Select the page layout you want to apply on the page and click on **Save**. Now try playing around with portlets by dragging and dropping them in the socket you desire:



Themes

Themes control the look and feel of the overall site. A theme is an item that makes your site look different from other sites. Every Liferay comes with a default theme named **Classic**. Each theme itself can have multiple variations known as **Color schemes**.

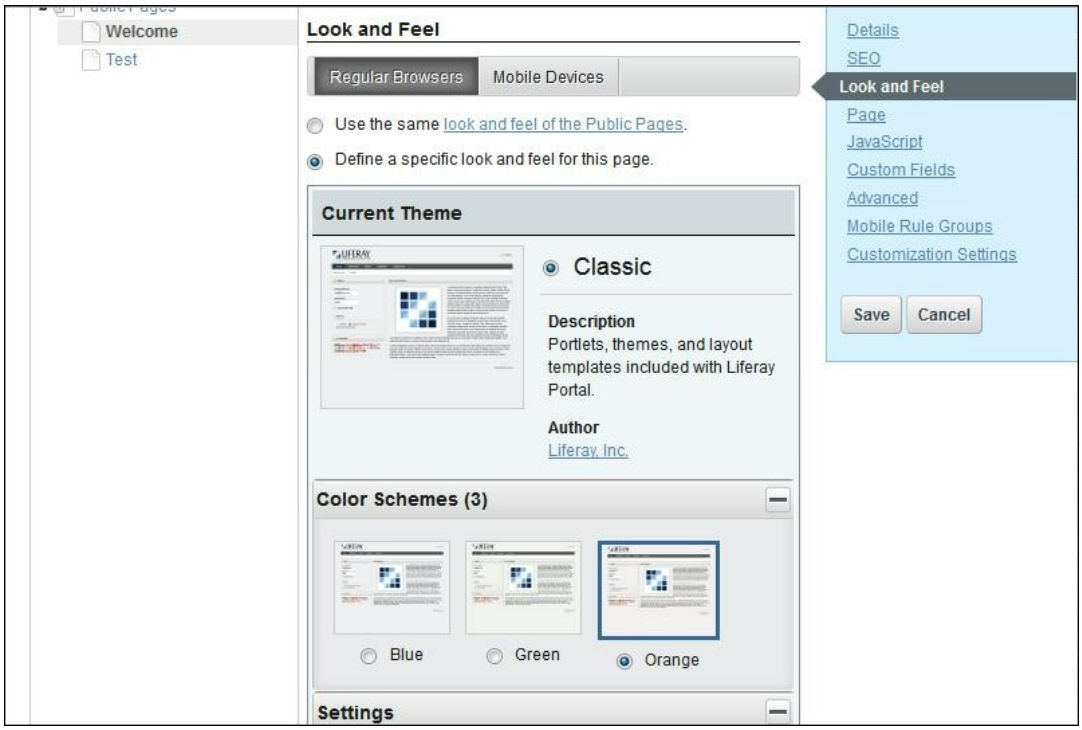
You can change the look and feel of a single page or all the pages on the site.

To change the look and feel of the current page, hover over the **Manage** tab from the dockbar and select **Page**. This will open up a window to manage the current page that you are accessing.

Click on **Look and Feel** from the right-hand side section. This will provide you with an option to choose a specific look and feel for the current page.

Select the radio button which says **Define a specific look and feel for this page**. This will show all the themes installed. Right now, there will be just a default **Classic** theme with its color schemes.

Select the color scheme **Orange** and click on **Save**. You can see how the current page acquires an orangish hue:



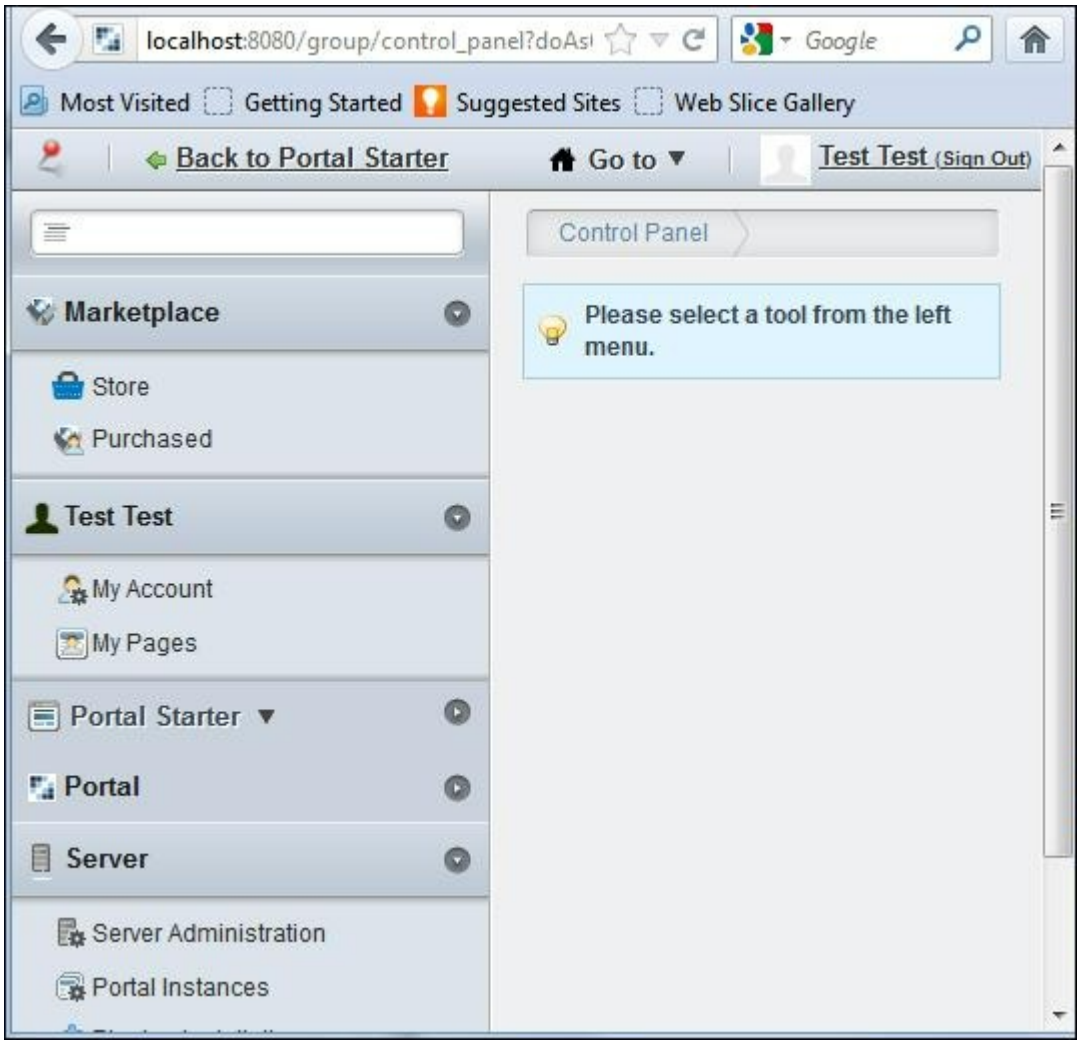
Similarly, you can change the look and feel of all the pages in a site by hovering over the **Manage** tab and clicking on **Site Pages**.

As you have already seen, Liferay is shipped with many out-of-the-box portlets, layout templates, and a **Classic** Theme. These are all called plugins in the Liferay world. Besides these plugins, you can get additional

plugins from Liferay's Marketplace that we will see later. If the Marketplace falls short of your expectations, you can always create custom portlets, themes, and layout templates to fit your requirements.

Control Panel

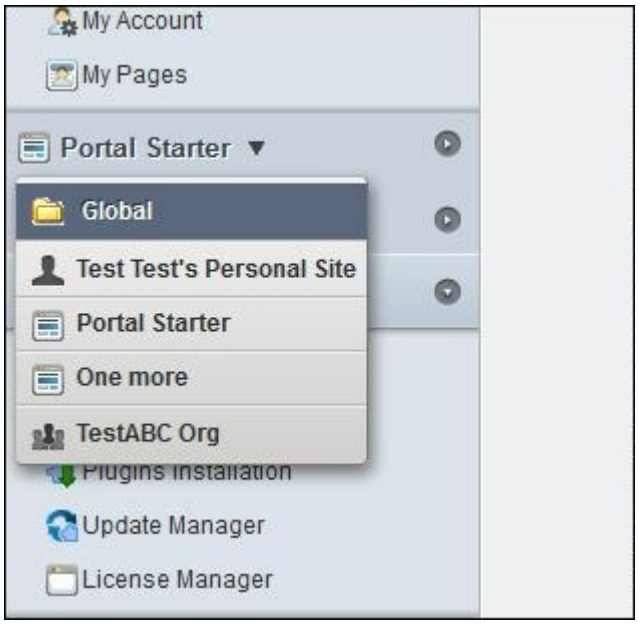
Control Panel is an administration hub to manage everything that forms your portal. You can go to **Control Panel** by hovering over **Go To** from the dockbar and clicking on **Control Panel** and you will find the following screenshot:



As you can see **Control Panel** is divided into five sections. You can minimize each section by clicking on it:

- The first section named **Marketplace** is used to get the portlets from different vendors and users, which we will see later.
- The second section is the user's section. The logged-in user can manage his/her account, pages, or any management activities pertaining to him/her from here.

- The third section is to manage the site and site-related content. A portal can have many sites and each site can be managed by clicking on the small triangle icon next to the site name.



- The fourth section named **Portal** manages the current portal instance. This includes managing users, creating sites, organizations and roles, and many other things on the portal level.
- The fifth section is what system admins would use and it is known as **Server**. This is used to change log levels, monitor performance of the system, re-index search servers, install plugins, create a new portal instance, altogether, with different sets of users and organizations, setup mail servers, and so on.

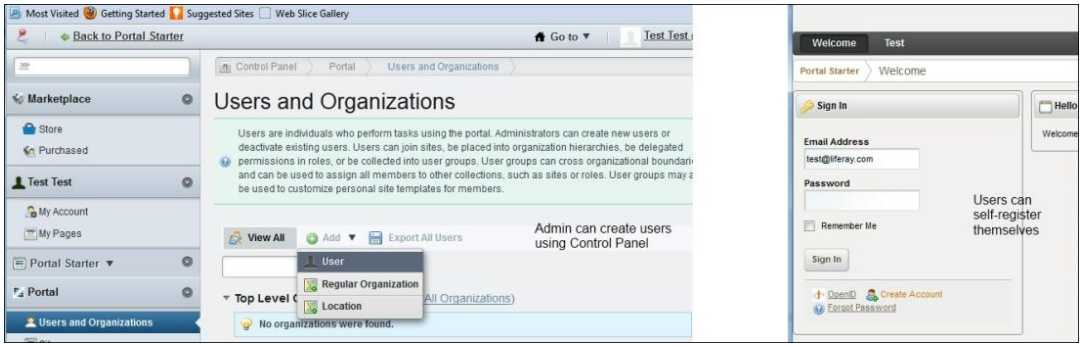
Users

Users form the core of Liferay. Most of the concepts revolve around these users, whether an organization or sites or roles or user groups. These sites, roles, organizations, or user groups are nothing but various ways to manage or group users, or define what each user can do in the portal.

Earlier, while setting up Liferay, we had already created an admin user to manage our portal.

Additional users can be created by going to **Control Panel**, navigating to **Users and Organizations** under the **Portal** section and clicking on **Add** | **User**. Once the user is added, the admin can add additional details pertaining to the user.

Alternatively, users can self-register themselves using the sign in the portlet.



Sites

Sites relate to real-world websites. Every setup of a portal comes with a default site, which in the Liferay world is called as **guest site** from where an unauthenticated user or a guest user can visit and login. In order to have pages for your website, you need to create a site.

Sites are of three types based on how a member can join them:

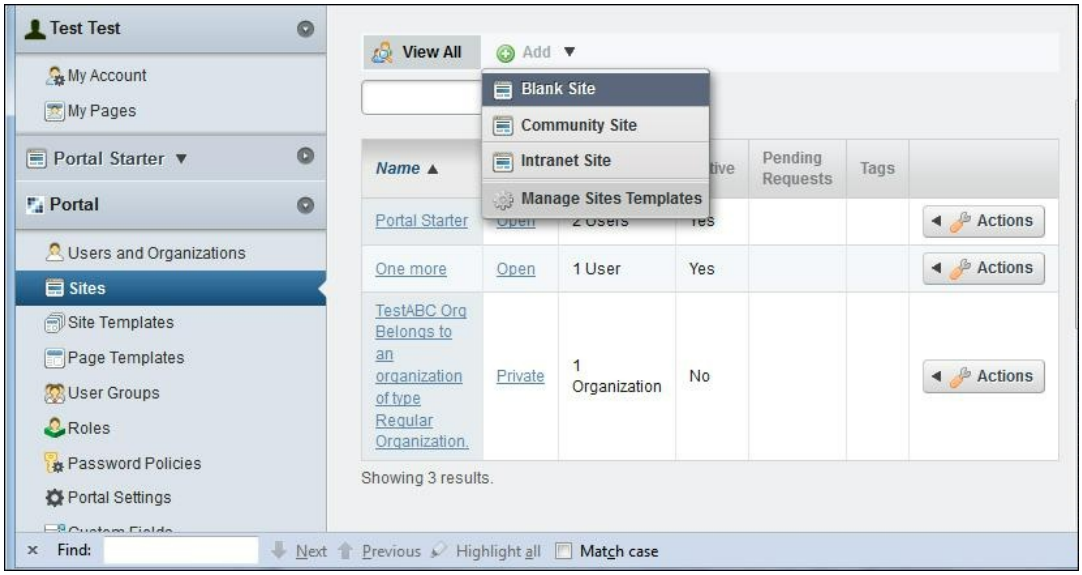
- **Open sites**: These sites are publicly visible and any registered Liferay user can join them.
- **Restricted sites**: These sites are publicly visible, but a registered Liferay user has to request membership from the community owner or administrator. These can be leveraged when you want end users to see and ask for memberships, but you as an admin have the power to decide which user should be allowed to join.
- **Private sites**: These sites are not at visible for a registered user to join or ask for membership. The community admin decides and adds the user to these sites at his will.

Sites can have two page sets which control the visibility of group of pages:

- **Public pages**: These pages are visible to all. Let's assume you have built a site for a school. Now you want some pages or a version of a site to be visible to the world, so that people can see what your school is all about, the location of the school, or any job openings. In short anything that a guest user is shown can be modeled using a public page set.
- **Private pages**: These pages are only shown to the members of the site. Taking the example of the school website again; you may have the requirement that the students of the school should be able to see what is happening in the school that relates to them, or for a teacher who wants to see which books are available in the school library; these can be modeled using private pages.

You can create a site by going to **Control Panel**, clicking on the sites from the **Portal** section, and clicking on **Add** | **Blank Site**.

All the sites created would be listed in the **Sites** section and an admin user can manage the site, its pages, and membership from the same place.



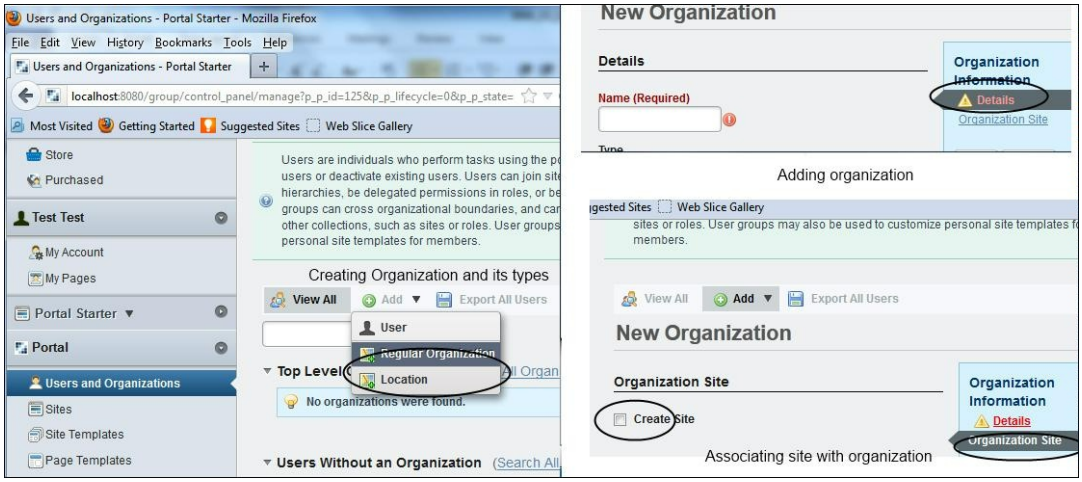
Organizations

Organizations are meant to create hierarchy among users. This is modeled like a real-life organization structure. An organization may have thousands of users and administering everything would be a tedious job. To delegate the administration, organizations and hierarchy of users was introduced in Liferay.

Organizations by default don't have any pages as their primary purpose is to create hierarchical structure. To have pages in an organization, you need to associate a site with it.

There are two types of organizations that you can create:

- **Regular organization**: When you create an organization of the type regular, you can create child organizations under it.
- **Location**: Location organizations are leaf nodes in a hierarchy. Once you decide to create an organization of the type location, you cannot create its sub organizations.

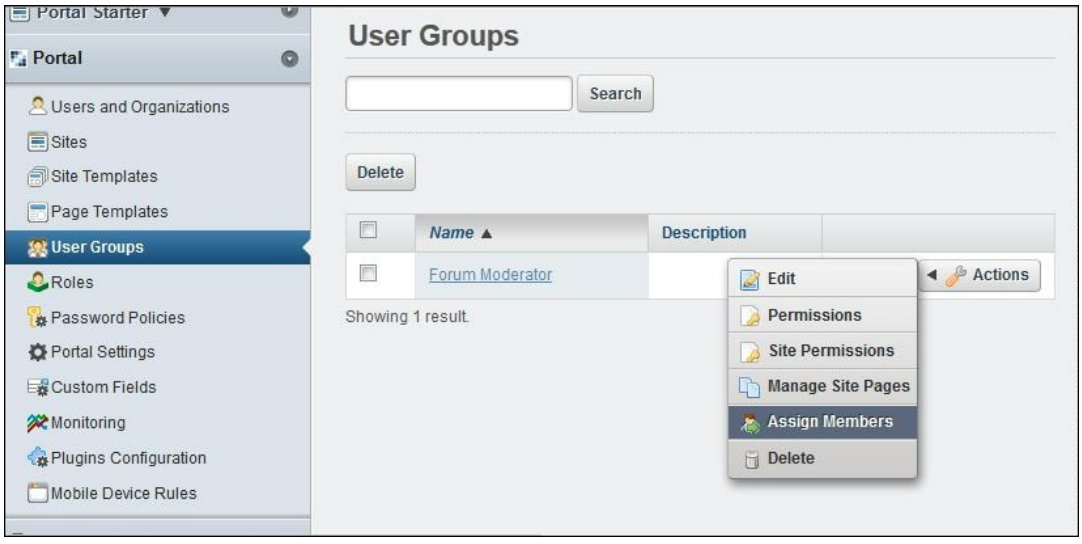


User groups

User groups are a way to collect users for easy maintainability so that it is easier to assign users to a role or team.

Let's assume you have a set of users, say about 12 of them, who do the moderating job for all the forums in the five sites of your portal. Now if you have to manually make each user a member of every site, it would be so inconvenient. To overcome this hurdle, what you can do is create a user group called **Forum moderators** and add all the users to this group once. Then you can assign this user group as a member of all the sites. Easy, isn't it?

User groups can be created the same way as we created organizations, users, and sites from the **Control Panel** window under the **Portal** section. Once a user group is created, you can add members to the user group by clicking on **Actions** | **Assign Members** and then selecting the members to add.



Roles, permissions, and teams

Let us now take a look at roles, permissions, and teams which help to allocate access to various resources in Liferay.

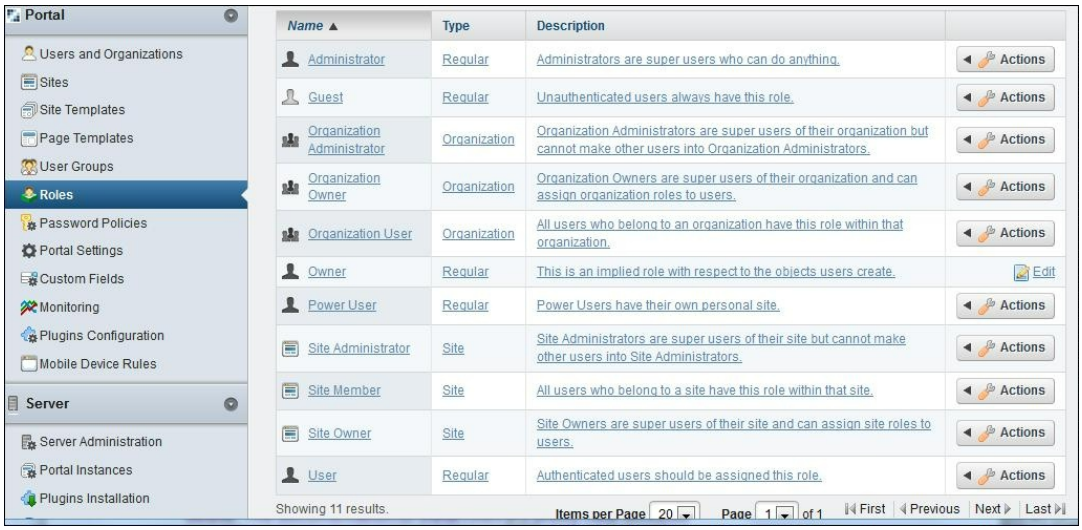
Roles

Roles in Liferay are used for group users who can perform certain functionalities, either across the portal or site or organization.

There are three types of roles:

- The **Regular** role: The regular role defines what a user can do at the portal scope. An example of this would be of a user who can add other users or organizations or sites, manage workflow definitions, and so on.
- The **Organization** role: This role defines what a user can do across organizations.
- The **Site** role: This role defines what a user can do across sites.

By default there are about 11 inbuilt roles created by Liferay, which you cannot delete. The documentation of these roles is pretty clear on the **Roles** management screen. You can navigate to the **Roles** management screen by navigating to **Control Panel** | **Roles** , under the **Portal** section.

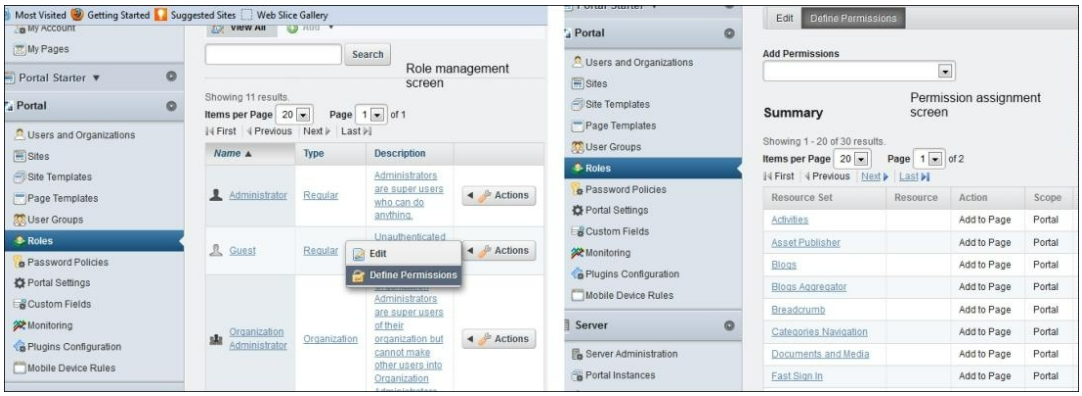


Besides these inbuilt roles provided by Liferay, portal admin users or users who have permission to manage roles can create custom roles. This can be done from the **Roles** management screen by clicking on the **Add** button and selecting the type of the role that you want to create.

Permissions

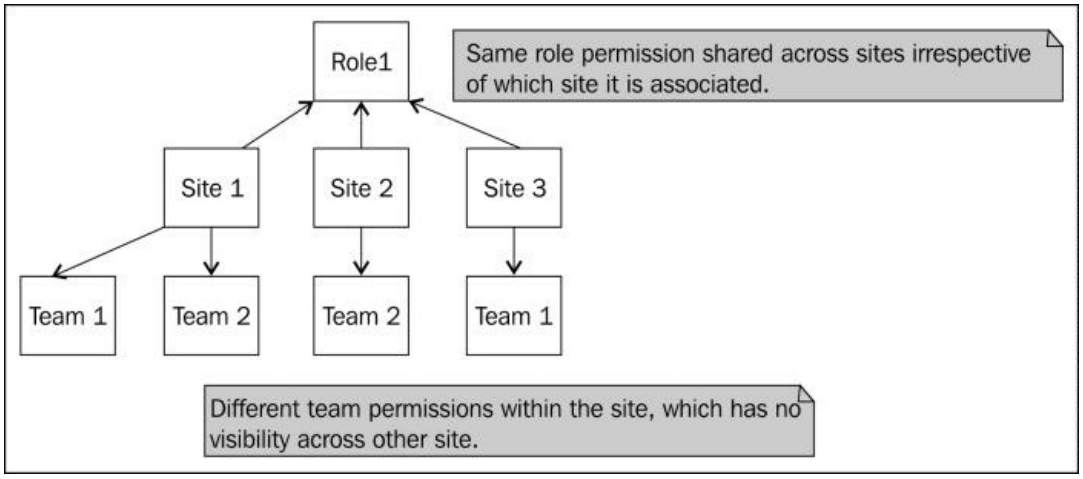
Liferay's permission model is what defines activities that a user can do across the portal, sites, or organization. Normally, we define permissions for roles and then assign that role to users, organizations, sites, or user groups. Everything in Liferay is known as a resource, whether it may be a user or a page or page actions or any action that you can think. This granular permission model helps us to control what a user can do for various resources available in Liferay.

Permissions can be assigned to a role by going to the **Roles** management screen from **Control Panel** and selecting **Actions** | **Define Permissions** against that role. Note that you can do this for custom roles as well as some of the inbuilt roles. For example, you can see that you cannot define permissions for the **Administrator** role, whereas you can assign permissions to the **Guest** role. The reason is the **Administrator** user is supposed to have all the permissions, whereas for the **Guest** user you may want to assign some additional permissions.



Teams

Teams are a relatively new concept. This was brought in to address the necessity of having roles within sites. So in short, teams are nothing but roles within sites, unlike roles which are across various sites. Just like a role, you can define permissions for a team:



Page and site templates

Templates are blueprints or a model for easy creation of sites or pages.

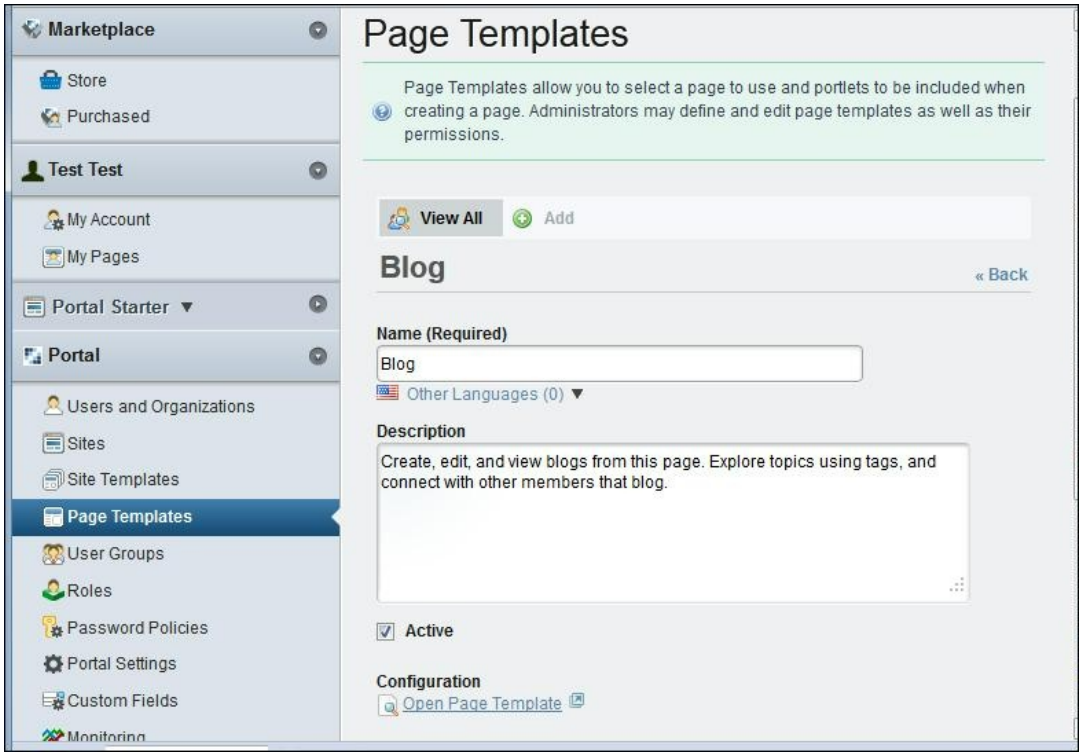
Page templates

A page template is nothing but a master page which can be used to create other pages. This would reduce the effort to set up a page from scratch. All one has to do is create a page template, and while creating pages use the page template for its creation.

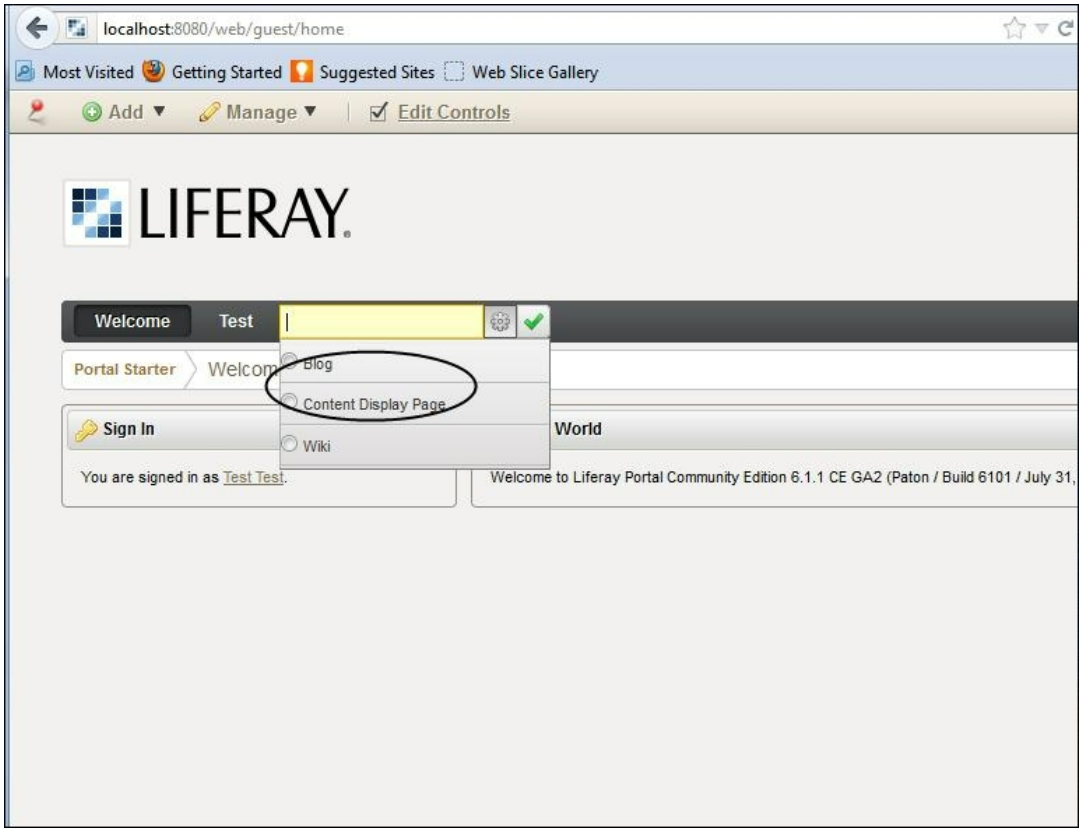
A page template can be created by going to **Control Panel** | **Page Templates** | **Add**.

Add a page template by clicking on **Add** and providing the requested information.

Click on **Actions** | **Edit** against the page template that you just created. This will open the page template in the edit mode as shown in the following screenshot:



Click on the **Open Page Template** link at the bottom of the page, which will open up a new window. Here you can add your portlets, apply themes to the page, and set the layout template.



Now go back to the dashboard and click on **Add** | **Page**. This will show the page template that you just created. Select it and create the page. Now on navigating to the page, you will find the page having portlets from the page template as shown in the preceding screenshot.

Site templates

The concept of a site template is almost similar to a page template. Just as a page template acts as a blueprint to create a single page, site templates facilitate in creating a group of pages for a site. The process is nearly similar too. Site templates can be associated while creating a site.

In addition, a site template also has a facility to propagate the changes as and when needed.

Marketplace

Have you made use of the Google Play store in your android devices or Apple's App Store? If the answer is yes then you should have a fair idea as to what a Marketplace is.

Liferay's Marketplace is a single hub to get plugins from different vendors, which you can buy or download for free and use in your portal. You can also create plugins and share your next uber cool Liferay plugin with the world.

Prerequisites

The following are the requirements to gain access to Liferay's Marketplace:

- Make sure you have a proper Internet connection.
- You should have a valid Liferay account created. You should be able to register with Liferay in a few minutes, from www.liferay.com.

Downloading plugins

Once you have registered with Liferay, go to **Control Panel** from the portal and go to **Marketplace** | **Store**.

This would bring up a login screen where you have to authenticate yourself, using Liferay credentials which will bring up the following screen. Let's download a couple of plugins which we will make use of later:



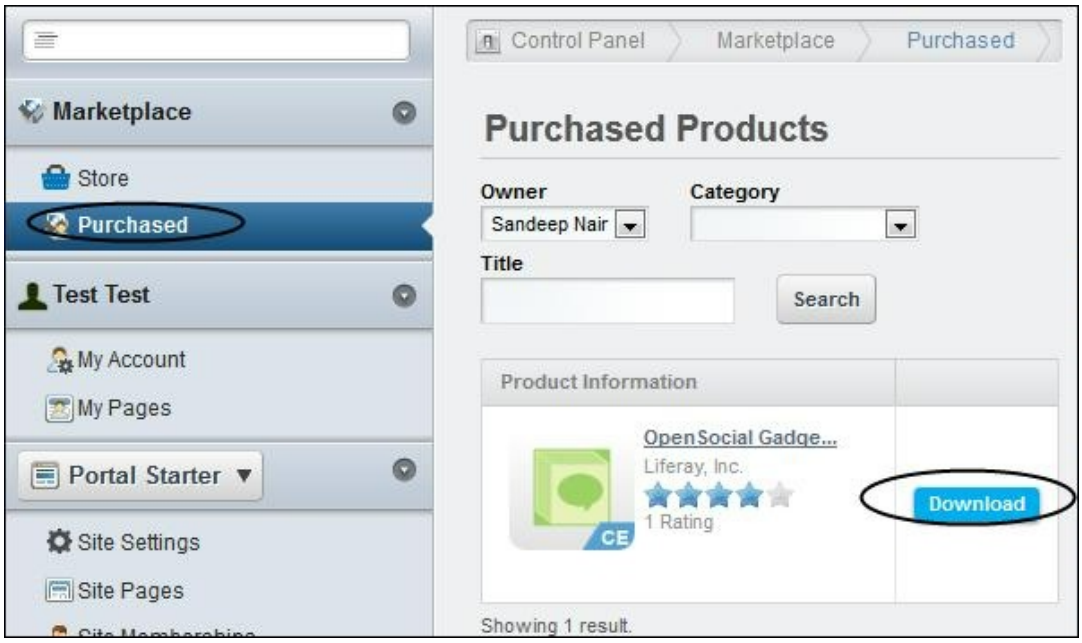
Click on **Communication** | **OpenSocial Gadget CE** under the **Most Viewed** section to the extreme right of the screen. If you don't see the link there, click on **See All** as shown in the following screenshot and then click on **OpenSocial Gagdet CE**:



On the next screen, click on **Free** which will result in a screen that makes you accept terms of use and allows you to buy the plugin:



Once purchased, it should appear on the **Purchased** section of the **Control Panel** window, from where you can download the app:



Once downloaded, click on **Install** to have the plugin deployed. Once the portlet is deployed it should be shown on the **Control Panel** window.

Follow the similar process to deploy another plugin named **Kaleo Workflow CE**. It should be available in the **Productivity** (**Control Panel** | **Store** | **Productivity** | **Kaleo Workflow CE**).

Top 5 features you need to know

The power of Liferay comes from the fact that it is not just a portal framework, but a portal solution. Over the years many useful features have been added to it to evolve from being just a portal solution. Let us look at some of the most used features in Liferay.

1 – Content management and workflow

Liferay has a rich content management interface and its **content management system** (**CMS**) is known as **Web Content Management**. Besides just creating content, you can also apply a workflow to the whole content creation process.

Prerequisites

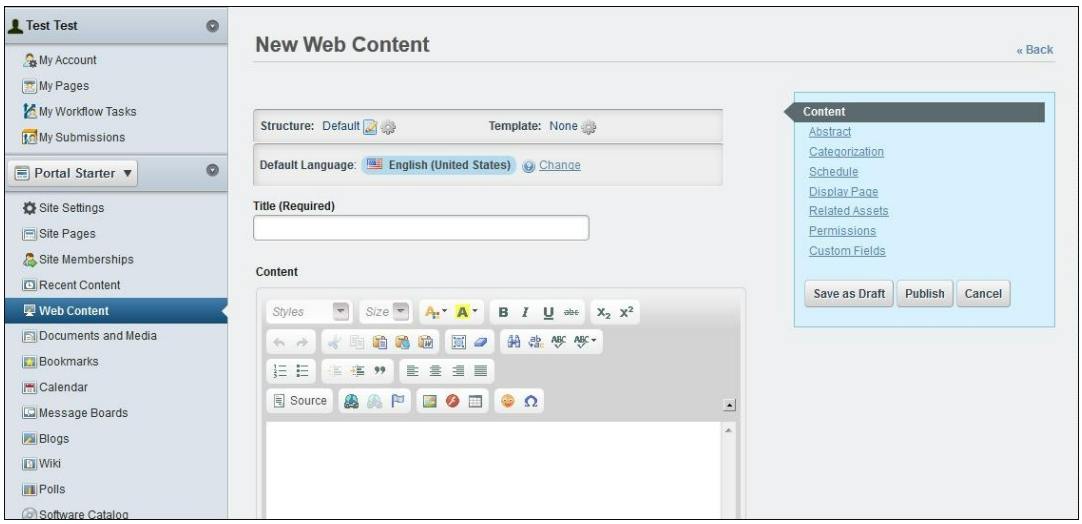
Make sure you have the Kaleo plugin already installed from the marketplace, which was shown in the *Quick Start* section.

Kaleo is a workflow engine that is used to define business workflows.

Creating and managing web content

Let us first see how to create a basic web content.

Go to **Control Panel** and click on **Web Content** under the **Portal** section. Then click on **Add** from the right-hand side section which will show you the content creation screen as shown in the following screenshot:



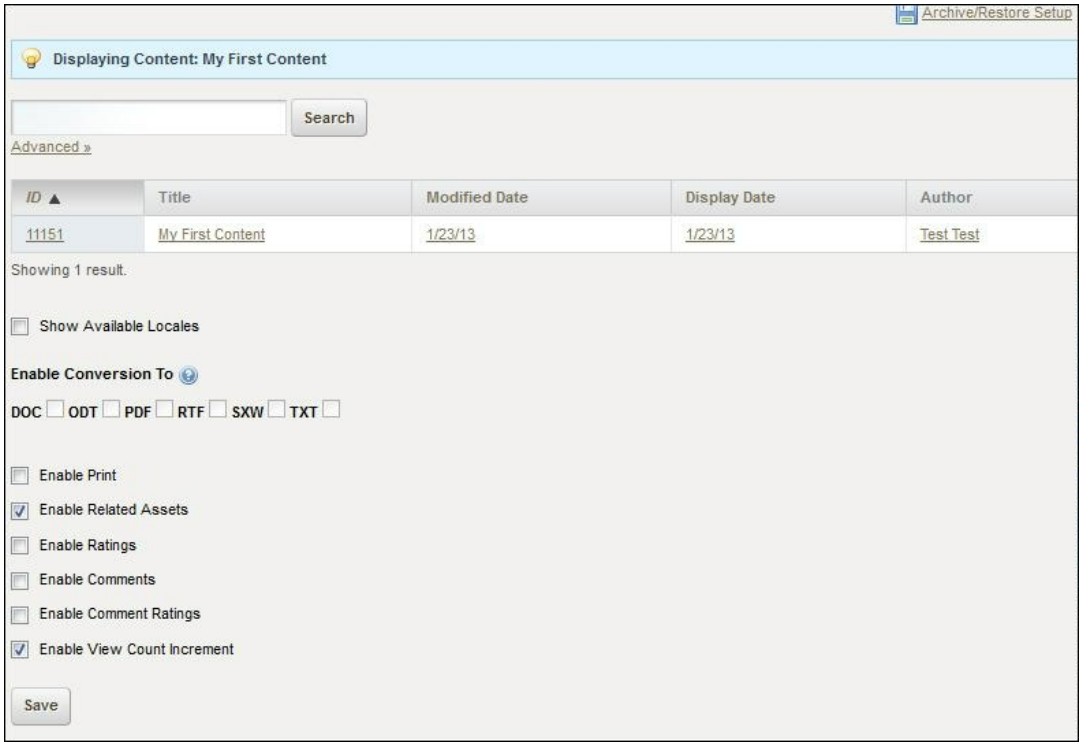
Give a title name for the web content and type in some content in the **WYSWYIG** (**What You See Is What You Get**) editor. Then click on **Publish**. You are done creating a basic content. As simple as that!

Now let us display the content that we just created on a page for the world to see.

Navigate back to any of the pages that you have created. Hover over **Add** in the dockbar and click on **Web Content Display**. This will add the portlet on the page. **Web Content Display** is an instanceable portlet, which means that multiple instances of the same portlet can be placed on the same page. This allows us to manage content in a more hassle-free way, by having the content broken into chunks with the help of portlets, instead of having to manage just a single content for the whole page. It also helps to re-use the content chunks on other pages.

Once you have added the **Web Content Display** portlet, click on the wrench icon, which will open up a listing pop up, where you will see the content you had created. Additionally, this page also has an option to show a page rating for the user, have someone comment on the content, print the content, and other options. Select the content that you wish to show and click on **Save**.

Close the pop up window and you can see the content is displayed on the page as shown in the following screenshot:



You can remove the title **Web Content Display** by clicking on the look and feel icon of the portlet and unchecking the **Show Borders** option.

Assigning workflow

Most of the workflow management happens from the **Control Panel** window.

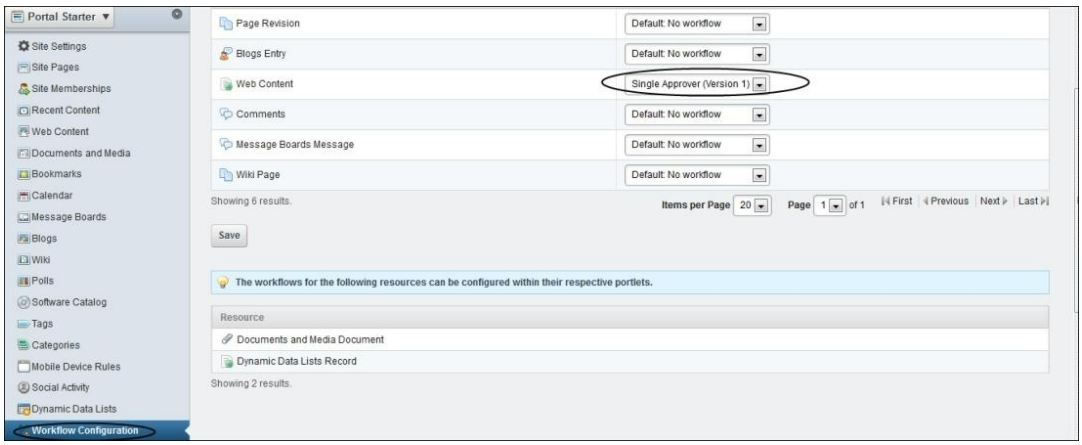
Once you have installed a workflow plugin, you should see workflow options in the various sections of the **Control Panel** window. Also, if you navigate to the **Roles** section, you should see three new autogenerated roles. They are as follows:

- **Portal Content Reviewer**
- **Site Content Reviewer**
- **Organization Content Reviewer**

Assigning users to these autogenerated roles gives the user power to review the content based on the scope of the role created.

You can define a new workflow by going to **Workflow** in the **Portal** section of the **Control Panel** window. By default, when you installed the workflow plugin, a **Single Approver** workflow definition has been automatically created. You can add additional workflow definitions. For this exercise we will go with the **Single Approver** workflow definition.

Next, if you navigate to **Workflow configuration** in the **Site** section, you can see which workflow definition is assigned against various assets. Right now for **Web Content** there is no workflow assigned. Let us select **Single approver** for **Web content** and hit **Save**:



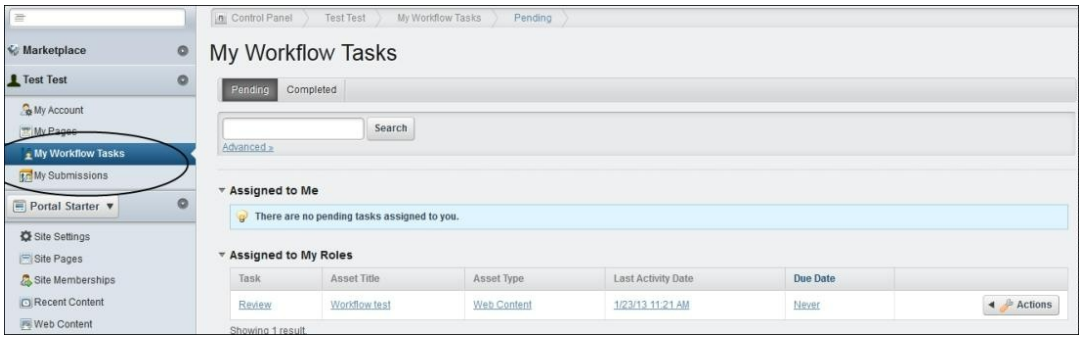
Now try creating a web content again. You can see that this time, instead of the **Publish** button, we are given the **Submit for Publication** button. Once you create the content and hit **Submit for Publication**, you can see that on the listing page the state of this particular web content is pending. These

web contents are not allowed to be added to the page unless someone approves it. All your submissions are displayed under the user section as **My Submissions**. You can withdraw your submission any time from there, before someone approves it.

For approval, every user who has a content reviewer role or is a super admin having the **Administrator** role can see **My Workflow Tasks** in your section in the **Control Panel** window.

The reviewer can review the content here, approve or reject it, or can assign it to someone else for approval.

Once the content is approved, it can be added on to any page. This is shown in the following screenshot:



Other functionalities

- You can tag the web content while creating or updating the content. There is a **Tags Cloud** portlet, that lists all the tags created in the portal.
- You can schedule your web content to be published on a later date.
- You can make use of the **Web Content Search** portlet to search the web contents.
- You can make use of the **Web Content List** portlet to show all the approved contents in list format to the end user.
- You can have a structured content, which is part of the advanced web content management.

2 – Document management

Liferay's document management has evolved over the years. You can upload your documents in Liferay using the **Document and Media** portlet and maintain them by putting them in folders.

Navigate to **Control Panel** | **Documents and Media** and try uploading some documents.

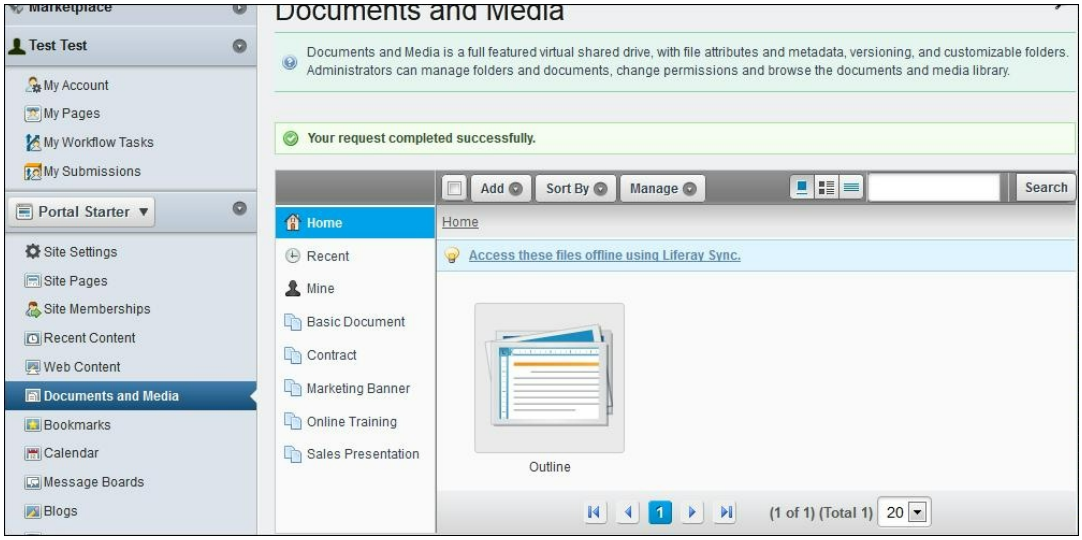
Some of the portlets that are used in the context of document management are as follows:

- **Documents and Media Display**: This portlet is used to show listings of documents that you have uploaded from any particular folder node. This is an instanceable portlet, hence you can show multiple listings from various folder nodes on the same page.
- **Media Gallery**: This portlet is used to just display media files that have been uploaded.
- **Recent Downloads**: Just as the name suggests, this portlet lists any of the recently downloaded files.

Some of the capabilities of the document management in Liferay are as follows:

- You can upload multiple documents.
- You can associate a type for the document. For example, if you have a requirement that you have to categorize documents for contracts and invoice, then you can create a type called **Contracts** and another called **Invoice** and then can associate the type you just created while uploading the document.
- Liferay supports CMIS standard, and hence you can mount documents from any repository that supports CMIS.
- Integration with Open Office is available, which allows you to convert basic document types from one format to another.
- Integration with Xuggler can be done, which allows you to preview video files and convert them from one format to another.
- Tagging and categorizing your content is possible as it was with Web Content.
- You can make use of these documents from within Liferay's Web Content portlet.

A screenshot depicting the **Documents and Media** page is given as follows:



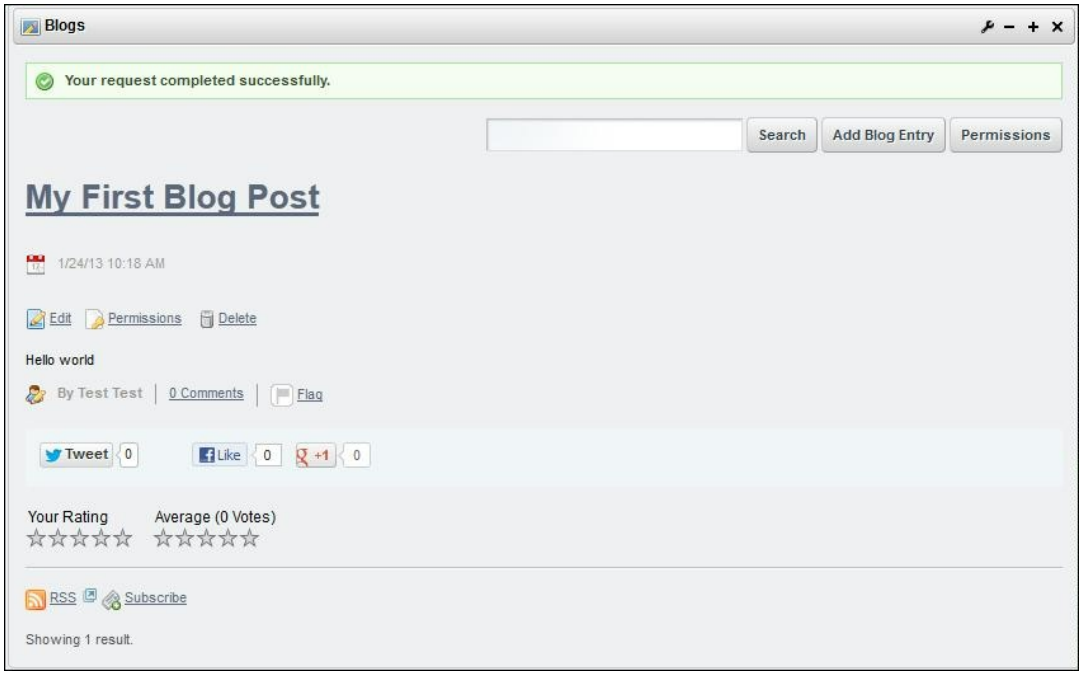
3 – Collaboration

There are a bunch of portlets which helps with better collaboration for members within the sites. Let us take a look at them.

Blogs

Liferay provides a basic blogging service in the form of the **Blogs** portlet. This portlet can be placed in user pages, which just shows the user's posts, which means I can have a personal blog for the world to see.

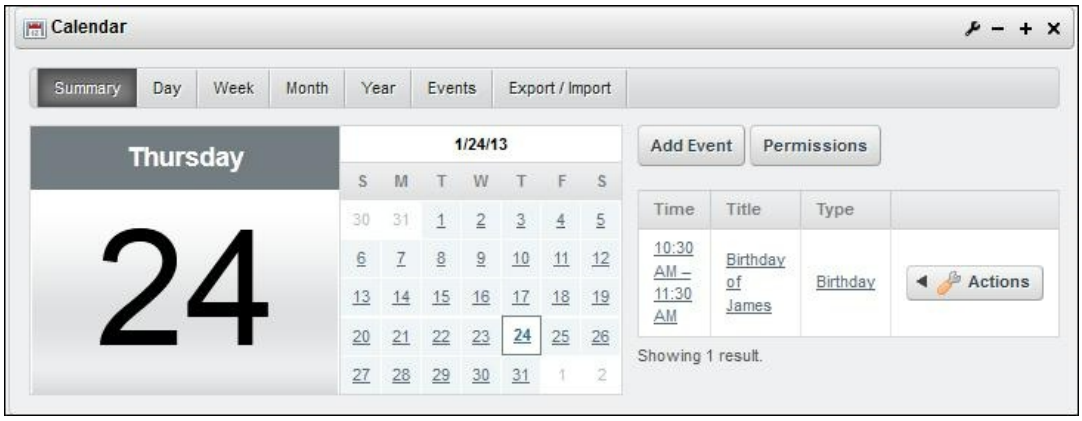
If the blog is placed on a site or an organization's site, it becomes a much better way to collaborate. In this way every user can share a single blog to make it a better collaboration-and-knowledge management tool.



Calendars

Calendars in Liferay can be used to create events across a site. This is a better way to notify members of a site about any upcoming events.

It also has a **reminder** feature that can be set up to notify members of the site about the upcoming events using e-mail, SMS, or various other instant messengers such as AIM, ICQ, Windows Live Messenger, or YIM.

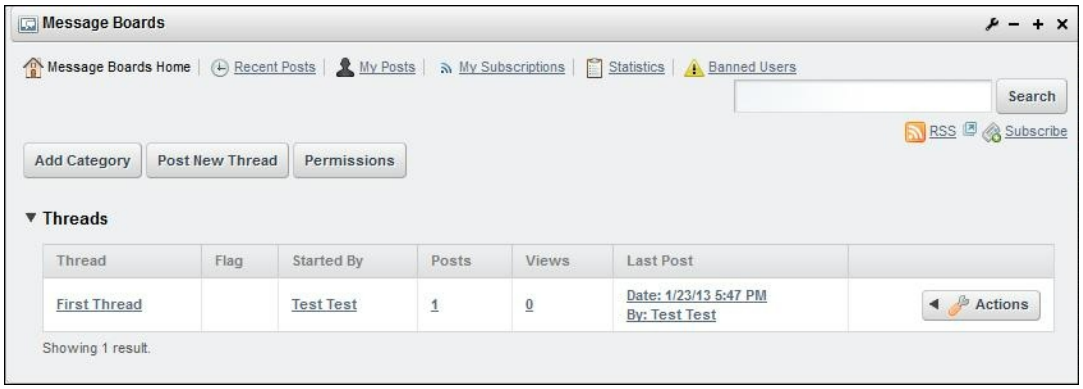


Message boards

Liferay provides forum capabilities using the **Message Board** portlet. Some of the basic features are as follows:

- You can have files as attachments to each message in the thread
- You can have support for RSS feeds for individual threads
- You can group and provide hierarchy using categories
- The ability for users to vote

- The ability to see statistics
- You can manage bans
- You can enable ranking based on the number of posts a user has made, which is configurable.

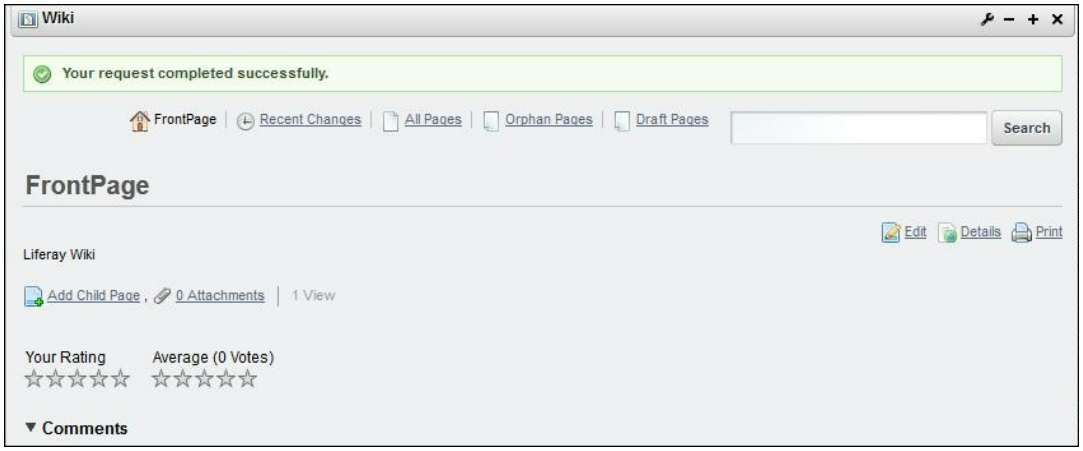


Wiki

Liferay provides a **Wiki** portlet that allows users of the site to collaboratively update, create, and manage information. It helps in building a knowledge base.

For example, if there is a site for cricket, users of the site can create a knowledge base on each topic of cricket using Wiki. This is a collaborative way to update knowledge.

Liferay's Wiki supports Creole, HTML, and MediaWiki as markup options. A screenshot of a **Wiki** page is given as follows:



All the collaboration-related portlets can be added from the dockbar, using **Add**. There is a separate **Collaboration** section while adding the portlet.

All the collaboration, document management, and content management are part of the assets framework, which allows these assets such as a basic

piece of content, a document uploaded, a Wiki node, a calendar event, a blog post, or a forum thread to be tagged and categorized.

There is a portlet named **Asset Publisher** portlet that allows a user to bring all these assets together in a single place by filtering those using tags or categories.

4 – OpenSocial gadgets

OpenSocial is a set of common APIs for social applications across multiple websites developed by Google.

In simple words, you can use and show gadgets or widgets developed and hosted by someone else using the OpenSocial standards.

Liferay has the ability to show OpenSocial gadgets, which opens up the way for a lot of external applications to be displayed in Liferay without having to write a single piece of code.

Let's see how we can show a gadget from Google on our website.

Prerequisites

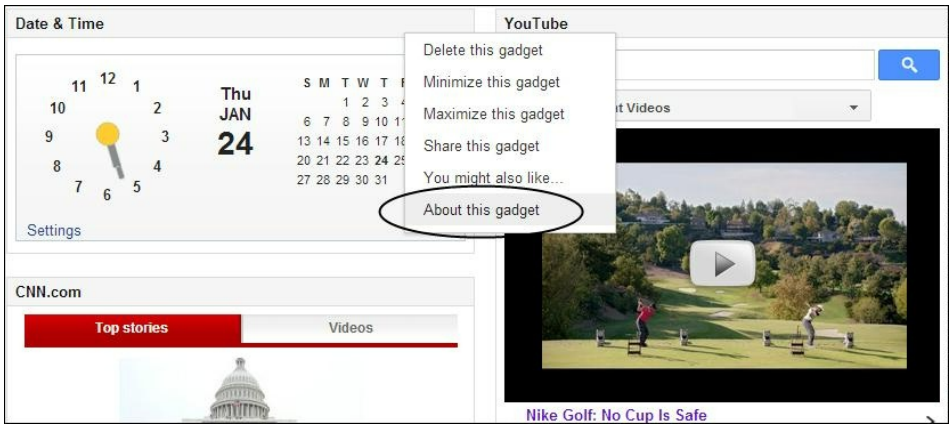
The following are the requirements to use OpenSocial:

- Make sure you have access to an Internet connection
- At this point you should have an OpenSocial plugin already installed from your previous exercise

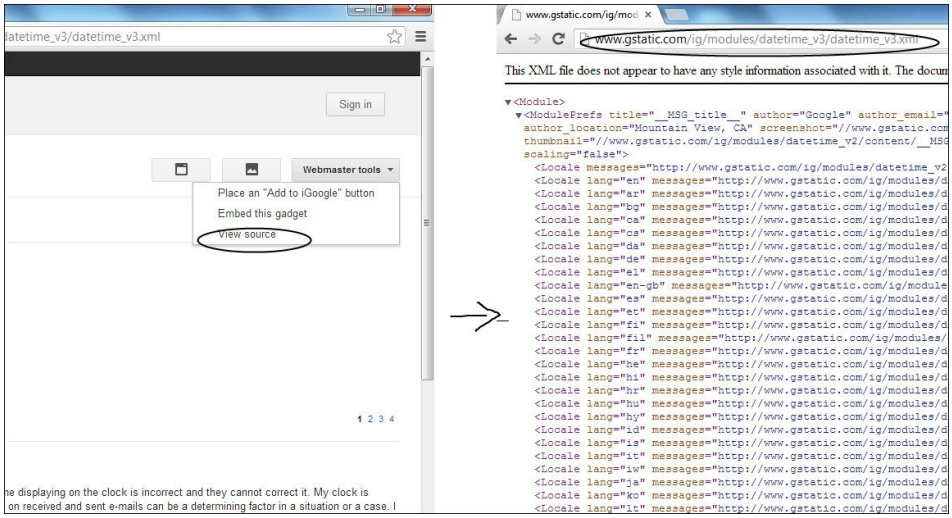
Steps

The following steps will help you show a gadget from Google on our website:

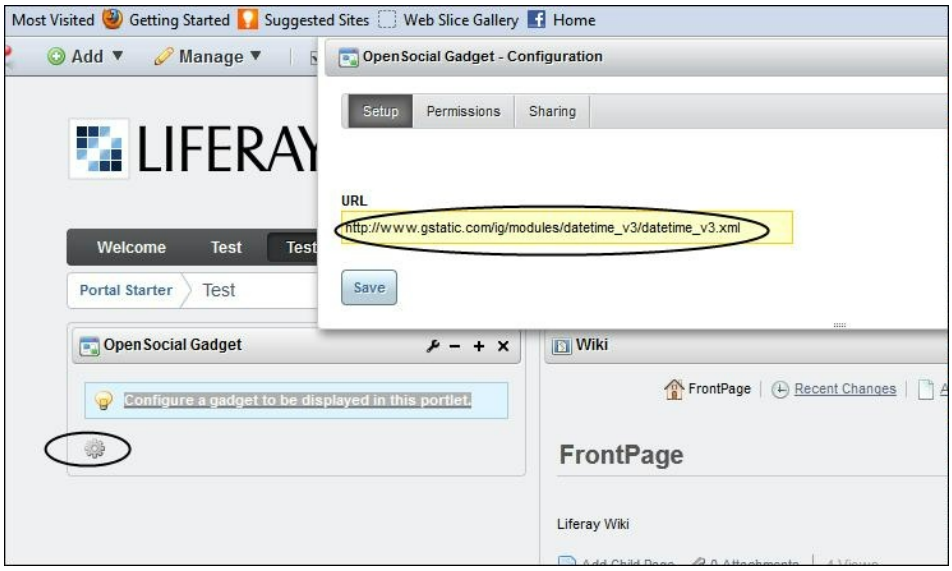
1. Navigate to the iGoogle website (http://www.google.com/ig).
2. You will see a dashboard with a number of gadgets. Click on the configuration icon (wheel icon) for any gadget and click on **About this Gadget** as shown in the following screenshot:



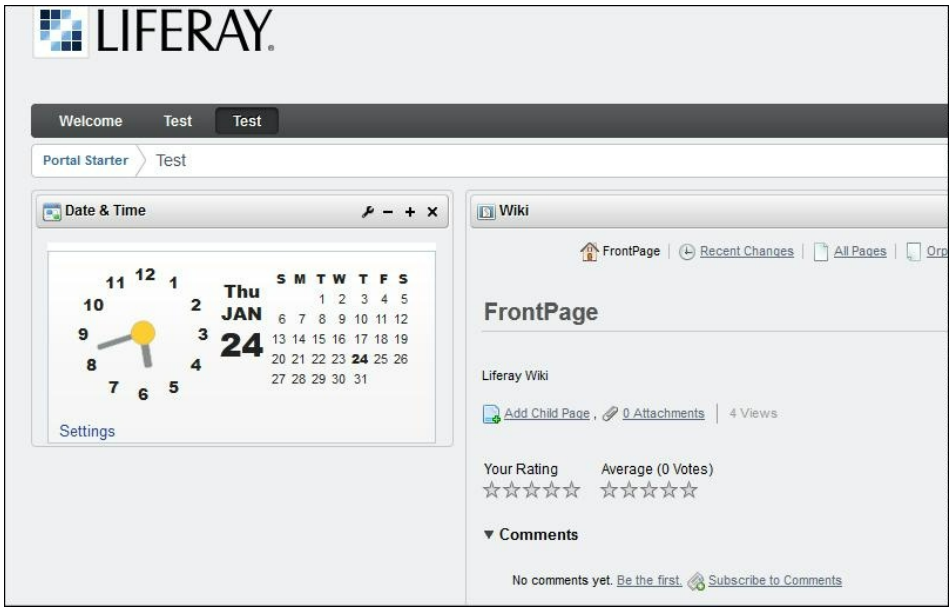
3. This will open up a page with information about the page. From the top-right corner, click on **Webmaster tools** | **View Source** which will open up a screen with some XML code as shown in the following screenshot. Copy the URL from the browser:



4. Add the OpenSocial gadget portlet in Liferay on any page by clicking on **Add** from the dockbar and selecting **OpenSocial Gadget**.
5. Click on the configuration icon (wheel icon) of the portlet and paste the URL that you had copied and click on **Save** as shown in the following screenshot:



6. You will be able to see the gadget on your Liferay page. All this and without writing a single piece of code! Potentially, you can show all the gadgets from Google on your Liferay site:



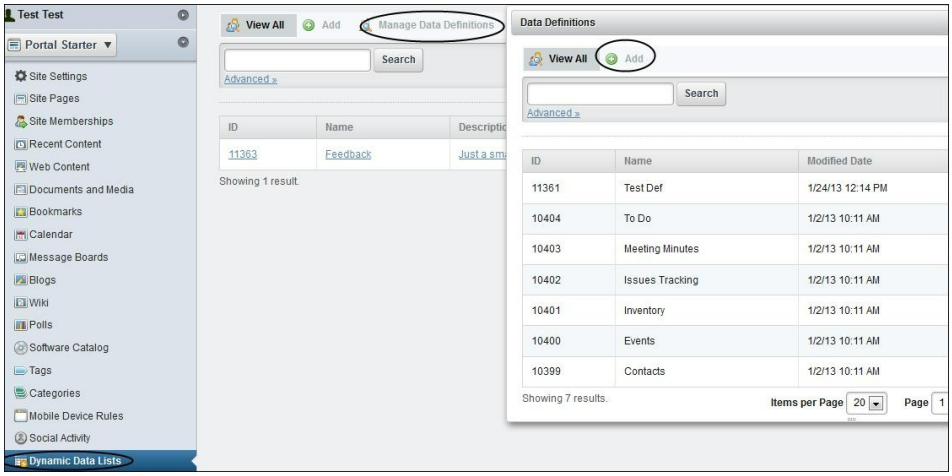
5 – Dynamic Data Lists

Most of the sites may have a requirement to capture information from a user in some form or other. This normally has to be taken care of by custom coding.

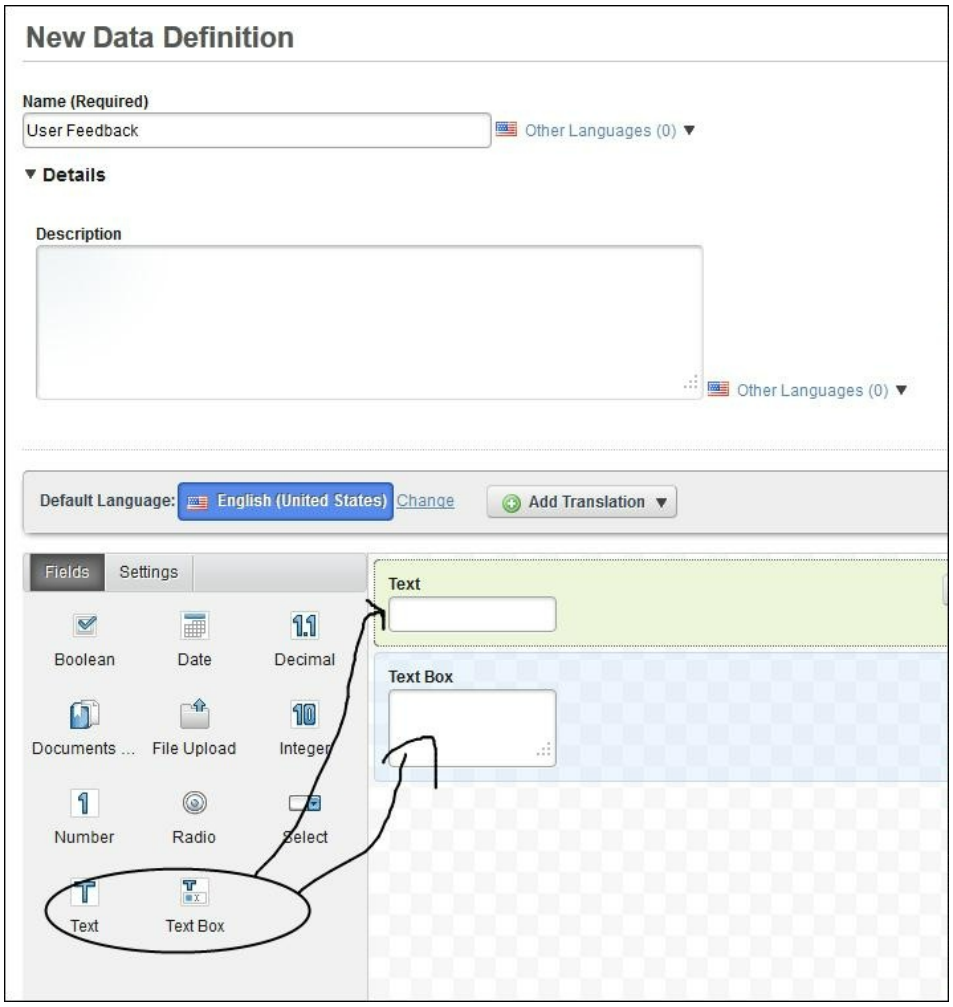
Liferay provides a facility to achieve this with no coding at all! The way to go about doing this is by using **Dynamic Data Lists** in Liferay.

Consider you want to have feedback from the user about how well your site is doing. The information you want to capture is their name and comment.

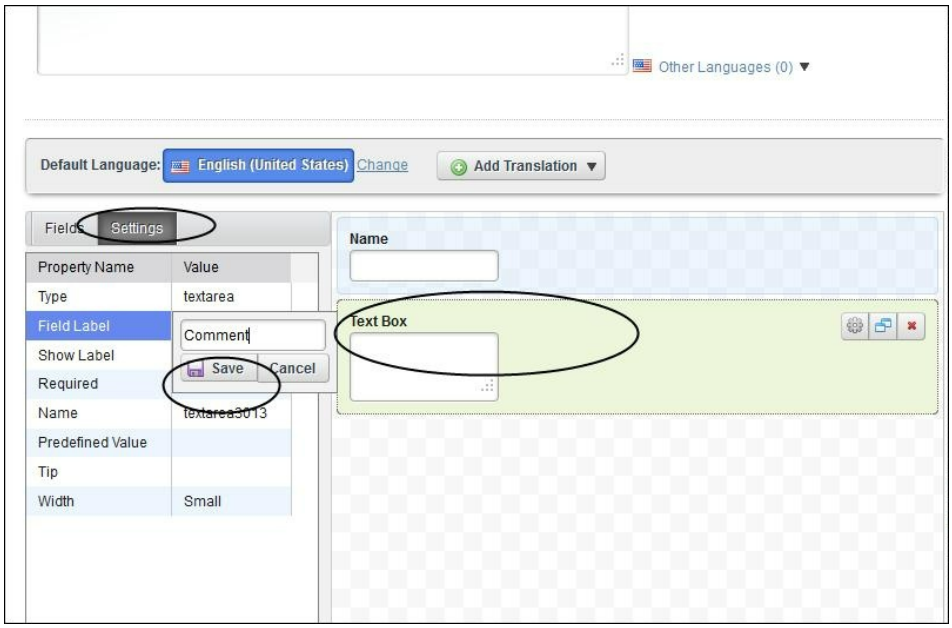
1. Navigate to **Control Panel** and click on **Dynamic Data Lists**. First we will add a definition as to what will be there in the form. For doing this, click on **Manage Data Definitions** which will open up a pop up box. Click on **Add** for creating a new data definition.



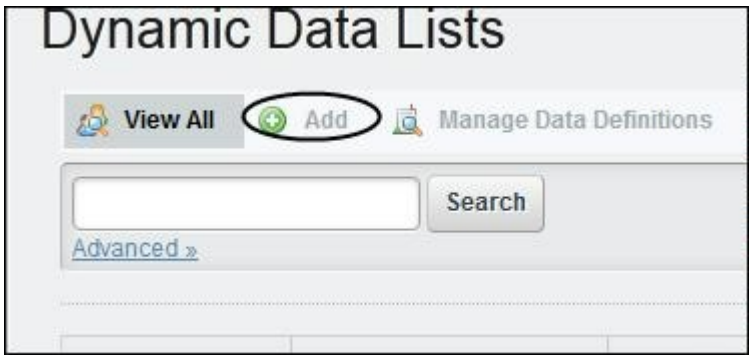
2. Give the definition a name, and from the bottom drag a **Text** field and **Text Box** field to the working area, which we will use to capture the name and description as shown in the following screenshot:



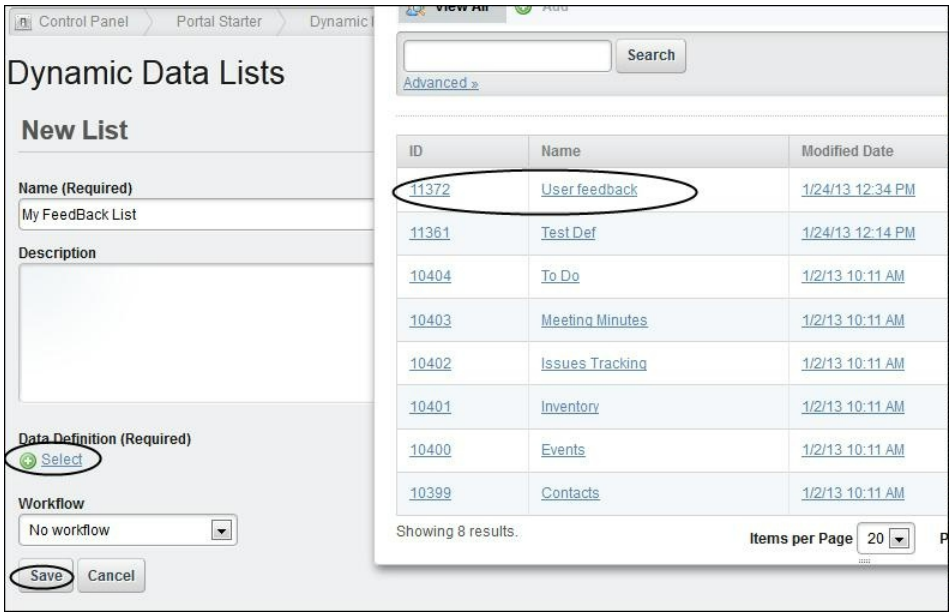
3. Click on the **Settings** tab and then double-click each of the fields and change their label to **Name** and **Comment** respectively and then click on **Save** at the bottom of the page:



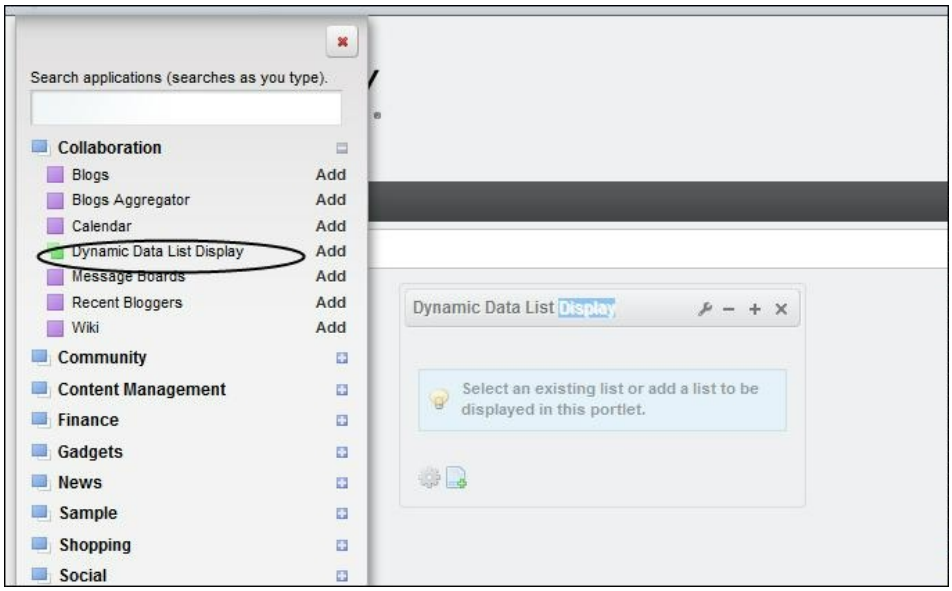
4. This will create a data definition for you, which you can use to create a new list.
5. Click on **Add** from the top and enter the details for the list.



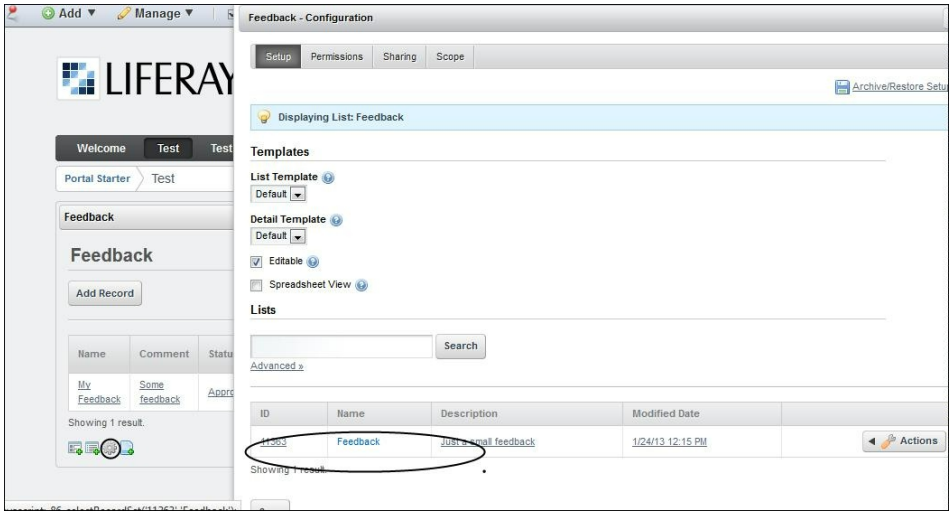
6. Click on the **Select** link and select the definition that you have created and click on **Save**.



7. Now go back to any page and add the **Dynamic Data List Display** portlet as shown in the following screenshot:



8. Click on the wrench icon and select the list that you just created and click on **Save**, which will display the list in the portlet, from where you can go and add new feedback as well as see the listing of all feedback:



There are other options to see the the Excel view format listing and attach a workflow.

Thus, we have seen features and portlets that are most used in Liferay. There are many other features and portlets in Liferay which are used, but that I will leave it to you to explore.

People and places you should get to know

If you need help with Liferay, here are some people and places which will prove invaluable:

Official sites

- Home page: http://www.liferay.com/
- Manual and documentation: http://www.liferay.com/documentation/liferay-portal/6.1/user-guide
- Wiki: http://www.liferay.com/community/wiki
- Blog: http://www.liferay.com/community/blogs
- Source code: http://sourceforge.net/projects/lportal/files/Liferay%20Portal/6.1.1%20GA2/liferay-portal-src-6.1.1-ce-ga2-20120731132656558.zip/download

Articles and tutorials

- A good video showcasing five of the best features in Liferay according to Zia University at https://www.youtube.com/watch?v=pe-RUdIzOFk
- Advance Web Content Management using Structures and Templates by Bradley Wood at https://www.youtube.com/watch?v=fQfSLrexhbc

Community

- Official forum: http://www.liferay.com/community/forums
- Official IRC channel:
    - IRC Server: irc.freenode.com
    - Name: `#liferay`
- Webinars: http://www.liferay.com/live

Blogs

- The blog of Ray Augé, Liferay's Senior Software Architect is available at http://www.liferay.com/web/raymond.auge/blog.
- James Falkner is Liferay's Community Manager. His blog can be found at http://www.liferay.com/web/james.falkner/blog.

- Olaf Kock is a Senior Consultant and Trainer from Liferay. His podcast episodes are fun to follow at http://www.liferay.com/web/olaf.kock/blog.

Twitter

- Liferay's official Twitter handle: `@Liferay`
- Jorge Ferrer's Twitter handle: `@jorgeferrer`
- Brian Chan's Twitter handle: `@brianchandotcom`
- James Falkner's Twitter handle: `@schtool`
- For more open source information, follow Packt Open Source at `@PacktOpenSource`