

eXo Platform 3.0 - Social Functions

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Chapter 1. Applications

1.1. List of Portlets in Social

All the portlets are in *social-portlet.war*

Portlets name	Description
SpaceMenuPortlet	Display the menu on the right of a Space: Home, Dashboard, Members, SpaceSettings
MembersPortlet	Display MemberSpace where you can search for space members or list space members in alphabet
SpaceSettingPortlet	Shows the settings of Space: Settings, Visibility, Members, Application. You can change the setting information of a space if you are the creator of that space or have the manager right on it.
MySpacesPortlet	Displays your Space page where you can add new spaces, search for spaces or list spaces in alphabet
InvitationSpacesPortlet	Displays the Space invitation page where you can search for spaces, list spaces in alphabet and view all the Space invitations
PendingSpacesPortlet	Displays the Space requests to join page where you can search for spaces, list spaces in alphabet and view all the pending request to join Spaces
PublicSpaces Portlet	Displays the Public Spaces page where you can search for spaces, list spaces by alphabet and view all available public spaces to join
SpaceActivityStreamPortlet	Display spaces activities
UserActivityStreamPortlet	Update user's activities/status
PeoplePortlet	The People page where you can find people, display people name by alphabet
ProfileNavigationPortlet	
ConnectionsPortlet	The Conections page where you can access to your network, invitations to connect or connection requests
InvitationsPortlet	
RequestsPortlet	
UserProfilePortlet	Display user profile page where you can view/ edit user's basic information, contacts, experience or change avatar
MyConnectionsNavigationPortlet	

All the portlets are in the file *social-portlet.war*

Portlet name	Description
MembersPortlet	To enable users to search for Space members or list Space members in the alphabet order.
MySpacesPortlet	To display the Space page where you can add new Spaces, search for Spaces or list Spaces in the alphabet order.
SpaceActivityStreamPortlet	To share Spaces activity information.
InvitationsPortlet	To list all people that invite users.
RequestsPortlet	To list all invitations that the user requests.
InvitationSpaces Portlet	To enable users to search for Spaces, and list spaces in the alphabet order and view all the Space invitations.
PendingSpacePortlet	To display the Space requests to join page where you can search for Spaces, list spaces in the alphabet order and view all the pending requests to join Spaces.
PublicSpacesPortlet	To display the Public Spaces page where you can search for Spaces, list Spaces in the alphabet order and view all available public Spaces to join.
UserActivityStreamPortlet	To update and share user's activities and/or status.
People Portlet	To display the People page where you can find people, display people names in the alphabet order.
ConnectionsPortlet	To display the Connections page where you can access your network, invitations to connect or connection requests.
UserProfilePortlet	To display the user profile page where users can view and/or edit basic information, contacts, experience or change their avatar.

1.2. List of Gadgets in Social

All Social Gadgets are in *opensocial.war*.

1.2.1. Activity Stream

- **Description:** Manages activities of users. Some kinds of activities such as: update status, like/unlike activities, comment activities, delete activities and delete comments.
- **Used REST services:** ActivitiesRestServices

1.2.2. Social RSS Reader

- **Description:** Fetches and parses RSS information from a specific url.
- **Description of user preferences:** The number of RSS per page is 10 by default. Get RSS from input URL (Default URL is <http://blog.exoplatform.org/feed/>).
- **Used REST services:** N/A

1.2.3. My Connections

- **Description:** Displays a viewer's information and his connections' information.
- **Description of user preferences:** Connections displayed per page. The number of connections displayed is 5 by default.
- **Used REST services:** N/A

1.2.4. My Spaces

- **Description:** Displays all the spaces that a user has the "member" role.
- **Used REST services:** SpacesRestService

Chapter 2. Configuration

2.1. Components

2.1.1. ActivityManager

Configuration name	Data type	Default Value	Description
allowedTags	String list	b, i, a, span, em, strong, p, ol, ul, li, br, img	html tags

2.1.2. SpaceService

Configuration name	Data type	Default Value	Description
space.homeNodeApp	String	SpaceActivityStreamPortlet	The home application for a space
space.apps	String list	DashboardPortlet:true, SpaceSettingPortlet:false, MembersPortlet:true	The space applications

Note

Deprecated: `org.exoplatform.social.core.space.SpaceApplicationConfigPlugin` Use `external-component-plugins` instead:

2.1.3. IdentityManager

Configuration name	Data type	Default Value	Description
providers	String	org.exoplatform.social.core.identity.provider.SpaceIdentity	

2.1.4. ProfileConfig

Configuration name	Data type	Default Value	Description
nodetype.emails	String	exo:profileKeyValue	
nodetype.phones	String	exo:profileKeyValue	
nodetype.ims	String	exo:profileKeyValue	
nodetype.urls	String	exo:profileKeyValue	
nodetype.address	String	exo:profileAddress	

Configuration name	Data type	Default Value	Description
nodetype.experiences	String	exo:profileExperience	
nodetype.education	String	exo:profileEducation	
forceMultiValue	String	xxxxxxxxxxxxx	

2.1.5. ServiceProviderStore

Configuration name	Data type	Default Value	Description
sample-provider	properties-params		sample service provider

2.2. External component plugins

2.2.1. MentionsProcessor

Configuration name	Data type	Default Value	Description
priority	String	2	priority of this processor (lower are executed first)

2.2.2. PortletPreferenceRequiredPlugin

Configuration name	Data type	Default Value	Description
portletsPrefsRequired	String list	SpaceActivityStreamPortlet, SpaceSettingPortlet, MembersPortlet	The portlet name which requires space URL preference

2.2.3. SpaceApplicationConfigPlugin

Configuration name	Data type	Description	
spaceHomeApplication	SpaceApplicationConfig	The space application for the space home node	
spaceApplicationList	SpaceApplicationConfig	space application list configuration	

2.2.4. AddNodeTypePlugin

Configuration name	Data type	Default Value	Description
autoCreatedInNewRepository	String	jar:/conf/portal/core-node-types.xml	Node type configuration file

2.3. RelationshipManager

The Service is used to manipulate user relationships.

2.4. SpaceIdentityProvider

The provider is to give identity space instances.

2.5. SpaceApplicationHandler

The service is to handle all events related to creating and managing all the application spaces.

2.6. ExoPeopleService

The service is to manipulate all data related to people in the Portal.

2.7. Space Service

2.7.1. Description

The service for spaces management includes creating spaces, and installing applications.

2.7.2. Components configuration

Component name	Description
SpaceServiceImpl	Implementation class of Space Service.

```
<component>
  <key>org.exoplatform.social.core.space.spi.SpaceService</key>
  <type>org.exoplatform.social.core.space.impl.SpaceServiceImpl</type>
  <!-- Deprecated, Use external-component-plugins instead
  <init-params>
    <values-param>
      <name>space.homeNodeApp</name>
      <value>SpaceActivityStreamPortlet</value>
    </values-param>
    <values-param>
      <name>space.apps</name>
      <value>DashboardPortlet:true</value>
      <value>SpaceSettingPortlet:false</value>
      <value>MembersPortlet:true</value>
    </values-param>
  </init-params>
```

```

</init-params>
-->
</component>

```

Configuration name	Data Type	Possible value	Default Value	Description
SpaceActivityStreamPortlet	Portlet	N/A	SpaceActivityStreamPortlet	The name of portlet displaying activities of spaces
space.apps	String list	Portlets' name: true/false	DashboardPortlet:true SpaceSettingPortlet:true MembersPortlet:true	The list of configurations for portlets used as portlet applications.

2.7.3. External plug-in configuration

2.7.3.1. PortletPreferenceRequiredPlugin

```

<external-component-plugins>
  <target-component>org.exoplatform.social.core.space.spi.SpaceService</target-component>
  <component-plugin>
    <name>portlets.prefs.required</name>
    <set-method>setPortletsPrefsRequired</set-method>
    <type>org.exoplatform.social.core.application.PortletPreferenceRequiredPlugin</type>
    <init-params>
      <values-param>
        <name>portletsPrefsRequired</name>
        <value>SpaceActivityStreamPortlet</value>
        <value>SpaceSettingPortlet</value>
        <value>MembersPortlet</value>
      </values-param>
    </init-params>
  </component-plugin>
</external-component-plugins>

```

In which:

Name	Set-method	Type	Description
PortletPreferenceRequiredPlugin	setPortletsPrefsRequired	org.exoplatform.social.core.application.PortletPreferenceRequiredPlugin	Configuration of portlet preference of portlet names which will have portlet preference of space context.

- Init-params:

Name	Possible value	Default Value	Description
portletsPrefsRequired	Portlet names	SpaceActivityStreamPortlet; SpaceSettingPortlet; MembersPortlet	List of portlets which need to be saved and get the space context name.

2.7.3.2. SpaceApplicationConfigPlugin

Note

Since 1.1.3

```
<external-component-plugins>
  <target-component>org.exoplatform.social.core.space.spi.SpaceService</target-component>
  <!-- Default applications to be installed when creating a new space -->
  <component-plugin>
    <name>Space Application Configuration</name>
    <set-method>setSpaceApplicationConfigPlugin</set-method>
    <type>org.exoplatform.social.core.space.SpaceApplicationConfigPlugin</type>
    <init-params>

      <object-param>
        <name>spaceHomeApplication</name>
        <description>Space Home Application</description>
        <object type="org.exoplatform.social.core.space.SpaceApplicationConfigPlugin$SpaceApplication">
          <field name="portletApp"><string>social-portlet</string></field>
          <field name="portletName"><string>SpaceActivityStreamPortlet</string></field>
          <field name="appTitle"><string>Home</string></field>
          <!--<field name="icon"><string>SpaceHomeIcon</string></field>-->
        </object>
      </object-param>

      <object-param>
        <name>spaceApplicationListConfig</name>
        <description>space application list configuration</description>
        <object type="org.exoplatform.social.core.space.SpaceApplicationConfigPlugin">
          <field name="spaceApplicationList">
            <collection type="java.util.ArrayList">
              <value>
                <object type="org.exoplatform.social.core.space.SpaceApplicationConfigPlugin$SpaceApplication">
                  <field name="portletApp"><string>dashboard</string></field>
                  <field name="portletName"><string>DashboardPortlet</string></field>
                  <field name="appTitle"><string>Dashboard</string></field>
                  <field name="removable"><boolean>true</boolean></field>
                  <field name="order"><int>1</int></field>
                  <field name="uri"><string>dashboard</string></field>
                  <!--<field name="icon"><string>SpaceDashboardIcon</string></field>-->
                </object>
              </value>
              <value>
                <object type="org.exoplatform.social.core.space.SpaceApplicationConfigPlugin$SpaceApplication">
                  <field name="portletApp"><string>social-portlet</string></field>
                  <field name="portletName"><string>SpaceSettingPortlet</string></field>
                  <field name="appTitle"><string>Space Settings</string></field>
                  <field name="removable"><boolean>false</boolean></field>
                  <field name="order"><int>2</int></field>
                  <field name="uri"><string>settings</string></field>
                  <!--<field name="icon"><string>SpaceSettingsIcon</string></field>-->
                </object>
              </value>
              <value>
                <object type="org.exoplatform.social.core.space.SpaceApplicationConfigPlugin$SpaceApplication">
                  <field name="portletApp"><string>social-portlet</string></field>
                  <field name="portletName"><string>MembersPortlet</string></field>
                  <field name="appTitle"><string>Members</string></field>
                  <field name="removable"><boolean>true</boolean></field>
                  <field name="order"><int>3</int></field>
                  <field name="uri"><string>members</string></field>
                  <!--<field name="icon"><string>SpaceMembersIcon</string></field>-->
                </object>
              </value>
            </collection>
          </field>
        </object>
      </object-param>

    </init-params>
  </component-plugin>
</external-component-plugins>
```

In which:

Name	Set-method	Type	Description
Space Application Configuration	setSpaceApplicationConfiguration	org.exoplatform.social.core.configuration.Plugin	Configuration for the space applications to be installed when creating a new space.

2.8. Activity Manager

2.8.1. Description

The service is to manipulate space and user activities.

2.8.2. Component plug-in configuration

```
<component-plugin>
  <name>OSHtmlSanitizer</name>
  <set-method>addProcessorPlugin</set-method>
  <type>org.exoplatform.social.core.processor.OSHtmlSanitizerProcessor</type>
  <init-params>
    <values-param>
      <name>allowedTags</name>
      <value>b</value>
      <value>i</value>
      <value>a</value>
      <value>span</value>
      <value>em</value>
      <value>strong</value>
      <value>p</value>
      <value>ol</value>
      <value>ul</value>
      <value>li</value>
      <value>br</value>
      <value>img</value>
    </values-param>
  </init-params>
</component-plugin>
```

In which,

Name	Set-method	Type	Description
OSHtmlSanitizerProcessor	addProcessorPlugin	org.exoplatform.social.core.processor.OSHtmlSanitizerProcessor	The plugin OSHtmlSanitizerProcessor valid html tags appearing in the Activity body (content).

- Init-params:

Name	Possible value	Default Value	Description
allowedTags	html tags	b, i, a, span, em, strong, p, ol, ul, li, br, img	To process and render html tags in the activity content (body).

2.8.3. External plug-in configuration

```
<external-component-plugins>
  <target-component>org.exoplatform.social.core.manager.ActivityManager</target-component>
  <component-plugin>
    <name>MentionsProcessor</name>
    <set-method>addProcessorPlugin</set-method>
    <type>org.exoplatform.social.core.processor.MentionsProcessor</type>
    <init-params>
      <value-param>
        <name>priority</name>
        <description>priority of this processor (lower number will be executed first)</description>
        <value>2</value>
      </value-param>
    </init-params>
  </component-plugin>
</external-component-plugins>
```

In which:

Name	Set-method	Type	Description
MentionsProcessor	addProcessorPlugin	org.exoplatform.social.core.processor.MentionsProcessor	processor that substitutes @username expressions by a link on the user profile.

- Init-params:

Name	Possible value	Default Value	Description
priority	priority number	2	Priority of this processor (The lower level will be executed first).

2.9. Identity Manager

2.9.1. Description

The service is to manipulate the identity operations like creating, getting, deleting or finding a profile.

2.9.2. Component plug-in configuration

```
<component>
```

```

<key>org.exoplatform.social.core.manager.IdentityManager</key>
<type>org.exoplatform.social.core.manager.IdentityManager</type>
<component-plugins>
  <component-plugin>
    <name>SpaceIdentityProvider plugin</name>
    <set-method>registerIdentityProviders</set-method>
    <type>org.exoplatform.social.core.identity.IdentityProviderPlugin</type>
    <init-params>
      <values-param>
        <name>providers</name>
        <description>Identity Providers</description>
        <value>org.exoplatform.social.core.identity.provider.SpaceIdentityProvider</value>
      </values-param>
    </init-params>
  </component-plugin>
</component-plugins>
</component>

```

In which:

Name	Set-method	Type	Description
SpaceIdentityProvider plugin	registerIdentityProviders	org.exoplatform.social.core.identity.IdentityProviderPlugin	The SpaceIdentityProvider plugin identity for a space

- Init-params:

Name	Possible value	Default Value	Description
providers	Every other identity providers	org.exoplatform.social.identity.provider.SpaceIdentityProvider	IdentityProvider instances for managing identities.

2.10. OpenSocial Rest Context Configuration

2.10.1. Description

The service is used to configure the portal container name when there is a OpenSocial REST API request. By configuring this service, we can make sure to reach the right portal container. The default portal container is portal.

2.10.2. Component plug-in configuration

This should be used when there is a portal container different than the default portal one.

```

<external-component-plugins>
  <target-component>org.exoplatform.social.opensocial.auth.RestPortalContainerNameConfig</target-component>
  <component-plugin>
    <name>set portal container name used for REST service</name>
    <set-method>setRestContainerName</set-method>
    <type>org.exoplatform.social.opensocial.auth.RestPortalContainerNameConfig</type>
    <init-params>
      <value-param>
        <name>rest-container-name</name>
        <value>socialdemo</value>
      </value-param>
    </init-params>
  </component-plugin>
</external-component-plugins>

```

```
</component-plugin>
</external-component-plugins>
```

In which:

Name	Set-method	Type	Description
set portal container name used for REST service	setRestContainerName	org.exoplatform.social.open	The plugin RestProvider set rest portal container name for OpenSocial REST API request

- Init-params:

Name	Possible value	Default Value	Description
rest-container-name	any valid portal container name	N/A	Portal container name

2.11. Spaces Template configuration

In the eXo Spaces, we may have two space types (classic and webos spaces). This is for the classic mode (it's the only one implemented now).

For the classic space, we can pre-configure the template, meaning that you can set up where your **menu** will be displayed or where your **application** will be displayed.

Here is an example of configuration file that displays the menu on the left. The Application will be inserted in the container with the id **Application**:

```
<page>
  <owner-type/>
  <owner-id/>
  <name/>
  <container id="SpacePage" template="system:/groovy/portal/webui/container/UITableColumnContainer.gtmpl">
    <container id="Menu" template="system:/groovy/portal/webui/container/UIContainer.gtmpl">
      <portlet-application>
        <portlet>
          <application-ref>space</application-ref>
          <portlet-ref>SpaceMenuPortlet</portlet-ref>
        </portlet>
        <access-permissions>*:/platform/users</access-permissions>
        <show-info-bar>false</show-info-bar>
      </portlet-application>
    </container>
    <container id="Application" template="system:/groovy/portal/webui/container/UIContainer.gtmpl">
      </container>
    </container>
  </page>
```

In this example, the outer container contains two inner containers: one container has id as **Menu** for your Menu and another has id as **Application** containing your applications.

If you want to put your menu in right and your application in left, you can swap the declared position of two

containers:

```
<page>
  <owner-type/>
  <owner-id/>
  <name/>
  <container id="SpacePage" template="system:/groovy/portal/webui/container/UITableColumnContainer.gtmpl">
    <container id="Application" template="system:/groovy/portal/webui/container/UIContainer.gtmpl">
      <container id="Menu" template="system:/groovy/portal/webui/container/UIContainer.gtmpl">
        <portlet-application>
          <portlet>
            <application-ref>space</application-ref>
            <portlet-ref>SpaceMenuPortlet</portlet-ref>
          </portlet>
          <access-permissions>*:/platform/users</access-permissions>
          <show-info-bar>false</show-info-bar>
        </portlet-application>
      </container>
    </container>
  </container>
</page>
```

Here is the configure file in FishEye:
<http://fisheye.exoplatfrom.org/browse/social/trunk/extension/war/src/main/webapp/WEB-INF/conf/portal/template/pages/space.xml>

In your tomcat, this configuration file is at
 \$EXOTOMCAT/webapps/social-ext/WEB-INF/conf/portal/template/pages/space/page.xml.

2.12. Configure the OAuth 2 legged scenario

This is to explain how to configure the oAuth 2 legs scenario in openSocial.

For more information about this, visit the website: [great article](#)

2.12.1. Generate the certificates

To generate the key:

```
$ openssl req -newkey rsa:1024 -days 365 -nodes -x509 -keyout testkey.pem
  -out testkey.pem -subj '/CN=mytestkey'
$ openssl pkcs8 -in testkey.pem -out oauthkey.pem -topk8 -nocrypt -outform PEM
```

2.12.2. Configure the property file

Edit container.js and change the following parameter to point to your private key and your key name.

```
"gadgets.signingKeyFile" : "oauth.pem",
"gadgets.signingKeyName" : "oauthKey",
```

Chapter 3. Developers References

3.1. UI Extensions

3.1.1. About Activity Plug-in

Since the Social 1.1.0, the activity plug-in feature was introduced that enables the activity composer extension and custom UI component to be used for displaying one activity by its type.

3.1.2. Create the activity plug-in

At first, you should have an idea about the UI Extension Framework. If you have already worked with the UI Extension Framework, it's really easy to create the activity plug-in. If no, you have chance to work with it visiting [UI Extension Framework](#).

3.1.2.1. Create a custom UI component for displaying the activity based on its type

Note

("Project Code can be downloadable [here](#)")

When an activity is displayed, UIActivityFactory will look for its registered custom activity display by activity's type. If not found, UIDefaultActivity will be called for displaying that activity.

For example, in Social, there is an activity of type "exosocial:spaces" created by SpaceActivityPublisher. If you want to display it with our own UI component instead of default ones.

First, create a sample project:

```
mvn archetype:generate

Choose archetype:
Choose a number: 76
Choose version: 1
Define value for property 'groupId': : org.exoplatform.social.samples
Define value for property 'artifactId': : exo.social.samples.activity-plugin
Define value for property 'version': 1.0-SNAPSHOT: 1.0.0-SNAPSHOT
Define value for property 'package': org.exoplatform.social.samples: org.exoplatform.social.samples.activityPlugin
Confirm properties configuration:
groupId: org.exoplatform.social.samples
artifactId: exo.social.samples.activity-plugin
version: 1.0.0-SNAPSHOT
package: org.exoplatform.social.samples.activityPlugin
Y: y
```

Edit the pom.xml file as follows.

```
<project xmlns="http://maven.apache.org/POM/4.0.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:sch
  <modelVersion>4.0.0</modelVersion>

  <parent>
    <groupId>org.exoplatform.social</groupId>
    <artifactId>social-project</artifactId>
    <version>1.1.0-GA</version>
  </parent>
```

```

<groupId>org.exoplatform.social.samples</groupId>
<artifactId>exo.social.samples.activity-plugin</artifactId>
<packaging>jar</packaging>
<version>1.1.0-GA</version>

<name>exo.social.samples.activity-plugin</name>

<build>
  <sourceDirectory>src/main/java</sourceDirectory>
  <outputDirectory>target/classes</outputDirectory>
  <resources>
    <resource>
      <directory>src/main/resources</directory>
      <includes>
        <include>**/*.gtmpl</include>
      </includes>
    </resource>
    <resource>
      <directory>src/main/java</directory>
      <includes>
        <include>**/*.xml</include>
      </includes>
    </resource>
  </resources>
</build>

<dependencies>

  <dependency>
    <groupId>org.exoplatform.portal</groupId>
    <artifactId>exo.portal.webui.core</artifactId>
    <scope>provided</scope>
  </dependency>

  <dependency>
    <groupId>org.exoplatform.portal</groupId>
    <artifactId>exo.portal.webui.portal</artifactId>
    <scope>provided</scope>
  </dependency>

  <dependency>
    <groupId>org.exoplatform.social</groupId>
    <artifactId>exo.social.component.core</artifactId>
    <scope>provided</scope>
  </dependency>

  <dependency>
    <groupId>org.exoplatform.social</groupId>
    <artifactId>exo.social.component.webui</artifactId>
    <scope>provided</scope>
  </dependency>

  <dependency>
    <groupId>org.exoplatform.social</groupId>
    <artifactId>exo.social.component.service</artifactId>
    <scope>provided</scope>
  </dependency>

</dependencies>

</project>

```

To use the custom UI component for displaying its activity, we need a subclass of BaseUIActivity. We call this UISpaceSimpleActivity:

```

package org.exoplatform.social.samples.activityplugin;

import org.exoplatform.social.webui.activity.BaseUIActivity;
import org.exoplatform.webui.config.annotation.ComponentConfig;
import org.exoplatform.webui.core.lifecycle.UIFormLifecycle;

@ComponentConfig(
  lifecycle = UIFormLifecycle.class,
  template = "classpath:groovy/social/plugin/space/UISpaceSimpleActivity.gtmpl"
)

```

```

)
public class UISpaceSimpleActivity extends BaseUIActivity {
}

```

The template `UISpaceSimpleActivity.gtmpl` should be created under `main/resources/groovy/social/plugin/space`:

```
<div>This is a space activity ui component displayed for type "exosocial:spaces"</div>
```

An activity builder is also needed which will be explained later.

```

package org.exoplatform.social.samples.activityplugin;

import org.exoplatform.social.core.activity.model.Activity;
import org.exoplatform.social.webui.activity.BaseUIActivity;
import org.exoplatform.social.webui.activity.BaseUIActivityBuilder;

public class SimpleSpaceUIActivityBuilder extends BaseUIActivityBuilder {

    @Override
    protected void extendUIActivity(BaseUIActivity uiActivity, Activity activity) {
        // TODO Auto-generated method stub
    }
}

```

Next, create `configuration.xml` under `conf/portal`:

```

<configuration xmlns="http://www.exoplaform.org/xml/ns/kernel_1_1.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <external-component-plugins>
    <target-component>org.exoplatform.webui.ext.UIExtensionManager</target-component>
    <component-plugin>
      <name>add.action</name>
      <set-method>registerUIExtensionPlugin</set-method>
      <type>org.exoplatform.webui.ext.UIExtensionPlugin</type>
      <init-params>
        <object-param>
          <name>Simple Space Activity</name>
          <object type="org.exoplatform.social.webui.activity.UIActivityExtension">
            <field name="type"><string>org.exoplatform.social.webui.activity.BaseUIActivity</string></field>
            <field name="name"><string>exosocial:spaces</string></field>
            <field name="component"><string>org.exoplatform.social.samples.activityplugin.UISpaceSimpleActivity</string></field>
            <field name="activityBuiderClass"><string>org.exoplatform.social.samples.activityplugin.SimpleSpaceUIActivityBuilder</string></field>
          </object>
        </object-param>
      </init-params>
    </component-plugin>
  </external-component-plugins>
</configuration>

```

Note that `exosocial:spaces` is defined in

```
<field name="name"><string>exosocial:spaces</string></field>
```

, its value must match the activity's type you want to display with your UI component.

Build sample project and copy the jar to `tomcat/lib`. Run Social, create a space and access it. You can see:

space's activity of type "exosocial:spaces" is displayed by default in Social:

With our custom UI component for displaying activity of type: "exosocial:spaces":

Make the custom UI activity display have the look and feel and function like default one.

When displaying an activity, we should make sure the look and feel of the custom UI component is consistent and match other activities and have the functions of like, comments. So, to create the another UI component to display, we call `UISpaceLookAndFeelActivity`:

```
package org.exoplatform.social.samples.activityplugin;

import org.exoplatform.social.webui.activity.BaseUIActivity;
import org.exoplatform.webui.config.annotation.ComponentConfig;
import org.exoplatform.webui.config.annotation.EventConfig;
import org.exoplatform.webui.core.lifecycle.UIFormLifecycle;

@ComponentConfig(
    lifecycle = UIFormLifecycle.class,
    template = "classpath:groovy/social/plugin/space/UISpaceLookAndFeelActivity.gtmpl",
    events = {
        @EventConfig(listeners = BaseUIActivity.ToggleDisplayLikesActionListener.class),
        @EventConfig(listeners = BaseUIActivity.ToggleDisplayCommentFormActionListener.class),
        @EventConfig(listeners = BaseUIActivity.LikeActivityActionListener.class),
        @EventConfig(listeners = BaseUIActivity.SetCommentListStatusActionListener.class),
        @EventConfig(listeners = BaseUIActivity.PostCommentActionListener.class),
        @EventConfig(listeners = BaseUIActivity.DeleteActivityActionListener.class, confirm = "UIActivity.msg.Are_You_Sure_Delete_Activity"),
        @EventConfig(listeners = BaseUIActivity.DeleteCommentActionListener.class, confirm = "UIActivity.msg.Are_You_Sure_Delete_Comment")
    }
)
public class UISpaceLookAndFeelActivity extends BaseUIActivity {

}
```

Now, create the `UISpaceLookAndFeelActivity` template by copying the content of [UIDefaultActivity.gtmpl](#) to this template file.

You should make needed modifications for this template. We make a small modification here:

```
<div class="Content">
    $activityContentTitle (from custom ui component)<br>
</div>
```

We need to reconfigure `configuration.xml`:

```
<configuration xmlns="http://www.exoplaform.org/xml/ns/kernel_1_1.xsd" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <external-component-plugins>
    <target-component>org.exoplatform.webui.ext.UIExtensionManager</target-component>
    <component-plugin>
      <name>add.action</name>
      <set-method>registerUIExtensionPlugin</set-method>
      <type>org.exoplatform.webui.ext.UIExtensionPlugin</type>
      <init-params>
        <object-param>
          <name>Look And Feel Space Activity</name>
          <object type="org.exoplatform.social.webui.activity.UIActivityExtension">
            <field name="type"><string>org.exoplatform.social.webui.activity.BaseUIActivity</string></field>
            <field name="name"><string>exosocial:spaces</string></field>
            <field name="component"><string>org.exoplatform.social.samples.activityplugin.UISpaceLookAndFeelActivity</string></field>
            <field name="activityBuiderClass"><string>org.exoplatform.social.samples.activityplugin.SimpleSpaceActivity</string></field>
          </object>
        </object-param>
      </init-params>
    </component-plugin>
  </external-component-plugins>
</configuration>
```

Rebuild the sample project, copy jar to tomcat/lib. Rerun the server and see the result:

Note

Currently, we have to copy and paste in the template file. We will have the full control of the UI, but it is not good when there is any change in UIDefaultActivity.

3.1.2.1.1. What is activity builder?

Note

to do

3.1.2.2. Create a composer extension for composing activity on the UI composer and display it on activity stream

Note

to do

3.2. Overridable Components

There are 2 components in Social that can be overridden: Space Application Handler & Space Service

- **Space Application Handler**

```
<component>
  <key>org.exoplatform.social.core.space.spi.SpaceApplicationHandler</key>
  <type>org.exoplatform.social.core.space.impl.DefaultSpaceApplicationHandler</type>
</component>
```

- **Space Service**

```
<component>
  <key>org.exoplatform.social.core.space.spi.SpaceService</key>
  <type>org.exoplatform.social.core.space.impl.SpaceServiceImpl</type>
  <init-params>
    <!-- Configure the applications to install in a space -->
    <values-param>
      <name>space.homeNodeApp</name>
      <value>SpaceActivityStreamPortlet</value>
    </values-param>
    <!-- Configure removable application or not <value>Application:removable</value> -->
    <values-param>
      <name>space.apps</name>
      <value>DashboardPortlet:true</value>
      <value>SpaceSettingPortlet:false</value>
      <value>MembersPortlet:true</value>
    </values-param>
  </init-params>
</component>
```

3.3. Public Java APIs

3.3.1. ActivityManager

Method	Param	Return	Description
saveActivity (Identity owner, Activity activity)	owner - the owner of activity stream, activity - the activity which needs to be saved	Activity	Saves an activity to the stream of a owner. Note that the Activity.userId will be set to the owner identity if not already set.
getActivity (java.lang.String activityId)	activityId - the id of activity	Activity	Gets an activity by activity id.
deleteActivity (java.lang.String activityId)	activityId - the id of activity	void	Deletes an activity by id.
deleteComment (java.lang.String activityId, java.lang.String commentId)	activityId - the id of activity, commentId - the id of comment	void	Deletes comment by id.
getActivities (Identity identity)	identity	List<Activity>	Gets the latest activities by identity with the default limit of 20 latest activities.
getActivities (Identity identity, long start, long limit)	identity, start - the offset index, limit	List<Activity>	Gets the latest activities by identity, specifying the start offset index and limit.
getActivitiesOfConnections (Identity ownerIdentity)	identity	List<Activity>	Gets activities of connections from an identity. The activities are sorted by time. The result list is maximum 30 activities by default. (Since 1.1.1).
getActivitiesOfConnections (Identity ownerIdentity, int offset, int limit)	identity, limit, offset	List<Activity>	Gets activities of connections from an identity by specifying offset and limit. The activities are returned as a list that is sorted starting from the most recent activity. (Since 1.1.3).
getActivitiesOfUserSpaces (Identity ownerIdentity)	identity	List<Activity>	Gets the activities from all user's spaces.
getActivityFeed (Identity identity)	identity	List<Activity>	Gets the activity feed of an identity. This feed is

Method	Param	Return	Description
			the combination of all the activities of his own activities, his connections' activities and his spaces' activities which are sorted by time. The latest activity is the first item in the activity list.
saveActivity (Activity activity)	activity - the activity which needs to be saved	activity	Saves the activity into the stream for the activity's userId.
saveComment (Activity activity, Activity comment)	activity, comment	void	Saves new or update comments to an activity comment which is an instance of Activity with mandatory properties: userId, title.
saveLike (Activity activity, Identity identity)	activity, identity	void	Saves an identity of user who likes the activity.
removeLike (Activity activity, Identity identity)	activity, identity - the identity of user who unlikes the activity	void	Removes the like activity, if this activity liked, remove, else does nothing.
getComments (Activity activity)	activity	comments	Gets an activity's commentList.
recordActivity (Identity owner, java.lang.String type, java.lang.String title, java.lang.String body)	owner - the owner of the target stream for this activity, type is the type of activity (freeform), title, body	stored activity	Records an activity.
recordActivity (Identity owner, Activity activity)	owner, activity	stored activity	Saves an activity.
addProcessor (ActivityProcessor processor, Adds a new processor)	processor, addProcessorPlugin	void	Adds a new activity processor.
addProcessorPlugin (BaseActivityProcessorPlugin plugin)	plugin	void	Adds a new processor plug-in.
getActivitiesCount (Identity owner)	owner	int	Gets the number of activity from a stream owner.

3.3.2. IdentityManager

Method	Param	Return	Description
registerIdentityProviders (IdentityProviderPlugin plugin)	IdentityProviderPlugin		Registers one or more IdentityProvider through an IdentityProviderPlugin
getIdentity (String id)	id can be a social GlobalId or a raw identity such as in Identity.getId()	null if nothing is found, or the Identity object	Gets the identity by id and to load his profile.
getIdentity (String id, boolean loadProfile)	id can be a social GlobalId or a raw identity such as in Identity.getId(), loadProfile - the value is true if the profile is loaded and false if not loaded	null if nothing is found, or the Identity object	Gets the identity by loading id of the profile optionally.
deleteIdentity (Identity identity)	identity	void	Deletes an identity.
addIdentityProvider (IdentityProvider idProvider)	idProvider - is the id of provider	void	Adds the id of provider.
getIdentitiesCount (String providerId)	providerId	long	Gets the number of identities.
getOrCreateIdentity (java.lang.String providerId, java.lang.String remoteId)	providerId - is the id of provider, remoteId is the remote id	identity	Gets the identity by a remote id.
getOrCreateIdentity (java.lang.String providerId, java.lang.String remoteId, boolean loadProfile)	providerId - referring to the name of the Identity provider, remoteId - the identifier that identify the identity in the specific identity provider, loadProfile is true when the profile is loaded	null if nothing is found, or the Identity object TODO improves the performance by specifying what needs to be loaded	Returns an Identity object that is specific to a special type. For example, if the type is LinkedIn, the identifier will be the URL of profile or if it is a CS contact manager contact, it will be the UID of the contact. A new identity is created if it doesnot exist.
getIdentitiesByProfileFilter (java.lang.String providerId, ProfileFilter profileFilter) throws Exception	providerId - is the id of provider, profileFilter is the filter of provider	the identities by the profile filter	Gets the identities by profile filter.
getIdentitiesByProfileFilter (java.lang.String providerId, ProfileFilter profileFilter, long offset, long limit) throws	providerId, profileFilter, offset, limit,	List<Identity>	Gets the identities by profile filter.

Method	Param	Return	Description
Exception			
getIdentitiesByProfileFilter (ProfileFilter profileFilter) throws Exception	ProfileFilter - the profile filter	the identities by profile filter	Gets the identities by profile filter.
getIdentitiesByProfileFilter (ProfileFilter profileFilter, long offset, long limit) throws Exception	ProfileFilter, offset, limit	List<Identity>	Gets the identities by profile filter.
getIdentitiesFilterByAlphaBet (java.lang.String providerId, ProfileFilter profileFilter) throws Exception	providerId, ProfileFilter is the profile filter	the identities filter by alphabet	Gets the identities filter by alpha bet.
getIdentitiesFilterByAlphaBet (String providerId, ProfileFilter profileFilter, long offset, long limit) throws Exception	String, providerId, ProfileFilter, offset, limit	List<Identity>	Gets the identities filter by alpha bet by specifying offset and limit.
getIdentitiesFilterByAlphaBet (ProfileFilter profileFilter) throws Exception	ProfileFilter - the profile filter	the identities filter by alphabet	Gets the identities filter by alphabet.
getIdentity (java.lang.String providerId, java.lang.String remoteId, boolean loadProfile)	providerId, remoteId, loadProfile	Identity	Gets the identity.
identityExisted (java.lang.String providerId, java.lang.String remoteId)	providerId, remoteId	boolean	Checks if the identity is already existed or not.
saveIdentity (Identity identity)	identity is the identity	void	Saves the identity.
saveProfile (Profile profile)	profile	void	Saves a profile.
updateAvatar (Profile p) throws Exception	p - profile	void	Updates avatar.
updateBasicInfo (Profile p) throws Exception	p - profile	Profile	Updates basic info of a profile.
updateContactSection (Profile p) throws Exception	profile	void	Updates the contact section of a profile.
updateExperienceSection (Profile p) throws Exception	profile	void	Updates the experience section of a profile.
updateHeaderSection (Profile p) throws Exception	profile	void	Updates the header section of profile.

Method	Param	Return	Description
getIdentities (java.lang.String providerId) throws Exception	providerId is the id of provider	List<Identity>	Gets the identity.
getIdentities (java.lang.String providerId, boolean loadProfile)	providerId is the id of provider, loadProfile is the loaded profile.	List<Identity>	Gets the identities.
getConnections (Identity ownerIdentity) throws Exception	ownerIdentity	List<Identity>	Gets connections of an identity
getStorage ()	N/A	IdentityStorage	Gets the storage.
setIdentityStorage (IdentityStorage identityStorage)	IdentityStorage	void	Sets identityStorage.
registerProfileListener (ProfileListener listener)	ProfileListener	void	Registers a profile listener.
unregisterProfileListener (ProfileListener listener)	ProfileListener	void	Unregisters a profile listener.
addProfileListener (ProfileListener plugin)	ProfileListener	void	Registers a profile listener component plug-in.
getIdentityStorage ()	N/A	IdentityStorage	Gets identity storage.

3.3.3. RelationshipManager

Method	Param	Return	Description
getRelationshipById (String id) throws Exception	id	Relationship	Gets relationship the by id.
invite (Identity currIdentity, Identity requestedIdentity) throws Exception	currIdentity - The current identity, requestedIdentity - The requested identity	Relationship	Creates a connection invitation between two identities.
confirm (Relationship relationship) throws Exception	relationship	void	Marks a relationship as confirmed.
deny (Relationship relationship) throws Exception	relationship	void	Denies a relationship.
remove (Relationship relationship) throws Exception	relationship	void	Removes a relationship.
ignore (Relationship relationship)	relationship	void	Marks a relationship as

Method	Param	Return	Description
relationship) throws Exception			ignored.
getPendingRelationships (Identity identity) throws Exception	Identity	List<Relationship>	Returns all the pending relationships of the identity, including sent and received relationships of the pending type.
getPendingRelationships (Identity identity, boolean toConfirm) throws Exception	Identity, toConfirm	List<Relationship>	If toConfirm is true, it returns a list of the pending relationship received, but not confirmed, if toConfirm is false, it returns a list of the relationship sent, but not confirmed yet.
getPendingRelationships (Identity currIdentity, List<Identity> identities, boolean toConfirm) throws Exception	Identity - the current identity, identities - the identities, toConfirm -	List<Relationship>	Gets the pending relations in two cases: - If toConfirm is true, it returns a list of the pending relationships received, but not confirmed. - If toConfirm is false, it returns a list of the relationships sent, but not confirmed yet.
getContacts (Identity currIdentity, List<Identity> identities) throws Exception	currIdentity - the current identity, identities - the identities,	List<Relationship>	Gets contacts that matches the search result.
getContacts (Identity identity) throws Exception	identity	List<Relationship>	Gets the contacts of the identity.
getAllRelationships (Identity identity) throws Exception	identity	List<Relationship>	Returns all the relationships associated with a given identity.
getRelationshipsById (String id) throws Exception	id	List<Relationship>	Returns all the relationships associated with a given identityId.
getIdentities (Identity id) throws Exception	id	List<Identity>	Returns all the identities associated with a given identity and checks

Method	Param	Return	Description
			whether the relation has been validated or not.
create (Identity sender, Identity receiver)	sender, receiver	Relationship	Creates the relationship.
saveRelationship (Relationship relationship) throws Exception	relationship	void	Saves the relationship.
updateRelationshipCached (Relationship relationship)	relationship	void	Updates the relationship cached.
findRoute (Identity sender, Identity receiver) throws NotSupportedException	sender, receiver	Relationship	Finds a route.
findRelationships (Identity ownerId, Relationship.Type relationshipType) throws Exception	ownerIdentity, relationshipType	List<Identity>	Finds all identities having relationshipType with the ownerId.(Since 1.1.2).
getRelationshipStatus (Relationship rel, Identity id)	relationship	Relationship.Type	Gets the relationship type of the relationship with the identity.
getConnectionStatus (Identity fromIdentity, Identity toIdentity) throws Exception	fromIdentity, toIdentity	Relationship.Type	Gets the connection type between two identities. (Since 1.1.1).
registerListener (RelationshipListener listener)	RelationshipListener	void	Registers the RelationshipListener.
unregisterListener (RelationshipListener listener)	RelationshipListener	void	Removes the RelationshipListener.
addListenerPlugin (RelationshipListenerPlugin plugin)	RelationshipListenerPlugin	void	Adds the plugin.

3.3.4. SpaceService

Method	Param	Return	Description
getAllSpaces () throws SpaceException	N/A	List<Space> - list of spaces in Social	Gets all spaces in Social.
getSpaceByName (String spaceName) throws SpaceException	spaceName	Space	Gets a space by its space name.
getSpacesByFirstCharacterOfName (String firstName)	firstName	List<Space> - all spaces	Gets all spaces has the

Method	Param	Return	Description
firstCharacterOfName) throws SpaceException		which have first character of name matched the input string.	name starting with the input character.
getSpacesBySearchCondition (String condition) throws Exception	String - the input condition	List<Space> - a list of spaces	Gets all spaces which has the name or the description that matches the input condition.
getSpaceById (String groupId) throws SpaceException,	groupId - the group id of the space	Space	Gets a space by its group id.
getSpaceById (String spaceId) throws SpaceException	spaceId - Id of that space	Space - space with the id specified	Gets a space by its id.
getSpaceByUrl (String spaceUrl) throws SpaceException	spaceUrl - url of space	Space - the space with string url specified	Gets a space by its url.
getSpaces (String userId) throws SpaceException	userId - Id of the user	List<Space> - all spaces of a user in which the user is a member	Gets spaces of a user in which that user is a member.
getAccessibleSpaces (String userId) throws SpaceException	userId	List<Space> - list of spaces	Gets spaces of a user which that user has the access permission
getEditableSpaces (String userId) throws SpaceException	userId	List<Space> - list of spaces	Gets spaces of a user which that user has the edit permission.
getInvitedSpaces (String userId) throws SpaceException	userId	List<Space> - spaces list of all user's invited spaces	Gets a user's invited spaces and that user can accept or deny the request.
getPublicSpaces (String userId) throws SpaceException	userId - Id of user	List<Space> - spaces list in which the user can request to join	Gets a user's public spaces and that user can request to join.
getPendingSpaces (String userId) throws SpaceException	userId	List<Space> - spaces list in which the user can revoke that request	Gets a user's pending spaces and that the user can revoke that request.
createSpace (Space space, String creator) throws SpaceException	space, creator	Space - the created space	Creates a new space by creating a new group.This new group will be under /Spaces node.This is shorthand for calling createSpace(space, creator, null).
createSpace (Space	space, creator,	Space	Creates a new space from

Method	Param	Return	Description
space, String creator, String groupId) throws SpaceException	groupId - if groupId == null: create a new space by creating a new group		an existing group.
saveSpace (Space space, boolean isNew) throws SpaceException	space - space is saved, isNew - true if creating a new space, otherwise, update an existing space.	void	Saves a new space or updates a space.
deleteSpace (Space space) throws SpaceException	space - the space is deleted	void	Deletes a space. When deleting a space, all of its page navigations and its group will be deleted.
deleteSpace (String spaceId) throws SpaceException	spaceId	void	Deletes a space by its id.
initApp (Space space) throws SpaceException	space	void	Initializes default applications in a space. Deprecated, use initApps (Space) instead.
initApps (Space space) throws SpaceException	space	void	Initializes default applications in a space. Set space.homeNodeApp from the configuration file to be the root page of that space node. When removing a space, make sure to call deInitApps (Space) and then deleteSpace (Space) or deleteSpace (String)
deInitApps (Space space) throws SpaceException	space	void	De-initializes the applications of a space. Make sure to call this method before deleteSpace (Space) or deleteSpace (String). Otherwise, the space is deleted but its pages and navigation still exists.
addMember (Space space, String userId) throws SpaceException		void	Adds a user to a space, the user will get the "member" role in a space.
addMember (String spaceId, String userId) throws SpaceException	spaceId, userId	void	Adds a user to a space, the user will get the "member" role in a space.

Method	Param	Return	Description
removeMember (Space space, String userId) throws SpaceException	space, userId	void	Removes a member from a space. If the member is the only leader of that space, the member removed is not allowed and throws SpaceException with Code = USERONLYLEADER.
removeMember? (String spaceId, String userId) throws SpaceException	spaceId, userId	void	Removes a member from a space.
getMembers (Space space) throws SpaceException	space	List<String> - a list of the space members	Gets a list of the space members from a space.
getMembers (String spaceId) throws SpaceException	spaceId	List<String> - a list of the space members	Gets a list of the space members from a space.
setLeader (Space space, String userId, boolean isLeader) throws SpaceException	space, userId, isLeader	void	Sets a member of a space as a manager.
setLeader (String spaceId, String userId, boolean isLeader) throws SpaceException	spaceId, userId, isLeader	void	Sets a member of a space as a manager.
isLeader (Space space, String userId) throws SpaceException	space, userId	boolean - true if that the user is a leader, otherwise, false	Checks whether a user is a space's leader or not.
isLeader (String spaceId, String userId) throws SpaceException	spaceId, userId	boolean - true if that user is a leader, otherwise, false	Checks whether a user is a space's leader or not.
isOnlyLeader (Space space, String userId) throws SpaceException	space, userId	boolean - true if that user is the only leader of the space, otherwise, false	Checks whether a user is the only leader of a space or not.
isOnlyLeader (String spaceId, String userId) throws SpaceException	spaceId, userId	boolean	Checks whether a user is the only leader of a space or not.
isMember (Space space, String userId) throws SpaceException	space, userId	boolean - true if that user is a member, otherwise, false	Checks whether a user is a space's member or not.
isMember (String spaceId, String userId) throws SpaceException	spaceId, userId,	boolean - true if that user is a member, otherwise,false	Checks whether a user is a space's member or not.

Method	Param	Return	Description
hasAccessPermission (Space space, String userId) throws SpaceException	space, userId	boolean - true If the user is root or the space's member.	Checks if a user can access a space or not.
hasAccessPermission (String spaceId, String userId) throws SpaceException	spaceId, userId	boolean - true If the user is root or the space's member	Checks if a user can access a space or not.
hasEditPermission (Space space, String userId) throws SpaceException	space, userId	boolean - true If the user is root or the space's manager	Checks if a user can have the edit permission of a space or not.
hasEditPermission (String spaceId, String userId) throws SpaceException	spaceId, userId	boolean - true If user is root or the space's manager	Checks if a user can have the edit permission of a space or not.
isInvited (Space space, String userId) throws SpaceException	space, userId	boolean - true if that user is in the invited list, otherwise, false	Checks if a user is in the invited list of a space or not.
isInvited (String spaceId, String userId) throws SpaceException	spaceId, userId	boolean - true if the user is in the invited list, otherwise, false	Checks if a user is in the invited list of a space or not.
isPending (Space space, String userId) throws SpaceException	space, userId	boolean - true if that user is in the pending list, otherwise, false	Checks if a user is in the pending list of a space or not.
installApplication (String spaceId, String appId) throws SpaceException	spaceId, appId	void	Installs an application to a space.
installApplication (Space space, String appId) throws SpaceException	space, appId	void	Installs an application to a space
activateApplication (Space space, String appId) throws SpaceException	space, appId	void	Activates an installed application in a space.
activateApplication (String spaceId, String appId) throws SpaceException	spaceId, appId	void	Activates an installed application in a space.
deactivateApplication (Space space, String appId) throws SpaceException	space, appId	void	Deactivates an installed application in a space.
deactivateApplication (String spaceId, String appId) throws SpaceException	spaceId, appId	void	Deactivates an installed application in a space.
removeApplication (Space space, String appId, String appName) throws SpaceException	space, appId, appName	void	Removes an installed application from a space.

Method	Param	Return	Description
removeApplication (String spaceId, String appId, String appName) throws SpaceException	space, appId, appName	void	Removes an installed application from a space.
requestJoin (Space space, String userId) throws SpaceException	space, userId	void	Requests a user to join a space, adds that user to the pending list of the space.
requestJoin (String spaceId, String userId) throws SpaceException	spaceId, userId	void	Requests a user to join a space, adds that user to the pending list of the space.
revokeRequestJoin (Space space, String userId) throws SpaceException	space, userId	void	Revokes a join request after users request to join a group and is in the pending status.
revokeRequestJoin (String spaceId, String userId) throws SpaceException	spaceId, userId	void	Revokes a request to join a space.
inviteMember (Space space, String userId) throws SpaceException	space, userId	void	Invites a userId to become a member of a space.
inviteMember (String spaceId, String userId) throws SpaceException	spaceId, userId	void	Invites a userId to a be member of a space.
revokeInvitation (Space space, String userId) throws SpaceException	space, userId	void	Revokes an invitation. Removes a user from the invited member list of the space.
revokeInvitation (String spaceId, String userId) throws SpaceException	spaceId, userId	void	Revokes an invitation. Removes a user from the invited member list of the space.
acceptInvitation (Space space, String userId) throws SpaceException	space, userId	void	Accepts an invitation and moves a user from the invited list to the member list.
acceptInvitation (String spaceId, String userId) throws SpaceException	spaceId, userId	void	Accepts an invitation and moves a user from the invited list to the member list.
denyInvitation (Space space, String userId) throws SpaceException	space, userId	void	Denies an invitation and removes a user from the invited list.

Method	Param	Return	Description
denyInvitation (String spaceId, String userId) throws SpaceException	spaceId, userid	void	Denies an invitation and removes a user from the invited list.
validateRequest (Space space, String userId) throws SpaceException	space, userid	void	Validates a request and moves a user from the pending list to the member list.
validateRequest (String spaceId, String userId) throws SpaceException	spaceId, userid	void	Validates a request and moves a user from the pending list to the member list.
declineRequest (Space space, String userId) throws SpaceException	space, userid	void	Declines a request and removes a user from the pending list.
declineRequest (String spaceId, String userId) throws SpaceException	spaceId, userid	void	Declines a request and removes a user from the pending list.
registerSpaceLifeCycleListener (SpaceLifeCycleListener listener)	SpaceLifeCycleListener	void	Registers a space lifecycle listener.
unregisterSpaceLifeCycleListener (SpaceLifeCycleListener listener)	SpaceLifeCycleListener	void	Unregisters a space lifecycle listener.
setPortletsPrefsRequired (PortletPrefsRequiredPlugin portletPrefsRequiredPlugin)	PortletPrefsRequiredPlugin	void	Sets the portlet preferences got from the plug-in configuration.
getPortletsPrefsRequired ()	N/A	String[]	Gets the portlet preferences required to use in creating the portlet application.
setSpaceApplicationConfigPlugin (SpaceApplicationConfigPlugin spaceApplicationConfigPlugin)	SpaceApplicationConfigPlugin	void	Sets configuration plugin for initializing applications when creating a new space. (Since 1.1.3).
getSpaceApplicationConfigPlugin ()		SpaceApplicationConfigPlugin	Gets the configuration of applications to be initialized when creating a new space. (Since 1.1.3).

3.4. Public REST APIs

3.4.1. Activities REST service

Name	Service URL	Location	Description
ActivitiesRestService	{restContextName}/{portalName}	Name}/social/activities Maven groupId: org.exoplatform.social ArtifactId: exo.social.component.service	Provides REST services for activity applications, such as like/unlike, comment, delete activity.

• **API:**

Name	Service URL	Parameters	Expected Values	Description
destroyActivity	{restContextName}/{portalName}	portalName activityId format	activities/destroy/{activityId} String String String: json or xml	Destroys an activity and returns the json/xml format.
showLikes	{restContextName}/{portalName}	portalName activityId format	activities/{activityId}/likes/show/{format} String String String: json or xml	Shows the list of identityId who likes this activity and returns the json/xml format.
updateLike	{restContextName}/{portalName}	portalName activityId format	activities/{activityId}/likes/update/{format} String String String: json or xml	Updates the list of likes by the json/xml format.
destroyLike	{restContextName}/{portalName}	portalName activityId identityId format	activities/{activityId}/likes/destroy/{format} String String String String: json or xml	Destroys the identityId and returns the json/xml format.
showComments	{restContextName}/{portalName}	portalName activityId	activities/{activityId}/comments/show/{format} String String	Shows the list of an activity by the json/xml format.

Name	Service Endpoint	URL	Parameters	Expected Values	Description
			format	String: json or xml	
updateComment	{restContextName}/	{portalName}/social/activities/{activityId}/comments/{commentId}	portalName activityId format	String String String: json or xml	Updates/update.{format} comment of an acitivity by the json/xml format.
destroyComment	{restContextName}/	{portalName}/social/activities/{activityId}/comments/{commentId}	portalName activityId commentId format	String String String String: json or xml	Destroys/destroy/{commentId}.{format} comment of an identity and returns the json/xml format.

Example:

- <http://localhost:9090/rest-socialdemo/social/activities/s08d397dg6/likesdestroy/abc.xml>
- <http://localhost:9090/rest-socialdemo/social/activities/s08d397dg6/likesdestroy/abc.json>

3.4.2. Apps REST service

Name	Service URL	Location	Description
AppsRestService	{restContextName}/social/apps	Maven groupId: org.exoplatform.social ArtifactId: exo.social.component.service	Provides REST services for showing the application list from the application registry gadget.

- **API:**

Name	Service Endpoint	URL	Parameters	Expected Values	Description
showApps	{restContextName}/social/apps/show		format	String: json or xml	Shows applications by the json/xml format.

Example:

<http://localhost:9090/rest-socialdemo/apps/show.json>

3.4.3. Identity REST service

Name	Service URL	Location	Description
IdentityRestService	{restContextName}/{portalName}	Maven groupId: org.exoplatform.social ArtifactId: exo.social.component.service	Gets the identity by the username.

• **API:**

Name	Service URL	Parameters	Expected Values	Description
getId	{restContextName}/{portalName}	username portalname	String String	Gets the identity by username and returns by the json format.

Example:

<http://localhost:8080/rest-socialdemo/socialdemo/social/identity/john/id/show.json>

3.4.4. Linkshare REST service

Name	Service URL	Location	Description
LinkshareRestService	{restContextName}/social/linkshare	Maven groupId: org.exoplatform.social ArtifactId: exo.social.component.service	Provides REST service for getting metadata information, such as page title, images, and description from a provided link.

• **API:**

Name	Service URL	Parameters	Expected Values	Description
getLink	{restContextName}/social/linkshare/show.{format}		{format} json or xml	Gets the provided link metadata by posting a linkShare request as post data.

Example:

<http://localhost:9090/rest-socialdemo/social/linkshare/show.json>

3.4.5. People REST Service

Name	Service URL	Location	Description
PeopleRestService	{restContextName}/social/	people Maven groupId: org.exoplatform.social ArtifactId: exo.social.component.service	Provides REST services for serving requests related to people, such as suggesting username, getting people information.

• **API:**

Name	Service URL	Parameters	Expected Values	Description
suggestUsernames	{restContextName}/social/people/suggest.	nameToSearch	{format} String	Gets and returns a list of users's full names that matches the input string for suggesting.
		currentUser	String	
		typeOfRelation	String	
		spaceURL	String	
		portalName	String	
		format	String	
getPeopleInfo	{restContextName}/social/people/{portalName}/{currentUserNam	portalName	String	Get People Info/ information of people that is displayed as users's detailed information on pop-up.
		currentUserNam	String	
		userId	String	
		format	String: json or xml	
		updatedType	String	

Example:

<http://localhost:8080/rest-socialdemo/social/people/suggest.json?nameToSearch=root¤tUser=john&typeOfRelation=>

3.4.5.1. Spaces REST service

Name	Service URL	Location	Description
SpacesRestService	{restContextName}/{portalName}	Name : /social/spaces Maven groupId : org.exoplatform.social ArtifactId : exo.social.component.service	Provides REST services for space gadget to display user's spaces and pending spaces

• **API:**

Name	Service URL Endpoint	Parameters	Expected Values	Description	
showMySpaceList	{restContextName}/social/spaces/mySpaces/show.{format}	portalName format	String String: json or xml	Shows mySpaceList by the json/xml format.	
showPendingSpaceList	{restContextName}/social/spaces/pendingSpaces/show.{format}	portalName format	String String: json or xml	Shows pendingSpaceList by the json/xml format.	
suggestSpacenames	{restContextName}/social/spaces/suggest.{format}	portalName conditionToSearch typeOfRelation currentUser format	String String String String String: json or xml	Returns space's names that match the input string for suggesting.	

Example:

<http://localhost:8080/rest-socialdemo/social/spaces/s08d397dg6/mySpaces/show.xml>

3.4.5.2. Widget REST service

Name	Service URL	Location	Description
WidgetRestService	{restContextName}/spaces/{containerName}	Maven groupId :	Provides REST services for creating spaces or

Name	Service URL	Location	Description
		org.exoplatform.social ArtifactId: exo.social.extras.widget.rest	getting spaces' information.

• **API:**

Name	Service URL Endpoint	Parameters	Expected Values	Description
goToSpace	{restContextName}/spaces/{containerName}	containerName portalName spaceName description	String String (Default Value: classic) String String	Creates (if not existing) or accesses a space. Two query parameters needed: spaceName and description
spaceInfo	{restContextName}/spaces/{containerName}	containerName portalName spaceName description	String String (Default Value: classic) String	Returns the HTML page for displaying the information of space. Two query parameters needed: spaceName and description

Example:

http://localhost:8080/rest-socialdemo/spaces/socialdemo/go_to_space?name=Social&description=Social

http://localhost:8080/rest-socialdemo/spaces/socialdemo/space_info?name=Social&description=Social

3.5. Sample code/tutorial

3.5.1. Activity Stream

eXo Social provides a way to share status updates and activity information for users as well as spaces (aka Activity Streams). With the API, you can customize the activities or publish new ones.

To manipulate activities, you will use the [ActivityManager](#). To get an instance of this class, you will need to use the PortalContainer.

3.5.1.1. Create an activity

There are two types of activities : activities for a user and activities for a space. The following examples will show you how to create an activity for each type.

3.5.1.2. Publish an activity for a user

Users have activity streams. The code below shows you how to publish a nex activity into the public activity stream of a user.

```
import org.exoplatform.container.PortalContainer;
import org.exoplatform.social.core.activitystream.ActivityManager;
import org.exoplatform.social.core.activitystream.model.Activity;
import org.exoplatform.social.core.identity.IdentityManager;
import org.exoplatform.social.core.identity.impl.organization.OrganizationIdentityProvider;
import org.exoplatform.social.core.identity.model.Identity;

public void createActivityForUser() {
    String username = "zun";
    // Get current container
    PortalContainer container = PortalContainer.getInstance();

    // Get IdentityManager to handle identity operation
    IdentityManager identityManager = (IdentityManager) container.getComponentInstance(IdentityManager.class);

    // Get ActivityManager to handle activity operation
    ActivityManager activityManager = (ActivityManager) container.getComponentInstanceOfType(ActivityManager.class);

    // Get existing user or create a new one
    try {
        Identity userIdentity = identityManager.getOrCreateIdentity(OrganizationIdentityProvider.NAME, username);

        // Create new activity for this user
        Activity activity = new Activity();
        activity.setUserId(userIdentity.getId());
        activity.setTitle("Hello World!");
        // Save activity into JCR using ActivityManager
        activityManager.saveActivity(activity);
    } catch (Exception e) {
        // TODO Auto-generated catch block
        e.printStackTrace();
    }
}
```

3.5.1.3. Publish an activity for a space

Spaces are also social objects and thus, they own an activity stream. The code below shows you how to publish activity into a space's stream

```
import org.exoplatform.container.PortalContainer;
import org.exoplatform.social.core.activitystream.ActivityManager;
import org.exoplatform.social.core.activitystream.model.Activity;
import org.exoplatform.social.core.identity.IdentityManager;
import org.exoplatform.social.core.identity.impl.organization.OrganizationIdentityProvider;
import org.exoplatform.social.core.identity.model.Identity;
import org.exoplatform.social.space.Space;
import org.exoplatform.social.space.SpaceException;
import org.exoplatform.social.space.SpaceService;
import org.exoplatform.social.space.impl.SpaceIdentityProvider;

//...

public void createActivityForSpace() {
    //make sure a space with name "mySpace" is created.
    String spaceName = "mySpace";
    String username = "zun";
```

```

// Get current container
PortalContainer container = PortalContainer.getInstance();

// Get IdentityManager to handle identity operation
IdentityManager identityManager = (IdentityManager) container.getComponentInstance(IdentityManager.class);

// Get ActivityManager to handle activity operation
ActivityManager activityManager = (ActivityManager) container.getComponentInstanceOfType(ActivityManager.class);

// Get SpaceService to handle space operation
SpaceService spaceService = (SpaceService) container.getComponentInstanceOfType(SpaceService.class);
try {
    Space space = spaceService.getSpaceByName(spaceName);
    if (space != null) {
        // Get space identity via SpaceIdentityProvider
        Identity spaceIdentity = identityManager.getOrCreateIdentity(SpaceIdentityProvider.NAME, spaceName);
        // Get identity instance of the user who wants to create activity
        Identity userIdentity = identityManager.getOrCreateIdentity(OrganizationIdentityProvider.NAME, username);
        // Create new activity for this space
        Activity activity = new Activity();
        activity.setUserId(userIdentity.getId());
        activity.setTitle("An activity for space");
        activityManager.saveActivity(spaceIdentity, activity);
    }
} catch (SpaceException e) {
    // TODO Auto-generated catch block
    e.printStackTrace();
} catch (Exception e) {
    // TODO Auto-generated catch block
    e.printStackTrace();
}
}

```

3.5.1.4. Useful functions

- [ActivityManager#getActivity](#)
- [ActivityManager#getActivities](#)
- [ActivityManager#saveActivity](#)
- [ActivityManager#saveComment](#)
- [ActivityManager#saveLike](#)
- [ActivityManager#removeLike](#)
- [ActivityManager#getComments](#)

3.5.1.4.1. Configure an activity processor

An Activity processor is used for modifying the content of activities before they are responded and rendered at client's browser. For example, we will create an activity processor for replacing all the texts representing the smile face ":-)" in the activity title by the smiley icons.

Firstly, we will create the SmileyProcessor class by extending the BaseActivityProcessorPlugin

```

package org.exoplatform.social.core.activitystream;

public class SmileyProcessor extends BaseActivityProcessorPlugin {
    public SmileyProcessor(InitParams params) {
        super(params);
    }

    String smiley = "<img src={{\"\"}}http://www.tombraider4u.com/pictures/smiley.gif{{\"\"}}/>";

```

```

public void processActivity(Activity activity) {
    String title = activity.getTitle();
    activity.setTitle(title.replaceAll(":-
)", smiley));
}
}

```

And then, we have to register this processor by adding some XML configuration into the project configuration file (configuration.xml)

```

<component>
  <key>org.exoplatform.social.core.activitystream.ActivityManager</key>
  <type>org.exoplatform.social.core.activitystream.ActivityManager</type>
  <component-plugins>
    <component-plugin>
      <name>SmileyProcessor</name>
      <set-method>addProcessorPlugin</set-method>
      <type>org.exoplatform.social.core.activitystream.SmileyProcessor</type>
      <init-params>
        <values-param>
          <name>priority</name>
          <value>1</value>
        </values-param>
      </init-params>
    </component-plugin>
  </component-plugins>
</component>

```

"init-params" contains all the key-value data which a processor will use to initialize. At the above config, priority value indicates the order that this processor will be used. So with '1' value, this processor will be used before all remaining processors with lower priority.

3.5.1.5. Publish an rss feed with feedmesh

It's really easy to publish an rss feed to a space's activity stream. eXo Social already provides FeedmeshJobPlugin for publishing rss feeds. As you can see in project `exo.social.extras.feedmesh`, there are JiraFeedConsumer and HudsonFeedConsumer samples to post eXo Social project's feeds (jira and hudson) to a pre-defined space: `exosocial` in a `specifiportal` container: `socialdemo` as in the configuration file:

```

<external-component-plugins>
  <target-component>org.exoplatform.services.scheduler.JobSchedulerService</target-component>
  <component-plugin>
    <name>RepubSocialJiraActivityJob</name>
    <set-method>addPeriodJob</set-method>
    <type>org.exoplatform.social.feedmesh.FeedmeshJobPlugin</type>
    <description/>
    <init-params>
      <properties-param>
        <name>mash.info</name>
        <property name="feedURL" value="http://jira.exoplatform.org/plugins/servlet/streams?key=SOC"/>
        <property name="categoryMatch" value="resolved|created"/>
        <property name="targetActivityStream" value="space:exosocial"/>
        <property name="portalContainer" value="socialdemo"/>
      </properties-param>
      <properties-param>
        <name>job.info</name>
        <description>save the monitor data periodically</description>
        <property name="jobName" value="JIRAFeedConsumer"/>
        <property name="groupName" value="Feedmesh"/>
        <property name="job" value="org.exoplatform.social.feedmesh.JiraFeedConsumer"/>
        <property name="repeatCount" value="0"/>
        <property name="period" value="60000"/>
        <property name="startTime" value="+45"/>
        <property name="endTime" value=""/>
      </properties-param>
    </init-params>
  </component-plugin>
</external-component-plugins>

```

```

<name>WatchSocialBuildStatus</name>
<set-method>addPeriodJob</set-method>
<type>org.exoplatform.social.feedmash.FeedmashJobPlugin</type>
<description/>
<init-params>
  <properties-param>
    <name>mash.info</name>
    <property name="feedURL" value="http://builder.exoplatform.org/hudson/view/social/job/social-trunk-ci"/>
    <property name="targetActivityStream" value="space:exosocial"/>
    <property name="portalContainer" value="socialdemo"/>
  </properties-param>
  <properties-param>
    <name>job.info</name>
    <description>save the monitor data periodically</description>
    <property name="jobName" value="HudsonFeedConsumer"/>
    <property name="groupName" value="Feedmash"/>
    <property name="job" value="org.exoplatform.social.feedmash.HudsonFeedConsumer"/>
    <property name="repeatCount" value="0"/>
    <property name="period" value="60000"/>
    <property name="startTime" value="+100"/>
    <property name="endTime" value=""/>
  </properties-param>
</init-params>
</component-plugin>
</external-component-plugins>

```

When running eXo Social, login with <http://localhost:8080/socialdemo> and create a space named "exosocial". Done, all the feeds from jira and hudson for Social project will be automatically published to exosocial space.

3.5.2. People

eXo Social provides a way to add profile informations, relationships and connections between users: People. With the eXo People API, profile informations and relationship can be easily managed and customized.

3.5.2.1. Identity

The identity allows to identity uniquely a social object. Social objects can be persons, groups, applications, or whatever you think deserves social interactions like connecting, publishing an activity stream or holding a profile.

3.5.2.1.1. IdentityProvider

Creating your Identity Provider allows you to integrate people outside of your portal (for exemple customers) into your social network without having to create a portal account. You can also use this to populate the profile with data coming from other systems. Here is an example :

```

class SampleIdentityProvider extends OrganizationIdentityProvider{
  public SampleIdentityProvider(OrganizationService organizationService) {
    super(organizationService);
  }

  @Override
  public void populateProfile(Profile profile, User user) {
    profile.setProperty(Profile.FIRST_NAME, "this is first name");
    profile.setProperty(Profile.LAST_NAME, "this is last name");
    profile.setProperty(Profile.USERNAME, "this is user name");
    profile.setProperty(Profile.URL, "/path/to/profile/");
  }
}

```

In this example, we created a SampleIdentityProvider class extending OrganizationIdentityProvider which is the IdentityProvider used to connect to the portal user's base. In this class, we overrided the populateProfile method and added some dummy data in the profile fields.

3.5.2.1.2. IdentityManager

The IdentityManager is the service used to manipulate the identity operations like creating, getting, deleting or finding a profile. We can get the IdentityManager via the ExoContainer. The following code will show how to get an IdentityManager instance and create a basic identity instance :

```
import org.exoplatform.container.ExoContainer;
import org.exoplatform.container.ExoContainerContext;
import org.exoplatform.social.core.identity.IdentityManager;
import org.exoplatform.social.core.identity.impl.organization.OrganizationIdentityProvider;
import org.exoplatform.social.core.identity.model.Identity;

//.....

String containerName = "portal";
String username = "zun";

//get container to get other registered components
ExoContainer container = ExoContainerContext.getContainerByName(containerName);

//get IdentityManager to handle identity operation
IdentityManager identityManager = (IdentityManager) container.getComponentInstanceOfType(IdentityManager.class);

//get ActivityManager to handle activity operation
ActivityManager activityManager = (ActivityManager) container.getComponentInstanceOfType(ActivityManager.class);

//create new user with name Zun
Identity userIdentity = identityManager.getOrCreateIdentity(OrganizationIdentityProvider.NAME, username);
```

3.5.2.2. ProfileListener

The People API provides some notification interfaces which programmers can implement in order to create their own handlers for notifications like notifications() for profile modifications([ProfileListenerPlugin](#)) or for relationship changes([RelationshipListenerPlugin](#)). The following example will guide you through implementing one of these interfaces and show you how to configure this plugin.

We will create the class ProfileLoggerListener. Its tasks is to log all profile modifications of the systems. The abstract class ProfileListenerPlugin provides us the interface to implement this method.

```
import org.exoplatform.services.log.ExoLogger;
import org.exoplatform.services.log.Log;
import org.exoplatform.social.core.identity.lifecycle.ProfileListenerPlugin;
import org.exoplatform.social.core.identity.spi.ProfileLifeCycleEvent;

public class ProfileLoggerListener extends ProfileListenerPlugin{
    private static final Log logger = ExoLogger.getExoLogger(ProfileLoggerListener.class);
    @Override
    public void avatarUpdated(ProfileLifeCycleEvent event) {
        logger.info("@ " + event.getUsername() + " profile has updated his basic profile info.");
    }

    @Override
    public void basicInfoUpdated(ProfileLifeCycleEvent event) {
        logger.info("@ " + event.getUsername() + " profile has updated his basic profile info.");
    }

    @Override
    public void contactSectionUpdated(ProfileLifeCycleEvent event) {
        logger.info("@ " + event.getUsername() + " profile has updated his contact info.");
    }

    @Override
    public void experienceSectionUpdated(ProfileLifeCycleEvent event) {
        logger.info("@ " + event.getUsername() + " profile has an updated experience section.");
    }
}
```

```
@Override
public void headerSectionUpdated(ProfileLifecycleEvent event) {
    logger.info("@ " + event.getUsername() + " has updated his header info.");
}
}
```

After creating the ProfileLoggerListener class, we have to add some configurations for this class to the configuration.xml :

```
<external-component-plugins>
  <target-component>org.exoplatform.social.core.identity.IdentityManager</target-component>
  <component-plugin>
    <name>ProfileLoggerListener</name>
    <set-method>addProfileListener</set-method>
    <type>path.to.ProfileLoggerListener</type>
  </component-plugin>
</external-component-plugins>
```

3.5.2.3. Relationships

Similarly, you can apply the above steps to implement the RelationshipListenerPlugin for relationship notifications.

Relationship is the bridge between two identities in eXo Social. There are many types of relationships defined in the Relationship class. With these types, a user can invite another user, confirm invitations or remove relationship.

3.5.2.3.1. User connection

The following code will show how to invite a user to connect to another :

```
import org.exoplatform.container.ExoContainer;
import org.exoplatform.container.ExoContainerContext;
import org.exoplatform.social.core.identity.IdentityManager;
import org.exoplatform.social.core.identity.impl.organization.OrganizationIdentityProvider;
import org.exoplatform.social.core.identity.model.Identity;
import org.exoplatform.social.core.relationship.Relationship;
import org.exoplatform.social.core.relationship.RelationshipManager;

public void inviteUser() throws Exception {
    String containerName = "portal";
    ExoContainer container = ExoContainerContext.getContainerByName(containerName);

    IdentityManager identityManager = (IdentityManager) container.getComponentInstanceOfType(IdentityManager.class);

    Identity invitedIdentity = identityManager.getOrCreateIdentity(OrganizationIdentityProvider.NAME, "Hoat");
    String invitedUserId = invitedIdentity.getId();

    String currUserId = "Zun";
    Identity currentIdentity = identityManager.getOrCreateIdentity(OrganizationIdentityProvider.NAME, currUserId);

    RelationshipManager relationshipManager = (RelationshipManager) container.getComponentInstanceOfType(RelationshipManager.class);
    Relationship relationship = relationshipManager.invite(currentIdentity, invitedIdentity);
}
```

3.5.2.3.2. RelationshipListener

Let's take a look at relationship Listener([RelationshipListenerPlugin](#)). The following example will show you how to implement one of these interfaces and how to configure this plugin. The following step is similar to the Profile notifications implementation.

```
import org.exoplatform.social.core.relationship.Relationship;
```

```

import org.exoplatform.social.core.relationship.lifecycle.RelationshipListenerPlugin;
import org.exoplatform.social.relationship.spi.RelationshipEvent;

public class RelationshipLoggerListener extends RelationshipListenerPlugin{
    private static final Log logger = ExoLogger.getExoLogger(RelationshipLoggerListener.class);

    @Override
    public void confirmed(RelationshipEvent event) {
        String[] names = getUserNamesFromEvent(event);
        logger.info(names[0] + " confirmed the invitation of " + names[1]);
    }

    @Override
    public void ignored(RelationshipEvent event) {
        String[] names = getUserNamesFromEvent(event);
        logger.info(names[0] + " ignored the invitation of " + names[1]);
    }

    @Override
    public void removed(RelationshipEvent event) {
        String[] names = getUserNamesFromEvent(event);
        logger.info(names[0] + " removed the relationship with " + names[1]);
    }

    private String[] getUserNamesFromEvent(RelationshipEvent event){
        Relationship relationship = event.getPayload();

        Identity id1 = relationship.getIdentity1();
        Identity id2 = relationship.getIdentity2();

        String user1 = "@" + id1.getRemoteId();
        String user2 = "@" + id2.getRemoteId();

        return new String[]{user1, user2 };
    }
}

```

After creating the RelationshipLoggerListener class, we have to add some configurations for this class to the configuration.xml :

```

<external-component-plugins>
  <target-component>org.exoplatform.social.core.relationship.RelationshipManager</target-component>
  <component-plugin>
    <name>RelationshipLoggerListener</name>
    <set-method>addListenerPlugin</set-method>
    <type>classpath.of.your.RelationshipLoggerListener</type>
  </component-plugin>
</external-component-plugins>

```

3.5.3. Spaces

eXo Social provides a way to create groups and to share data and applications: the space. A space has its own activity stream in which applications or members can publish information. In each space, members share applications and an openSocial dashboard.

To manipulate the spaces, you will use the SpaceService. To get an instance of this class, you will need to get current PortalContainer instance.

3.5.3.1. Spaces Management

3.5.3.1.1. Create a space

The following example shows how to create a space:

```

package org.exoplatform.social.sample;

```

```

import org.exoplatform.container.PortalContainer;
import org.exoplatform.social.application.impl.DefaultSpaceApplicationHandler;
import org.exoplatform.social.space.Space;
import org.exoplatform.social.space.SpaceException;
import org.exoplatform.social.space.SpaceService;

public class SpaceCreationSample {

    public void createSpace() throws SpaceException {
        String spaceName = "mySpace";
        String creator = "jeremi";
        PortalContainer container = PortalContainer.getInstance();
        SpaceService spaceService = (SpaceService) container.getComponentInstanceOfType(SpaceService.class);
        // We verify if there is no space already created
        Space space = spaceService.getSpaceByName(spaceName);
        if (space == null) {
            space = new Space();
            space.setName(spaceName);
            space.setRegistration(Space.OPEN);
            space.setDescription("space description");
            //DefaultSpaceApplicationHandler is the default implementation of SpaceApplicationHandler. You can create y
            space.setType(DefaultSpaceApplicationHandler.NAME);
            //We create the space
            space = spaceService.createSpace(space, creator);
            //We initialize the applications
            spaceService.initApp(space);
        }
    }
}

```

3.5.3.2. Space's applications management

3.5.3.2.1. Add an application to a space

We can add a portlet or gadget applications into spaces. Once added, all members of the space can use that application. The following code shows how to add an application into a space :

```

public void addApplicationToSpace() throws SpaceException {
    //Your portlet name
    String appId = "AnyGadgetOrAnyPortletName";
    String spaceId = "zunSpace";

    //get container to get other registered components
    PortalContainer container = PortalContainer.getInstance();

    //get space service for installing operations
    SpaceService spaceService = (SpaceService) container.getComponentInstanceOfType(SpaceService.class);

    //install application for the space
    spaceService.installApplication(spaceId, appId);

    //we must activate installed application to be able to use it
    spaceService.activateApplication(spaceId, appId);
}

```

Note

appId is the portlet or gadget name as defined in portlet.xml or gadget.xml in the web-app. With eXo Social, we can find it in social-portlet.war and social.war.

3.5.3.3. Members Management

The SpaceService allows you to manage the spaces' members. Here is how you would add a new member to a space:


```
String spaceName = "mySpace";

PortalContainer container = PortalContainer.getInstance();
SpaceService spaceService = (SpaceService) container.getComponentInstanceOfType(SpaceService.class);

Space space = service.getSpaceByName(spaceName);
if (space != null) {
    spaceService.addMember(space, "mary");
}
```

3.5.3.4. Listener to a space lifecycle

To receive notifications of what is happening in spaces, you need to extend `SpaceListenerPlugin` and register it. Every method takes a `SpaceLifecycleEvent` object as parameter that contain the information about the event and it's context.

The events available are:

- `spaceCreated`: this event is called right after space is created successfully with its applications.
- `spaceRemoved`: this event is called right after a space is removed: application's removed, its group and group navigation is removed
- `applicationAdded`: this event is called right after an application is added (installed) to a space
- `applicationActivated`: this event is called right after an application is activated.
- `applicationDeactivated`: this event is called right after an application is deactivated.
- `applicationRemoved`: this event is called right after an application is removed from a space.
- `joined`: this event is called right after a user joins a space.
- `left`: this event is called right after a space member leaves its space.
- `grantedLead`: this event is called right after a user is granted space's manager role.
- `revokedLead`: this event is called right after a space's manager is revoked his role to be a space member.

```
import org.exoplatform.social.space.lifecycle.SpaceListenerPlugin;

public class MySpaceListenerPlugin extends SpaceListenerPlugin {
    ...
}
```

As an example, see the [SpaceActivityPublisher](#) that publishes an activity based on an event that happened in a space.

To register your listener, hook it to the `SpaceService` like this :

```
<external-component-plugins>
  <target-component>org.exoplatform.social.space.SpaceService</target-component>
  <component-plugin>
    <name>SpaceActivityPublisher</name>
    <set-method>addSpaceListener</set-method>
    <type>org.mycompany.MySpaceListenerPlugin</type>
  </component-plugin>
</external-component-plugins>
```

3.5.4. Open Social

eXo Social is implementing the OpenSocial standard. So you can integrate OpenSocial Gadget in your dashboard and use the RPC or REST API to access to the social data. With the support for the OpenSocial standard, eXo Social provides a framework for developers to build gadgets that can display and mash-up activity information for contacts, social networks, applications and services.

3.5.4.1. Gadget

Gadgets are web-based software components based on HTML, CSS, and JavaScript. They allow developers to easily write useful web applications that work anywhere on the web without modification. To know more, we suggest some links for detail information :

[Gadgets Specification](#)

[OpenSocial Core Gadget Specification 10](#)

After getting acquainted with Gadget concept, we enter into the detail on how to create an opensocial gadget. However, the tutorials are done greatly in Opensocial official site so we refer you to read these tutorials at [that website](#)

We only note that in Opensocial gadgets only work in the dashboard in eXo Social.

3.5.4.1.1. Supported APIs

As we have said above, eXo Social is implementing the OpenSocial standard. So every eXo Social implementations apply the Opensocial Specification generally or [Apache Shindig](#) specifically. Therefore, eXo Social uses and extends Apache Shindig APIs to compatible with the common Opensocial APIs which is supported by other big social networks like [Ning](#), [Hi5](#), [Orkut](#) ...

To get more detail about Supported APIs, we refer you to read [Opensocial Specs](#)

3.5.4.2. REST/RPC API

If your eXo social server is running on <http://localhost:8080/> the address of the API will be:

REST API: <http://localhost:8080/social/social/rest>

RPC API: <http://localhost:8080/social/social/rpc>

To learn what you can do with this APIs, have a look at the [specification](#). If you are developing in Java, you can use the [opensocial-java-client](#)

3.5.4.2.1. Configure the security

If you are using opensocial, there is good chance you are going to need to configure the oAuth authentication. To do this, you need to edit the configuration to add you oAuth key.

Edit the file: `gatein/conf/portal/portal/configuration.xml` and add this component:

```
<component>
  <key>org.exoplatform.social.opensocial.oauth.ServiceProviderStore</key>
  <type>org.exoplatform.social.opensocial.oauth.ServiceProviderStore</type>
```

```
<init-params>
  <properties-param>
    <name>grails-book-flow</name>
    <description>consumer key and secret for sample oauth provider. </description>
    <property name="consumerKey" value="YOUR_KEY_HERE" />

    <property name="sharedSecret" value="YOUR_SECRET_KEY_HERE" />
  </properties-param>
</init-params>
</component>
```

The consumerKey and sharedSecret are the key that need to be shared with the application that is doing the request.

3.5.4.2.2. Publish an activity into a space

eXo Social added this functionality that is not available in the standard opensocial API. You can publish activities into a space using the opensocial API.

To do this, instead of publishing your activity to the group @self as usual, publish it to the group "space:spaceID" or "space:spaceName".

Using the opensocial java library and groovy, your code will look like this:

```
def client = getOpenSocialClient()

//we create our new activity
Activity activity = new Activity()
activity.title = "BookFlow Purchase"
activity.body = "xx purchased the book xxx"

//We prepare the request that will create the activity
Request request = ActivitiesService.createActivity(activity);
//We specify that the creation of this new activity is for the space bookflow
request.groupId = "space:bookflow";

client.send(request);
```

As you can see in this example, we set the groupId to "space:bookflow", bookflow being the name of our space.

3.5.4.2.2.1. Tutorial

- See [Grails + eXo Social tutorial](#).

3.5.5. Space widget tutorial

The eXo Social widget enables developers to add capabilities of eXo Social to external applications. Since the widget is hosted on your eXo Social server, it can display personalized information. An activity stream of the most recent user actions will display to the group's members.

There are two options of the eXo Social widget that provide different levels of integration and information.

The basic version of this widget is an iFrame. The more advanced version is a button you can insert in a page; this will display a small pop-up with information about the space.

3.5.5.1. Basic version

To insert the basic version, you need to have an iFrame to insert on your site.

```
<iframe scrolling="no" height="180" frameborder="no" width="220" src="http://URL_OF_YOUR_EXO_INSTALLATION.COM/r
```

To install this version in your application, replace all the uppercase text below:

- `URLOFYOUREXOINSTALLATION.COM` - this is the URL of your eXo Social installation. If you are testing on your local computer, the URL may be `localhost:8080_`
- `NAMEOFOURSPACE` - *this is the title of your space in eXo Social. In the URL, it is necessary to avoid special characters. For the space name, you can only use alphanumeric characters and `'`, `.`, `-` or `.`*
- `DESCRIPTIONOFTHESPACE` - *this will be displayed in the list of spaces.*

3.5.5.2. Advanced version

To install an advanced version of the widget, you need to insert a code snippet in your page. This includes some HTMLs plus some JavaScripts. The necessary CSS will be added dynamically.

Next, insert the following code at the position you want the button to be displayed:

```
<div class="exoSpacesContainer"><a href="javascript:void(0);" id="exoSpacesLink" class="exoSpacesLink" target="_  
<script src="/socialWidgetResources/javascript/space.js"></script>  
<script>spaces.createPopup("exoSpacesLink", "MyAppName - my social object", "my cool description");</script>
```

The important function here is:

```
spaces.createPopup(link, spaceName, description)
```

- `link`: `link` is the ID or the `HTMLElement` where the pop-up will be placed. If you copy and paste the code snippet provided above, you don't need to change this value.
- `spaceName`: This is the name of space. It is also used to identify the space. We recommend you use the following format: `"MyAppName - my social object"`
- `description`: This is the description of your space that will be displayed within eXo Spaces. It is used when a new space is created.

3.5.5.3. Configure

- `serverURL` (Default: `"http://127.0.0.1:8080"`): The address of your eXo installation. To change it, use `spaces.setServerURL(...)`;
- `spaceServicePath` (Default: `"/rest/private/spaces/"`): The path to the spaces service. It is rare you have to change it; but if needed, use `spaces.setSpaceServicePath(...)`;
- `portalName` (Default: `"socialdemo"`): The name of portal you are using. To change it, use `spaces.setPortalName(...)`;

If you want to change any part of this configuration, the best way is to change before creating the pop-up. For

example:

```
<div class="exoSpacesContainer"><a href="#" id="exoSpacesLink" class="exoSpacesLink" target="_blank">Space</a></div>
<script src="/socialWidgetResources/javascript/space.js"></script>
<script>
  spaces.setServerURL("http://192.168.2.100:8080");
  spaces.createPopup("exoSpacesLink", "My cool new space", "my cool description");
</script>
```

You can see an example of integration at: <http://localhost:8080/socialWidgetResources/test.html>

3.6. Public Javascript APIs

All references for Opensocial Javascript APIs can be viewed [here](#)