

# **SAFEKeeper User Guide**

## **1 Introduction**

SAFEKeeper is a web application that enables semantic annotation tasks to be carried out by human annotators from different remote locations. It is a part of Semantic Annotation Factory Environment (SAFE), which are a software suite and a methodology for the implementation and support of Annotation Factories. SAFE is a novel development in several respects, including unifies previously disjoint IE adaptation interventions and complement of GATE's developer-oriented facilities with a UI oriented on other user groups.

## **2 Build and Deploy SAFEKeeper**

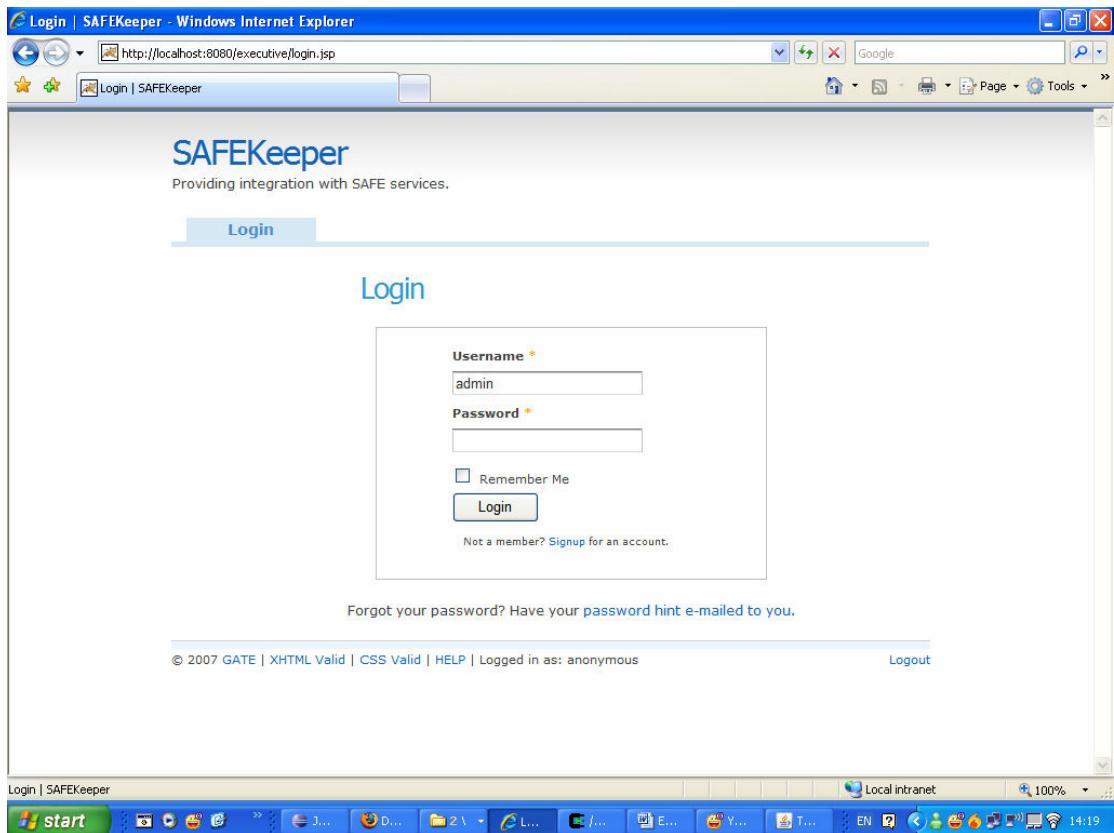
After checkout the Executive(old name for SAFEKeeper) from the repository, one needs to create a local build properties file via simply copy the build.properties in Executive root directory to executive-build.properties. Then follow the instructions in the readme.txt in the root folder to deploy the war file in your web container.

## **3 SAFEKeeper GUI**

### **3.1 User Module**

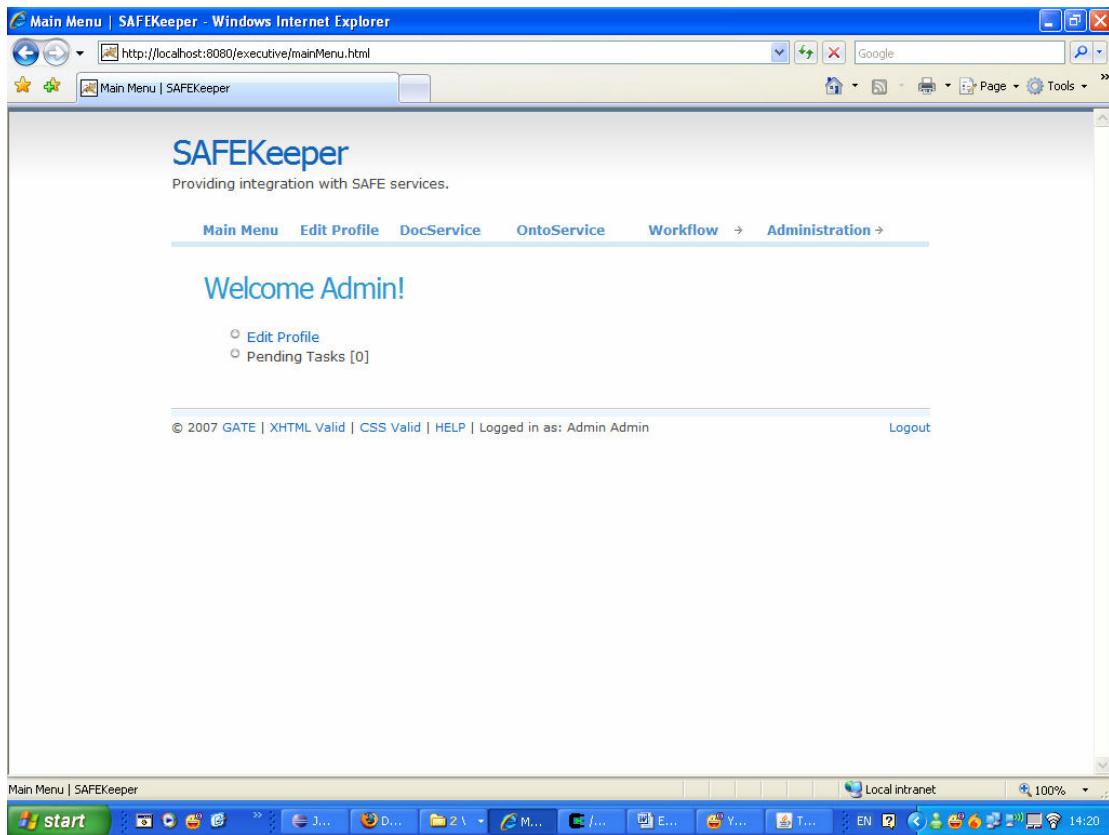
#### **3.1.1 Login**

After install the executive war in your web container (e.g. Tomcat) and have the proper configuration, you can access the application from your web browser by enter URL: <http://localhost:8080/executive>. You should then be able to reach the following login page. Please login the system with default username “admin” and password “tomcat”. Later, due to security reason, when you create new user with admin privileges, delete user “admin”



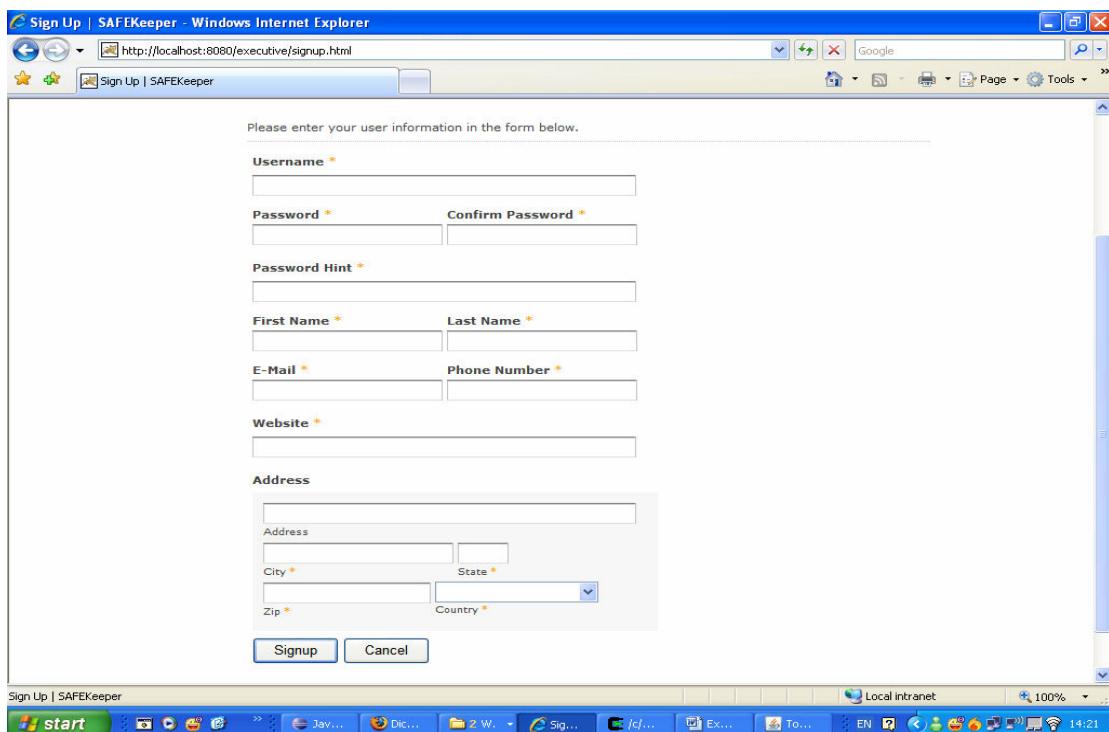
### 3.1.2 Welcome

After login correctly, you should see the welcome page. Please note that the menu items are different for particular users' roles. If logged in as an administrator, you should see the following page with Administration menu there; otherwise you will not see the Administration menu and some of other menu items. Anyway, what can be seen by specific role can be easily changed and this process will be described later in this document.



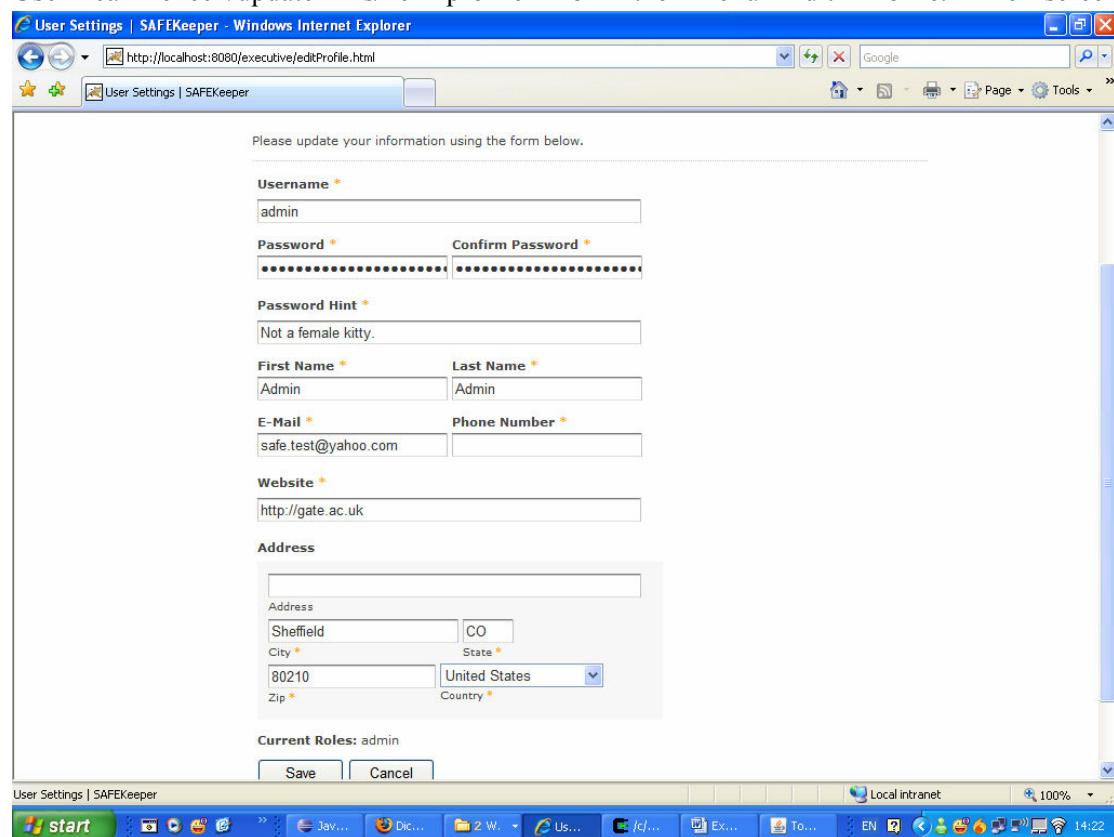
### 3.1.3 Register

New users must register themselves before they can log into the system. To register, simply click on the “Signup” link on the login page. Then you will be requested to enter personal information as shown in the following screenshot.



### 3.1.4 User Profile

User can check/update his/her profile from the menu Edit Profile. The screen



Please update your information using the form below.

**Username \***  
admin

**Password \*** **Confirm Password \***  
\*\*\*\*\*

**Password Hint \***  
Not a female kitty.

**First Name \*** Admin    **Last Name \*** Admin

**E-Mail \*** safe.test@yahoo.com    **Phone Number \***

**Website \***  
http://gate.ac.uk

**Address**

Address  
Sheffield CO  
City \* State \*  
80210 United States Zip \* Country \*

**Current Roles:** admin

Save Cancel

is pretty much the same as the registration form, shown above.

### 3.1.5 Logout

When you finish your session, please click on logout link in bottom-right corner.

## 3.2 Document Service

Document Service provides means to perform operations in a remote Data-store.

Users can carry out the normal operations on a corpus, for instance, create a new corpus and populate it with a collection of documents. Furthermore, it offers human annotators not only the access to carry out the annotation tasks via Annotator GUI, but also inherits some useful facilities from the GATE application, such as Annotation Differ and ANNIE Search. Here we introduce how to use each interface step by step even though there is already a good AJAX powered tool-tip

### 3.2.1 Corpora

View the corpora list existed in the remote Data-store simply by clicking at the Document Service menu. You should see something like the following page:

The screenshot shows a Windows Internet Explorer window titled 'Corpus List | SAFEKeeper - Windows Internet Explorer'. The URL in the address bar is <http://localhost:8080/executive/corpora.html>. The page header includes the 'SAFEKeeper' logo and the subtext 'Providing integration with SAFE services.' Below the header is a navigation menu with links: Main Menu, Edit Profile, DocService, OntoService, Workflow, Administration. The main content area is titled 'Corpora' and displays a table with two rows of corpus names: 'harvard\_corpus' and 'musing\_corpus'. Below the table are export options: CSV, Excel, XML, and PDF. A tooltip for the 'Add' button indicates it creates a new empty corpus in the datastore. The bottom of the page shows copyright information for GATE 2007 and a 'Logout' link.

To create a new corpus, click on the Add button on the corpus list page, like showing above. Then you should reach the following page, where you need to enter the name of corpus and click on the Save button to create a new corpus.

The screenshot shows a Windows Internet Explorer window titled 'Create A New Corpus | SAFEKeeper - Windows Internet Explorer'. The URL in the address bar is <http://localhost:8080/executive/addCorpus.html?method=Add&from=list>. The page header includes the 'SAFEKeeper' logo and the subtext 'Providing integration with SAFE services.' Below the header is a navigation menu with links: Main Menu, Edit Profile, DocService, OntoService, Workflow, Administration. The main content area is titled 'Corpus Information' and contains a form field labeled 'Corpus Name \*' with the value 'test\_corpus'. It also has 'Save' and 'Cancel' buttons. The bottom of the page shows copyright information for GATE 2007 and a 'Logout' link.

View the new created corpus by clicking on the link showing besides the corpus name.

The screenshot shows the 'Corpora' page of the SAFEKeeper application. At the top, there is a message box stating 'Corpus has been created successfully.' Below this, the word 'Corpora' is displayed in blue. There are two buttons: 'Add' and 'Done'. A message below says '3 corpora found, displaying all corpora.' A table lists three corpora:

Corpus Name	Action Buttons
harvard_corpus	View, Edit, Delete
musing_corpus	View, Edit, Delete
test_corpus	View, Edit, Delete

Below the table are export options: CSV, Excel, XML, and PDF. At the bottom are 'Add' and 'Done' buttons, and a footer with copyright information and a logout link.

Since we just created an empty corpus, we need to populate it with some documents. To do so, just click on the Add button on the documents list page like showing on the following page.

The screenshot shows the 'Documents' page of the SAFEKeeper application. At the top, there is a message box stating 'No documents found.' Below this, the word 'Documents' is displayed in blue. There are two buttons: 'Add' and 'Done'. A message below says 'Nothing found to display.' Below the message is a large 'Add' button, which has a callout pointing to a tooltip that reads 'Add Documents' and 'Populate the current corpus with documents encapsulated in a ZIP file.' At the bottom are 'Add' and 'Done' buttons, and a footer with copyright information and a logout link.

Before populating a corpus, one needs to package documents in a zip file. There are a few free tools that support zip and you can pick up your favorite to do so. To populate a corpus, user needs to specify the encoding (e.g. UTF-8) and select the zip file in your local disk, as shown below. Please note the documents in an upload zip file should have the format of XML. Finally click on the Save button to populate the corpus.

If the corpus is populated successfully, you should see the documents list immediately.

### 3.2.2 Documents

The list of documents inside the corpus can be seen after click on “View” link next to corpus name. You will see the following screen.

The screenshot shows a Windows Internet Explorer window titled "Document List | SAFEKeeper - Windows Internet Explorer". The URL is [http://localhost:8080/executive/documentsInCorpus.html?method=search&corpusID=test\\_corpus\\_1193841135281\\_24](http://localhost:8080/executive/documentsInCorpus.html?method=search&corpusID=test_corpus_1193841135281_24). The page title is "SAFEKeeper" with the subtitle "Providing integration with SAFE services.". A navigation bar at the top includes "Main Menu", "Edit Profile", "DocService", "OntoService", "Workflow", and "Administration". Below the navigation bar, the title "Documents" is displayed, with "Add" and "Done" buttons. A message indicates "27 documents found, displaying 1 to 25." A table lists document names: AG.annotated.xml, ann.xml, etcsl-extensions.dtd, etcsl-extensions.ent, etcsl-sux.ent, iso-lat1.ent, iso-lat2.ent, iso-num.ent, and iso-pub.ent. Each document entry has a set of icons for viewing, editing, deleting, and other operations. At the bottom of the table, there are links for "First/Prev" and "Next/Last". The status bar at the bottom of the browser window shows "Local intranet" and "100%".

To open/edit a specific document, click on the View Document icon on the right side of document name. Then you should see the Annotator GUI is activated and loading the document. As shown in the following picture, users can carry out the annotation tasks within the Annotator GUI.

The screenshot shows a Windows Internet Explorer window titled "Annotator GUI [Connected in DIRECT mode: AG.annotated.xml\_1193847519203\_6357]". The URL is [http://localhost:8080/executive/documentsInCorpus.html?method=search&corpusID=test\\_corpus\\_1193841135281\\_24](http://localhost:8080/executive/documentsInCorpus.html?method=search&corpusID=test_corpus_1193841135281_24). The main area is the "Document Editor". It displays a table of annotations with columns: Type, Set, Start, End, and Features. The table shows several "Mention" annotations with start and end positions ranging from 4090 to 4189. To the right of the editor is a sidebar with a tree view containing "Mention", "Key", and "Original markups". The status bar at the bottom of the browser window shows "Local intranet" and "100%".

To use the Annotation Differ facility on a document, click on the icon Annotation Differ on the documents list page. Then you should see the following page, where you can specify which two annotation sets are required to compare based on a selected annotation type.

SAFEKeeper  
Providing integration with SAFE services.

Main Menu Edit Profile DocService OntoService Workflow → Administration →

### Annotation Differ on the document ann.xml

Please note you can NOT do annotation differ if there is no common annotation type on the two selected annotation sets.

Key: annotator1  
Response: annotator2  
Annotation Type: DocRel2Topic

© 2007 GATE | XHTML Valid | CSS Valid | HELP | Logged in as: Admin Admin [Logout](#)

Compare two annotation sets over the same type | SAFEKeeper

start Jav... Dic... Co... Ex... To... EN 16:11

Then you can get the Annotation Differ result like the following:

Annotation Differ on the document ann.xml

Please note you can NOT do annotation differ if there is no common annotation type on the two selected annotation sets.

Key: annotator1  
Response: annotator2  
Annotation Type: OPINION\_SRC

Document	Annotation Set	Annotation Type	
Key	ann.xml	annotator1	OPINION_SRC
Response	ann.xml	annotator2	OPINION_SRC

One item found.

Recall	Precision	F-Measure	Correct matches	Partially Correct matches	Missing	False Positives
0.75	1	0.8571	6	0	2	0

8 items found, displaying all items.

Start	End	Key	Features	Rel	Start	End	Response	Features
152	156	時代華納	{type=EXP}	=	152	156	時代華納	{type=EXP}
376	378	雙方	{type=IMP}	=	376	378	雙方	{type=IMP}

Compare two annotation sets over the same type | SAFEKeeper

start Jav... Dic... Co... Ex... To... EN 16:12

To remove a document from the corpus, simply click on the crossing icon on the documents list page. Doing this, you do not remove the document from the Data-store permanently.

The screenshot shows the 'Document List' page in a Windows Internet Explorer browser. The URL is [http://localhost:8080/executive/documentsInCorpus.html?method=search&corpusID=test\\_corpus\\_1193&page=24](http://localhost:8080/executive/documentsInCorpus.html?method=search&corpusID=test_corpus_1193&page=24). The page displays a table of documents with columns for 'Document Name' and various actions. A tooltip is shown over the delete icon (a red X) for the first row, which reads: 'Remove Document' and 'The selected document will be removed from its corpus'.

If you remove a document from the corpus successfully, you should see the message as shown below.

The screenshot shows the 'Document List' page in a Windows Internet Explorer browser after a document has been removed. The URL is [http://localhost:8080/executive/documentsInCorpus.html?method=removeFromCorpus&documentID=AG\\_annotated.xml\\_1193](http://localhost:8080/executive/documentsInCorpus.html?method=removeFromCorpus&documentID=AG_annotated.xml_1193). A success message box at the top left says: 'Document has been removed from the corpus successfully.' The table of documents now lists only 26 items, starting with 'ann.xml'.

To delete a document permanently from the datastore, you can either click on the trash icon of each row to delete a single document or select multiple documents to delete via checkboxes at the end of each row and click on the trash icon at the footer of the table.

The screenshot shows a Windows Internet Explorer window titled "Document List | SAFEKeeper - Windows Internet Explorer". The URL in the address bar is [http://localhost:8080/executive/documentsInCorpus.html?method=search&corpusID=test\\_corpus\\_1193841135281\\_24](http://localhost:8080/executive/documentsInCorpus.html?method=search&corpusID=test_corpus_1193841135281_24). The page header includes links for Main Menu, Edit Profile, DocService, OntoService, Workflow, Administration, and Logout. The main content area is titled "Documents" and displays a table with three rows of documents: "AG.annotated.xml", "ann.xml", and "testDocument1.xml". Each row has a checkbox in the first column and icons for edit, delete, and other actions in the last column. A message box at the bottom right of the table area states: "All the selected documents above will be deleted from the datastore permanently". Below the table are "Add" and "Done" buttons. The status bar at the bottom shows the copyright information: © 2007 GATE | XHTML Valid | CSS Valid | HELP | Logged in as: Admin Admin.

Once you deleted document(s) successfully, you should also see the message as shown below.

The screenshot shows a Windows Internet Explorer window titled "Document List | SAFEKeeper - Windows Internet Explorer". The URL in the address bar is <http://localhost:8080/executive/documentsInCorpus.html>. The page header includes links for Main Menu, Edit Profile, DocService, OntoService, Workflow, Administration, and Logout. The main content area displays a message box with the text "Document(s) has been deleted successfully." Below this message is a table with one row of documents: "ann.xml". The table has a checkbox in the first column and icons for edit, delete, and other actions in the last column. Below the table are "Add" and "Done" buttons. The status bar at the bottom shows the copyright information: © 2007 GATE | XHTML Valid | CSS Valid | HELP | Logged in as: Admin Admin.

### 3.2.3 IAA Calculation

On the document list page, you can do IAA calculation over annotation sets on each document. Click on the IAA icon, and then you should reach a page like following:

Here you need to select at least two annotation sets from the left available annotation sets box to the right box to do the comparison over a shared annotation type. Also there are four algorithm available for you to choose. The following screenshot is an example of the result based on the chosen annotation sets, type and algorithm. Note: four algorithms offer you different result formats because of their difference in various values.

Precision	Recall	F1	Precision Lenient	Recall Lenient	F1 Lenient	Correct	Partially Correct	Missing	Spurious
1.0	0.75	0.85714287	1.0	0.75	0.85714287	6.0	0.0	2.0	0.0

**SP=Strict Precision, SR=Strict Recall, SF=Strict F-Measure**

SP / SR / SF	annotator1	annotator2
annotator1		1.0 / 0.75 / 0.85714287
annotator2		

**LP=Lenient Precision, LR=Lenient Recall, LF=Lenient F-Measure**

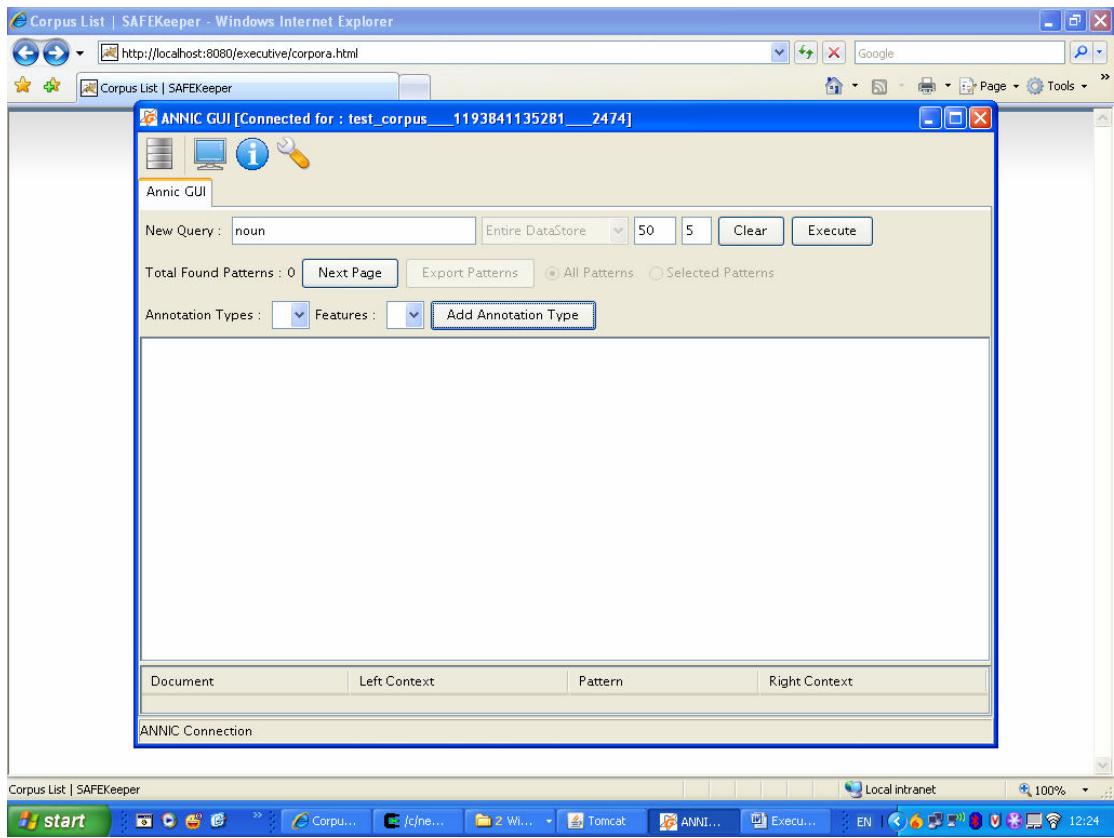
LP / LR / LF	annotator1	annotator2
annotator1		1.0 / 0.75 / 0.85714287
annotator2		

### 3.2.4 ANNIC Search

To use ANNIC Search facility, come back to the corpora list page and click on the ANNIC icon for the corpus you want to carry out the search.

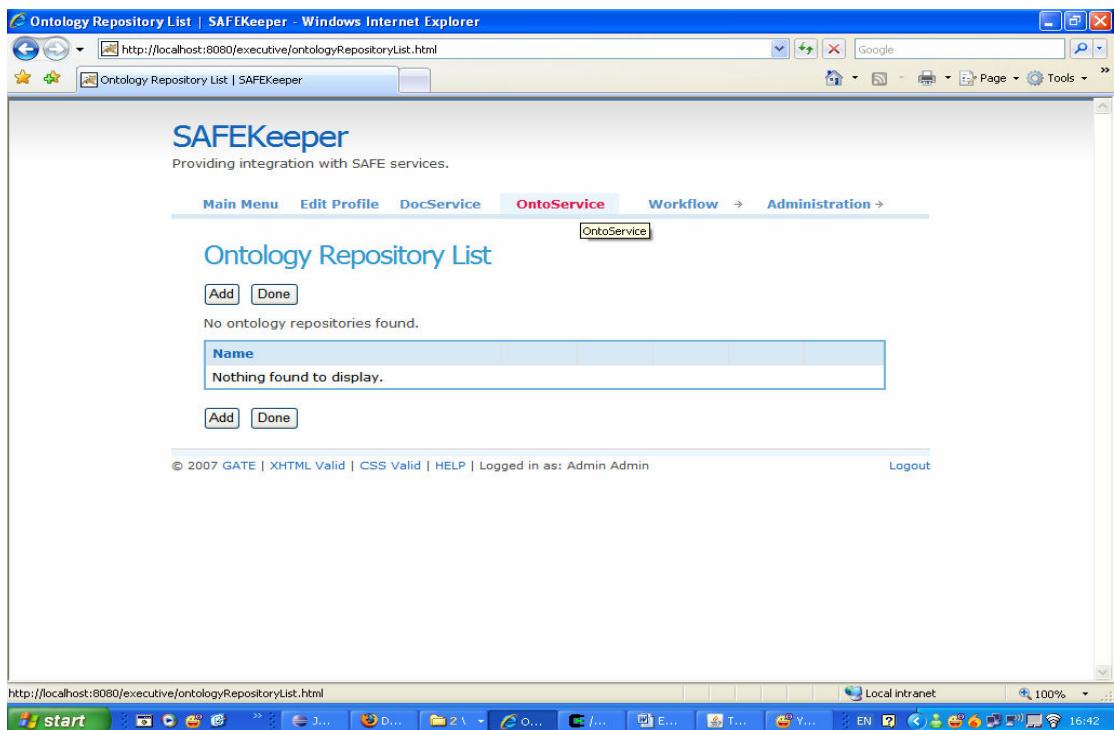
The screenshot shows the SAFEKeeper interface with the title 'Corpus List | SAFEKeeper - Windows Internet Explorer'. The main content area is titled 'Corpora' and displays three entries: 'harvard\_corpus', 'musing\_corpus', and 'test\_corpus'. Below each entry are icons for 'Edit', 'Delete', and 'Search'. A tooltip 'Annic Search' is shown over the 'Search' icon for the 'test\_corpus' entry. The interface includes a navigation bar with links like 'Main Menu', 'Edit Profile', 'DocService', 'OntoService', 'Workflow', 'Administration', and 'Logout'. At the bottom, there are links for 'CSV', 'Excel', 'XML', and 'PDF' export options, along with 'Add' and 'Done' buttons.

Now you should activate the ANNIC GUI, which is another Java Web Start application. Since ANNIC allows indexing documents with annotations and features, the syntax of ANNIC query contains LHS part of the JAPE pattern/action rule. For example, {Person} {Token.string=="from"} {Organization}. For more information about JAPE, please refer to Chapter 7 JAPE: Regular Expressions Over Annotations in Gate User Guide (<http://www.gate.ac.uk/sale/tao/index.html>). The following screenshot shows you the state after the ANNIC GUI is launched.



### 3.3 Ontology Service

Ontology Service is a facility to offer users the access ability to an ontology resource. Click on the OntoService link from the menu of each page, you will reach the ontology repository list page, as shown below.



To add a new ontology repository, simply click on the Add button on the above page and you should reach the following page where you can specify the ontology name and its URL.

The screenshot shows a Windows Internet Explorer window titled 'Create A New Ontology Repository | SAFEKeeper - Windows Internet Explorer'. The URL in the address bar is <http://localhost:8080/executive/addOntologyRepository.html?method=Add&from=list>. The page header includes links for Main Menu, Edit Profile, DocService, OntoService, Workflow, and Administration. The main content area is titled 'Create A New Ontology Repository' and contains instructions: 'Please enter the ontology repository name that you would like to have in the following field.' Below this are two input fields: 'Name \*' with the value 'protons' and 'Ontology URL' with the value '<http://proton.semanticweb.org/2005/04/protons.owl>'. At the bottom are 'Save' and 'Cancel' buttons. The status bar at the bottom of the browser window shows copyright information and a user 'Admin Admin'.

After clicking on the Save button from the above page, you should see the prompt message and the ontology repository you populated from the remote URL just now.

The screenshot shows a Windows Internet Explorer window titled 'Ontology Repository List | SAFEKeeper - Windows Internet Explorer'. The URL in the address bar is <http://localhost:8080/executive/ontologyRepositoryList.html>. The page header includes links for Main Menu, Edit Profile, DocService, OntoService, Workflow, and Administration. The main content area is titled 'Ontology Repository List' and displays a message: 'Ontology Repository has been created successfully.' Below this is a table with one row, showing the ontology repository details. The table columns are 'Name' (containing 'protons') and 'View' (containing a small icon). At the bottom are 'Add' and 'Done' buttons. The status bar at the bottom of the browser window shows copyright information and a user 'Admin Admin'.

To view the content of the ontology repository, click on the view icon in the 2<sup>nd</sup> column of table above. Then you should reach the following page, where you can also download the ontology to your disk.

The screenshot shows the 'Ontology Content' page of the SAFEKeeper application. The URL in the address bar is <http://localhost:8080/executive/ontologyDisplay.html?method=view&name=proton>. The page title is 'Ontology Content'. Below the title, there are two buttons: 'Download' and 'Done'. A message says 'One item found.' Below this, a large text area titled 'Data' contains the following XML code:

```

<?xml version="1.0" encoding="UTF-8"?>
<rdf:RDF
  xmlns:protons="http://proton.semanticweb.org/2005/04/protons#"
  xmlns:protoU="http://proton.semanticweb.org/2005/04/protoU#"
  xmlns:rdl="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:owl="http://www.w3.org/2002/07/owl#"
  xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"
  xmlns:protoKm="http://proton.semanticweb.org/2005/04/protoKm#"
  xmlns:protoCt="http://proton.semanticweb.org/2005/04/protoCt#">
  <!-- All statement -->

  <rdf:Description rdf:about="http://www.w3.org/2000/01/rdf-schema#label">
    <rdf:type rdf:resource="http://www.w3.org/2002/07/owl#DatatypeProperty"/>
  </rdf:Description>

  <rdf:Description rdf:about="http://proton.semanticweb.org/2006/05/protons#Alias">
    <rdf:type rdf:resource="http://www.w3.org/2002/07/owl#Class"/>
    <rdfs:subClassOf>
      <rdf:resource "http://proton.semanticweb.org/2006/05/protons#LexicalResource"/>
    </rdfs:subClassOf>
    <rdfs:comment>An alias of a named entity, usually not a general term but rather a name of something. Special names, such as John and Smithy, are not aliased on themselves. However, <rdfs:label>Alias</rdfs:label></rdfs:comment>
    <systemPrimitive>
      <rdf:resource "http://proton.semanticweb.org/2006/05/protons#">T</systemPrimitive>
    </rdf:Description>

  <rdf:Description rdf:about="http://proton.semanticweb.org/2006/05/protons#Recognized">
    <rdf:type rdf:resource="http://www.w3.org/2002/07/owl#Class"/>
    <rdfs:subClassOf>
      <rdf:resource "http://proton.semanticweb.org/2006/05/protons#EntitySource"/>
    </rdfs:subClassOf>
    <rdfs:comment>To identify a source (like a program or a module), which is capable of recognizing and generating new entities. Typically, those are not checked, and thus not trustable. An example for this is the NE-recognition process in KIM/GATE.</rdfs:comment>
    <rdfs:label>Recognized</rdfs:label>
  
```

To update an ontology repository, you have two choices: either merge the existing ontology with a new one or replace it with the new one, which is shown as below.

The screenshot shows the 'Update Ontology Repository' page of the SAFEKeeper application. The URL in the address bar is <http://localhost:8080/executive/addOntologyRepository.html?method=edit&name=proton>. The page title is 'SAFEKeeper'. Below the title, a message says 'Providing integration with SAFE services.' The main content area is titled 'Update Ontology Repository'. A note at the top says: 'Please note: you can either merge your ontology with the existing one or just replace it with your new one.' Below this, there is a form with the following fields:

- Ontology URL:** A text input field.
- Action:** Two radio buttons:  Add and  Replace.
- Buttons:** 'Save' and 'Cancel'.

At the bottom of the page, there is footer text: © 2007 GATE | XHTML Valid | CSS Valid | HELP | Logged in as: Admin Admin and a 'Logout' link.

To empty an ontology repository or delete it, simply click on the relevant icons on the ontology repository list page.

### 3.4 Workflow Service

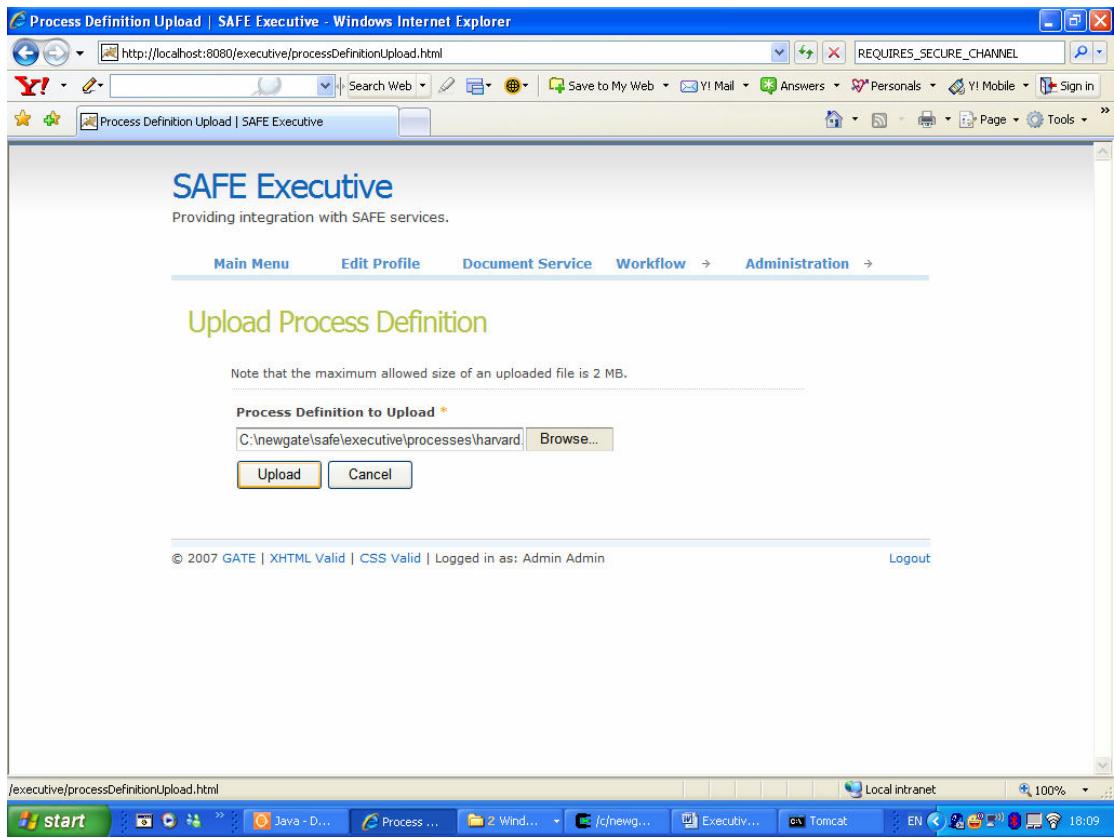
We are using JPBPM ([www.jboss.com/products/jbpm](http://www.jboss.com/products/jbpm)) as the engine in Workflow service. Here we demonstrate how this works step by step.

After logged in as a curator or administrator, one should have the access to all the menu items in the Workflow menu, which otherwise only shows Task Instance and Pending Tasks if your role is the normal user (annotator). After Click on the Process Definitions link, you will see a list of process definitions. To add your own process definition, click on the Add button shown as on the following picture.

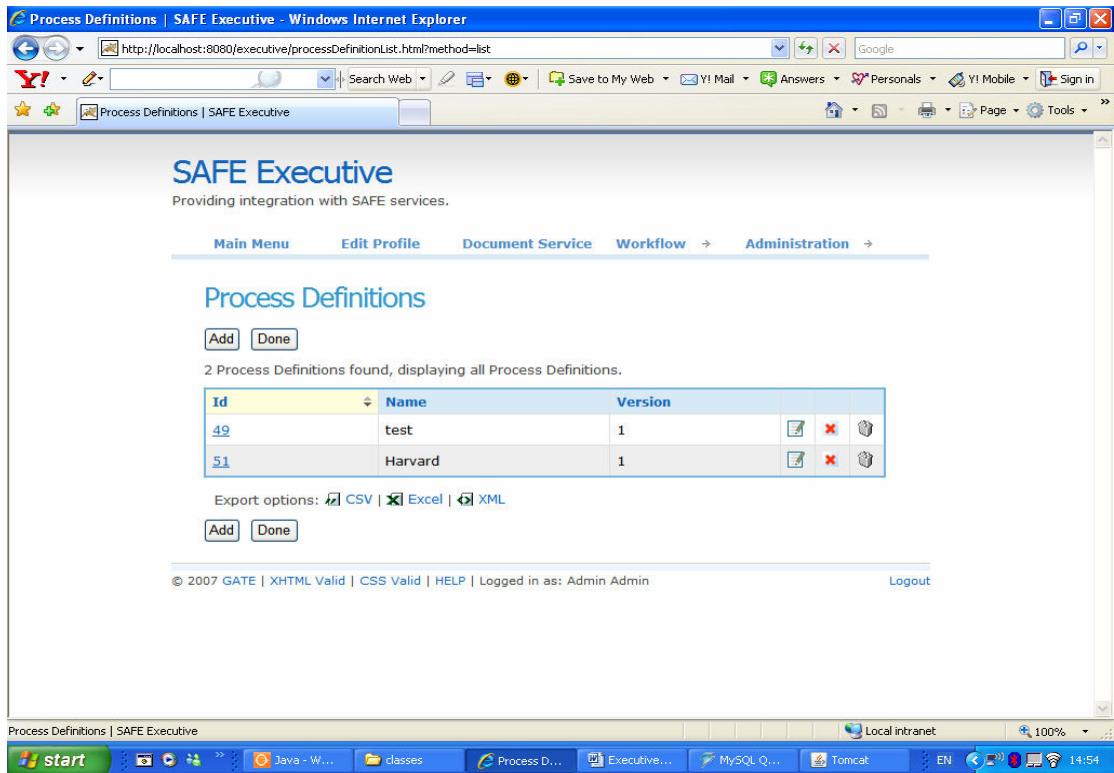
The screenshot shows a Windows Internet Explorer window titled "Process Definitions | SAFE Executive - Windows Internet Explorer". The URL in the address bar is "http://localhost:8080/executive/processDefinitionList.html?method=list". The page header includes the "SAFE Executive" logo and the tagline "Providing integration with SAFE services." A navigation menu at the top includes "Main Menu", "Edit Profile", "Document Service", "Workflow", and "Administration". The main content area is titled "Process Definitions" and displays a table of existing process definitions. The table has columns for "Id", "Name", and "Version". One entry is visible: Id 49, Name test, Version 1. Below the table are "Add" and "Done" buttons. An "Export options" section offers CSV, Excel, and XML export formats. At the bottom of the page are links for "Logout" and copyright information: "© 2007 GATE | XHTML Valid | CSS Valid | HELP | Logged in as: Admin Admin". The browser's status bar at the bottom shows the title "Process Definitions | SAFE Executive" and various system icons.

ID	Name	Version
49	test	1

Then you should reach the Process Definition Upload page, where you can select your process definition and upload it to the server.



After uploading successfully and back to the Process Definition List page, you should see your newly added process definition. Here one can also delete the current version of his process definition or all the versions by clicking on the relevant buttons at the end of each row in the table.



To view the content of process definition, click on the edit button on the above page and then you should see the following page, which shows you all the predefined tasks and actors who can be potential executors of the tasks (The system remembers the last choices). Select actors and click on the button to create the process instance and start the process.

ID	Name	Description	Profile Name	Actors	Due Date
9	specify parameters for gas	Specify parameters for Gate Service	admin	admin admin1	N/A
10	assignment strategy	Specify Assignment Strategy	admin	admin admin1	N/A
11	annotate	Annotate Document	user	annotator1 annotator2 annotator3	N/A
12	review	Review the Annotation Process	admin	admin admin1	N/A
13	annotate again	Annotate Document	user	annotator2 annotator3 annotator4	N/A

[Create Instance](#) [Done](#)

To view the started process instances, you can click on the Process Instance item from Workflow menu. In this stage, you can cancel the process by clicking on the crossing button or suspend it.

ID	Version	Start	End Date	Status
1	1	2007-05-09 12:27:05.0		Started

Export options: [CSV](#) | [Excel](#) | [XML](#)

[Done](#)

Logout

Now one can see his/her tasks from the Pending Tasks page, in this example, the task named "Specify parameters for Gate Service" was assigned to administrator, so the administrator can execute the task by clicking on the start icon as shown in the following screenshot.

The screenshot shows a Windows Internet Explorer window titled "Tasks | SAFE Executive - Windows Internet Explorer". The URL is <http://localhost:8080/executive/taskInstanceList.html?processInstanceId=1&method=listTasksForProcessInstance>. The page displays a table of tasks:

ID	Name	Start	End	State	Priority	Actor
1	specify parameters for gas	2007-05-21 14:57:19.0		Pending	Normal	admin

Below the table are "Export options" links for CSV, Excel, and XML. A "Done" button is also present. At the bottom, there is copyright information and a "Logout" link.

Then administrator should see the dynamic form of his first task as shown below.

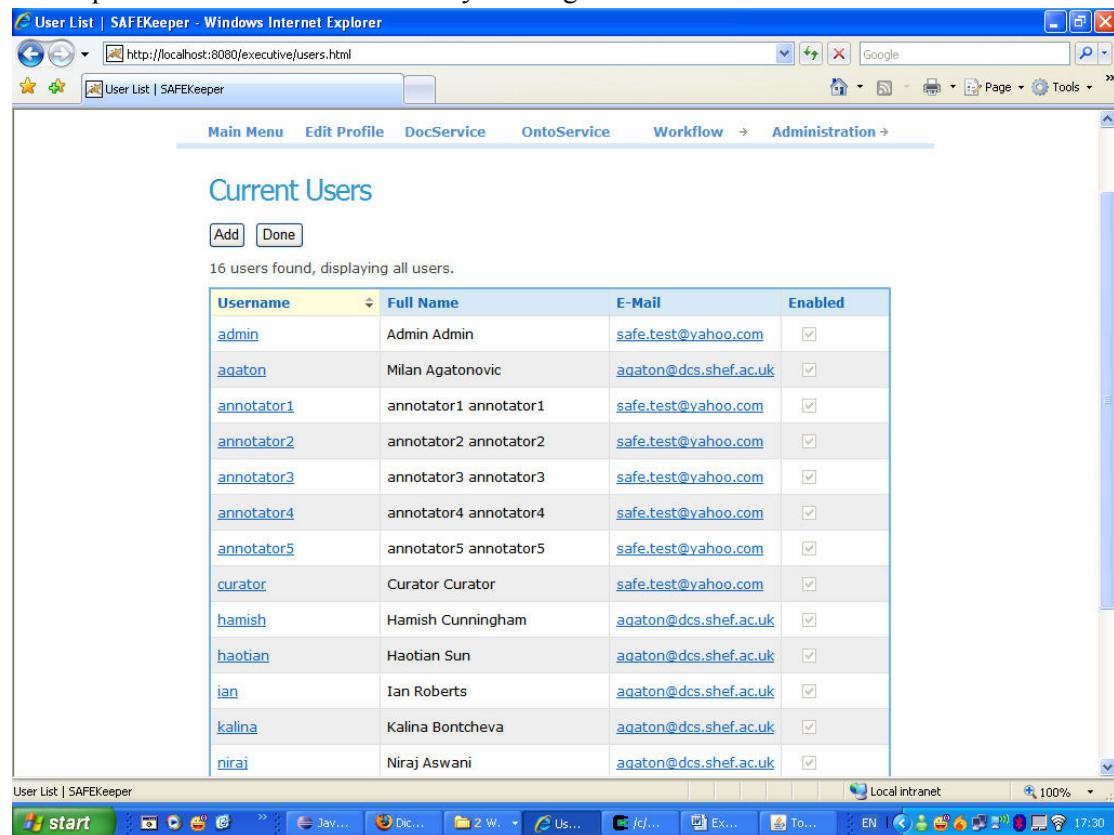
The screenshot shows a Windows Internet Explorer window titled "Task | SAFE Executive - Windows Internet Explorer". The URL is <http://localhost:8080/safekeeper/taskInstanceList.html?id=1&method=start>. The page displays a "Task" section for the task "specify parameters for gas". It contains a form with a dropdown menu for "Corpus" set to "Harvard" and a "Submit" button.

Administrator finishes his/her tasks by clicking one of the possible buttons at the bottom of each task form. Annotators will receive the task notification via email, where they can follow the included link to launch the Annotator GUI. They can also find their tasks via logging into the system and view their pending tasks from the Workflow menu or, which is more convenient, on the welcome page.

### 3.5 Administration

If user logged in the system as an administrator role, he/she will have the Administration menu visible for him/her to manage the registered users and other resources in the system. Here again, we will go through each menu item in the Administration menu one by one accompanied with some screenshots.

Administrator can view all the registered users from View Users. Here administrator can view/update each user's information by clicking on their names.



The screenshot shows a Microsoft Internet Explorer window titled "User List | SAFEKeeper - Windows Internet Explorer". The URL in the address bar is "http://localhost:8080/executive/users.html". The page header includes links for Main Menu, Edit Profile, DocService, OntoService, Workflow, and Administration. The main content area is titled "Current Users" and displays a table with 16 rows of user information. The columns are labeled "Username", "Full Name", "E-Mail", and "Enabled". Each row contains a linkable username, the user's full name, their email address, and a checked checkbox under "Enabled". The table has a light blue header and white rows. At the bottom of the table, there are "Add" and "Done" buttons. A message below the buttons states "16 users found, displaying all users." The bottom of the screen shows the Windows taskbar with various icons and the system tray.

Username	Full Name	E-Mail	Enabled
admin	Admin Admin	safe.test@yahoo.com	<input checked="" type="checkbox"/>
agaton	Milan Agatonovic	agaton@dcs.shef.ac.uk	<input checked="" type="checkbox"/>
annotator1	annotator1 annotator1	safe.test@yahoo.com	<input checked="" type="checkbox"/>
annotator2	annotator2 annotator2	safe.test@yahoo.com	<input checked="" type="checkbox"/>
annotator3	annotator3 annotator3	safe.test@yahoo.com	<input checked="" type="checkbox"/>
annotator4	annotator4 annotator4	safe.test@yahoo.com	<input checked="" type="checkbox"/>
annotator5	annotator5 annotator5	safe.test@yahoo.com	<input checked="" type="checkbox"/>
curator	Curator Curator	safe.test@yahoo.com	<input checked="" type="checkbox"/>
hamish	Hamish Cunningham	agaton@dcs.shef.ac.uk	<input checked="" type="checkbox"/>
haotian	Haotian Sun	agaton@dcs.shef.ac.uk	<input checked="" type="checkbox"/>
ian	Ian Roberts	agaton@dcs.shef.ac.uk	<input checked="" type="checkbox"/>
kalina	Kalina Bontcheva	agaton@dcs.shef.ac.uk	<input checked="" type="checkbox"/>
niraj	Niraj Aswani	agaton@dcs.shef.ac.uk	<input checked="" type="checkbox"/>

For example, if administrator wants to update the information of user 'annotator1', he/she can simply click on the username link of 'annotator1' on the above picture, and then gets the following user information form (displayed in two screenshots). Here administrator can assign multiple roles to a single user, and then this user will have the privilege of that highest role, e.g. if a user is assigned both Admin and Manager roles, he/she will have all rights of an Admin role which includes the rights of Manager role.

User Settings | SAFE Executive - Windows Internet Explorer

http://localhost:8080/safekeeper/editUser.html?username=annotator1&from=list

User Profile

You can update this user's information using the form below.

<b>Username *</b>	annotator1
<b>Password *</b>	*****
<b>Confirm Password *</b>	*****
<b>Password Hint *</b>	Not a female kitty.
<b>First Name *</b>	annotator1
<b>Last Name *</b>	annotator1
<b>E-Mail *</b>	user@localhost
<b>Phone Number *</b>	
<b>Website *</b>	http://gate.ac.uk
<b>Address</b>	
Address	
Address	Sheffield SY

User Settings | SAFE Executive

http://localhost:8080/safekeeper/editUser.html?username=annotator1&from=list

User Settings | SAFE Executive - Windows Internet Explorer

Address

Address	Sheffield	SY
City *	S104GD	State *
Zip *		Country *

**Account Settings**

<input checked="" type="checkbox"/> Enabled	
<input type="checkbox"/> Expired	
<input type="checkbox"/> Locked	
<input type="checkbox"/> Password Expired	

**Assign Roles**

<input type="checkbox"/> admin	
<input checked="" type="checkbox"/> manager	
<input type="checkbox"/> ROLE_ANONYMOUS	
<input checked="" type="checkbox"/> user	

Save   Delete   Cancel

© 2007 GATE | XHTML Valid | CSS Valid | HELP | Logged in as: Admin Admin

Logout

Also, Administrator can add new user by clicking on Add button.

Administrator can view current online users from the Current Users page as shown below.

The screenshot shows a Windows Internet Explorer window titled "Active Users | SAFEKeeper - Windows Internet Explorer". The URL is "http://localhost:8080/executive/activeUsers.html". The page header includes the SAFEKeeper logo and navigation links: Main Menu, Edit Profile, DocService, OntoService, Workflow, Administration. The main content area is titled "Current Users" and displays a message: "The following is a list of users that have logged in and their sessions have not expired." Below this, there is a table with two columns: "Username" and "Full Name". A single row is present with "admin" in the Username column and "Admin Admin" in the Full Name column, accompanied by an email icon. At the bottom of the page, there are copyright information ("© 2007 GATE | XHTML Valid | CSS Valid | HELP") and a "Logout" link.

Since the system has a role-based authorization mechanism, administrator can carry out all the roles related operation from Roles page, such as create a new role or update an existing role's information. The system has four roles initially setup as shown below and their names can be changed via clicking on their links.

The screenshot shows a Windows Internet Explorer window titled "Roles List | SAFEKeeper - Windows Internet Explorer". The URL is "http://localhost:8080/executive/roles.html". The page header includes the SAFEKeeper logo and navigation links: Main Menu, Edit Profile, DocService, OntoService, Workflow, Administration. The main content area is titled "Existing Roles" and displays a message: "5 roles found, displaying all roles." Below this, there is a table with two columns: "Role Name" and "Role Description". The table lists five roles: "admin" (Administrator role (can edit Users)), "annotator" (Annotator role), "curator" (Curator role), "ROLE\_ANONYMOUS" (Anonymous role), and "user" (Default role for all Users). Each row has a red "X" icon in the last column. At the bottom of the page, there are export options: CSV, Excel, XML, PDF, and links for "Add" and "Done". Copyright information and a "Logout" link are at the bottom.

The system is classified into several service models, admin can enable/disable any of these services via the Service interface from the administration menu based on the clients' requirements. For example, admin can simply uncheck the OntoService and click on the Save button, then the OntoService will be removed from the current installation.

The screenshot shows the 'Service List' page of the SAFEKeeper application. The URL is <http://localhost:8080/executive/services.html>. The page title is 'SAFEKeeper'. The main content area displays a table of 'Existing Services' with columns for 'Service Name' and 'Status' (indicated by checkboxes). The services listed are Admin Service, Annoservice, Common Service, Docservice, Help, Ontoservice, User Service, and Workflow Service. The 'Ontoservice' row has its checkbox unchecked. A context menu is open over the 'Ontoservice' row, with the 'View Services' option highlighted. Other options in the menu include 'View Users', 'Current Users', 'View Roles', 'View Resources', 'Reload Options', 'Flush Cache', and 'Clickstream'. At the bottom of the page, there are 'Save' and 'Done' buttons, and export options for CSV, Excel, XML, and PDF.

Service Name	Status
Admin Service	<input checked="" type="checkbox"/>
Annoservice	<input checked="" type="checkbox"/>
Common Service	<input checked="" type="checkbox"/>
Docservice	<input checked="" type="checkbox"/>
Help	<input checked="" type="checkbox"/>
Ontoservice	<input type="checkbox"/>
User Service	<input checked="" type="checkbox"/>
Workflow Service	<input checked="" type="checkbox"/>

Similar to the role management, administrator can manage all the resources (URLs within the system) via the resource management page. Basically, each URL is assigned to one or several existing roles so that only users with certain roles can have the access to the specific resources. Each resource belongs to a service. The light icons will be off when a service is disabled and on once a service is enabled again. However, you need to reassign the roles for each resource after you re-enable a service to make the resources work properly.

The screenshot shows a Windows Internet Explorer window titled "Resource List | SAFEKeeper - Windows Internet Explorer". The URL in the address bar is <http://localhost:8080/executive/resources.html>. The page header includes links for Main Menu, Edit Profile, DocService, OntoService, Workflow, Administration, and a search bar. Below the header, a section titled "Existing Resources" contains two buttons: "Add" and "Done". A message below the buttons states "25 resources found, displaying 1 to 15." There is a link "[First/Prev] 1, 2 [Next/Last]". The main content is a table with columns: "Resource URL", "Resource Description", and "Service Name". The table lists 15 items, each with a "Flush" button (lightbulb icon) and a "Delete" button (red X). The table rows are as follows:

Resource URL	Resource Description	Service Name
/activeUsers.html*	list all active users	Admin Service
/clickstreams.jsp*	Click Streams Page	Admin Service
/flush.html*	Flush Cache Page	Admin Service
/reload.html*	Reload Page	Admin Service
/resources.html*	Users List Page	Admin Service
/roles.html*	Roles List Page	Admin Service
/services.html*	Services List	Admin Service
/annotator-gui/*	Annotator GUI URL	Annoservice
/*/*.html*	All the Pages	Common Service
/mainMenu.html*	Main Menu Page	Common Service
/scripts/engine.jsp*	Engine Page	Common Service
/corpora.html*	DocService Home Page	Docservice
/editUploadfile.html*	editUploadfile.html	Docservice

To refresh the caches in the system, administrator can simply click on the Flush in the Administration menu.

The screenshot shows a Windows Internet Explorer window titled "Flush Cache | SAFEKeeper - Windows Internet Explorer". The URL in the address bar is <http://localhost:8080/executive/flush.html>. The page header includes links for Main Menu, Edit Profile, DocService, OntoService, Workflow, Administration, and a search bar. Below the header, the title "SAFEKeeper" is displayed, followed by the subtitle "Providing integration with SAFE services." The main content area displays the message "Flush Successful!" in blue text. A yellow message box at the bottom left says "All caches successfully flushed, returning you to your previous page in 2 seconds." At the bottom of the page, there is footer text: "© 2007 GATE | XHTML Valid | CSS Valid | HELP | Logged in as: Admin Admin" and a "Logout" link. The status bar at the bottom of the browser window shows "Local intranet" and the time "17:41".

Administrator can view users' request history via All Clickstreams page, which is the last item in the Administration menu.

