Joget Workflow v4

Getting Started Guide

Revision 2

May 2013

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1. Overview

Joget Workflow v4 is an open source platform to easily build enterprise web apps for cloud and mobile.

- Build **full-fledged** apps e.g. CRM, HR, Healthcare, etc
- Drag and drop **forms**, **lists**, **UI**
- Add **workflow** to automate processes
- Extend via **plugins**
- Apps are **mobile** optimized and **cloud** ready
- Download ready made apps from the **Joget Marketplace**

This guide provides a brief introduction, and more detailed information is available in the Knowledge Base at http://community.joget.org, as well as the official website at http://www.joget.org/. Please note that some of the examples are for the Enterprise Edition, but the basic concepts are similar for the Community Edition.

2. Installation

2.1 Installation on Windows

1. Run the setup file joget-setup-*x.x.x*.exe to launch the Setup Wizard.

2. Click on **Next** on the Introduction page, **I Agree** on the License page, and **Next** on the Components page.

3. Change the Destination folder if required, then click on **Install**. Once the installation is complete, click on **Finish**.
4. To start the Joget Server, go to **Start Menu > Programs > Joget Workflow** and click on the green **Start Joget Server** icon under Joget Workflow. The startup might take some time, so please wait until the message "INFO: Server startup in XXXX ms" appears (XXXX represents the time taken for the startup). Do not close the command window.
5. Go to **Start Menu > Programs > Joget Workflow** and click on **App Center**. This will launch the App Center in a web browser.
6. To stop the Joget Server, go to **Start Menu > Programs > Joget Workflow** and click on the red **Stop Joget Server** icon under Joget Workflow.

2.2 Installation on Linux

1. Create a new directory e.g. /opt/joget and extract the tar.gz bundle into that directory
2. Install the **Java** Runtime Environment (**JRE**) or Java Development Kit (**JDK**) version 6 and above
3. Install **MySQL** Server version 5 and above
4. Create an empty database **'jwdb'** in the MySQL server
5. Execute the setup script to create the required database tables: ./setup.sh
6. Execute the bundled **Apache Tomcat** application server: ./tomcat7.sh run
7. Access the **App Center** at **http://localhost:8080/jw**

2.3 Upgrading from v3

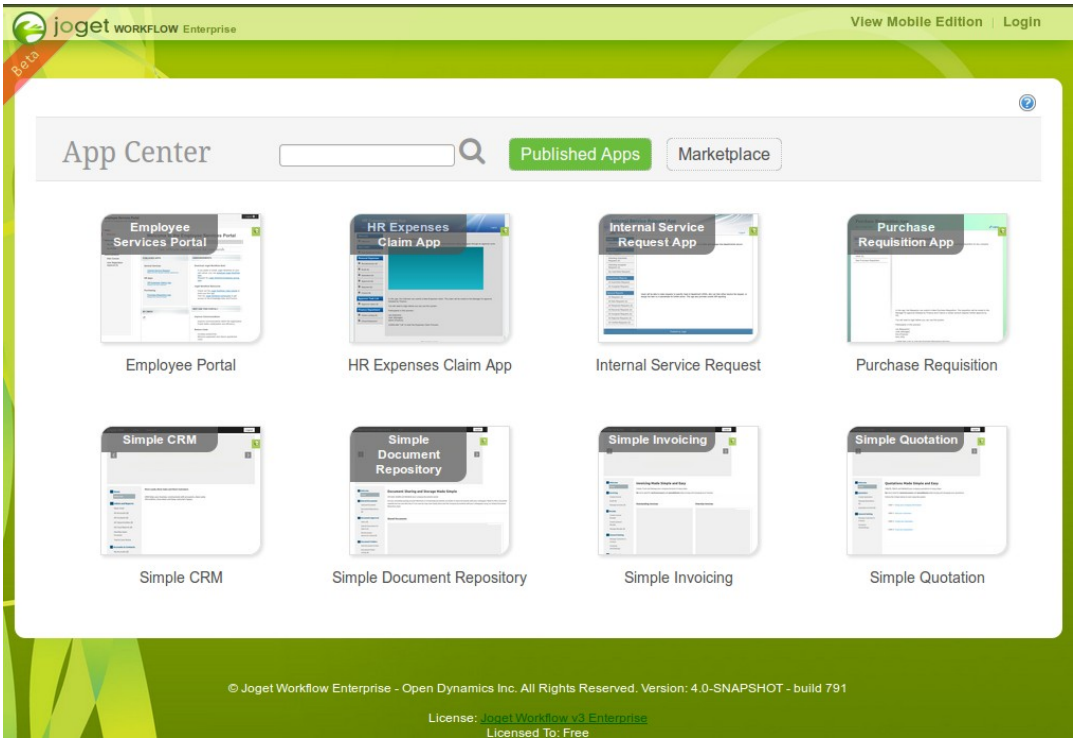
1. As with any upgrade, it is strongly recommended that you test the upgrade on a **development** or **test** environment first. Please **backup** your files and perform the necessary tests after the upgrade.
2. Extract the v4 Windows ZIP or Linux tar.gz, and locate the v4 **jw.war** and **jwdesigner.war** files under the Apache Tomcat webapps directory e.g. apache-tomcat-7.0.39/webapps

3. It is possible to test run v4 in conjunction with v3. To do this:
    i. rename the new **jw.war** to **jw4.war** and copy it to the Apache Tomcat webapps directory "**[Joget v3 Installation Directory]/apache-tomcat-6.0.18/webapps**".
    ii. Once the war file has finished deploying, you can then access v4 at **http://localhost:8080/jw4**
4. To perform an actual upgrade to replace v3:
    i. Stop the v3 Apache Tomcat.
    ii. Delete the existing v3 files in "**[Joget v3 Installation Directory]/apache-tomcat-6.0.18/webapps**":
        1. **jw.war**
        2. **jwdesigner.war**
        3. **jw directory**
        4. **jwdesigner directory**
    iii. Delete the v3 Apache Tomcat working directories i.e. the "**jw**" and "**jwdesigner**" directories in "**[Joget v3 Installation Directory]/apache-tomcat-6.0.18/work/Catalina/localhost**".
    iv. Copy the v4 files **jw.war** and **jwdesigner.war** into the Apache Tomcat webapps directory "**[Joget v3 Installation Directory]/apache-tomcat-6.0.18/webapps**".
    v. Start the v3 Apache Tomcat

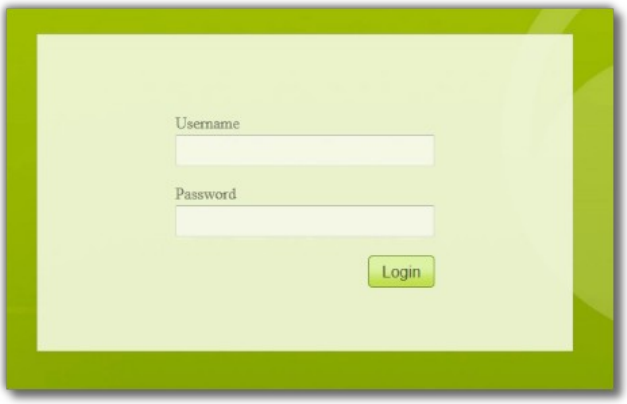
3. Introducing Apps and the App Center

3.1 Introducing Apps

1. Joget Workflow apps can range from a simple database-driven app, to a complex approval process, or even a full-fledged solution (e.g. CRM) which incorporates workflow, data management and reporting.
2. The **App Center** is the default landing page in Joget v4 which displays a grid of published apps. To access the App Center, use a web browser to access the Joget server at http://localhost:8080/jw (Replace **localhost** and **8080** with the appropriate server host and port if necessary)



3. Click on the **Login** link on the **top right** to login as a user. Each user may have access to different apps depending on permissions.



Some sample logins are provided in a standard installation as follows:

Administrator:

Username: admin

Password: admin

Normal User (Employee):

Username: cat

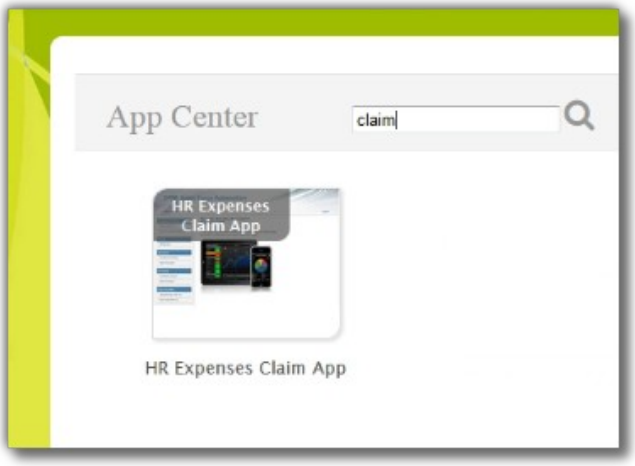
Password: password

Normal User (Manager):

Username: clark

Password: password

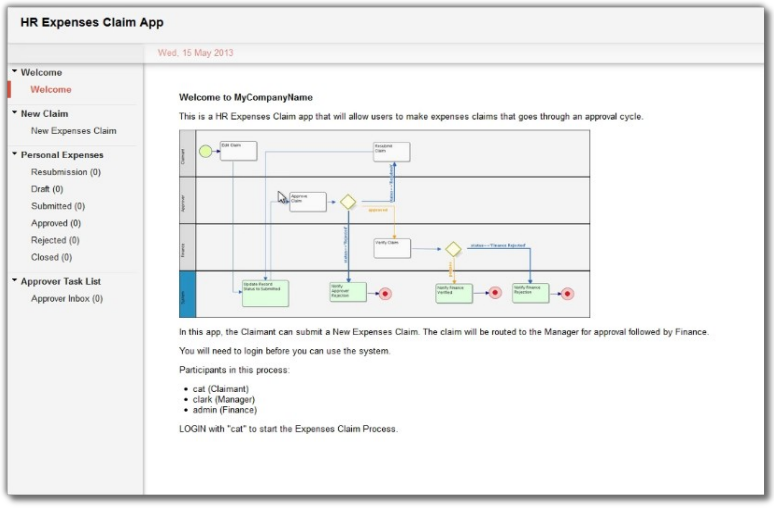
4. Use the search box to quickly find an app. For example, type **claim** to look for the sample **HR Expenses Claim App**



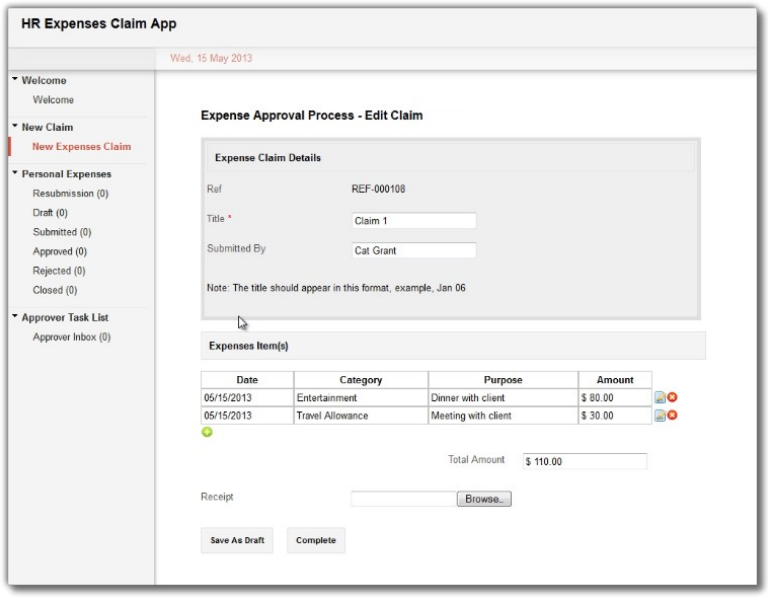
5. Clicking on the app icon will launch that app in a separate browser window.

3.2 Introducing Userviews, Forms, Lists and Processes

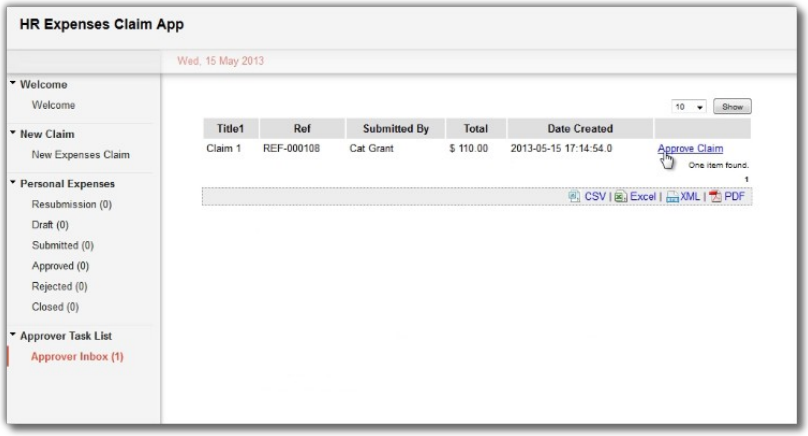
1. A **userview** is a front-end UI for an app. An app may contain 1 or more userviews. Userviews can have different themes, and consist of menu pages that contain forms, lists, reports, HTML content, etc.



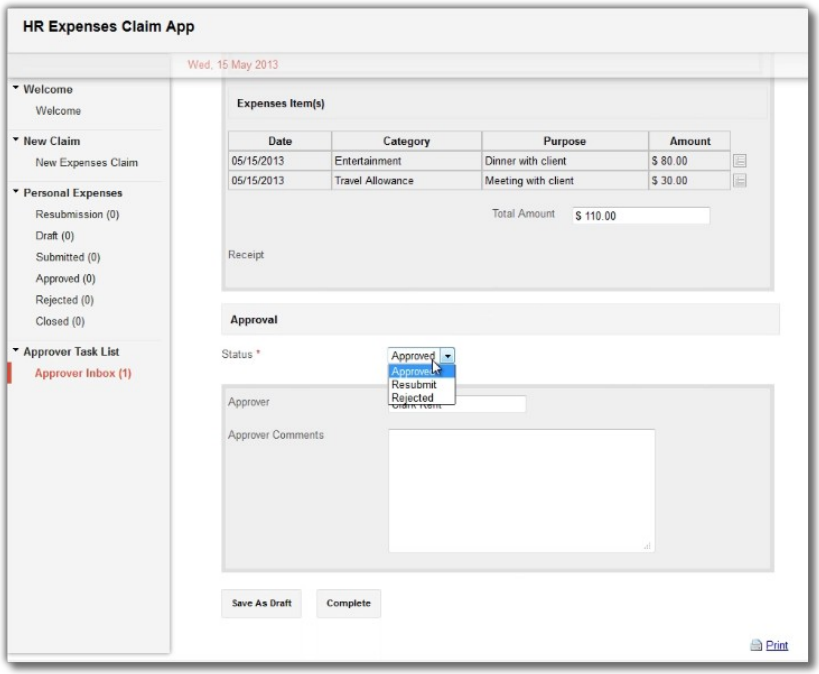
2. **Forms** are used to capture and present information. Many form elements are available, ranging from a simple textfield to more complex types such as form grids. In the sample HR Expenses Claim App, login as a normal employee (**Cat)** and click on the **New Expenses Claim** to see an expenses claim form. Fill up the form and click on **Complete** to submit.



3. **Datalists** (or **Lists** for short**)** are tables or reports in tabular format, providing features such as paging, sorting, filtering and exporting. Logout and login as **Cat**'s manager **Clark**, then click on **Approver Inbox** in the menu. The page displays a datalist showing the task inbox, in this case Clark will see a pending claim from Cat.

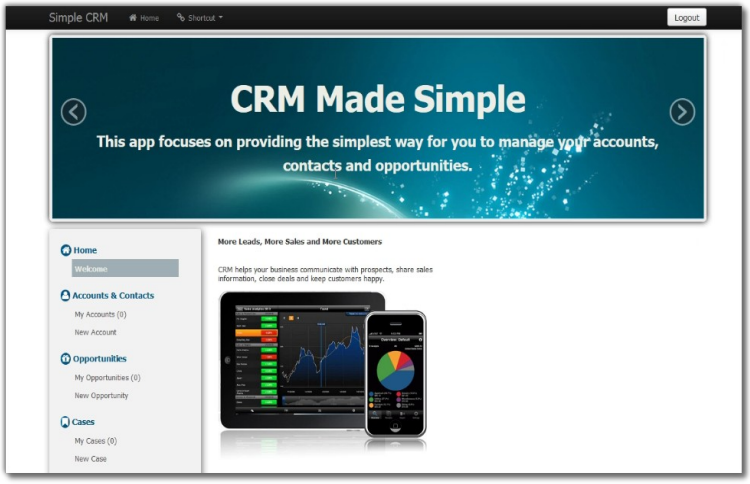


4. The task created shows a **workflow process** in action, where a task is routed to the appropriate person. The process may also involve integration to external systems such as sending emails or updating external databases. As Clark, click on the **Approve Claim** link to view and approve Cat's submission.

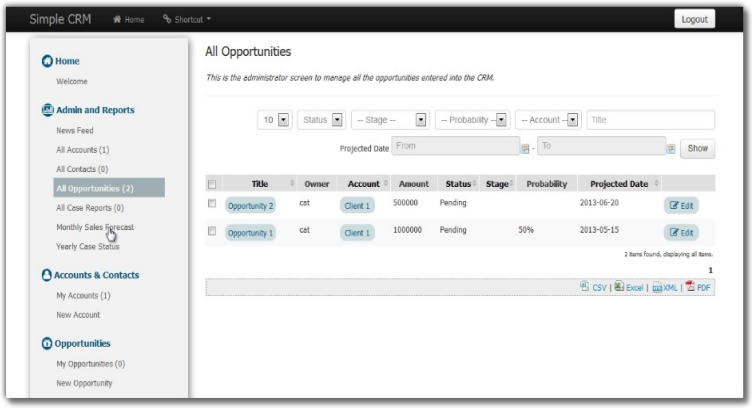


5. The HR Expenses Claim App demonstrates a process driven app. To see a different type

of app in action, launch the **Simple CRM** in the App Center. This app is focused on data management, providing a no-frills approach to manage accounts, contacts, opportunities and cases.

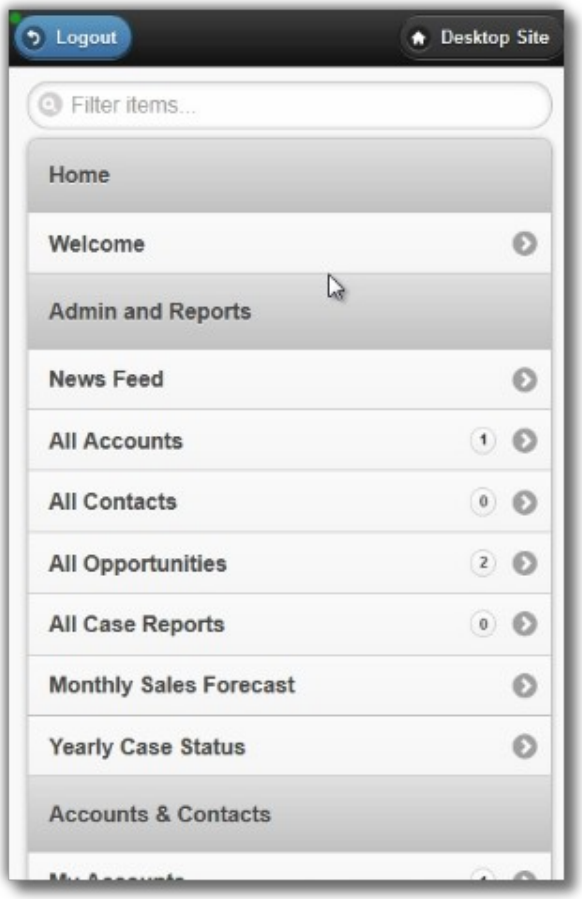


6. The Simple CRM also demonstrates more advanced reporting capabilities such as tabular management reports and graphical charts.

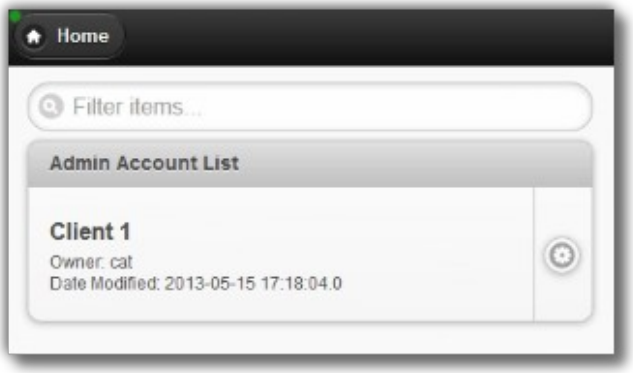


3.3 Introducing the Mobile Edition

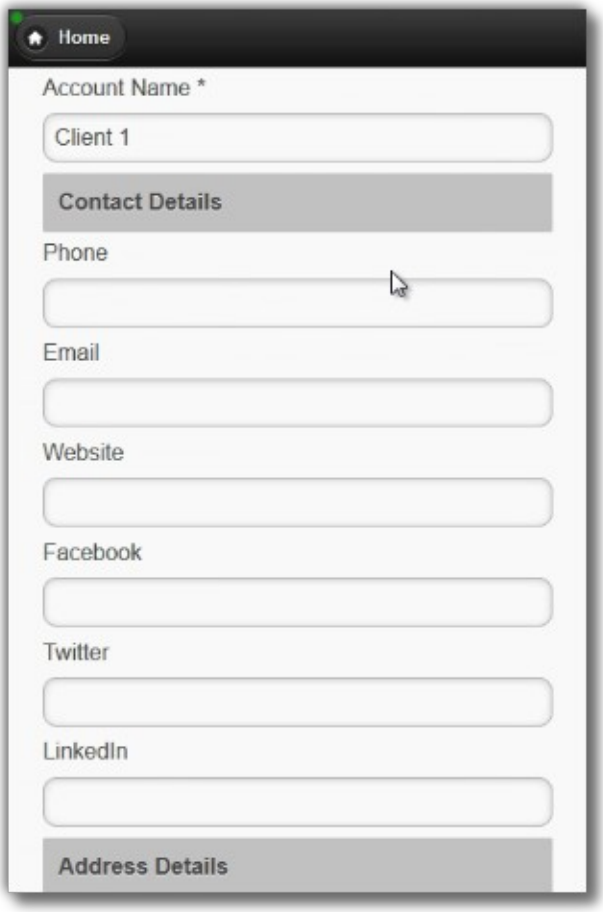
1. When accessing a Joget app from a mobile web browser (smartphone or tablet), the user will automatically be shown the mobile edition.
2. The mobile userview is presented in a mobile user experience which includes the look and feel, page transitions, some offline capabilities, etc.



3. Datalists are automatically converted from a tabular format into a more suitable mobile list format.



4. Forms are also automatically formatted accordingly.



4. Designing an App

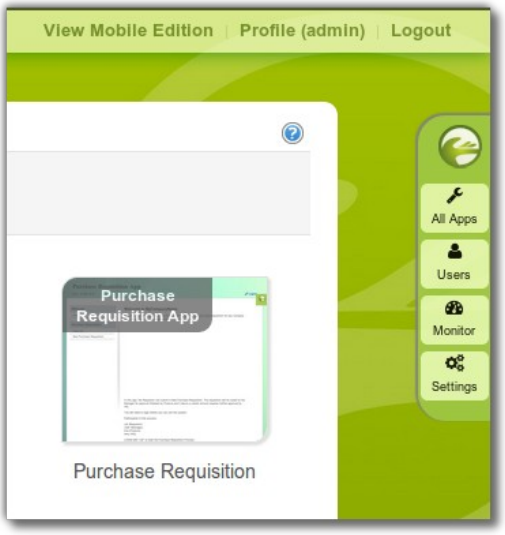
4.1 Introducing the Admin Bar

1. The **Admin Bar** is a new feature introduced in Joget v4 that provides administrators a consistent (and convenient) way of managing apps and users.
2. In the **App Center**, login as an administrator. The default administrator login in a standard installation is as follows:

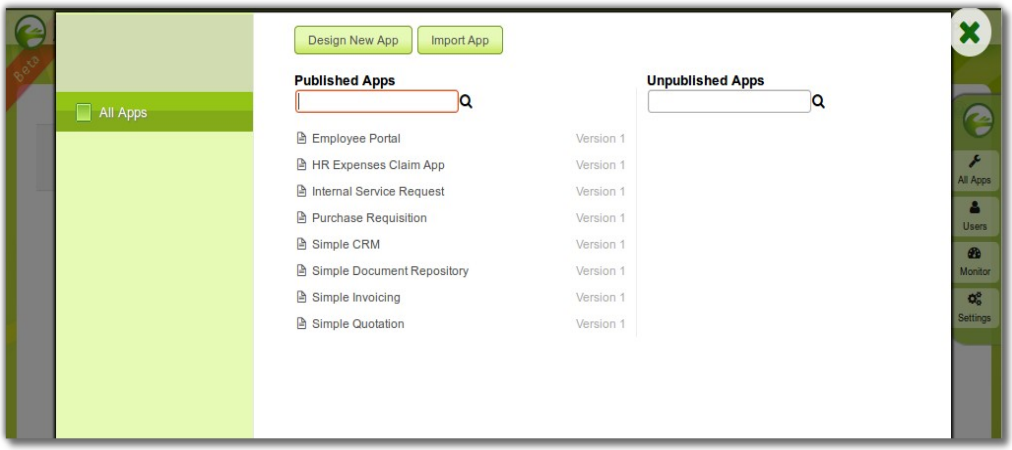
   Administrator:

   Username: admin

   Password: admin
3. The Admin Bar is a green panel that appears on the right of the window.



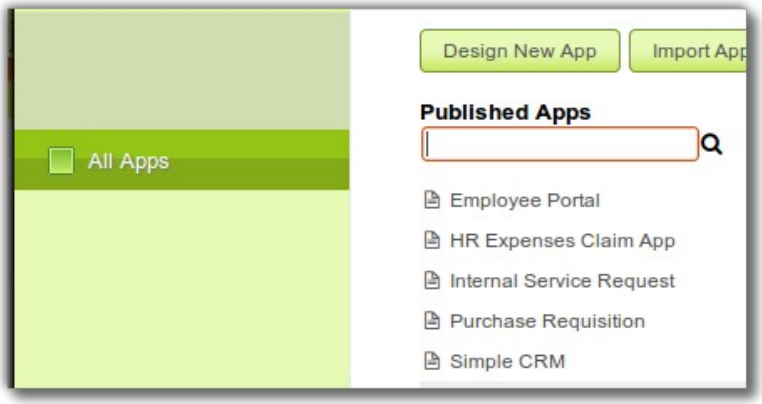
4. Clicking on the **Joget logo** will bring you back to the App Center, while clicking on any of the other buttons will open an **overlay** over the current window.
5. Try clicking on **All Apps**. This opens an overlay showing all the published and unpublished apps.



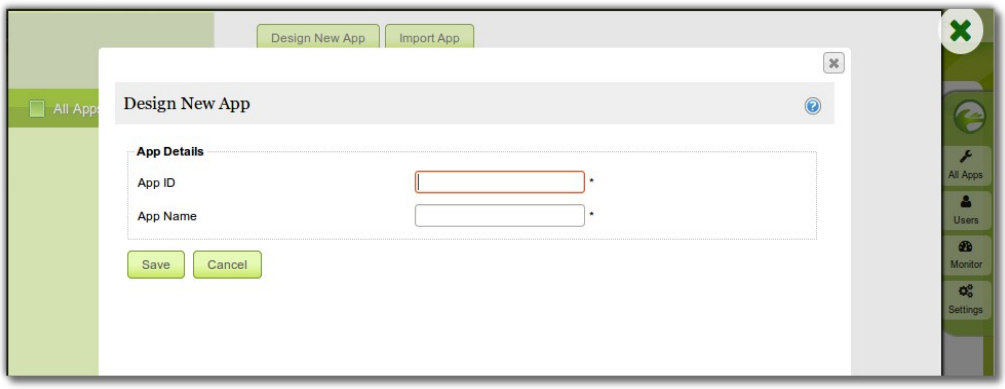
6. To close the overlay window, click on the **large X button** on the top right.

4.2 Designing a New App

1. In the **Admin Bar**, click on **All Apps**.
2. In the All Apps window, click on the **Design New App** button along the top.



3. Key in the details of the new app.



App ID: A short and unique ID for each app (no spaces) e.g. **travelRequest**

App Name: A descriptive name e.g. **Travel Request**

4. Click on **Save**. The app will be created and you will be brought to the App design page.

4.3 Designing a Form

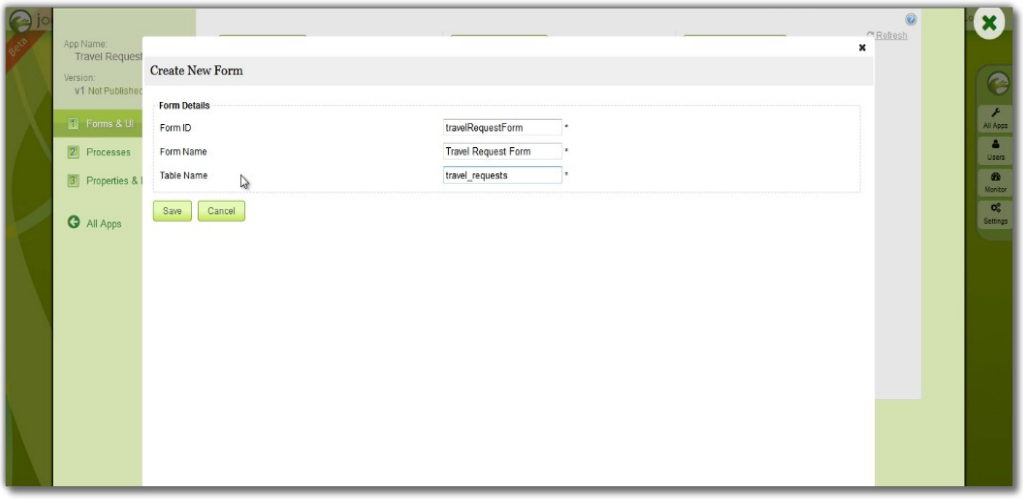
1. In the App design page, click on the **Create New Form** button along the top.

2. Key in the details of the new form.

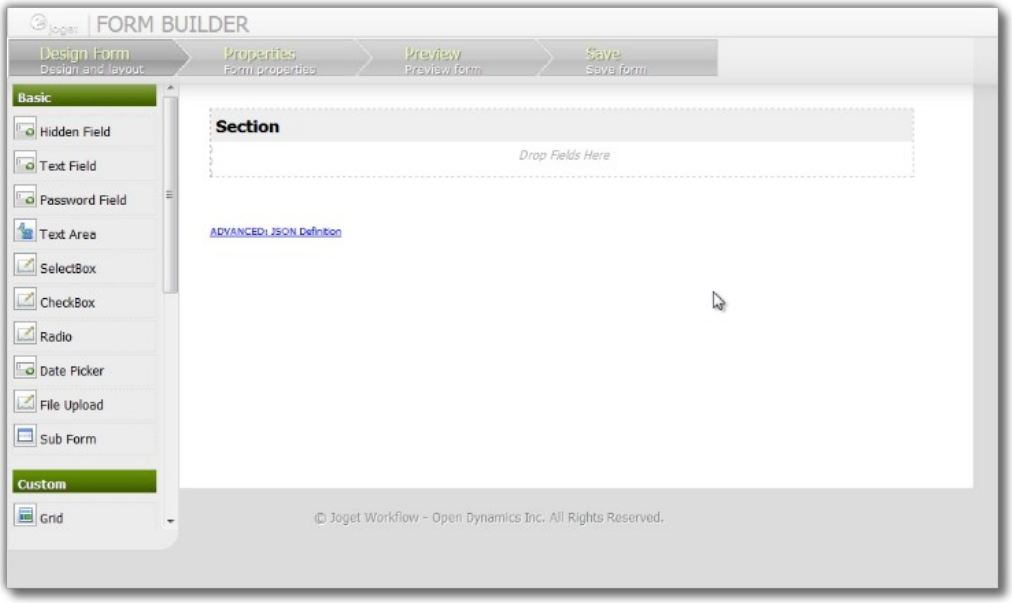
Form ID: A short and unique ID for each form (no spaces) e.g. **travelRequestForm**

Form Name: A descriptive name e.g. **Travel Request Form**

Table Name: The database table name to store the form data e.g. **travel_requests**. Note that different forms can share data by pointing to the same table name.

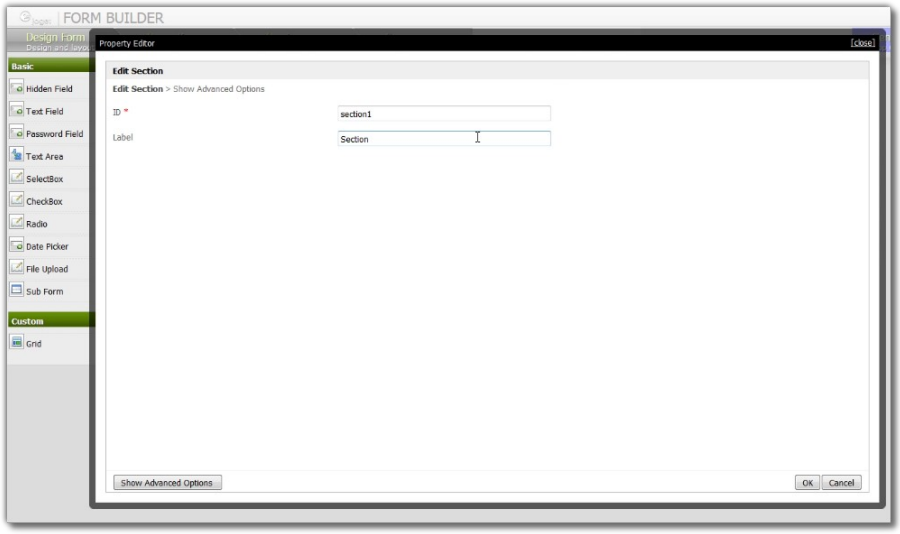


3. Click on **Save** to save the form and launch the **Form Builder** in a **new window**. If your browser blocks the popup, click on the form name to launch it.

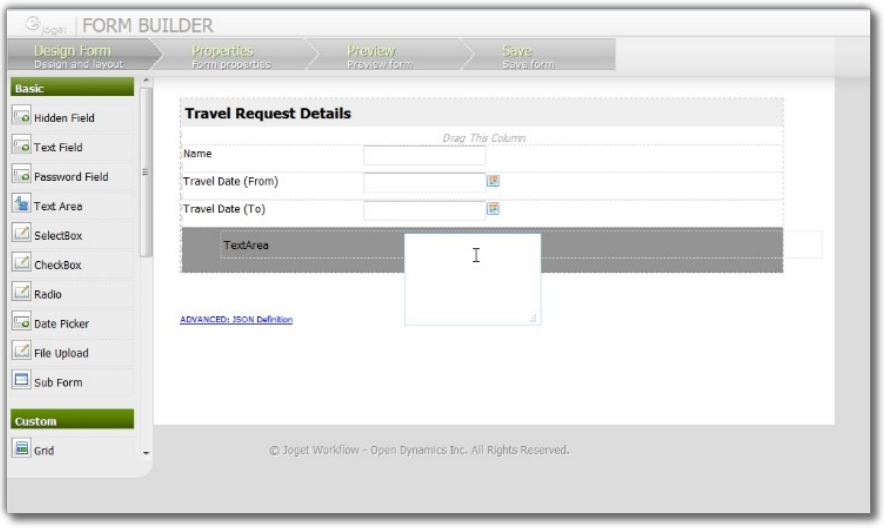


4. The first step in the Form Builder is the **Design Form** page. On the **left** is the **palette** containing available **form elements**. In the **middle** is the **canvas** containing one or more **sections**, and each section may contain one or more columns.
5. When you mouseover a section header (or any form element), buttons appear giving you options.

6. Click on **Edit Section**. This opens a **Property Editor** showing properties that you can modify. Each form element has different properties that can be configured.



7. Click on the **OK** at the bottom to save the property changes.
8. You can add sections using **Add Section**, and move sections around by dragging.
9. **Drag** form elements from the palette into any section.

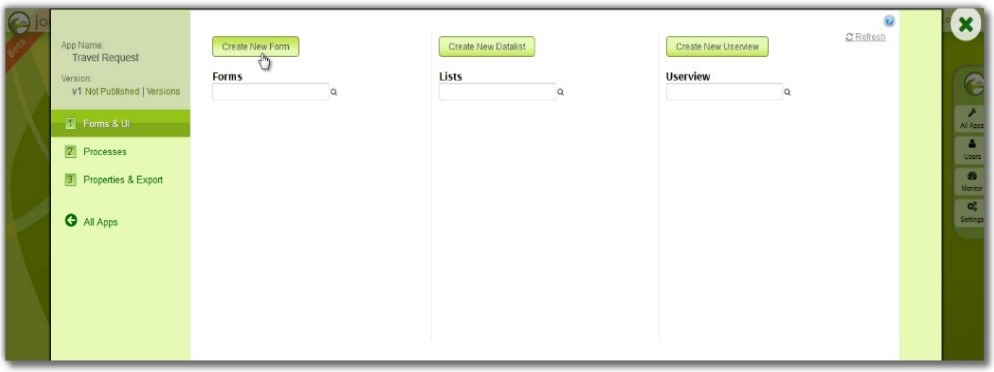


10. Mouseover any form element to see the **Edit** and **Delete** options. Click on Edit to modify the form element properties.

11. At any time, you may preview the form by clicking on the large **Preview** button at the top.
12. Once you have finished designing the form, click on the large **Save** button at the top and you will receive confirmation that the form is saved. You may then continue to design the form, or close the Form Builder window.

4.4 Designing a List

1. In the App design page, click on the **Create New Datalist** button along the top.



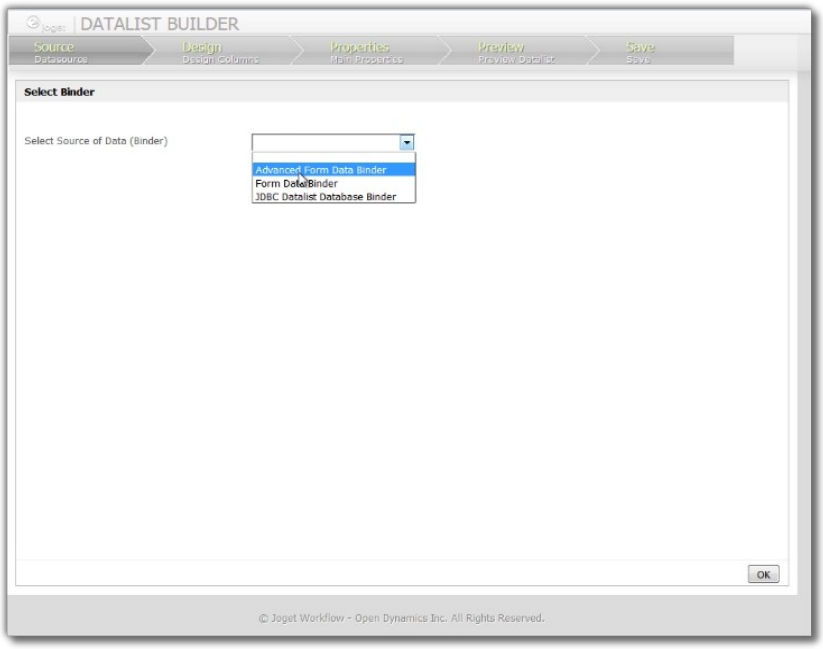
2. Key in the details of the new list.

   ID: A short and unique ID for each list (no spaces) e.g. **travelRequestList**

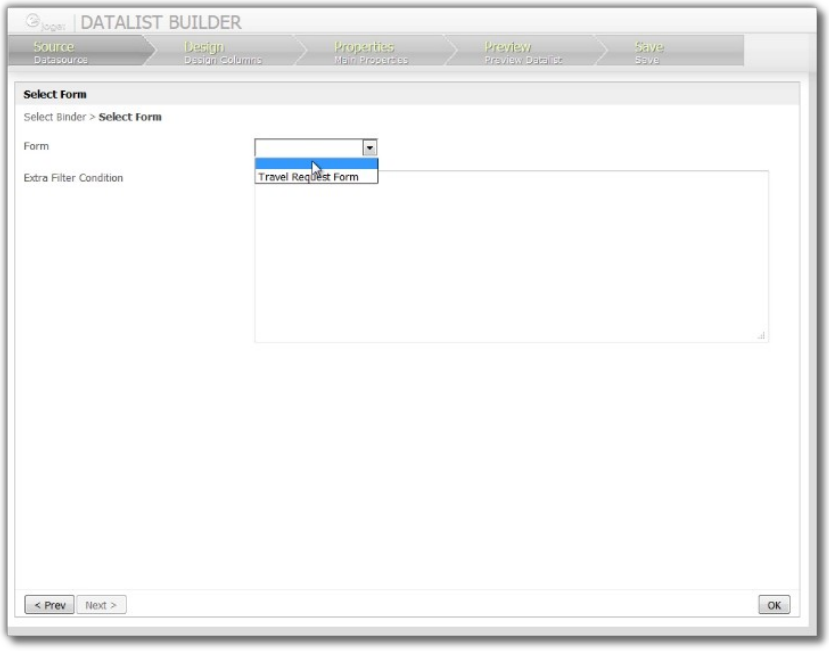
   Name: A descriptive name e.g. Travel Request List

   Description: Optional description.
3. Click on **Save** to save the list and launch the **List Builder** in a **new window**. If your browser blocks the popup, click on the list name to launch it.

4. The first step in the List Builder is the **Source** page. Here, you can select the source of the data, called **Binders**.

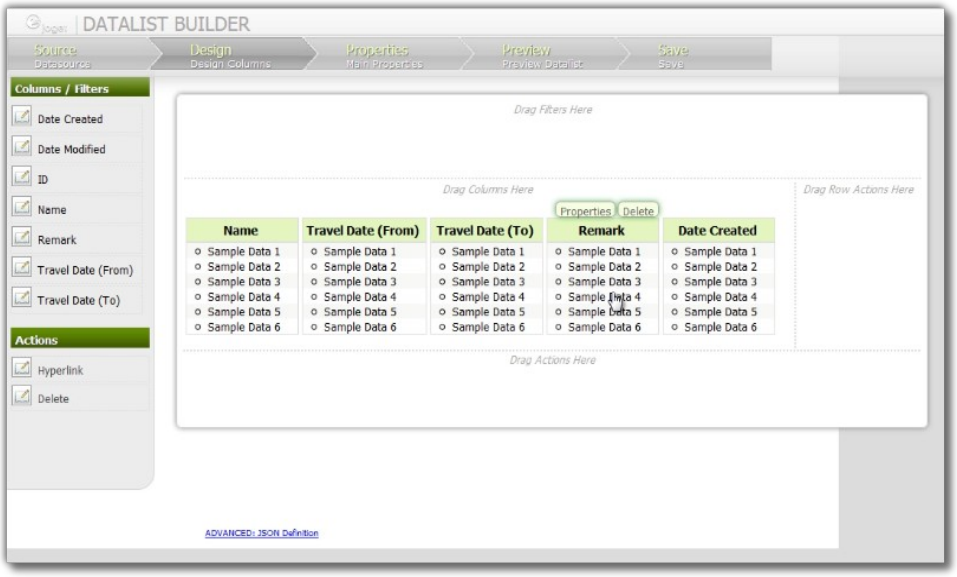


5. Select **Form Data Binder**. This binder populates a list based on data captured from Joget forms. Once you select the binder, choose a form then click **OK** at the bottom.



6. This brings you to the **Design** page. Here, all available columns provided by the binder

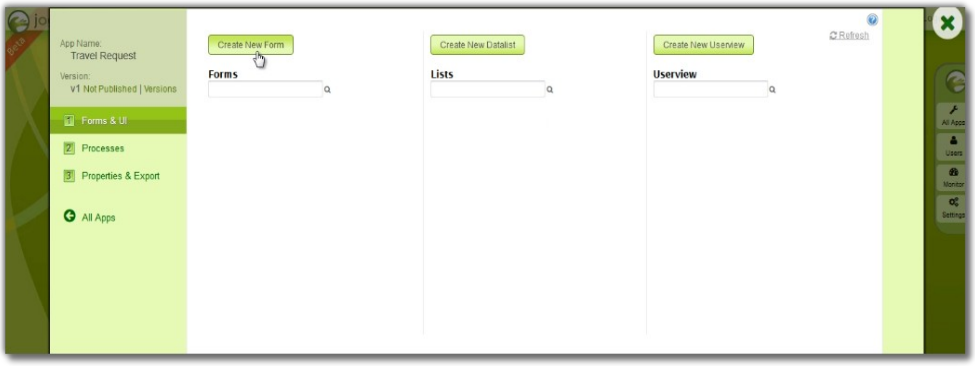
are listed in the **palette** on the **left**. Drag the desired columns into the **canvas** in the **middle**.



7. When you mouseover a column, buttons appear giving you options to edit or delete the column. Clicking on **Properties** opens a Property Editor showing properties that you can modify.
8. At any time, you may preview the list by clicking on the large **Preview** button at the top.
9. Once you have finished designing the list, click on the large **Save** button at the top and you will receive confirmation that the list is saved. You may then continue to design the list, or close the List Builder window.

4.5 Designing a Userview

1. In the App design page, click on the **Create New Userview** button along the top.



2. Key in the details of the new userview and click on the **Save** button.

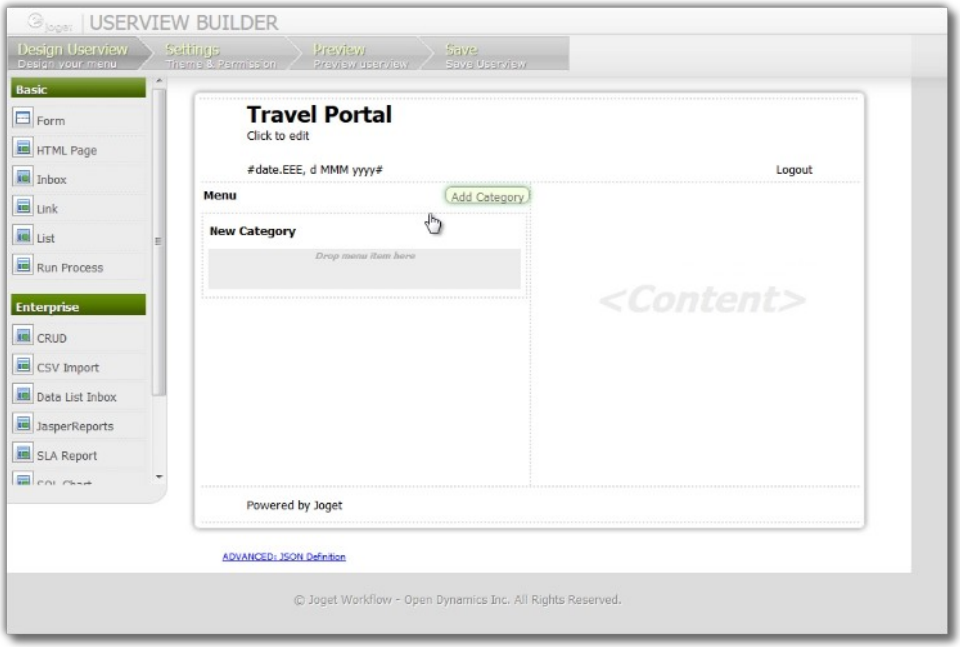
   ID: A short and unique ID for each userview (no spaces) e.g. **travelPortal**

   Name: A descriptive name e.g. Travel Portal

   Description: Optional description.

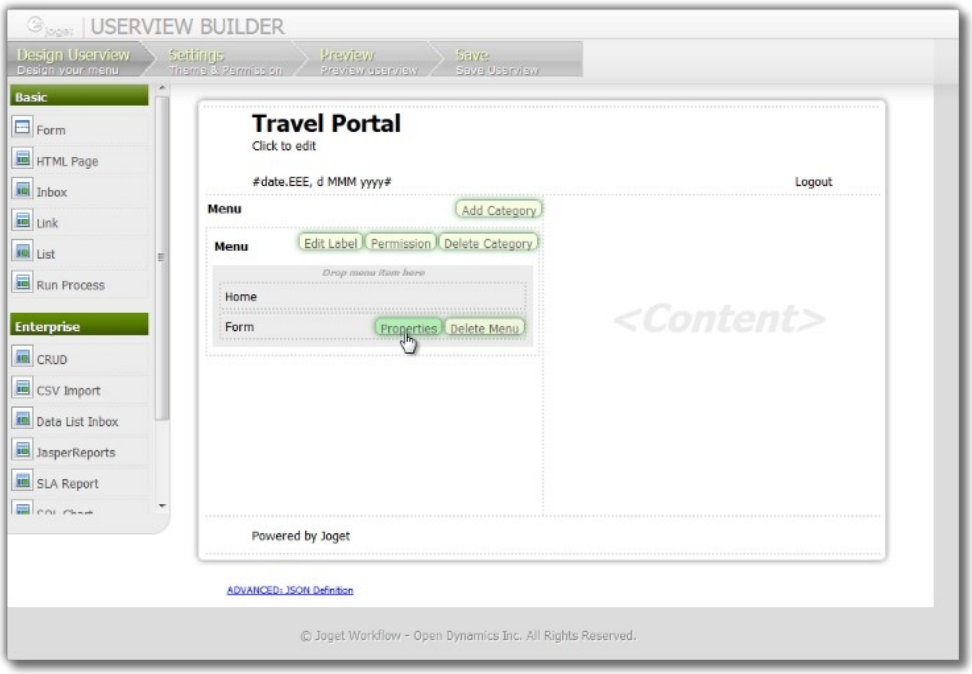
3. Click on **Save** to save the userview and launch the **Userview Builder** in a new window. If your browser blocks the popup, click on the form name to launch it.

4. The first step in the Userview Builder is the **Design Userview** page. On the **left** is the **palette** containing available **menu elements**. In the middle is the canvas containing the userview **header**, **footer** and one or more **menu categories**.

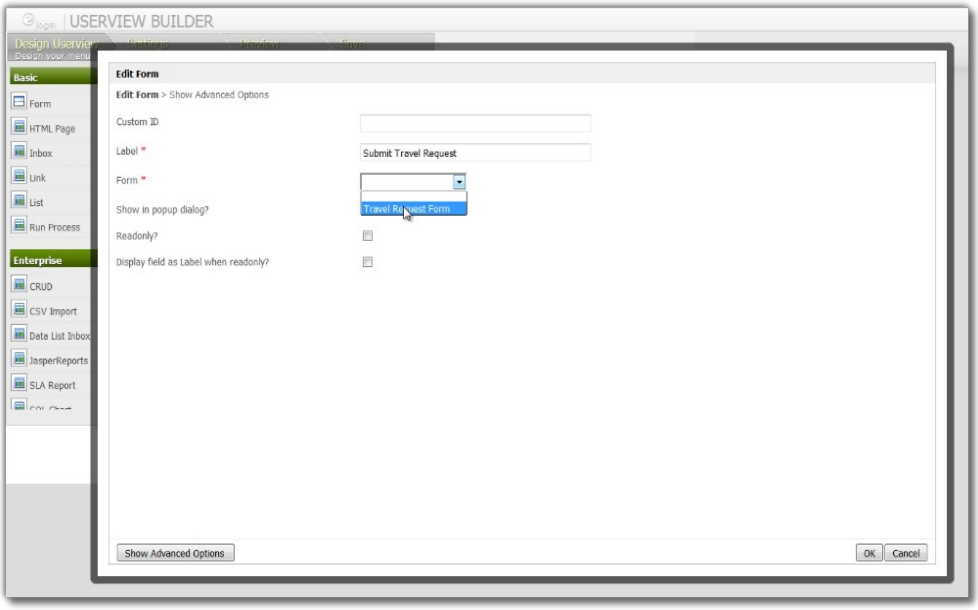


5. When you mouseover the canvas **Menu**, a button will appear giving you the option to **Add Category**.

6. You can click any category name to edit it, and drag categories up and down.
7. **Drag** menu elements from the palette into any category.
8. Mouseover any category or menu element to see the available options.

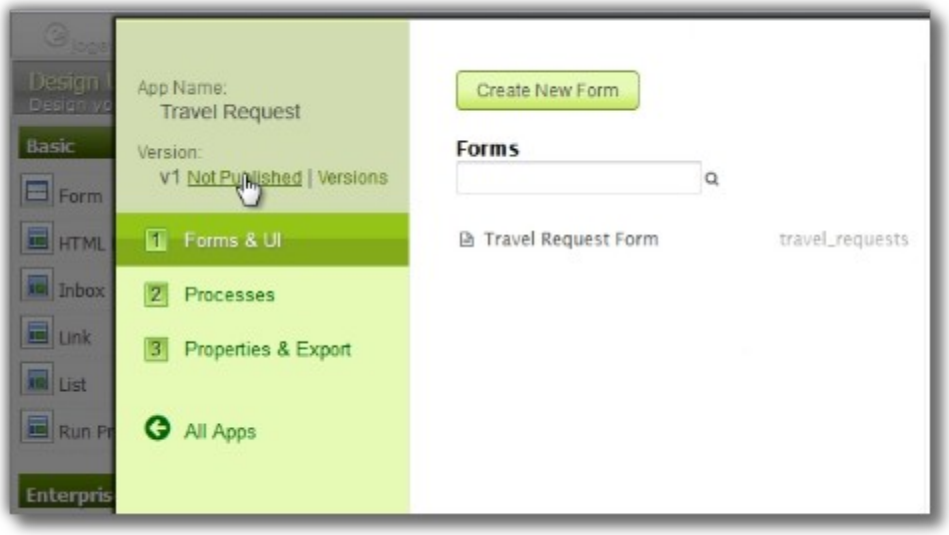


9. Click on **Properties** button to modify each menu element's properties.

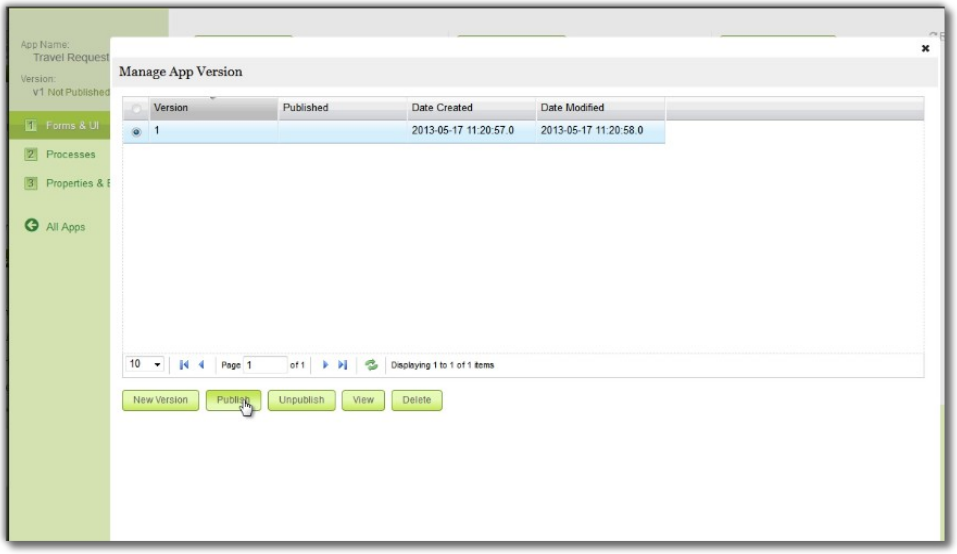


10. At any time, you may preview the userview by clicking on the large **Preview** button at the top.

11. Once you have finished designing the userview, click on the large **Save** button at the top and you will receive confirmation that the userview is saved. You may then continue to design the userview, or close the Userview Builder window.
12. Before a userview can be accessed by a normal user, the app needs to be published. To do that, click on the **Not Published** or **Versions** link on the left in the App design page.



13. A popup displays all versions of the app. Select the radio button next to the latest version and click on the **Publish** button. Once an app is published, its userviews will be available in the App Center.

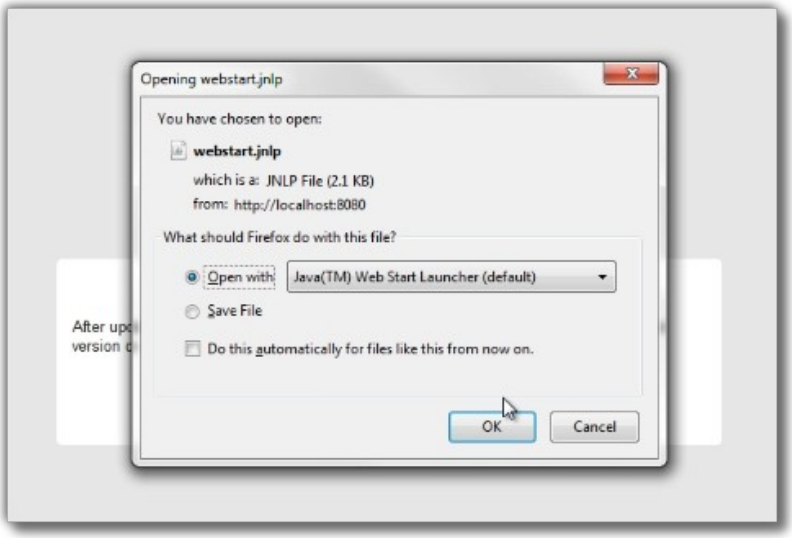


4.6 Designing a Process

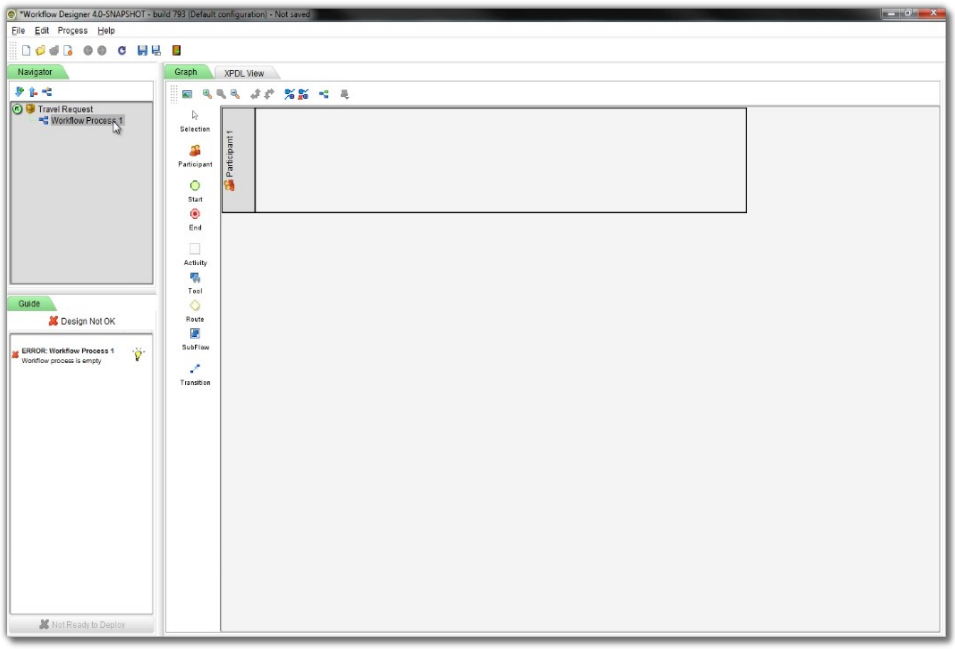
4.6.1 Introducing the Workflow Designer

1. In the App design page, click on the **Processes** menu on the left, and then on the **Launch Workflow Designer** button along the top.

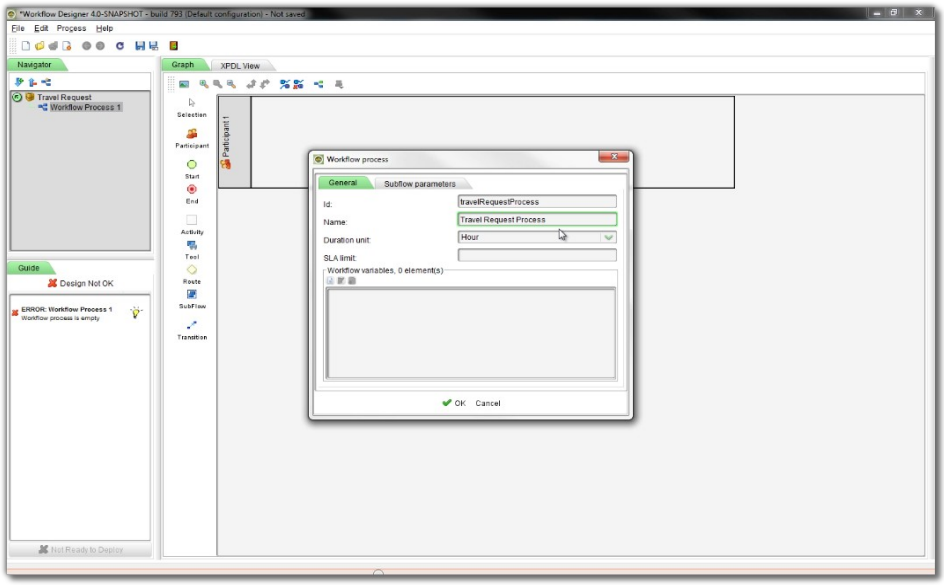
2. The Workflow Designer uses a technology called Java Web Start and requires Java to be installed on the PC. If a JNLP file is downloaded, open it with the **Java Web Start Launcher**. The Workflow Designer will be downloaded to the PC the first time it is launched, or when there are any updates.



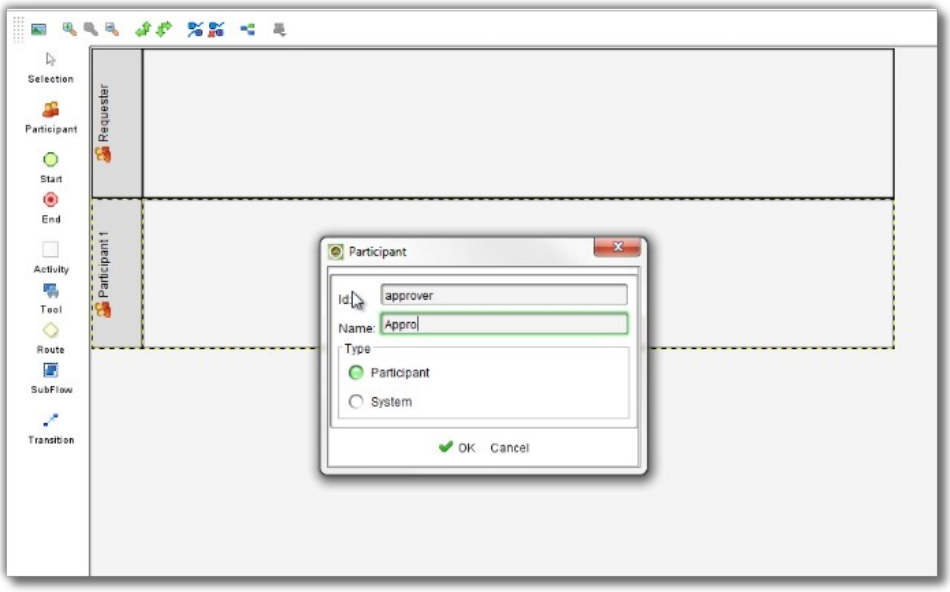
3. There are 3 main areas in the Workflow Designer. On the top left, the **Navigator** panel contains a list of processes. The bottom left **Guide** panel provides hints and warnings. The main panel in the middle is the **Graph** area that contains a palette and the process diagram.



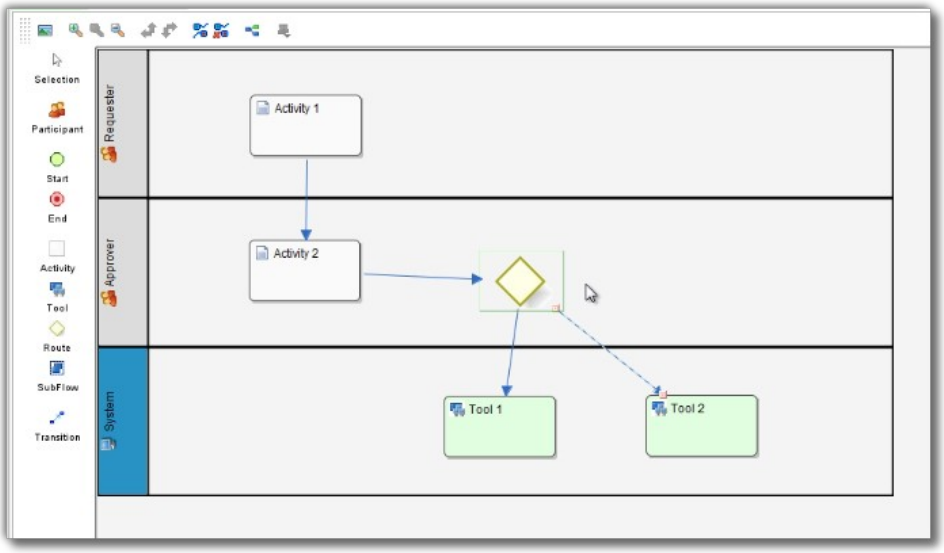
4. Right click on the process name in the Navigator and select **Properties**, or **double click** on the process name. This brings up the properties dialog where you can edit the process details.



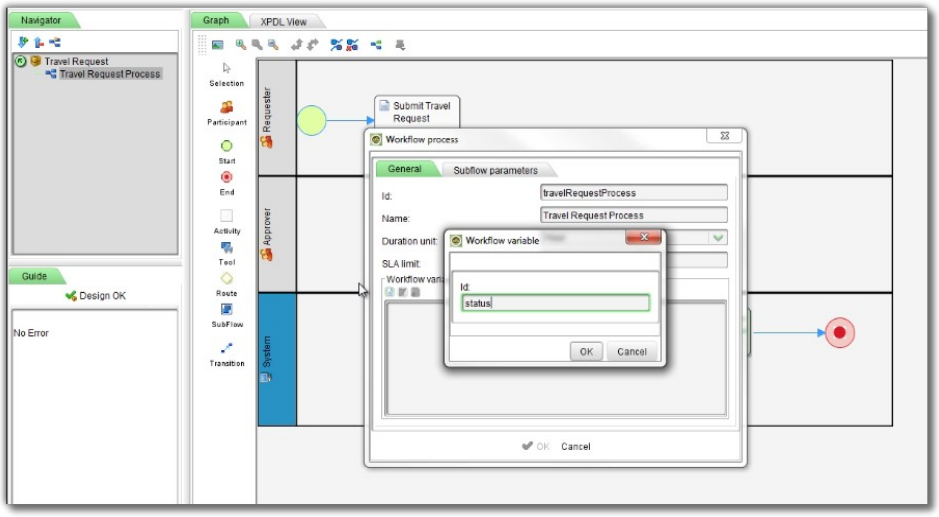
5. Add **Participants** into the process by dragging the participant icon from the palette into the process diagram. Each participant is displayed as a horizontal swimlane. Participants represent users or roles that perform a certain task. Double click on the participant name to set its properties.



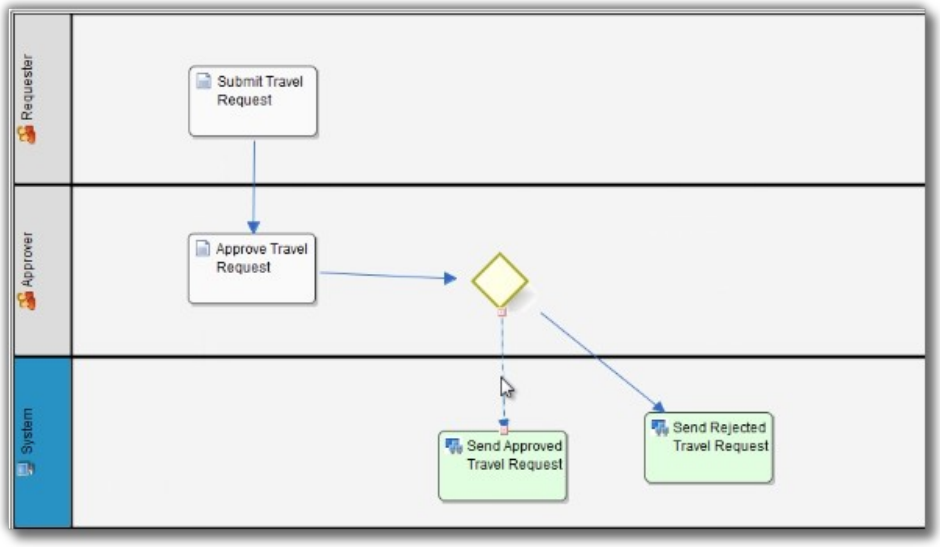
6. Add **activites, tools** and **routes** into the process diagram. Activities represent forms which require human interaction. Tools represent system or automated tasks, and routes are decision points. Use **transitions** to link them all together in a flow.



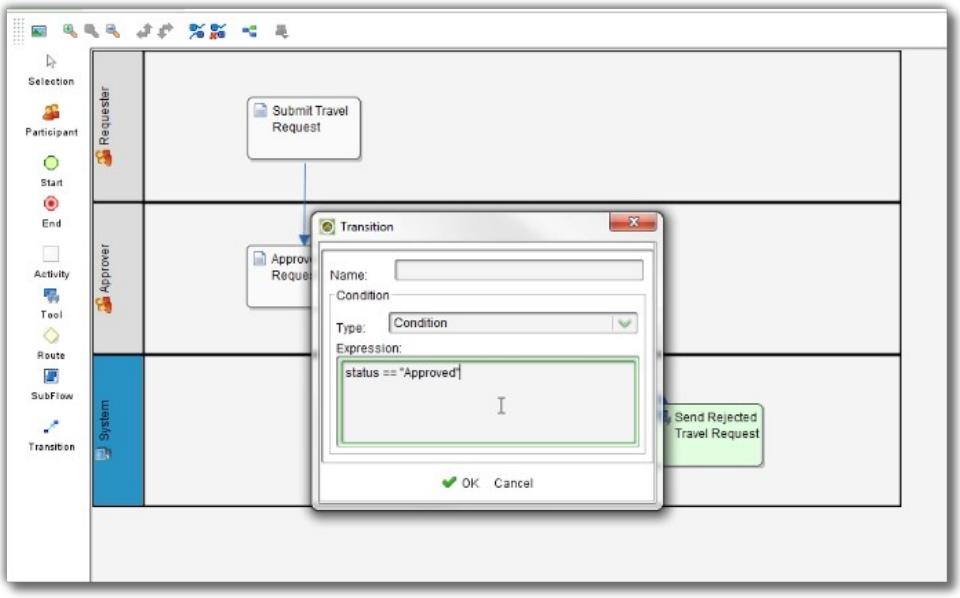
7. To handle routing (for example approval conditions), use **Routes** in combination with **workflow variables**. To create a workflow variable, double click on the process name in the Navigator to bring up the process dialog. Click on the first small icon under the Workflow variable heading, and key in the ID of the variable e.g. **status**.



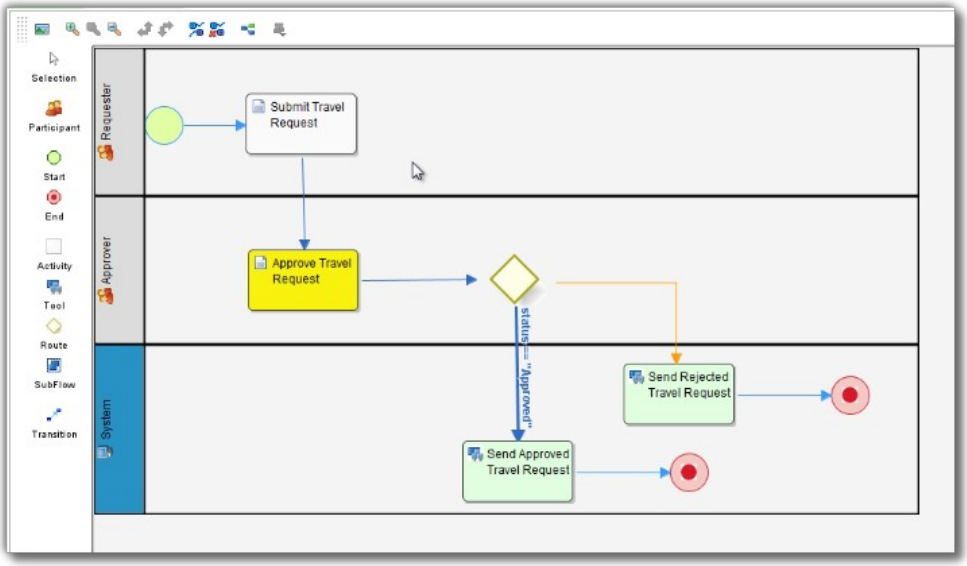
8. Once a workflow variable has been defined, **double click** on a transition to open the transition dialog.



9. In the transition dialog, select type **Condition**, and key in a JavaScript-style condition in the **Expression** textbox e.g. **status == 'Approved'** means that this transition will occur if the value of status is "Approved".



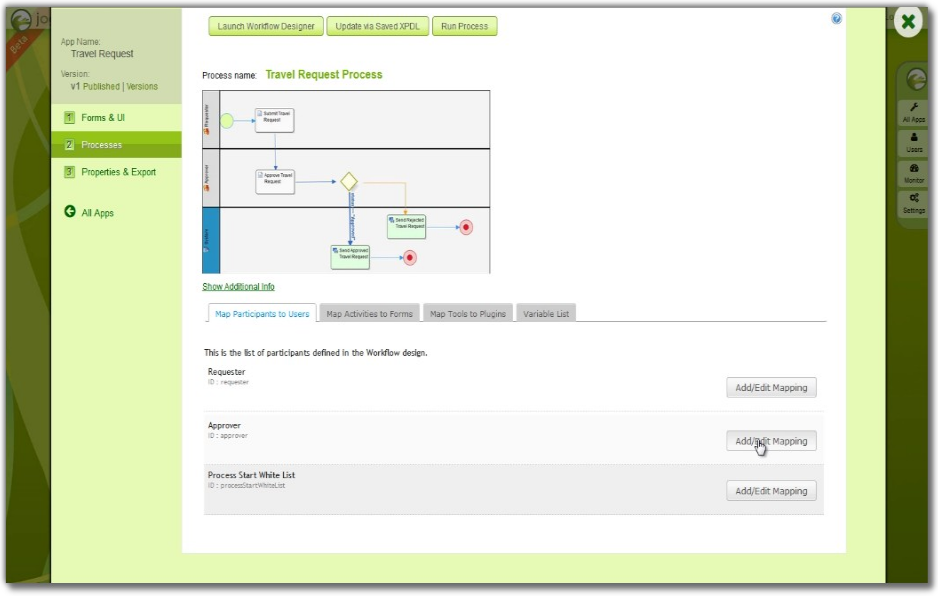
10. Set the transition type to **Otherwise** to indicate that it is the default path to take when other conditions are not met. The Otherwise transition is shown in orange. An example of a simple routing process is as shown below:



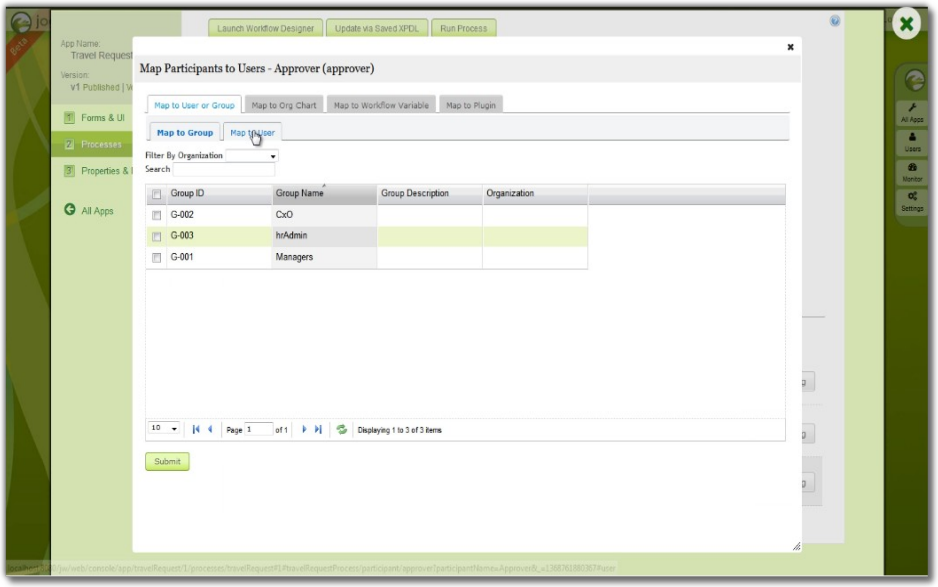
11. Ensure that the process has a proper **Start** and **End**. Once the **Guide** indicates that the process is valid, the **Deploy** button will be enabled. Click on **Deploy** to deploy the process to the server.

4.6.2 Mapping Participants to Users

1. Once a process has been successfully deployed, the Workflow Designer will close. Click on **OK** in the App design page to load the process details.

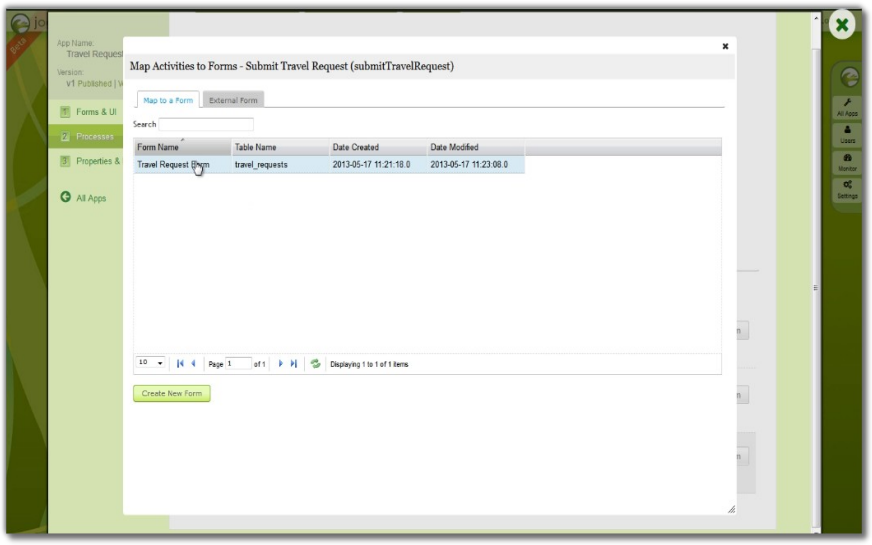


2. Participants defined in the process are listed in the **Map Participants to Users** tab, and you can map each participant to specific people. Click on **Add/Edit Mapping** to map to specific groups, users, organization chart, etc. If no mapping is done for a participant, any tasks are automatically defaulted to the current user instead.

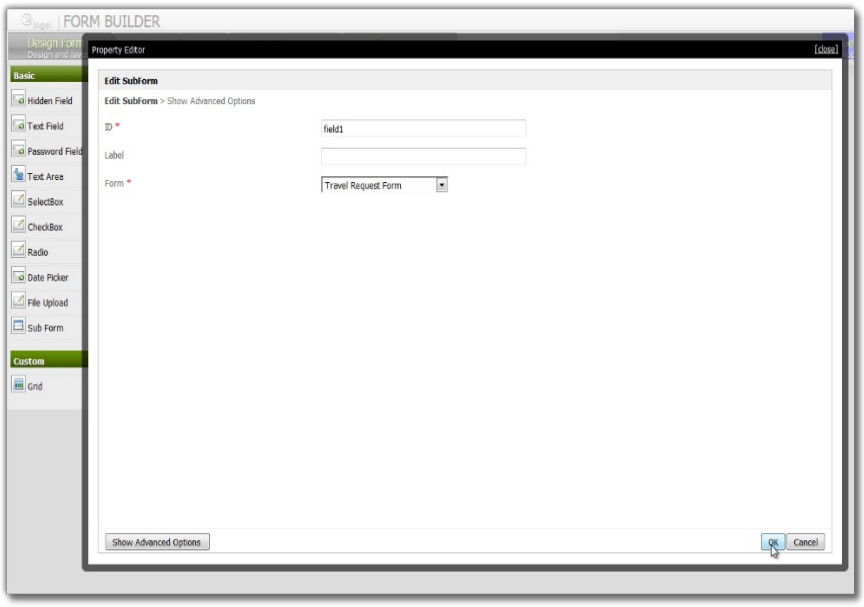


4.6.3 Mapping Activities to Forms

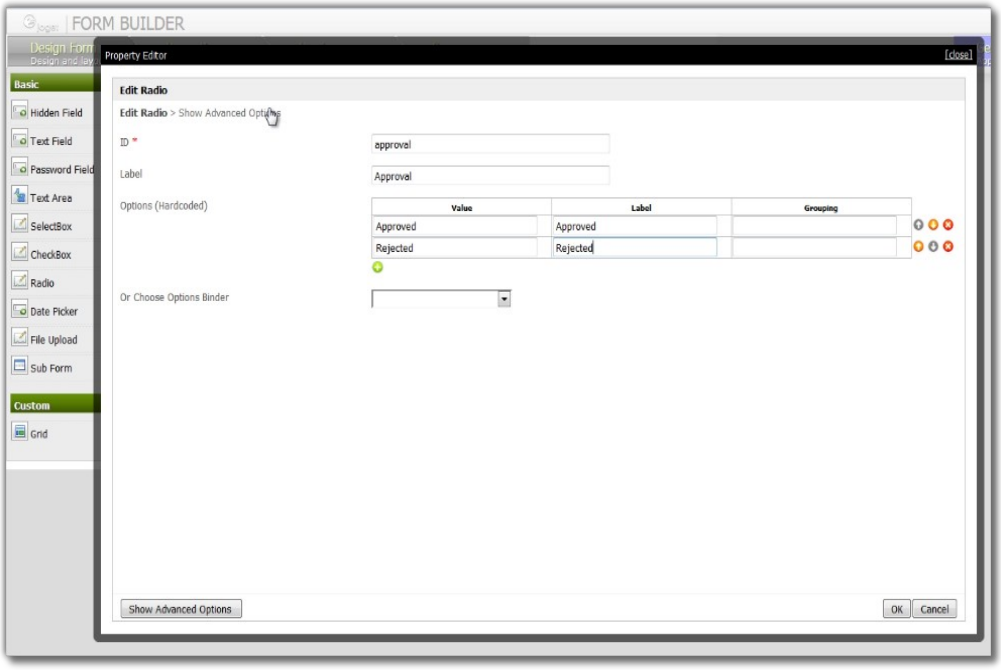
1. In the **Map Activities to Forms** tab, all process activities are listed.
2. For each activity, click on **Add/Edit Form** to select from a list of current forms in the app.



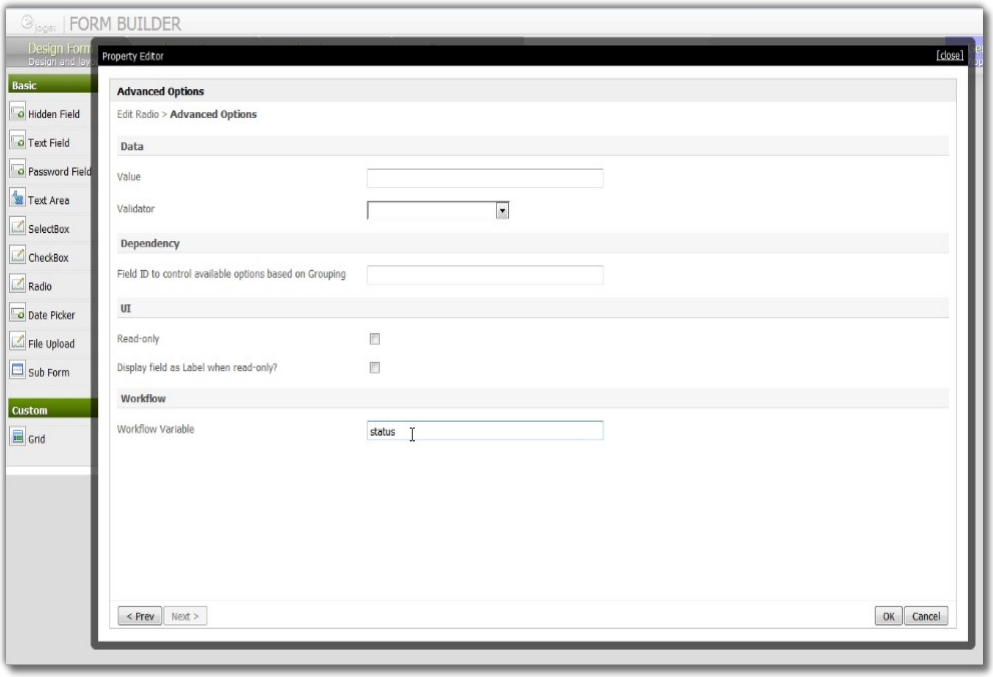
3. As an example to handle an approval process, click on **Create New Form** to create a new approval form. In this new form, add a **Subform** that displays the original submitted form, and **radio** buttons to capture the approval status.
4. Configure this subform to select the original request form.



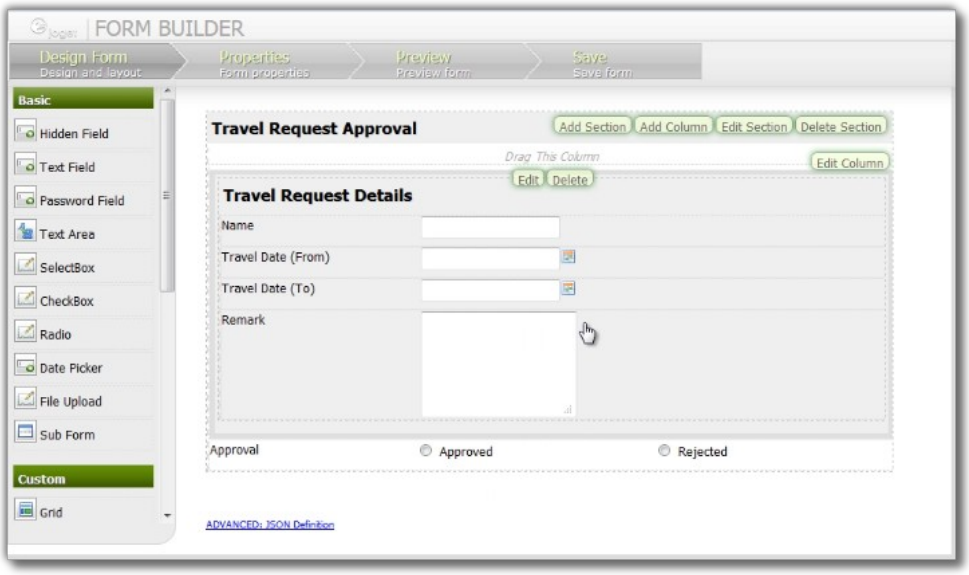
5. Configure the **status** radio button to have Approved and Rejected options.



6. For routing purposes, an important setting in the radio button is the mapping to a **workflow variable** under **Advanced Options**. In this case, setting the mapping to **status** means that the value will be stored in the **status** workflow variable.

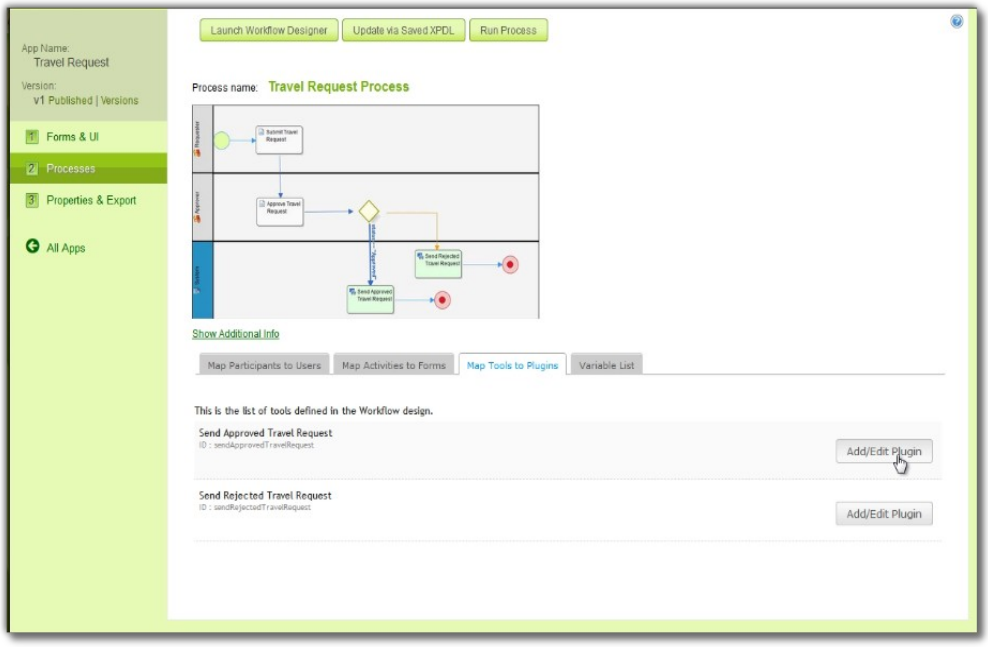


7. After all the configuration, the new approval form should look similar to the following screenshot:

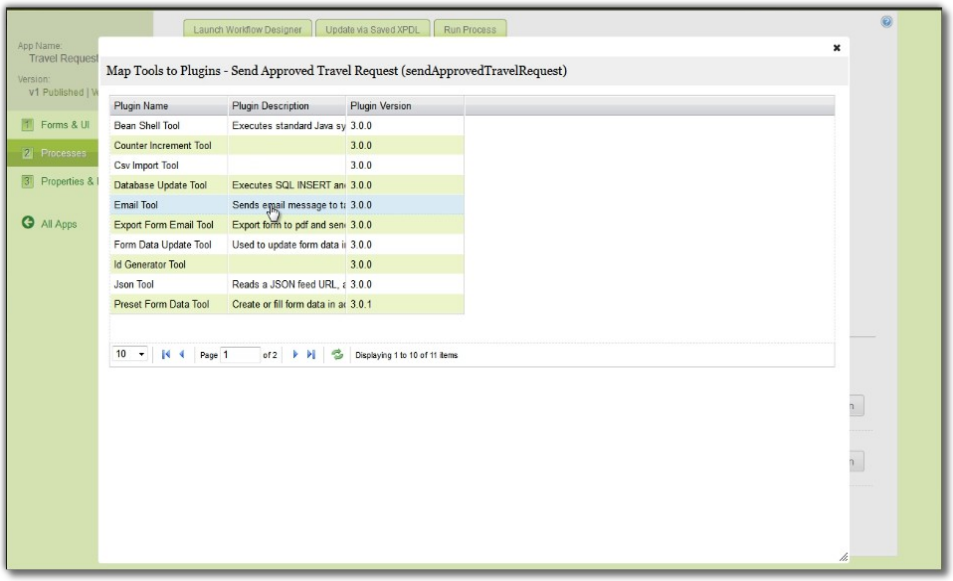


4.6.4 Mapping Tools to Plugins

1. In the **Map Tools to Plugins** tab, you can map tools defined in the process to plugins.

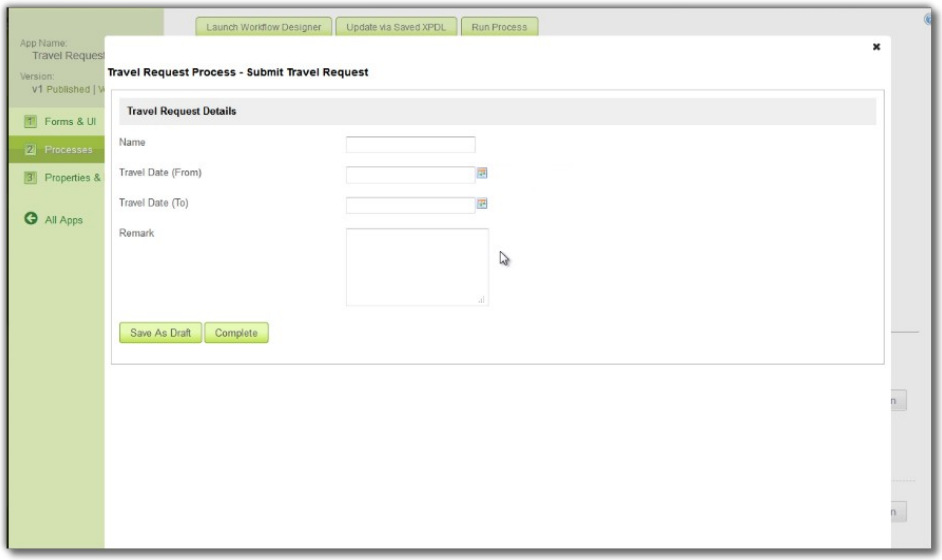


2. For each tool, click on **Add/Edit Plugin** to select and configure a plugin.



4.6.5 Test Driving the Process

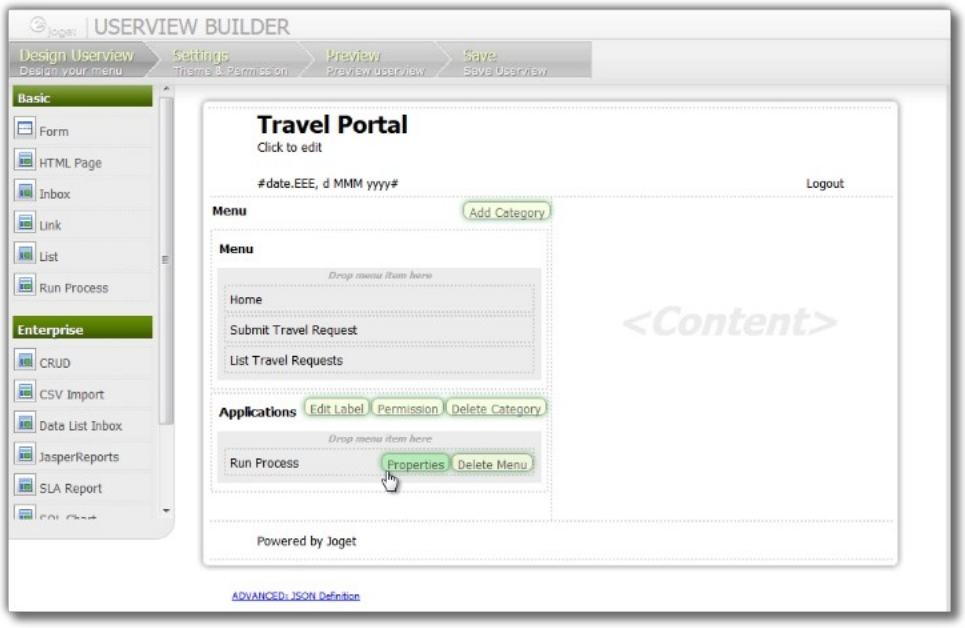
1. To perform a test run on a process, click on the **Run Process** button along the top of the App design process page.



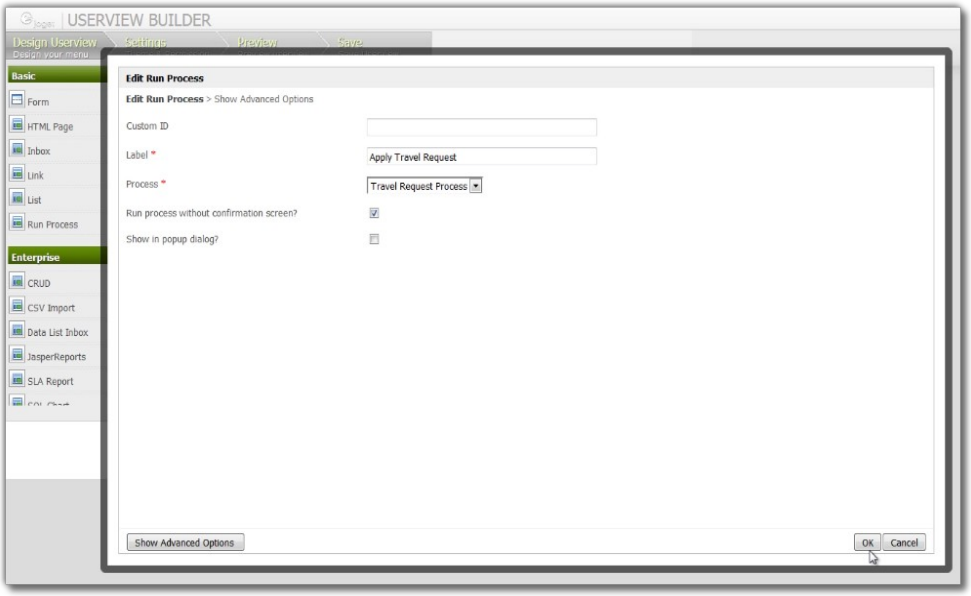
4.6.6 Incorporating the Process into the Userview

1. In the App design page, click on the name of an existing userview to launch the Userview Builder.

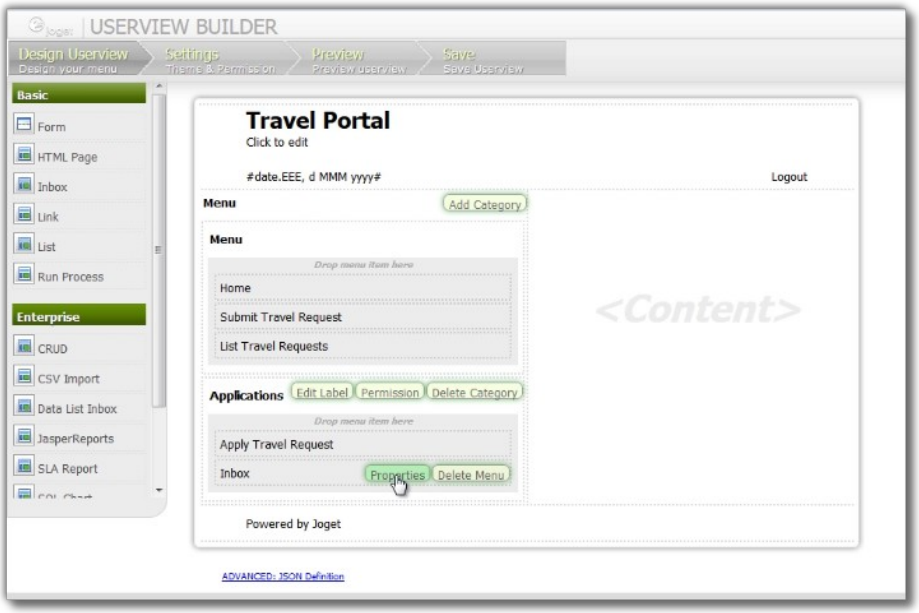
2. Drag a **Run Process** element into a menu category. This menu element allows the user to start a process from the userview.



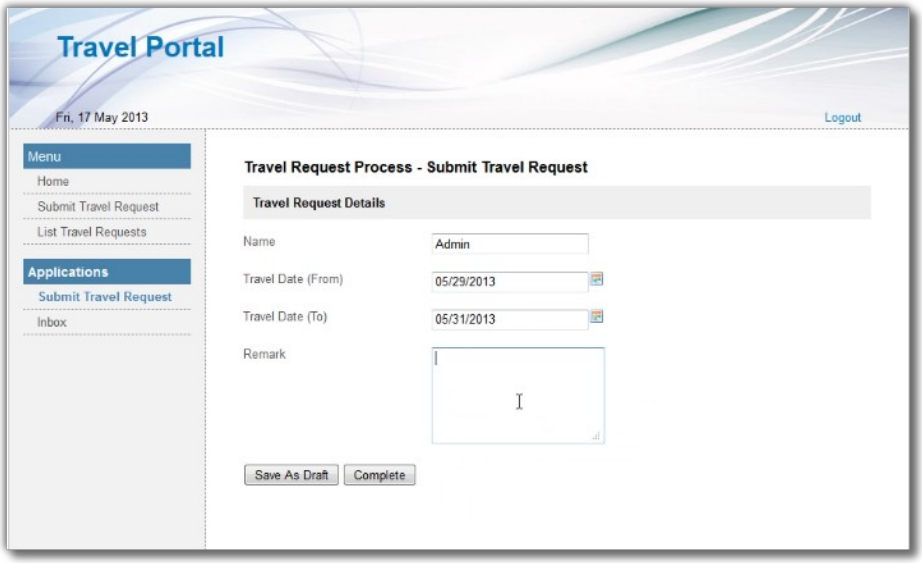
3. Click on **Properties** of the Run Process element and select the process to run.



4. Drag an **Inbox** element into a menu category. This menu element provides the user with an inbox to manage their assigned workflow tasks.

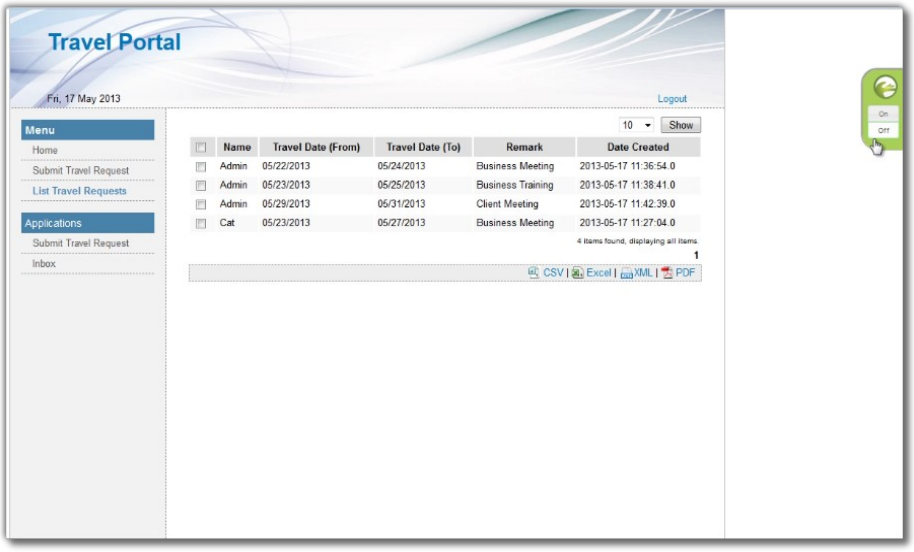


5. Save the userview, and you will be able to run and perform assigned tasks in the published userview.

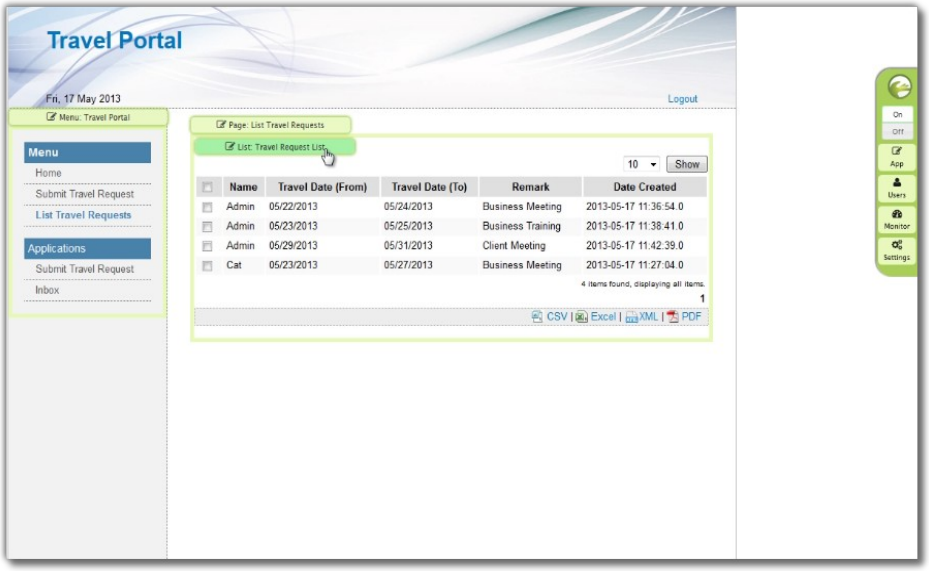


5. Managing Apps using the Quick Edit Mode

1. **Quick Edit Mode** is a new feature in v4 that allows administrators to identify forms, lists and menus directly from the front-end userview.
2. If you are logged in as an administrator, you will see a minimized **Admin Bar** on the right with buttons to toggle Quick Edit Mode **On** or **Off**.

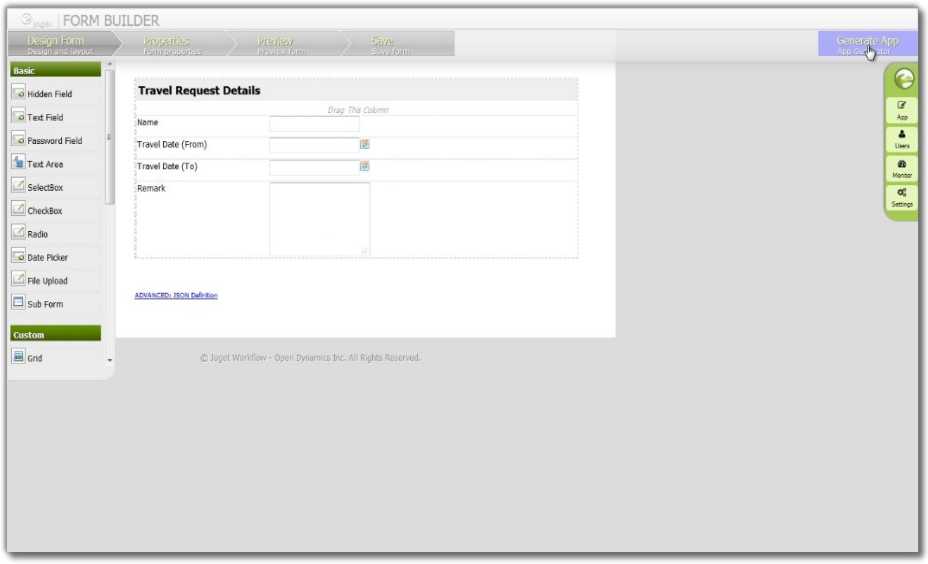


3. Once Quick Edit Mode is enabled, elements within the userview page are highlighted with green Quick Edit buttons. Clicking on the button will launch the respective Builder in a new window.

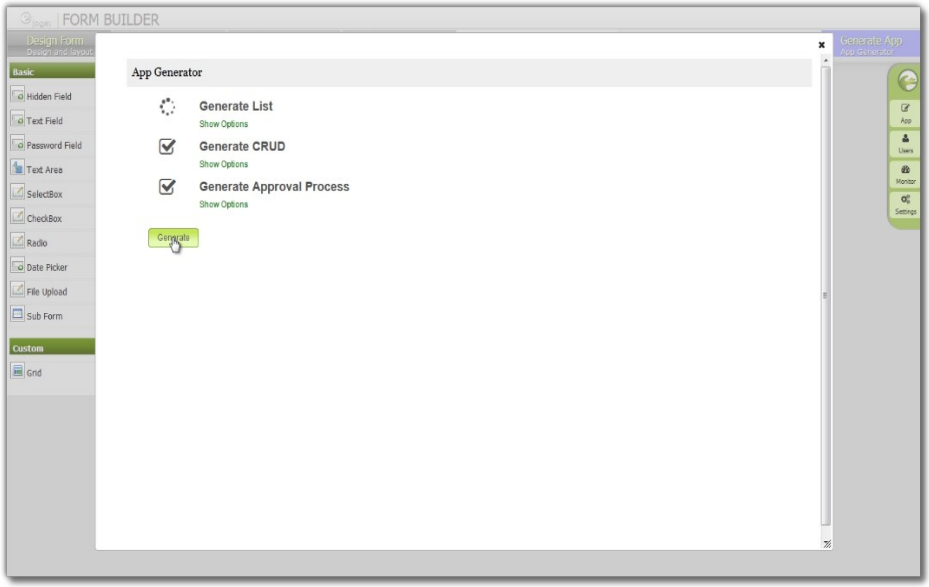


6. Generating Apps from a Form Using the App Generator

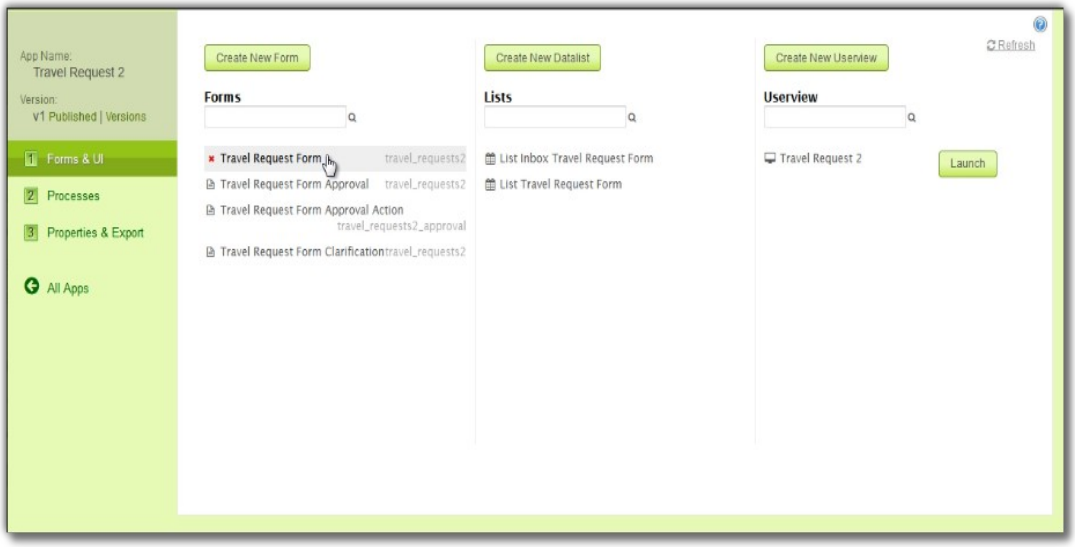
1. The **App Generator** is a new feature in v4 that greatly accelerates the building of an app. Using the App Generator, you can generate lists, CRUD (Create-Read-Update-Delete), a generic approval process and a Twitter Bootstrap themed userview directly from a form.
2. To use the App Generator, click on the large **Generate App** button on the top right of the Form Builder. Make sure that the form is saved first.

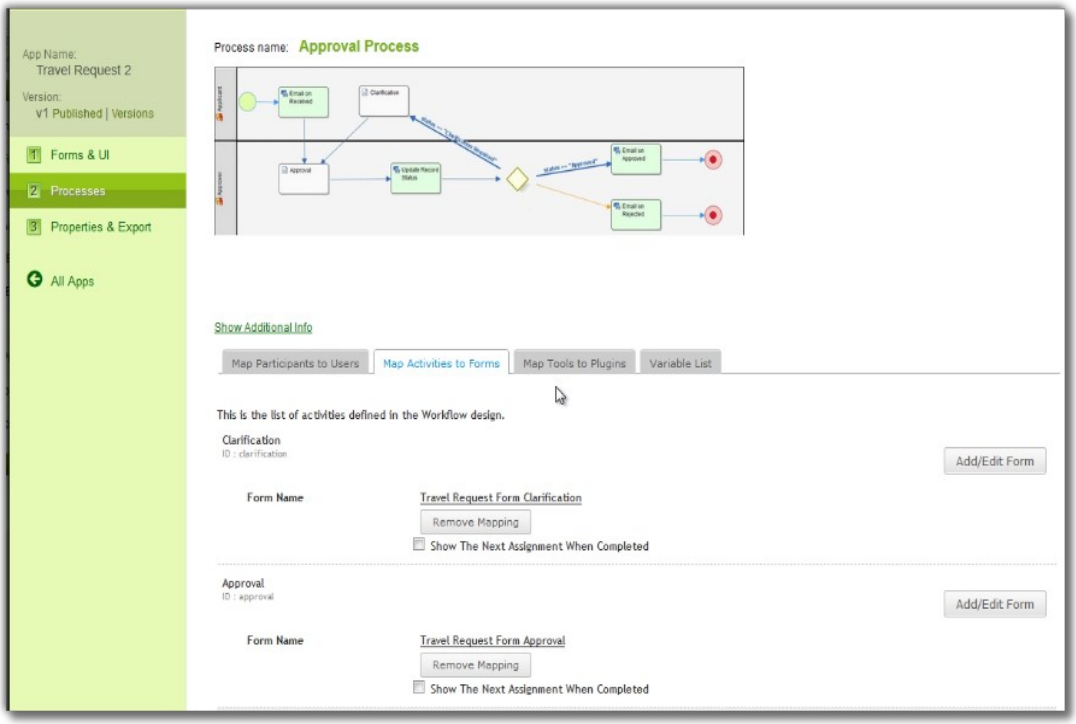


3. The App Generator dialog will offer options to Generate List, Generate CRUD and Generate Approval Process. Select each one and click on **Generate**.

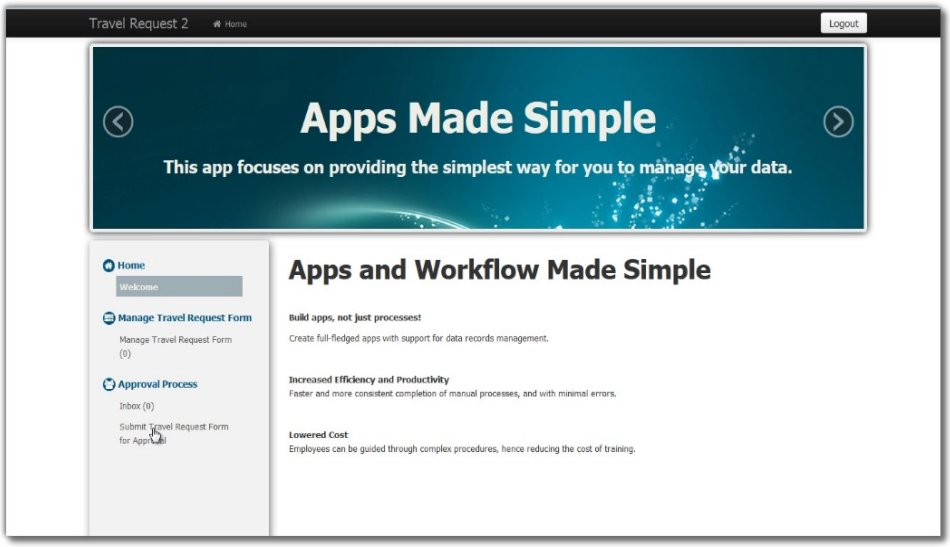


4. Once the generation is complete, reload the App design page and you will see a number of auto generated forms, lists, userviews and a process.





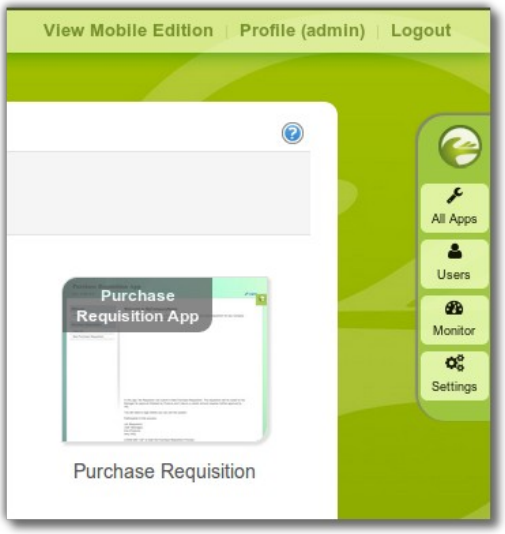
5. The generated app is automatically published, and you will be able to launch the app from the App Center.



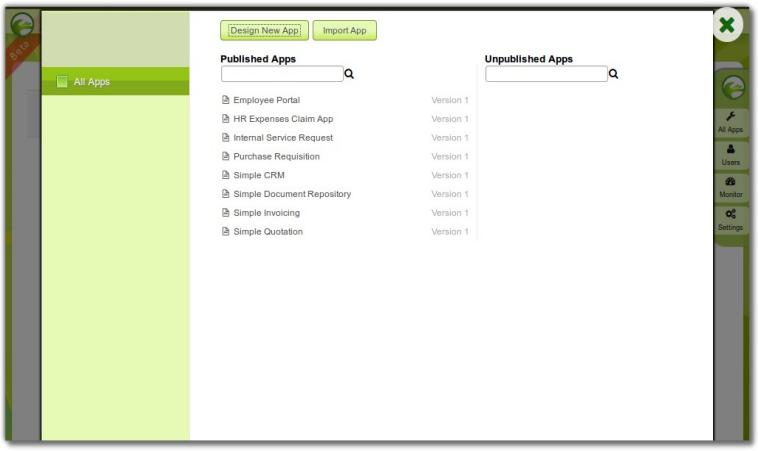
7. Importing and Exporting Apps

7.1 Importing an App

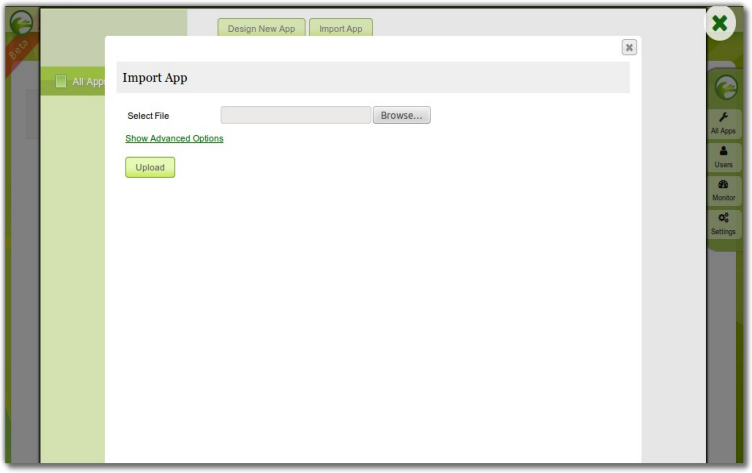
1. Joget apps are packaged files that contain form, datalist, userview and process definitions. Apps can be exported from another Joget installation, or downloaded from the **Joget Marketplace**.
2. To import an app, first login to the **App Center** as an administrator.
3. In the **Admin Bar** on the right, click on **All Apps**.



4. In the **All Apps** page, click on the **Import App** button along the top.

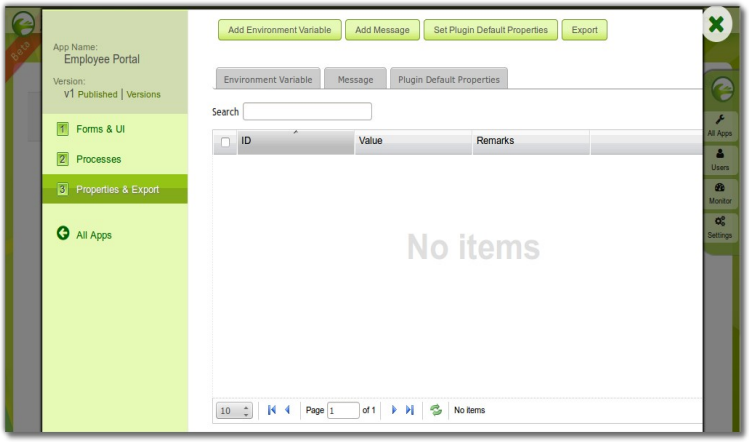


5. In the Import App dialog, select the app file, and click on **Upload**.



7.2 Exporting an App

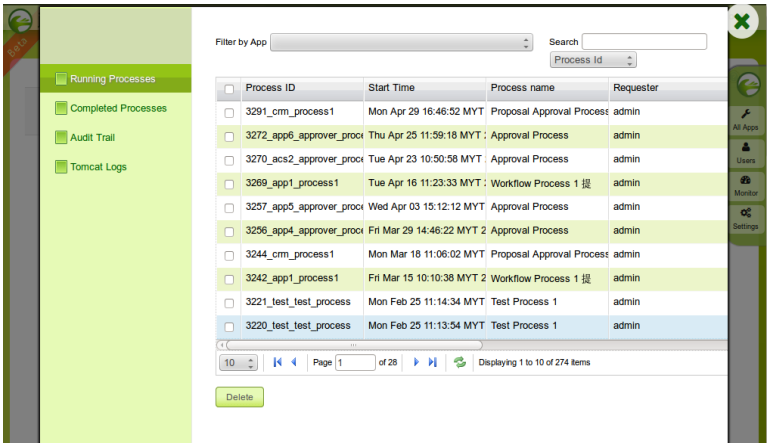
1. To export an app, first login to any userview in the current app as an administrator.
2. In the **Admin Bar** on the right, click on **App**, and select **Properties & Export** on the left.



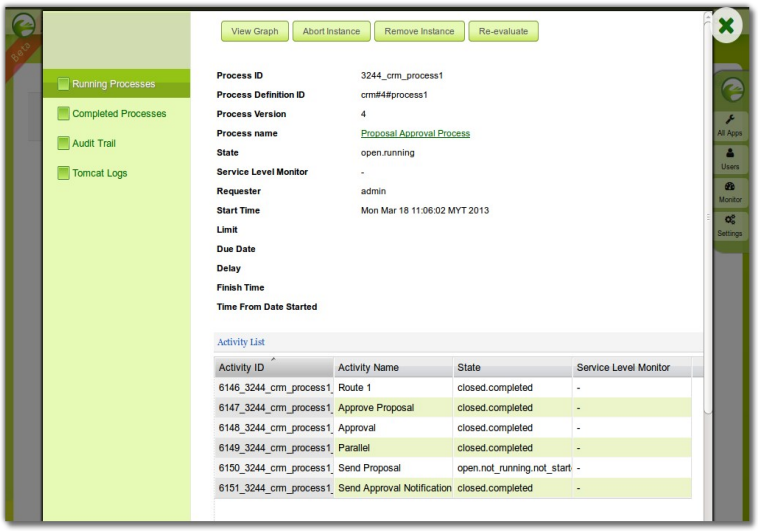
3. Click on the **Export** button along the top, and the exported app will be downloaded as a ZIP file.

8. Monitoring Apps

1. For monitoring purposes, administrators are able to track state of all processes.
2. In the **Admin Bar** on the right, click on **Monitor**.
3. The **Running Processes** and **Completed Processes** menus on the left show a list of running and completed processes respectively.



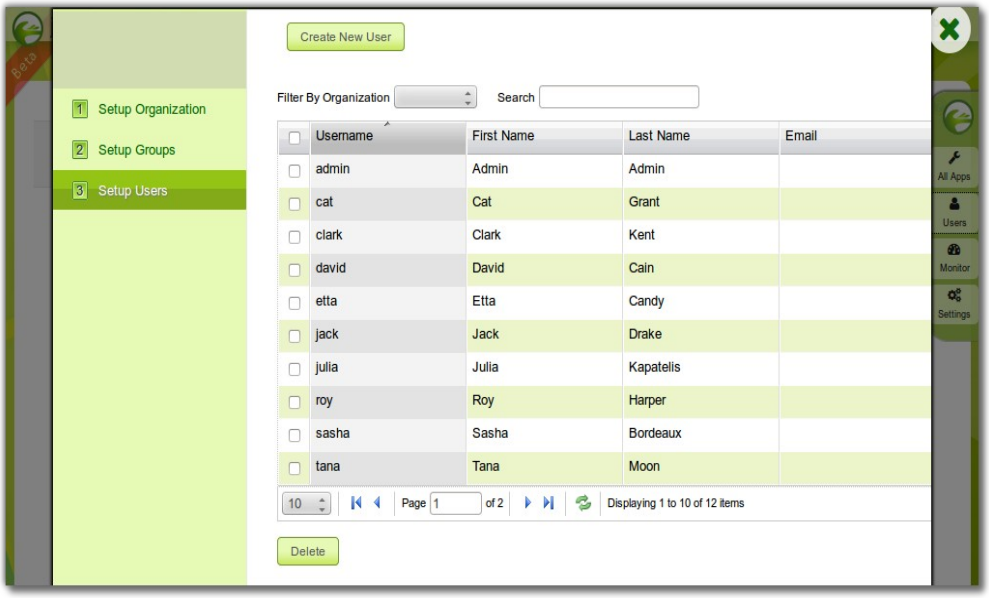
4. Clicking on a specific process brings up the details of the process, along with a list of all the past and current process activities.



5. The **Audit Trail** menu on the left displays a list of audit trail information which includes user authentication.
6. The **Tomcat Logs** menu on the left provides a way for administrators to directly download the Tomcat log files for troubleshooting purposes.

9. Managing Users

1. Joget allows the setup of one or more **organizations** which contain **departments**, **grades**, and reporting structure. **Groups** are also available as an informal grouping or categories of users.
2. In the **Admin Bar** on the right, click on **Users**.
3. There are menu options on the left to **Setup Users**, **Setup Groups** and **Setup Organizations**.



4. Integration to external directory systems such as LDAP or Active Directory are also available via plugins. This can be configured by selecting Directory Manager Settings after clicking on the **Settings** button of the Admin Bar.

10. Additional Resources

Joget Official Website

http://www.joget.org

Joget Knowledge Base and Community Forums

http://community.joget.org

Joget Blog

http://blog.joget.org

Joget Marketplace

http://marketplace.joget.org

Joget Translation Site

http://translate.joget.org

Joget on Facebook

http://www.facebook.com/jogetworkflow

Joget on Twitter

http://www.twitter.com/jogetworkflow

Joget on YouTube

http://www.youtube.com/jogetworkflow