

IB Workflow System Tutorial

The IB Workflow System is a one-stop shop for accessing and integrating software tools that are used in projects and related workflows.

This tutorial discusses how to start and use the IB Workflow System.

INSTALLING THE IB WORKFLOW SYSTEM

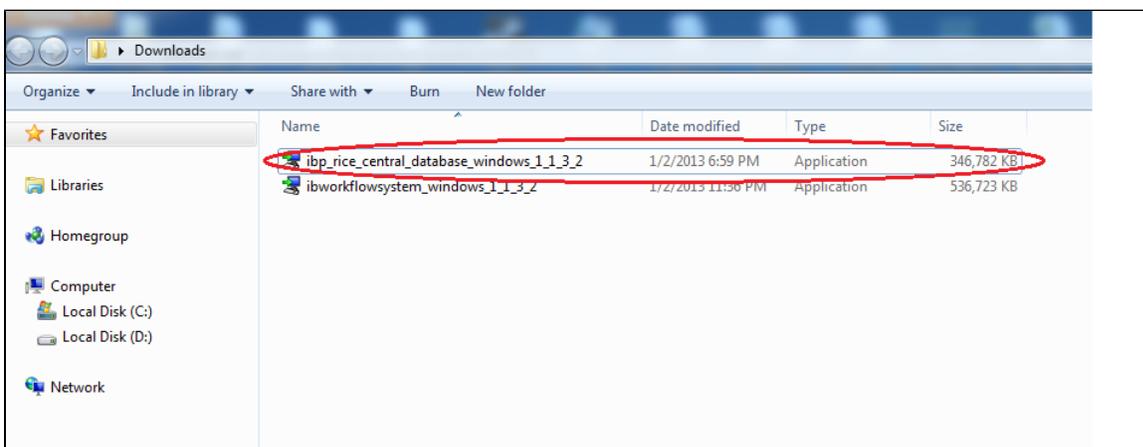
The installation of the Integrated Breeding Workflow System (IBWS) involves two steps. First the download and installation of the crop databases and, second the download and installation of the Workbench and tools.

Follow the steps listed below to install this tool, this tutorial assumes that you have downloaded/acquired the necessary installers:

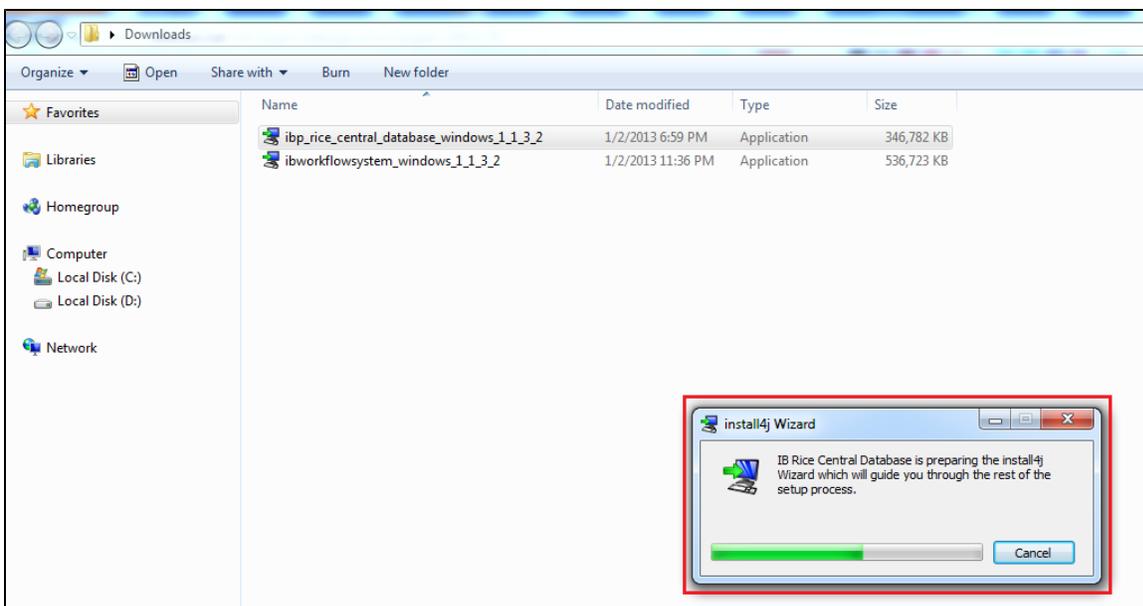
Crop Database Installation

1. Run the `ibp_[crop]_central_database_windows_[version].exe` installer.

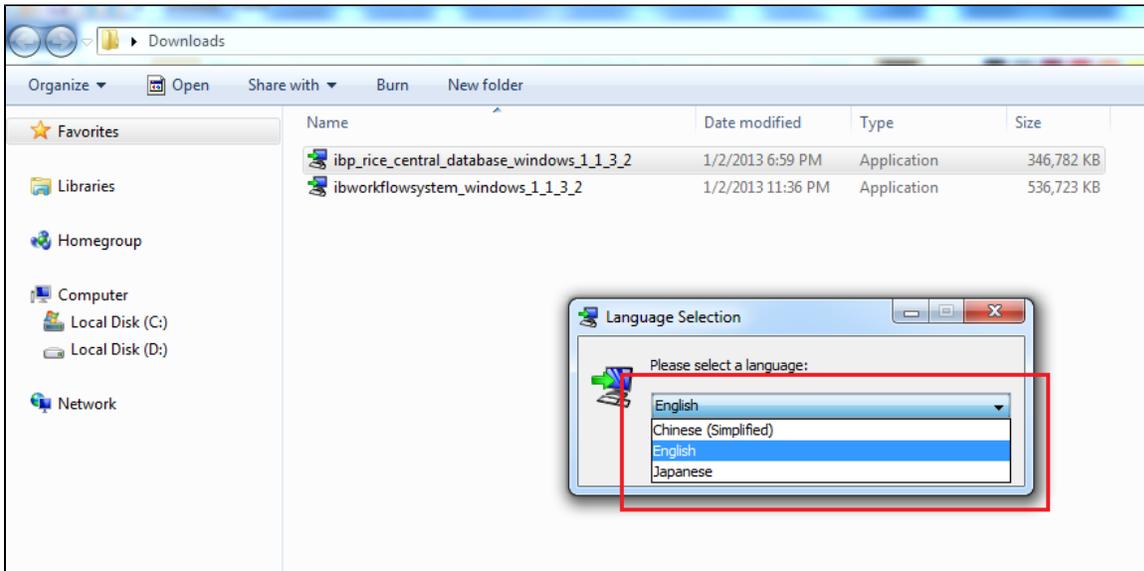
Note: where `[crop]` is the type of crop database you want to install. e.g `rice`, `wheat`, `cassava`, etc.



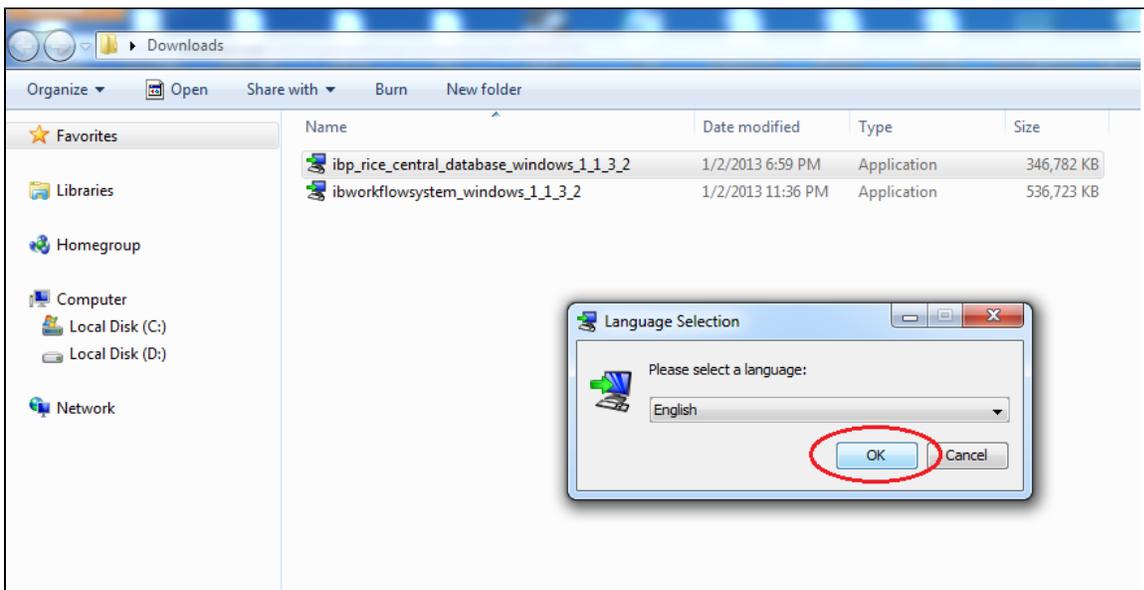
After running the installer, a progressbar window will pop-up, indicating the preparation of the setup process.



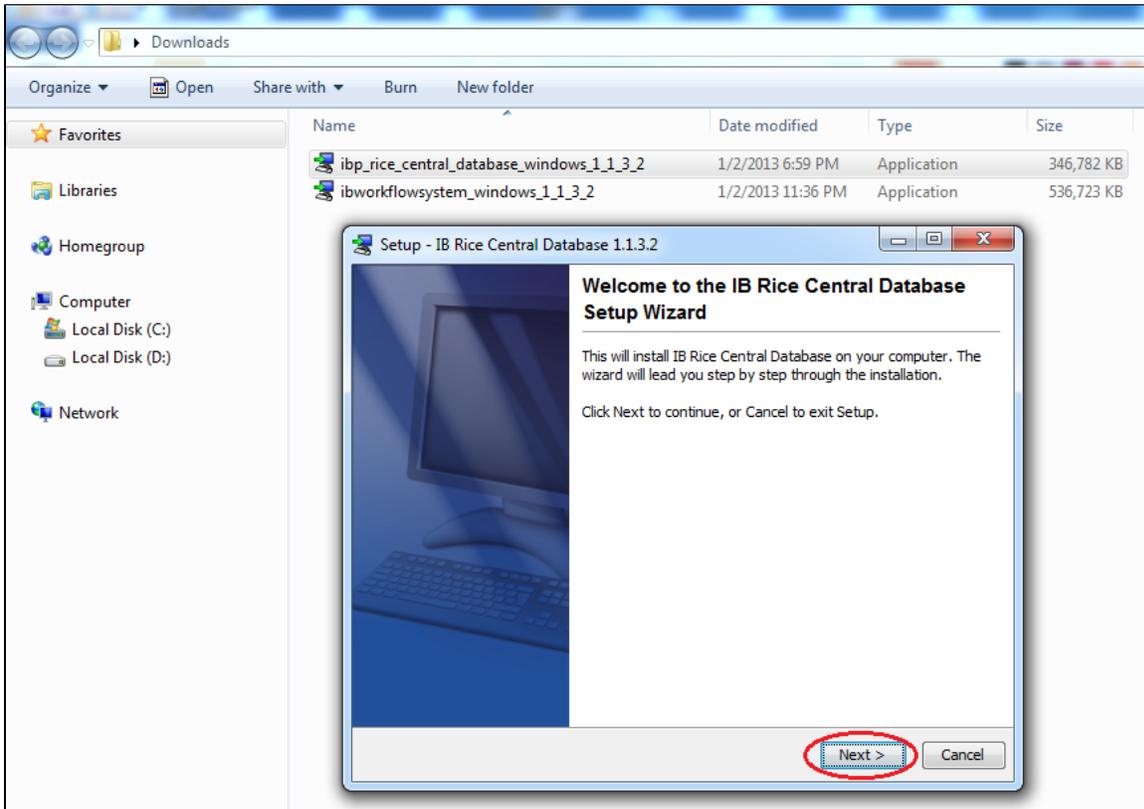
2. Next, **select the language** for the setup process.



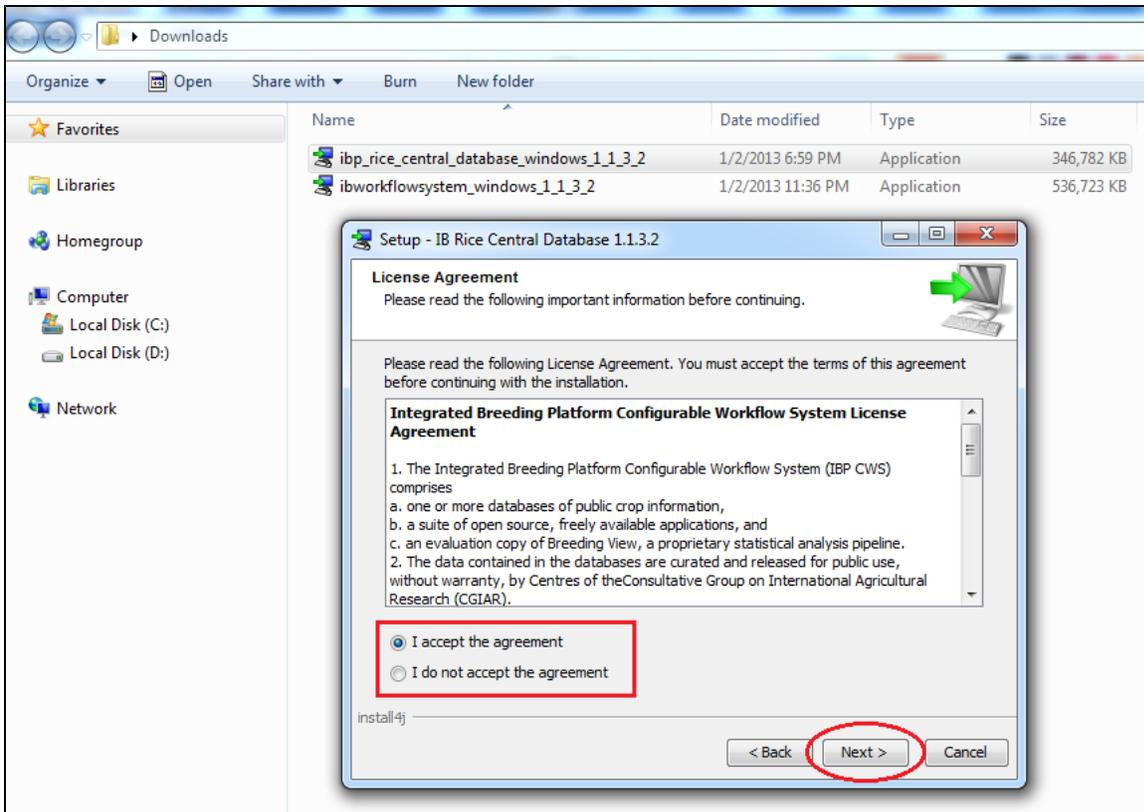
3. After selecting a language, click **OK**.



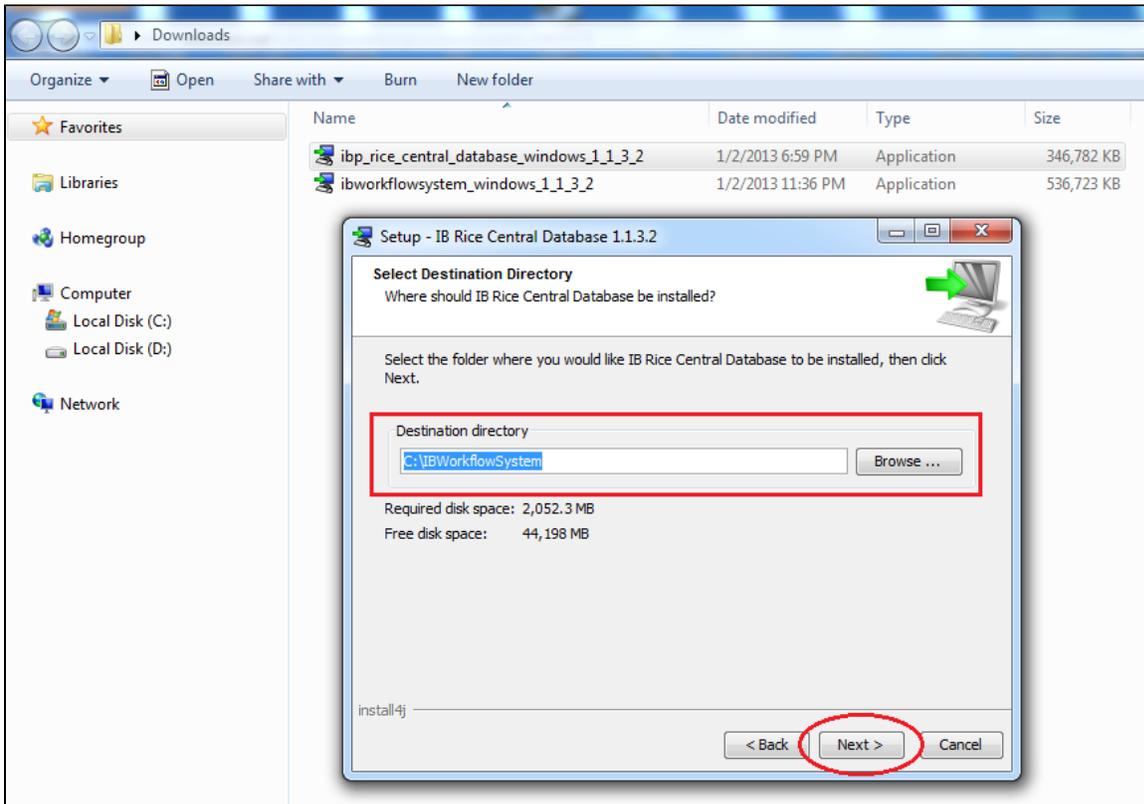
4. For the next step, click **Next**.



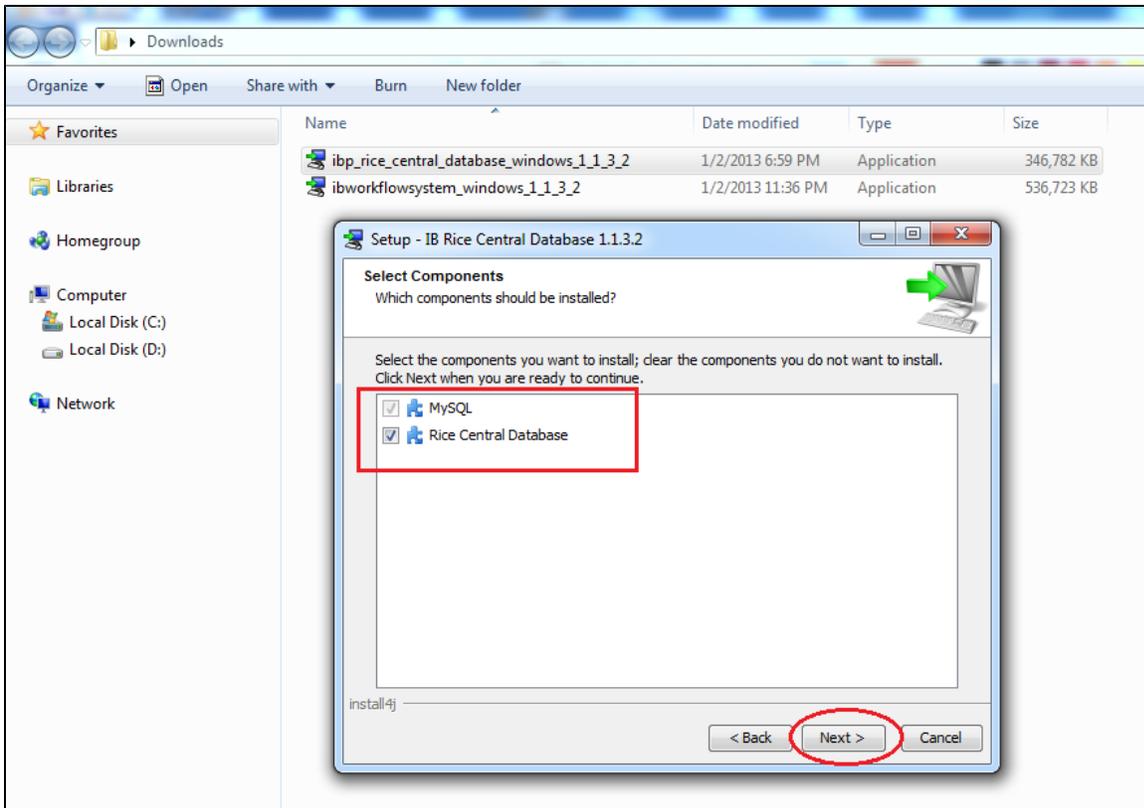
5. Read the License Agreement, select "I accept the agreement" on the checkbox and click **Next**.



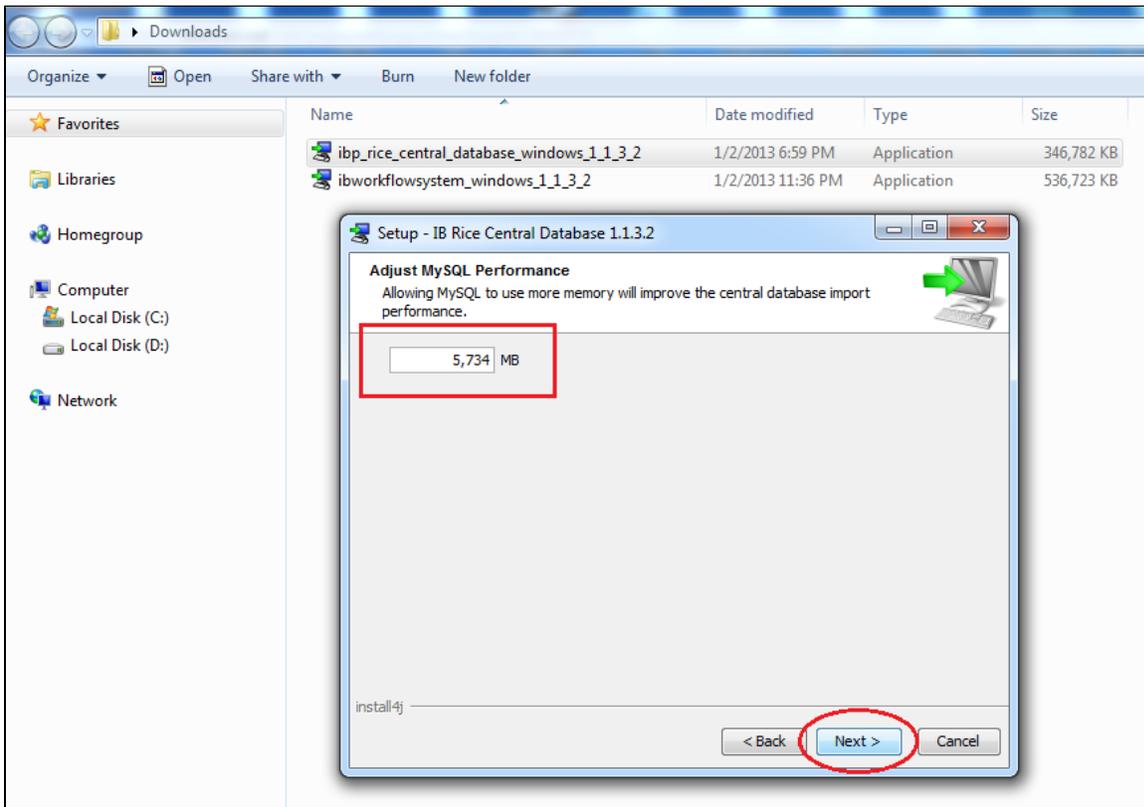
6. Enter the desired directory for the installation or use the **default**, then click **Next**.



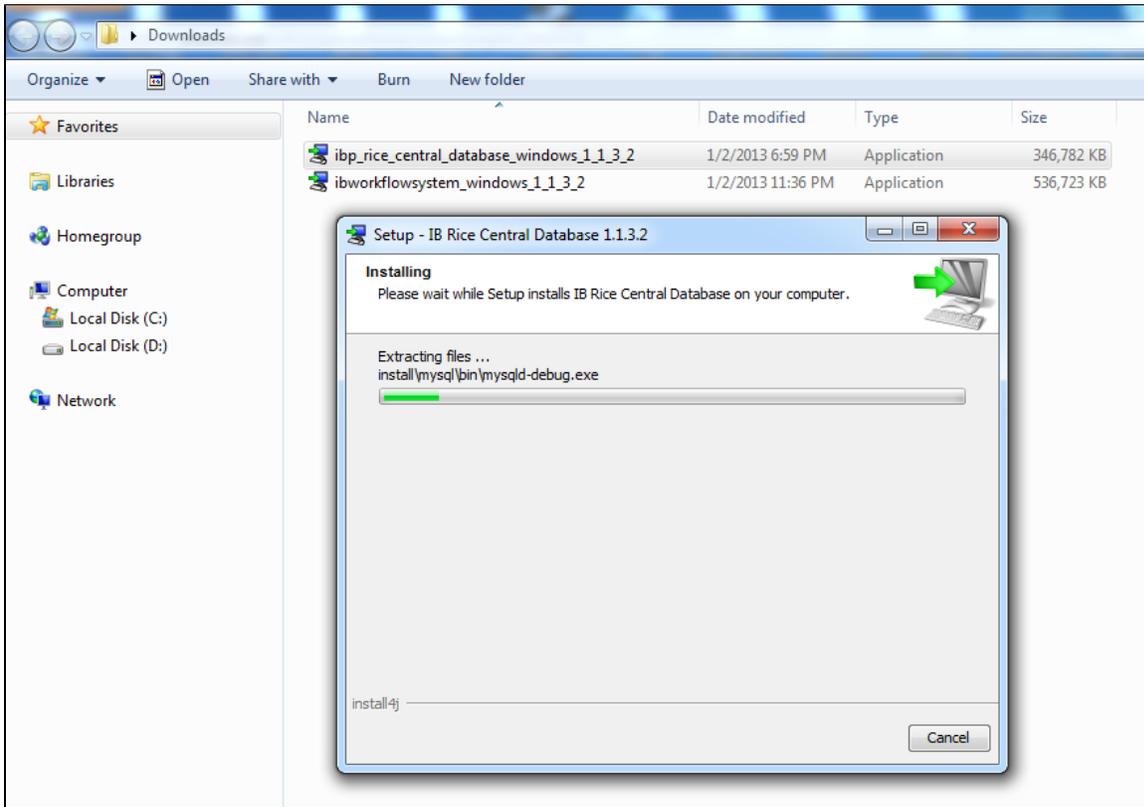
7. Make sure that the crop database of interest is selected on the check box, then click **Next**.



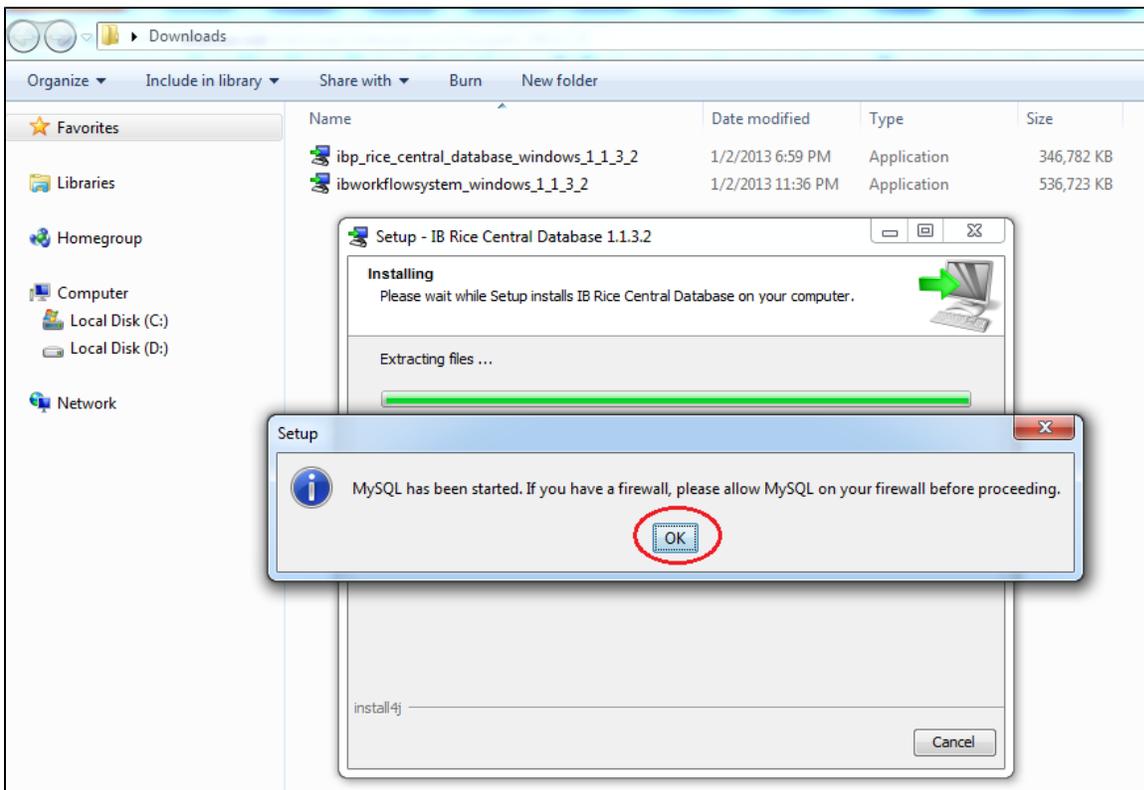
8. For advanced users, you may modify the size of memory used for importing the central database. If not leave as **default** and click **Next**. The more memory you set for this, the faster the loading of the database. Take note of the RAM your system has and don't exceed that memory size.



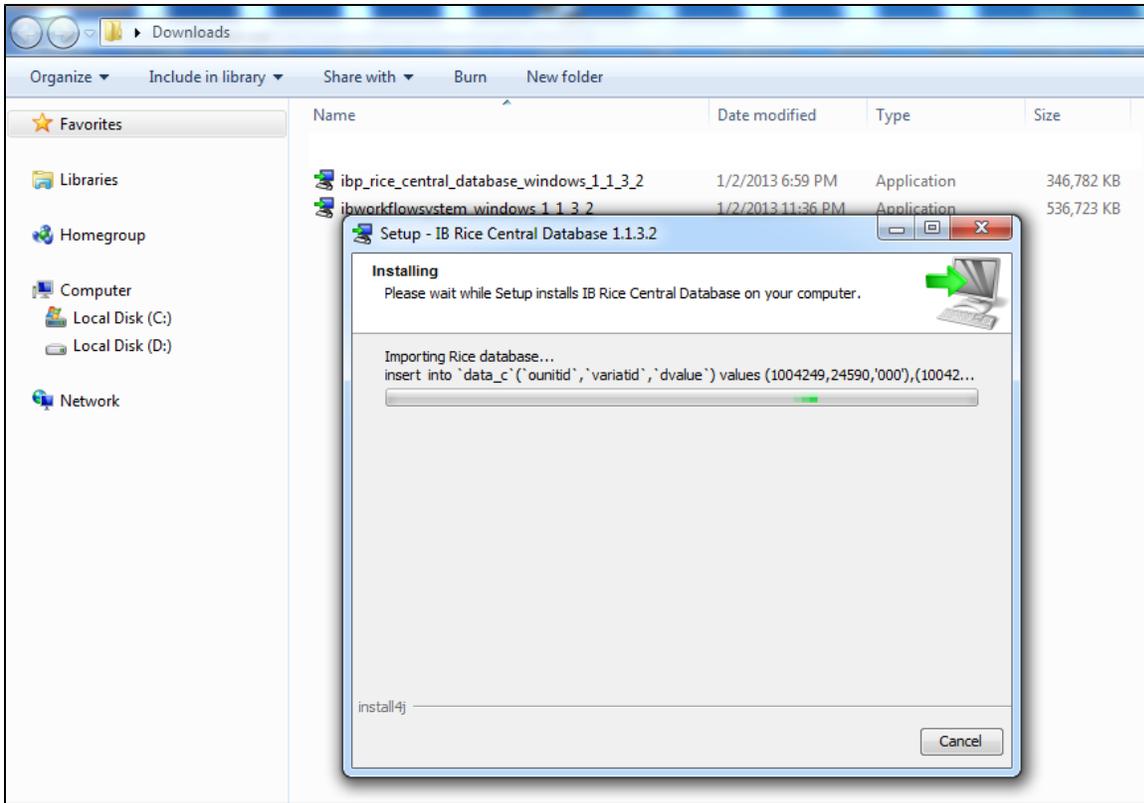
9. Please wait while the installation is in progress, you may click **Cancel only** if you wish to **stop** the whole setup process.



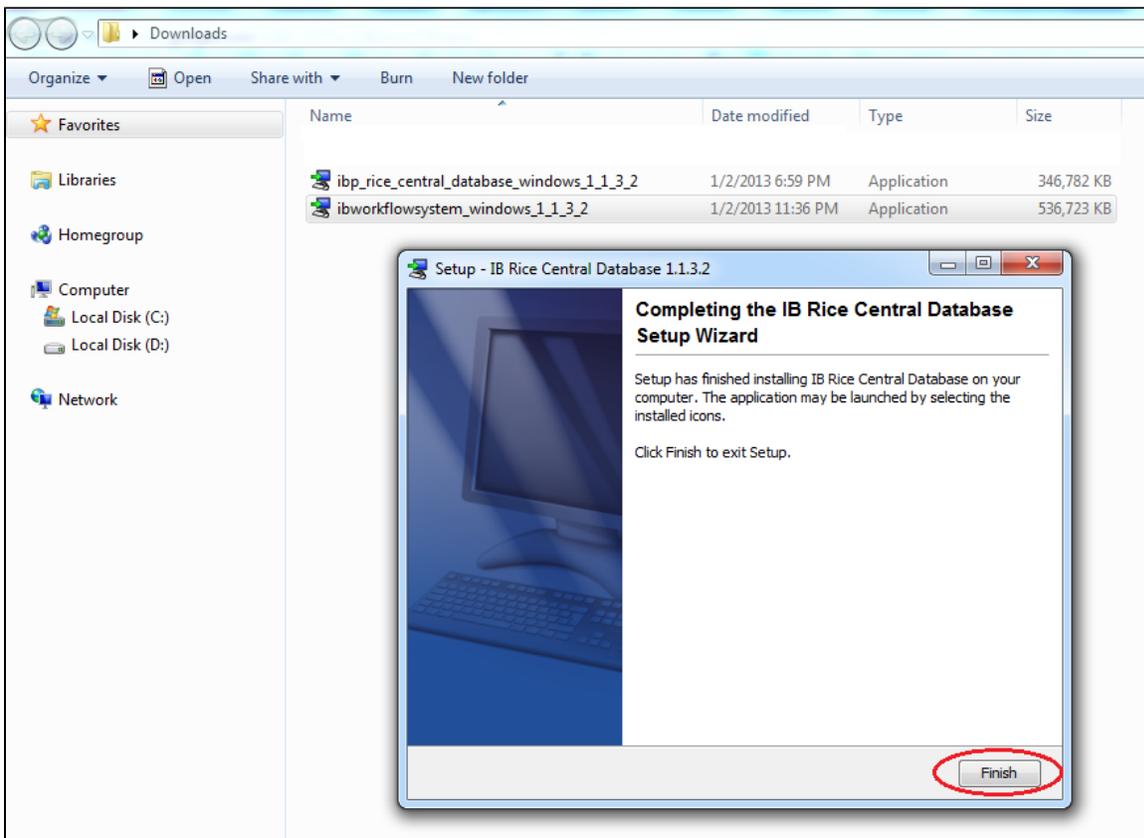
10. Make sure that you allow the MySQL on your firewall.
A different window will be displayed for this and you just have to select that you allow the MySQL process to run.
Then you can click **OK** on the message window displayed by the installer (shown below).



11. Wait for the installation of the central database to finish, click **Cancel** only if you wish to stop the installation process.



12. After the installation process, click the **Finish** button.

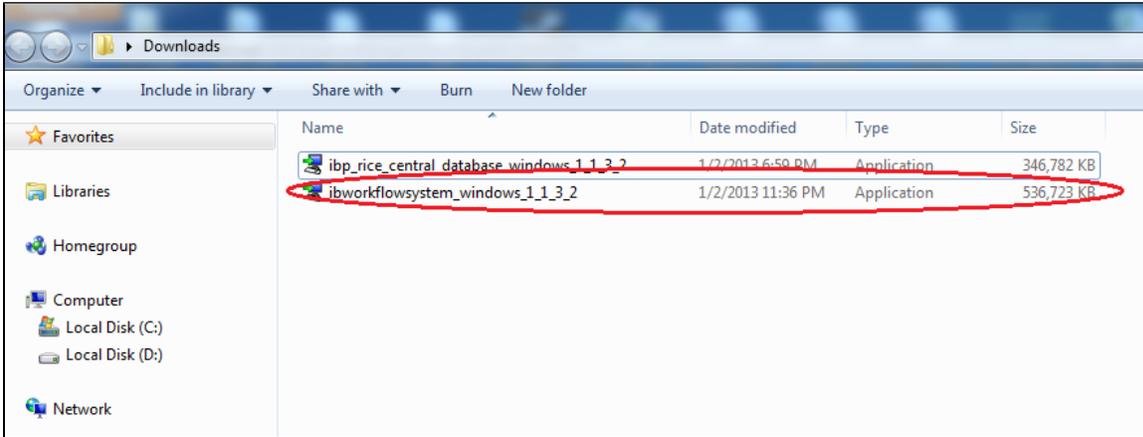


You have now **completed** the installation of your selected crop database.

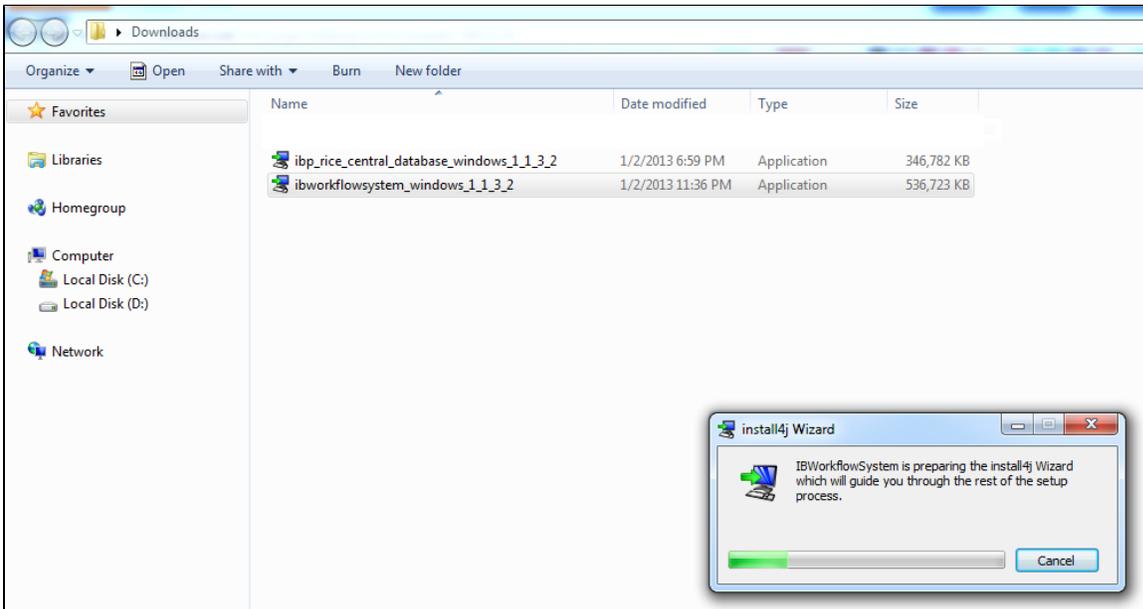
IB Workflow System Installation

Note: Before proceeding with the tutorial, make sure that you have the crop database installed. If not please follow the [Crop Database Installation](#) tutorial above.

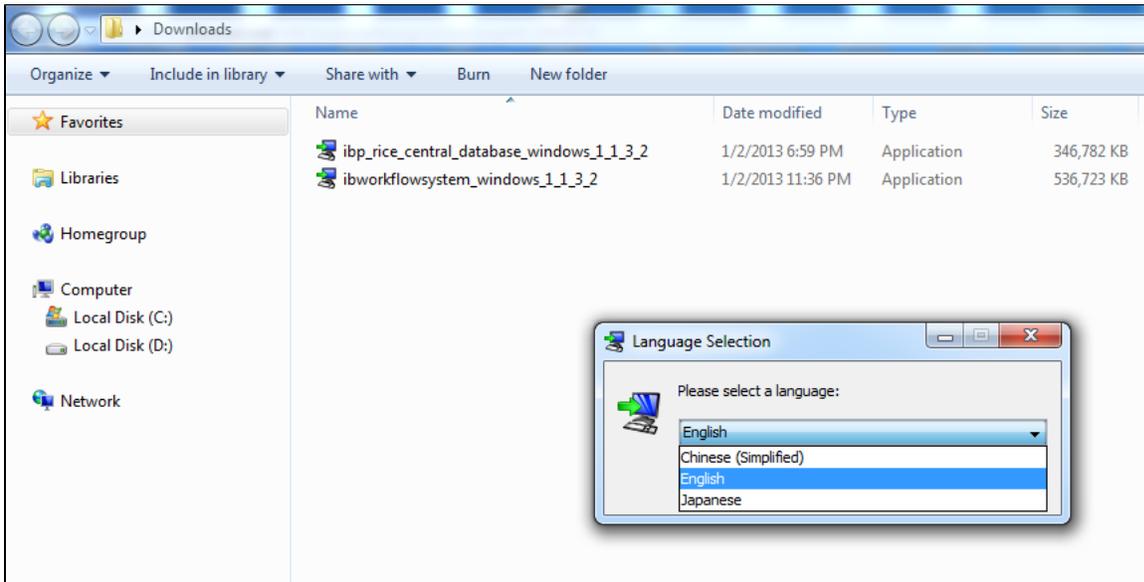
1. Run the `ibworkflowssystem_windows_[version].exe` installer.



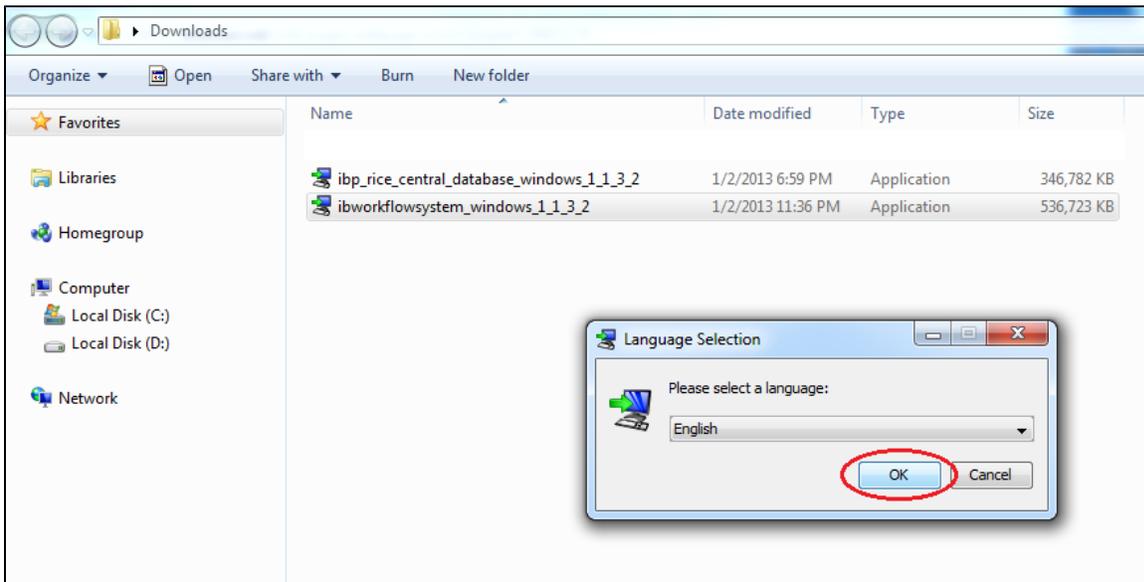
After running the installer, a progress bar window will pop-up, indicating the preparation of the setup process.



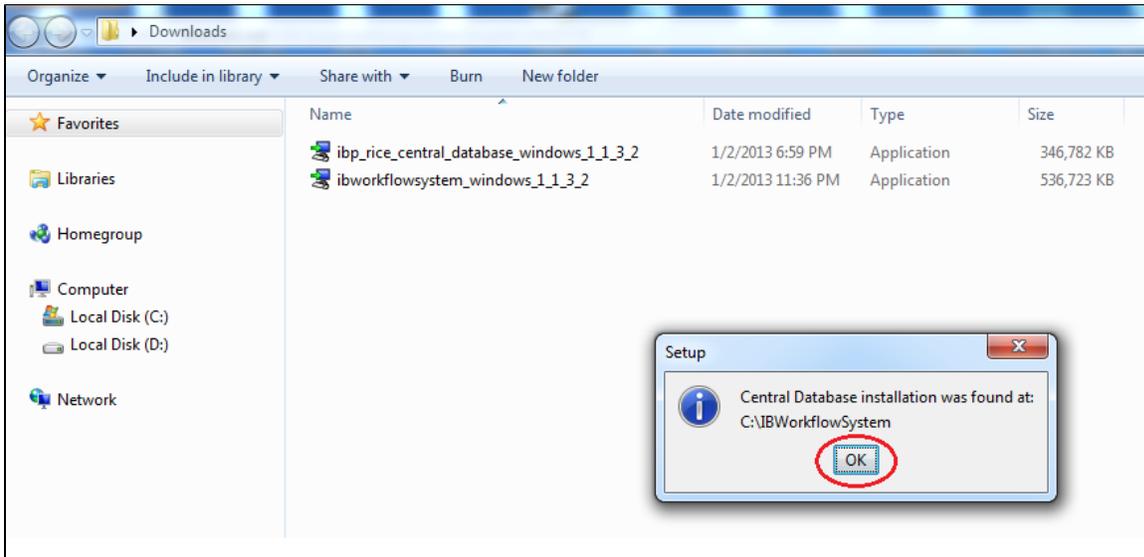
2. Next, **select the language** for the setup process.



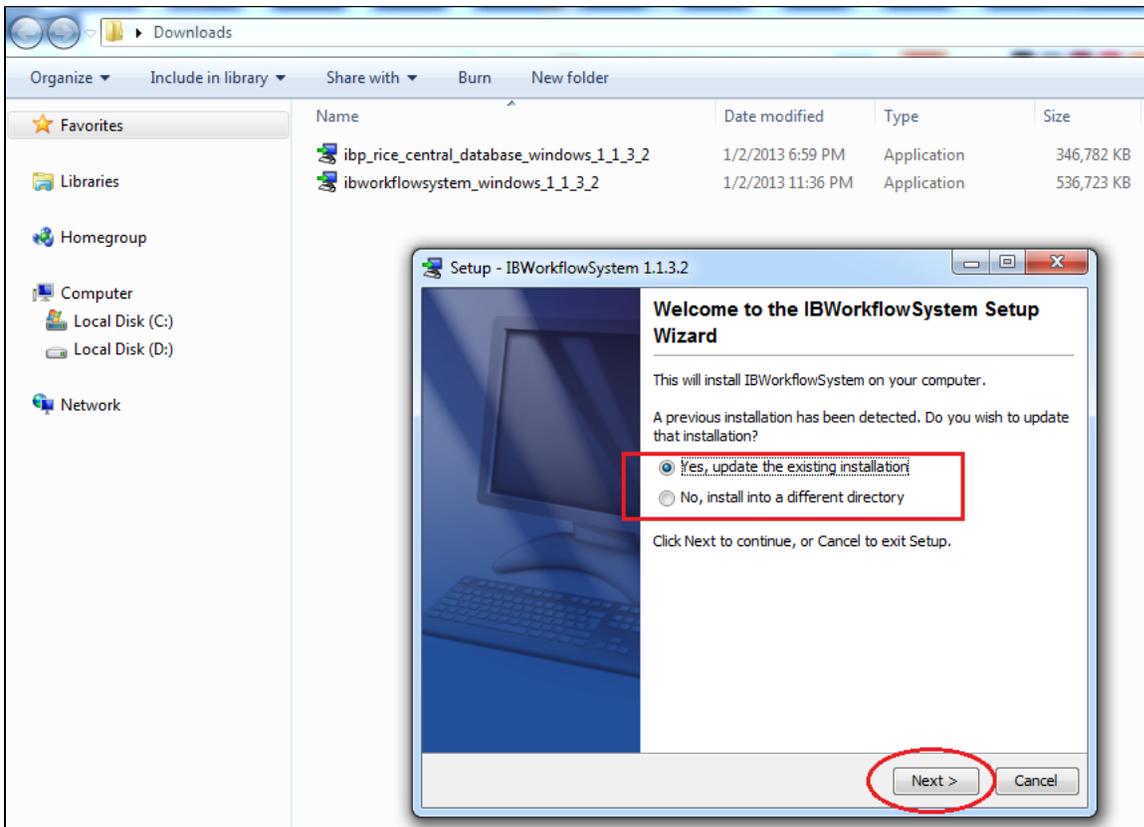
3. After selecting a language, click **OK**.



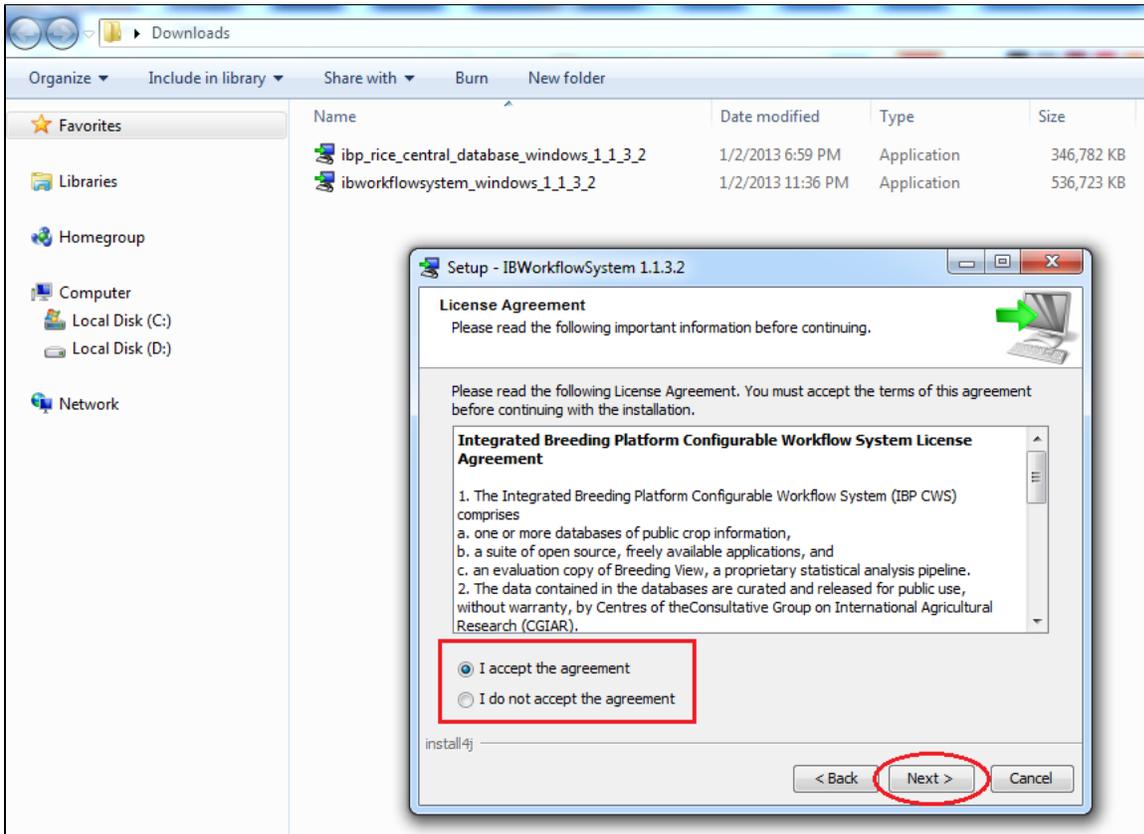
4. A notification window will pop-up displaying where a crop database was previously installed, after this just click **OK**.



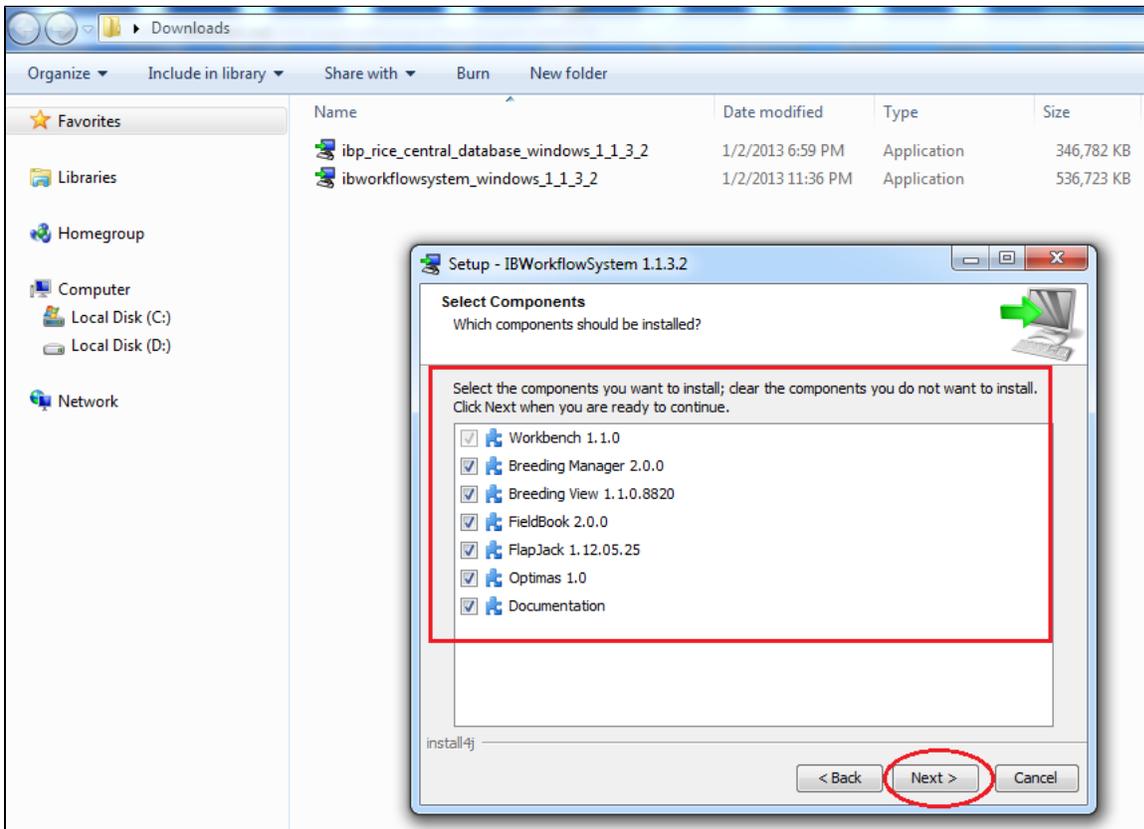
5. For this step, you may choose to update an existing installation or install on a different directory. For now choose to update an existing installation and click **Next**.



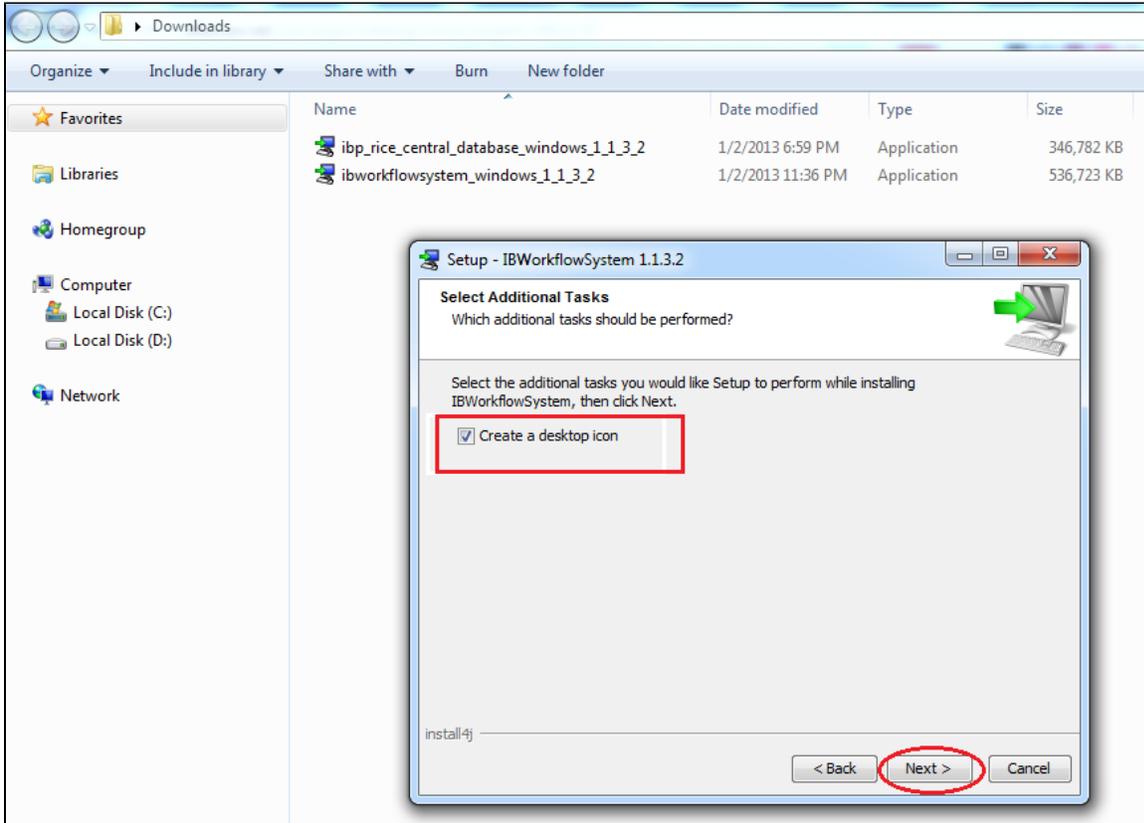
6. Read the License Agreement, select "I accept the agreement" on the checkbox and click **Next**.



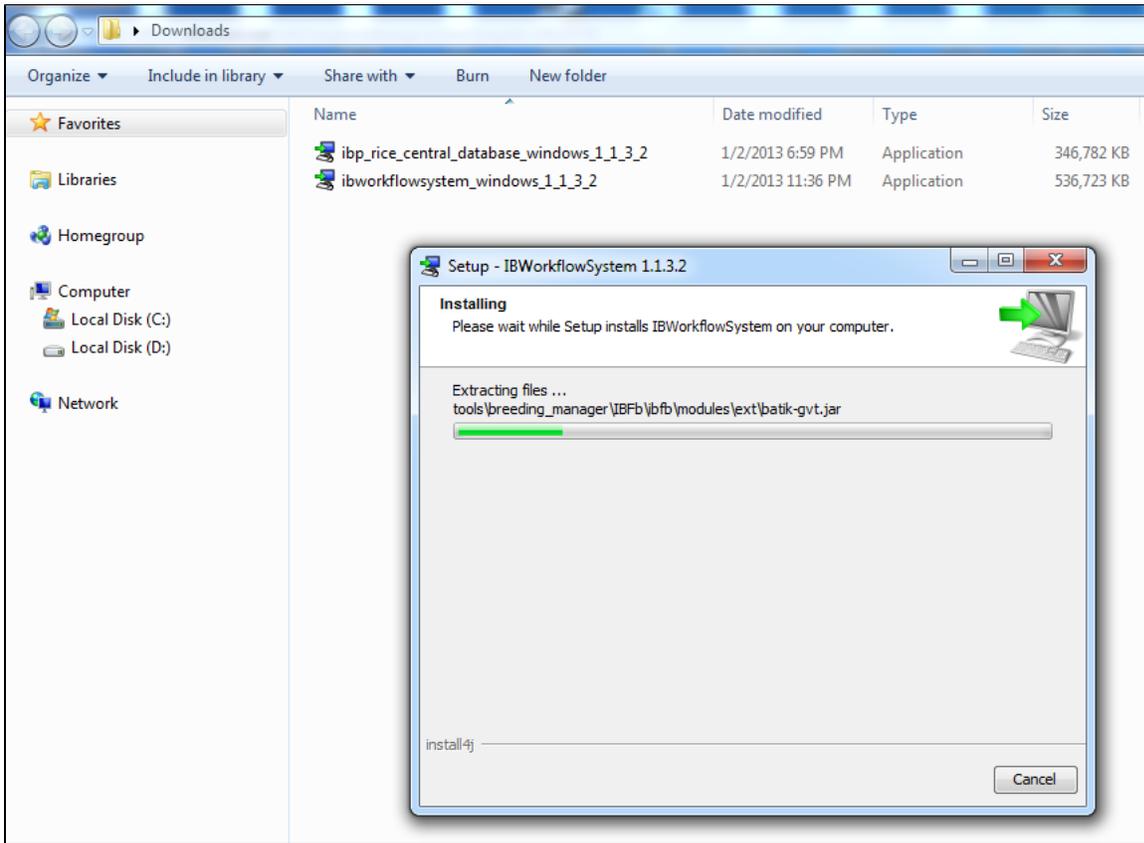
7. Select the tools you wish to be installed then click **Next**.



8. Select if you wish to have a desktop icon for the application then click **Next**.



9. Please wait while the installation is in progress, you may click **Cancel only** if you wish to **stop** the whole setup process.

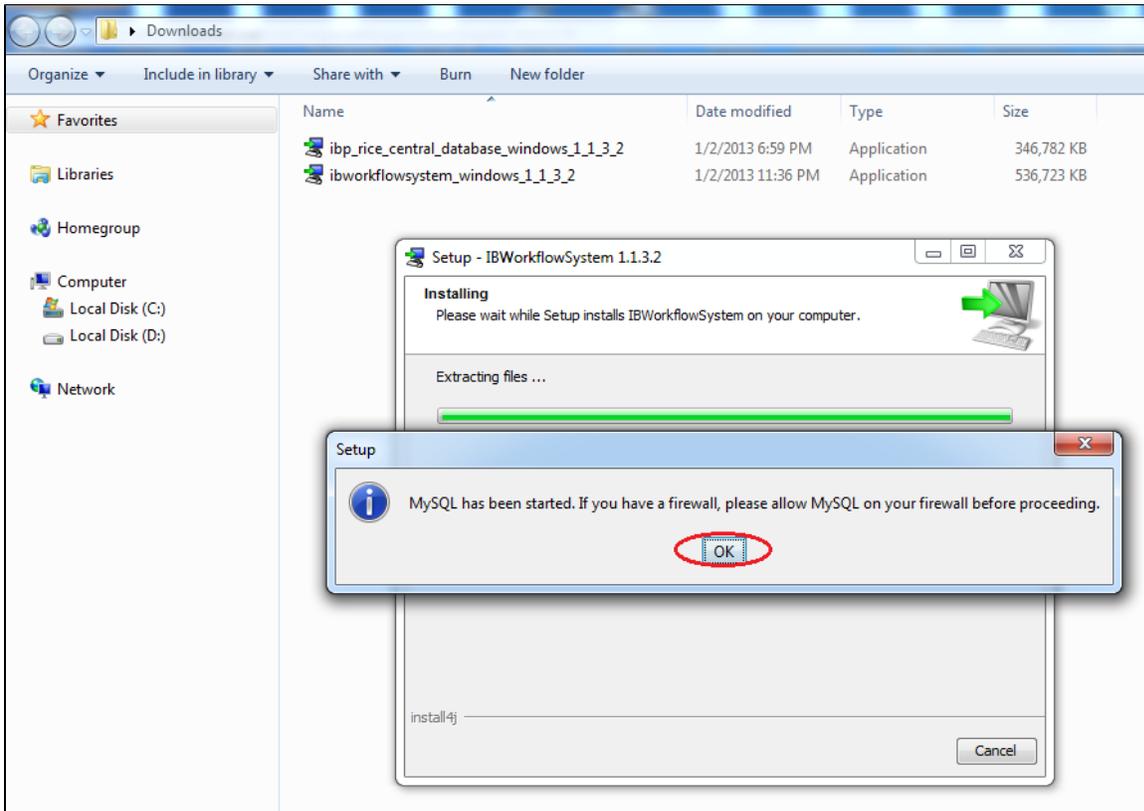


10. Make sure that you allow the MySQL on your firewall.

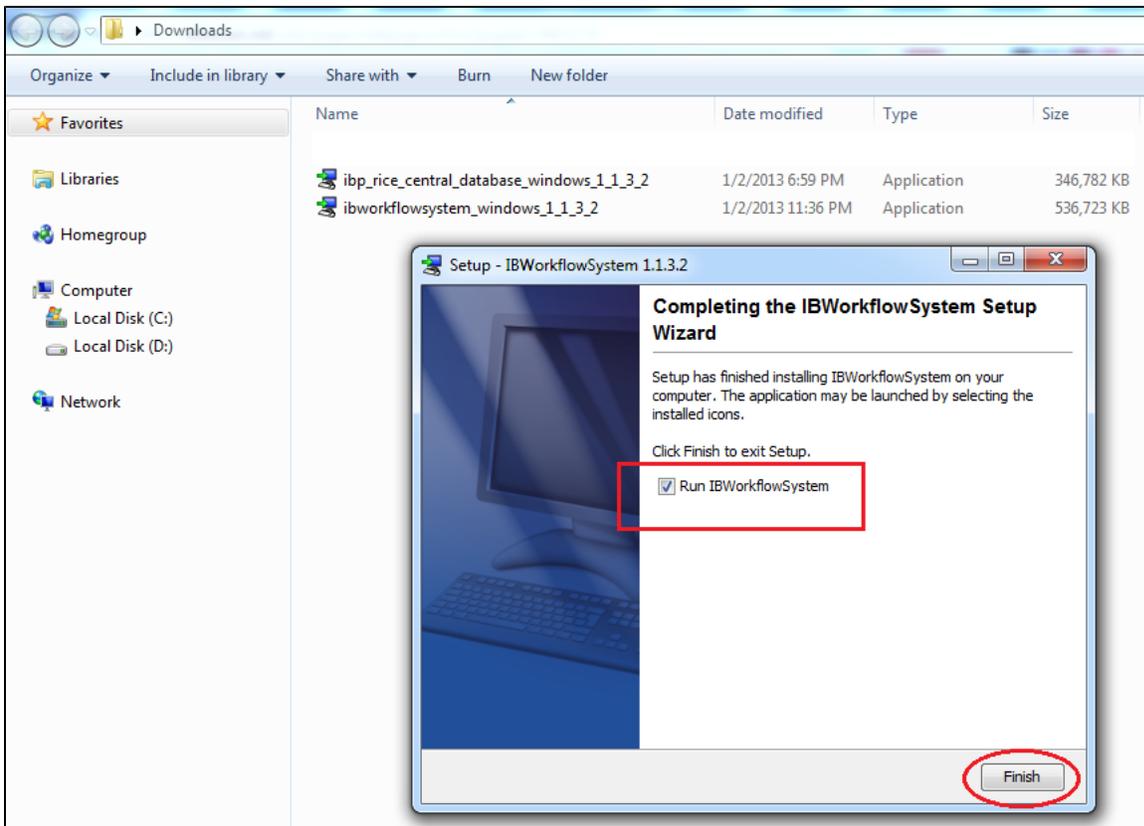
A different window will be displayed for this and you just have to select that you allow the MySQL process to run.

You don't have to do this again if you have already done it with the crop database installer.

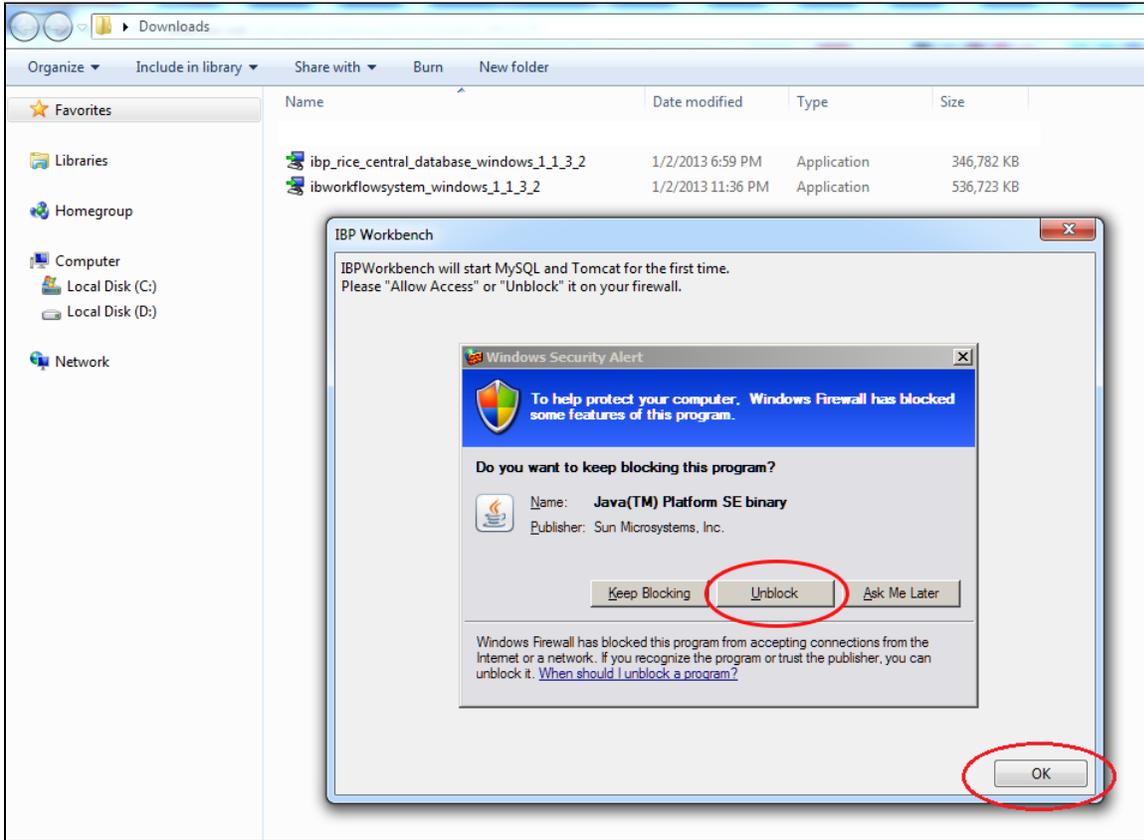
Then you can click **OK** on the message window displayed by the installer (shown below).



11. After the installation process, you may **choose** to Run the IBWorkflowSystem application. For now choose the **default** and click the **Finish** button.



12. After completing the installation, a notification window will appear. After reading this, click **OK**.



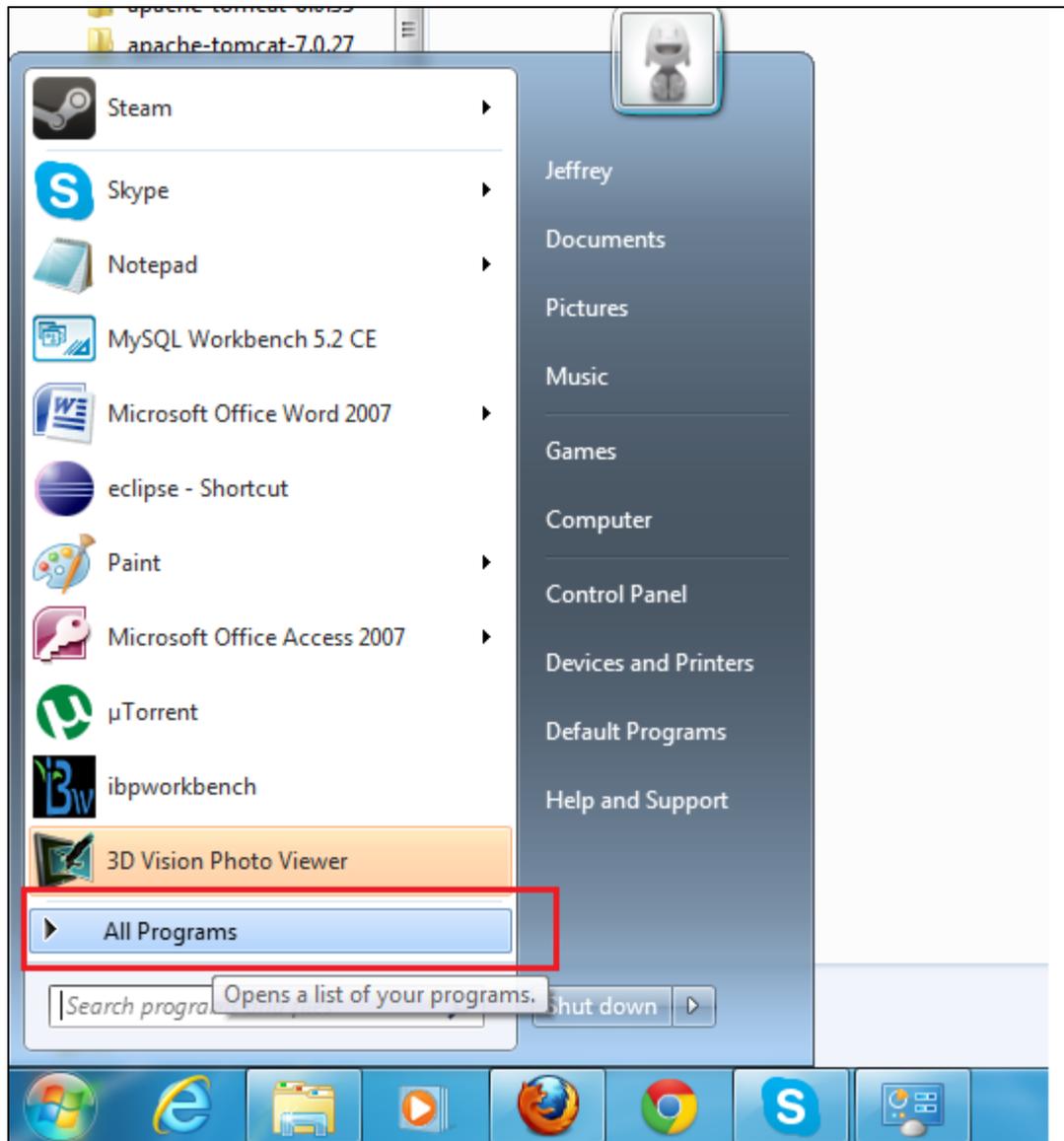
13. Please wait while the MySQL and Tomcat is being started for the first time.



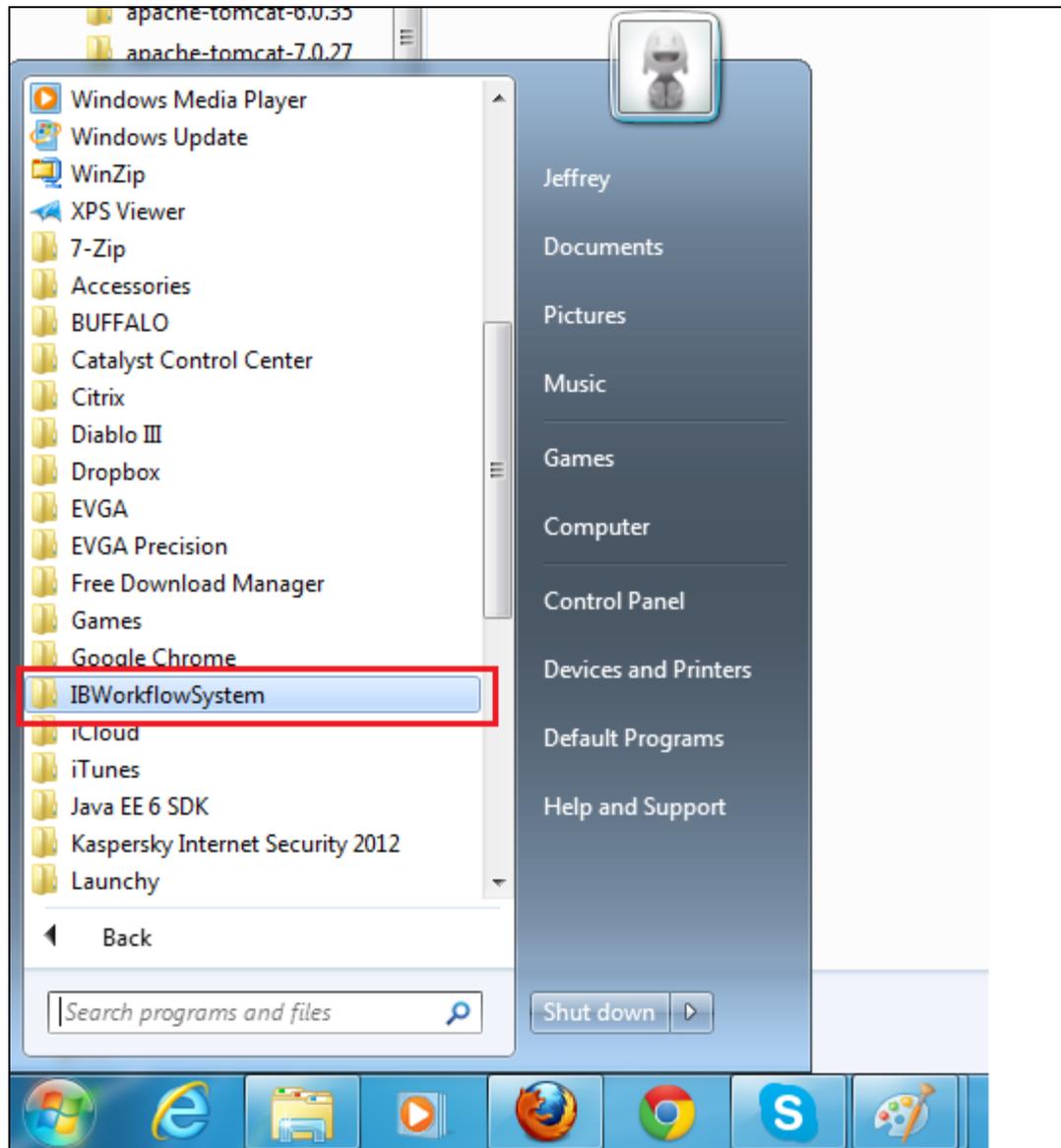
You have now **completed** the full installation of the IB Workflow System.

IB WorkflowSystem Uninstallation

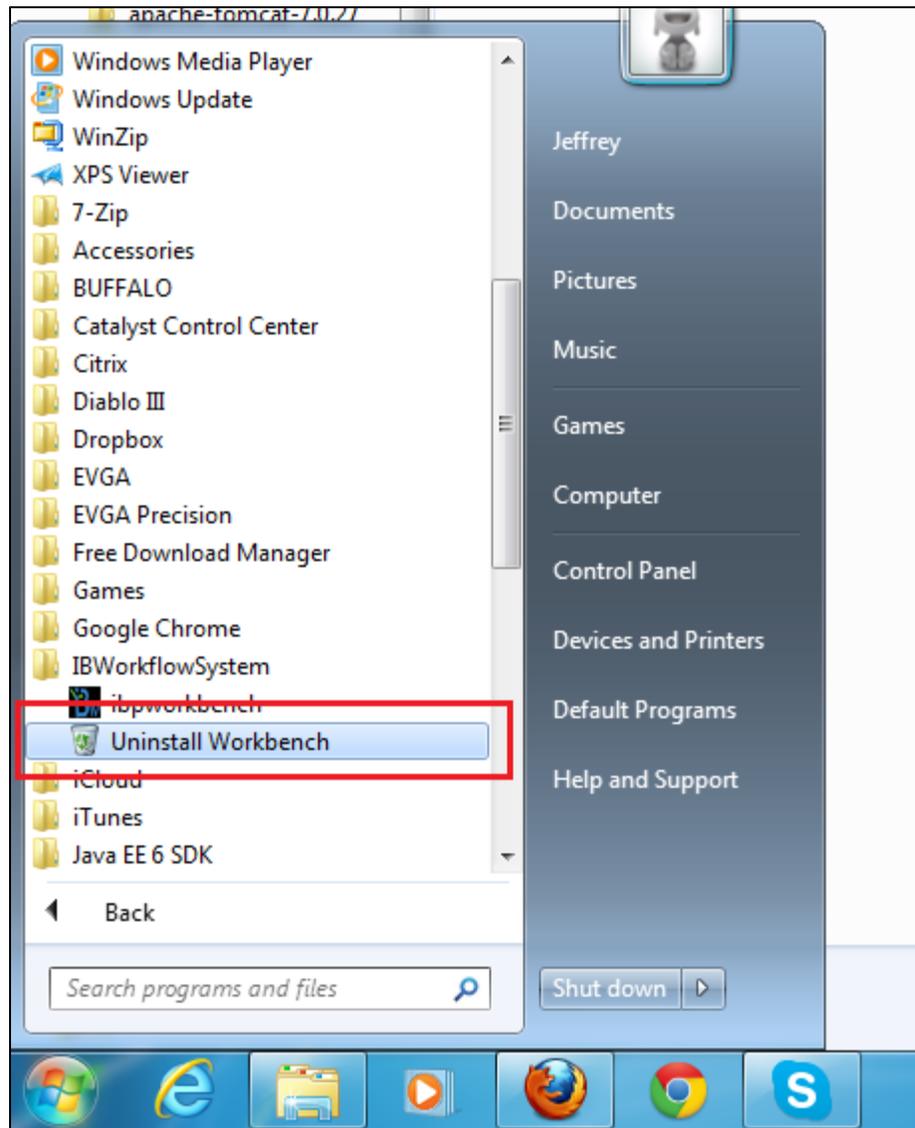
1. First off, click the **windows icon button** to display the starting menu. On this menu, click "**All Programs**".



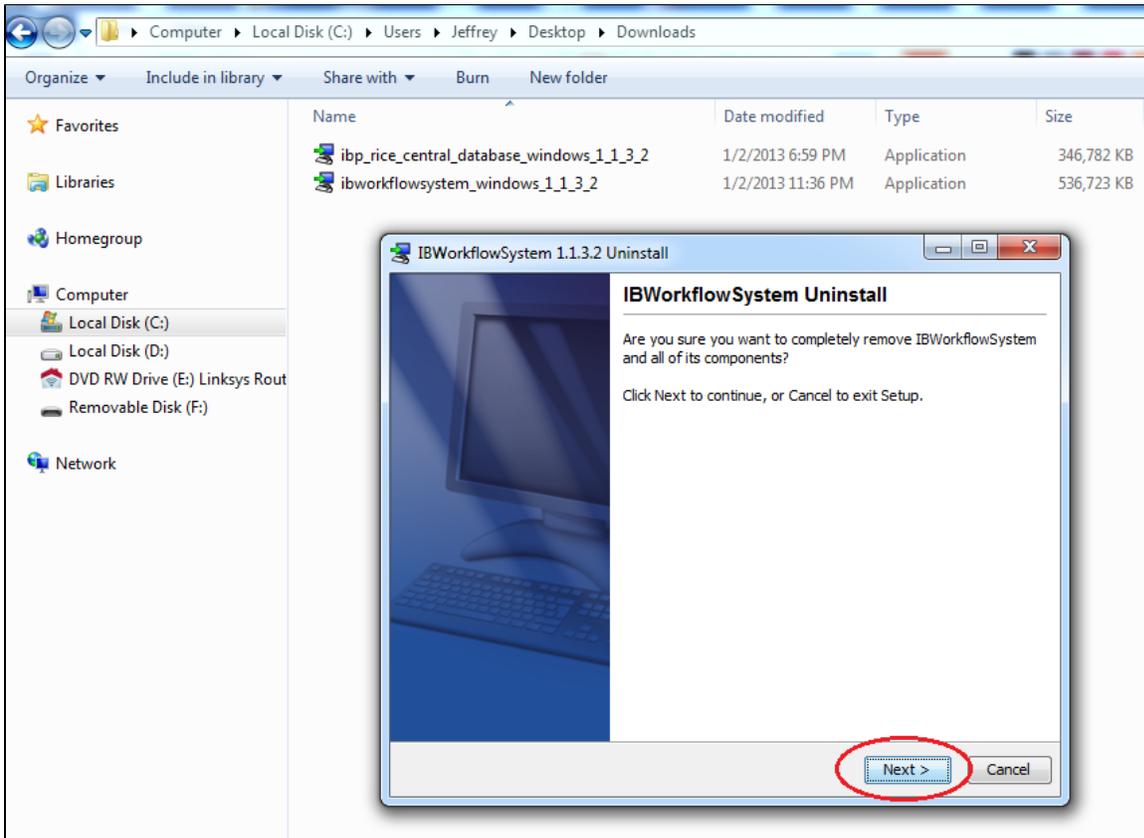
2. Next, browse for the **IBWorkflowSystem** folder on the list. When you find it, **click** that folder to open its contents.



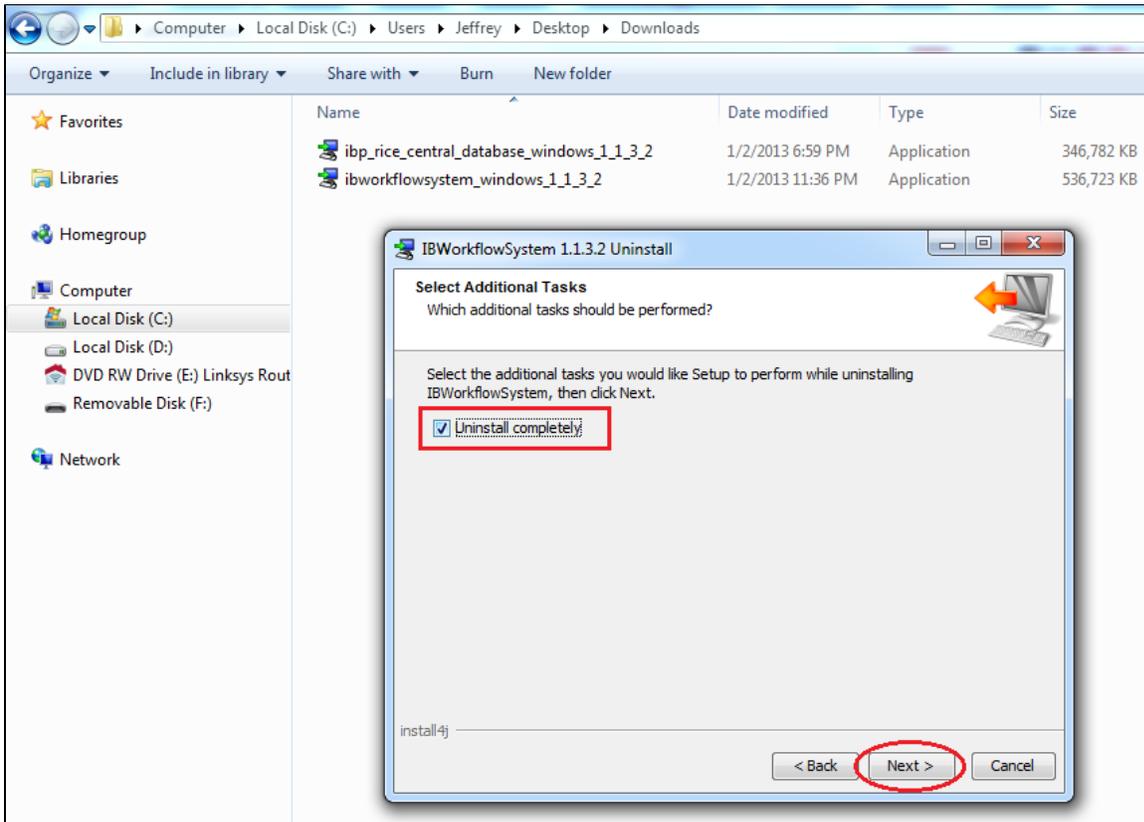
3. Under the IBWorkflowSystem folder, look for the "Uninstall Workbench" icon and click it, this will start the **uninstallation** process.



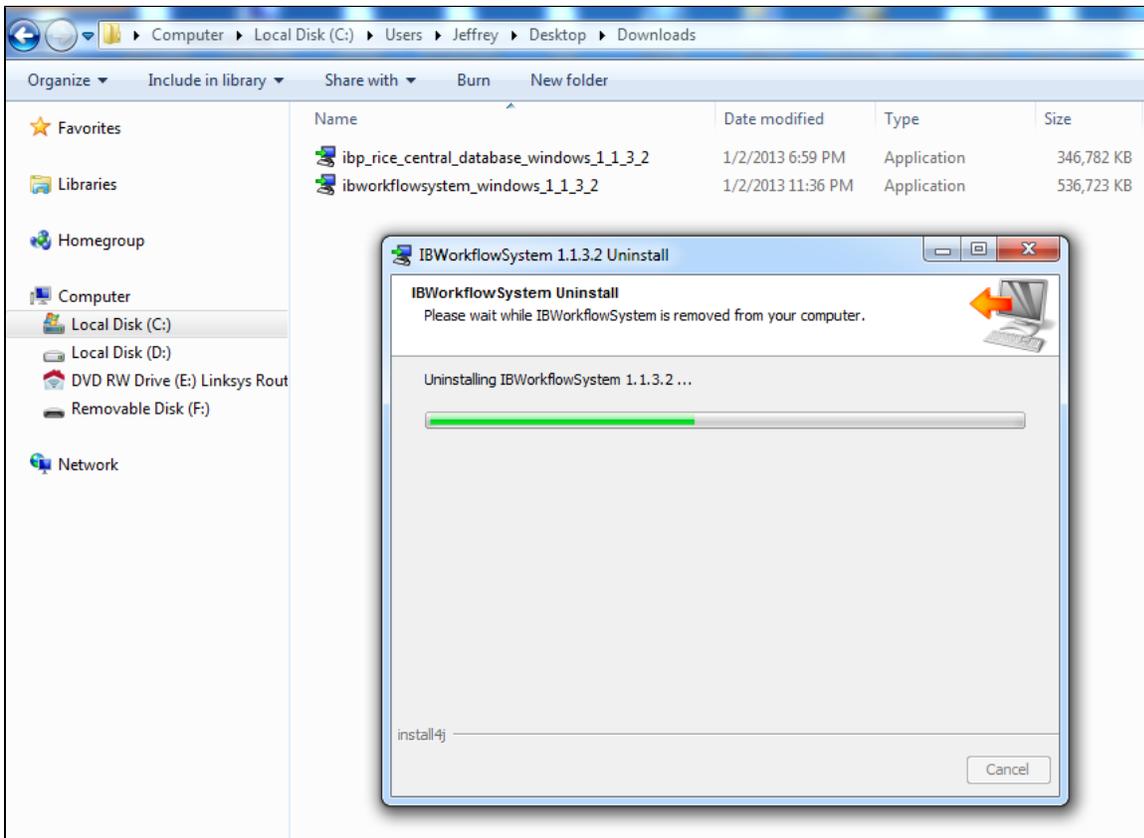
4. There will be a warning message to make sure if you do want to uninstall the application or not, to proceed please click **Next**.



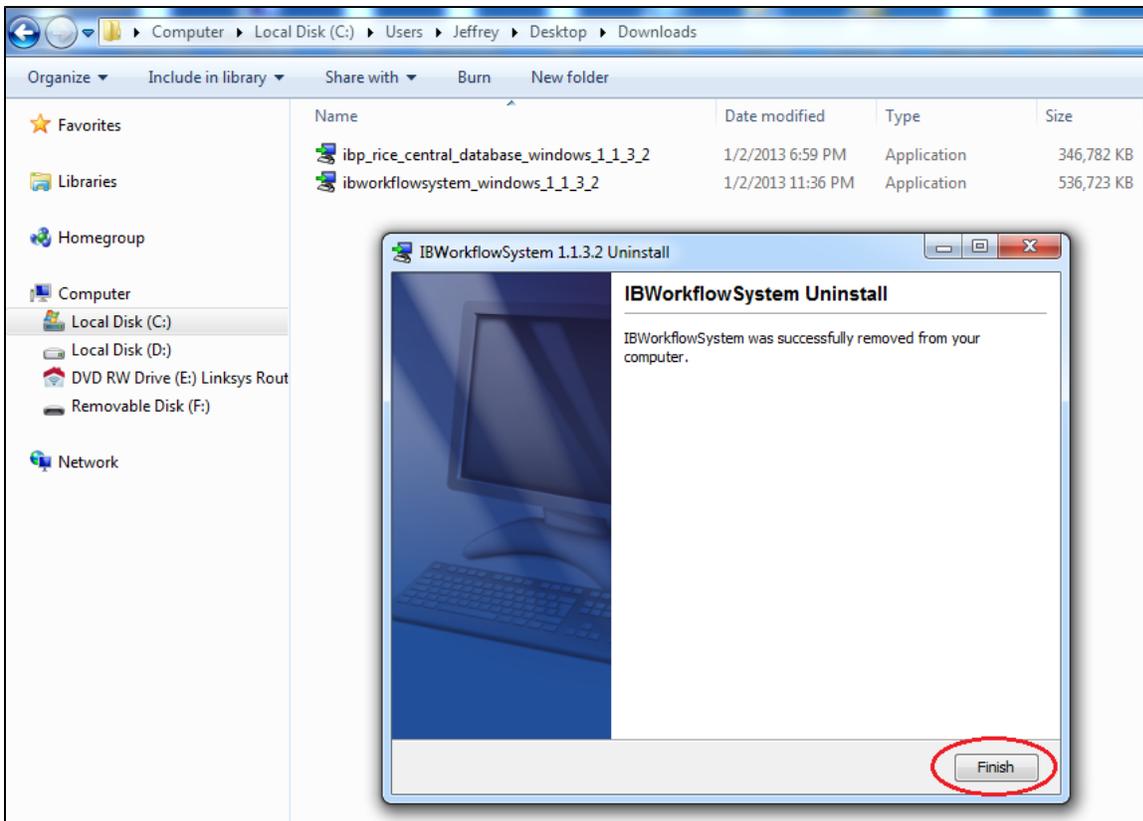
5. The next step will ask you if you wish to uninstall the application completely or not. If you **uncheck** the "**Uninstall completely**" option the installed databases, MySQL service and MySQL itself will not be removed from your computer but the IBWorkbench application and its tools will be. On the other hand, if you **check** the option, then the whole IB Workflow System will be removed from your computer. Choose the option that you prefer for the uninstallation and then click **Next**.



6. At this point, please wait for the uninstallation process to finish.



7. Once the uninstallation is done, press the **Finish** button to complete the whole process.



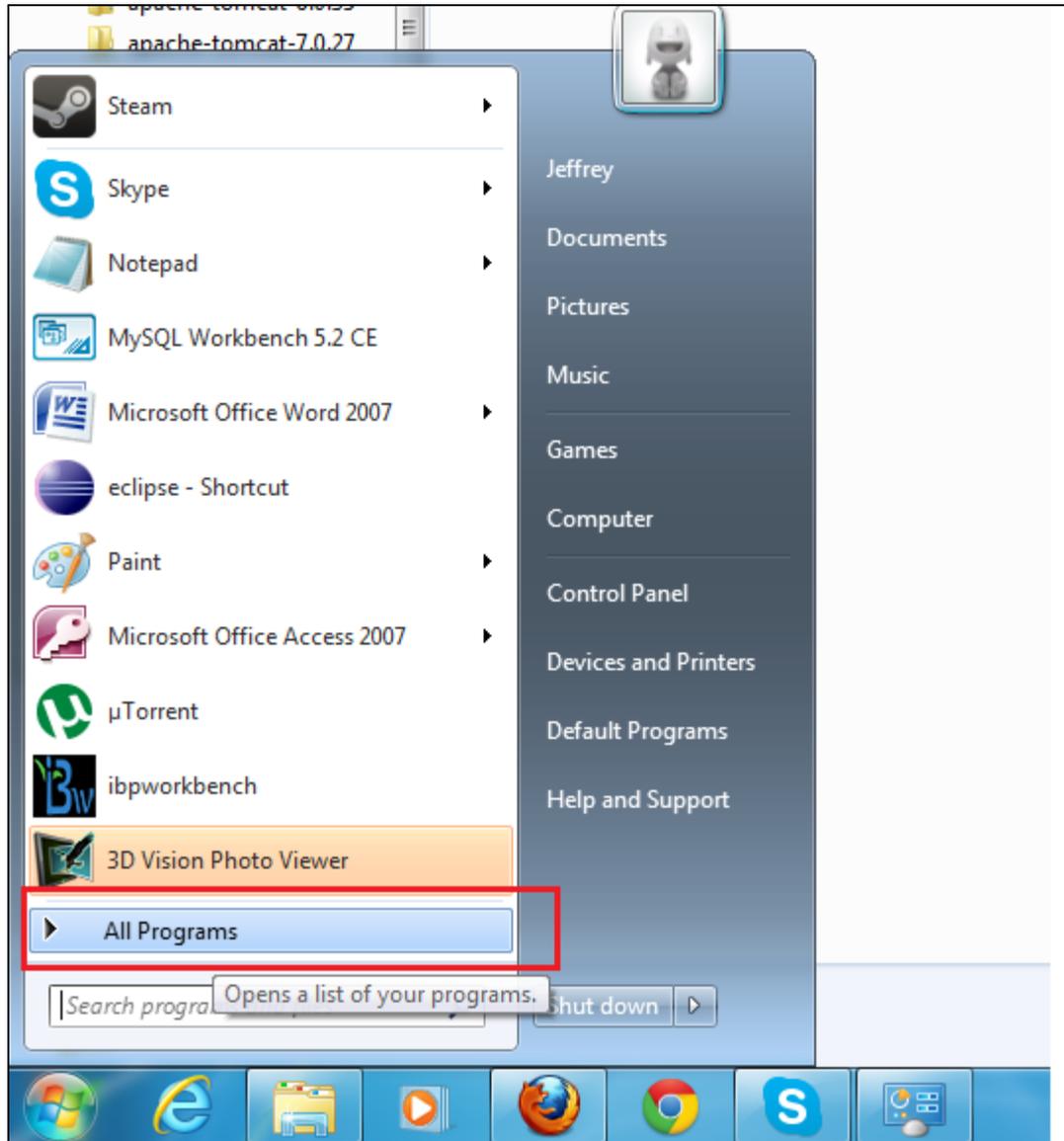
You have now **completed** the full uninstallation of the IB Workflow System.

STARTING-UP THE IB WORKFLOW SYSTEM

Follow the steps listed below to use this tool:

Application Start-up

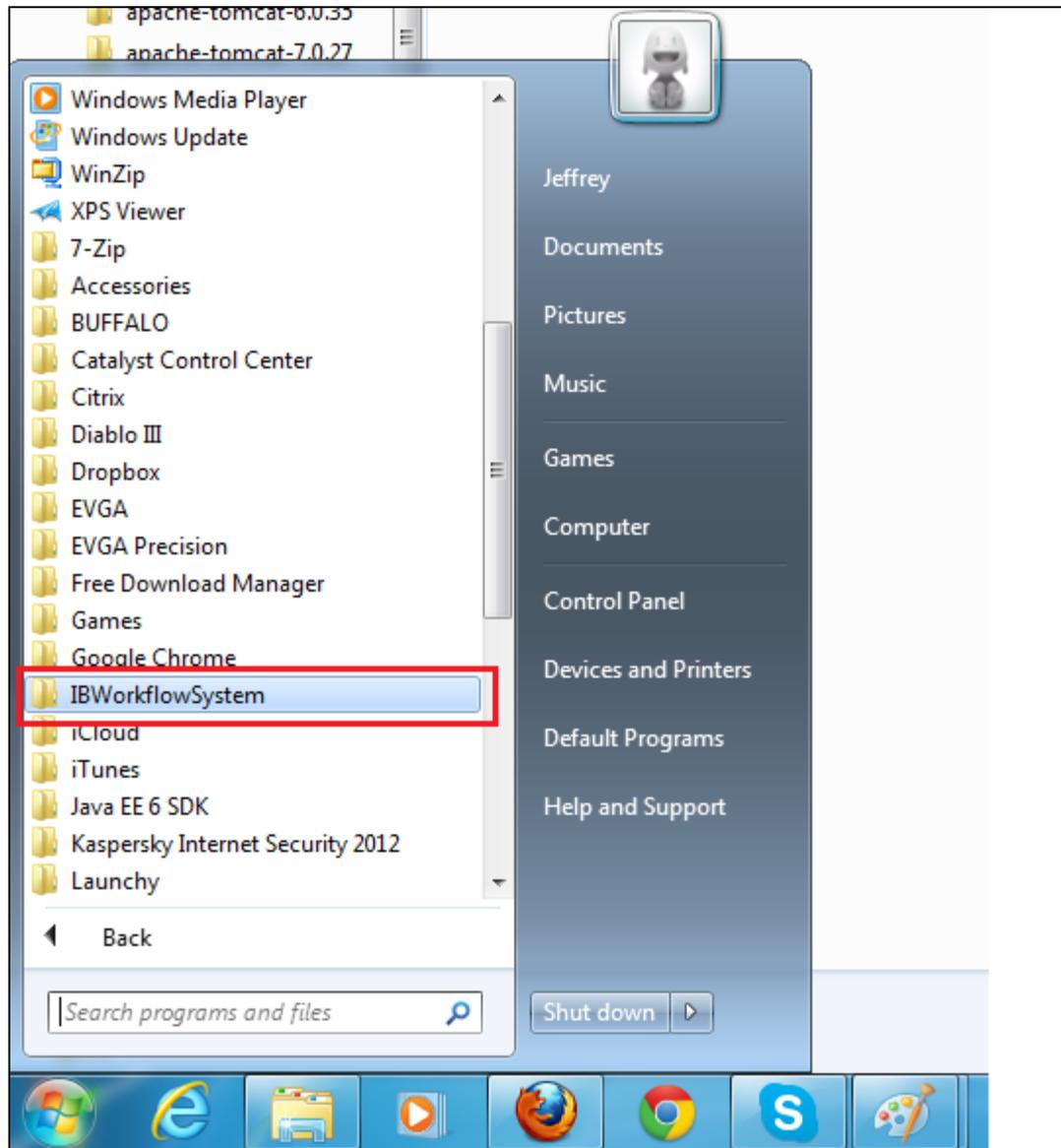
1. First off, click the **windows icon button** to display the starting menu. On this menu, click "**All Programs**".



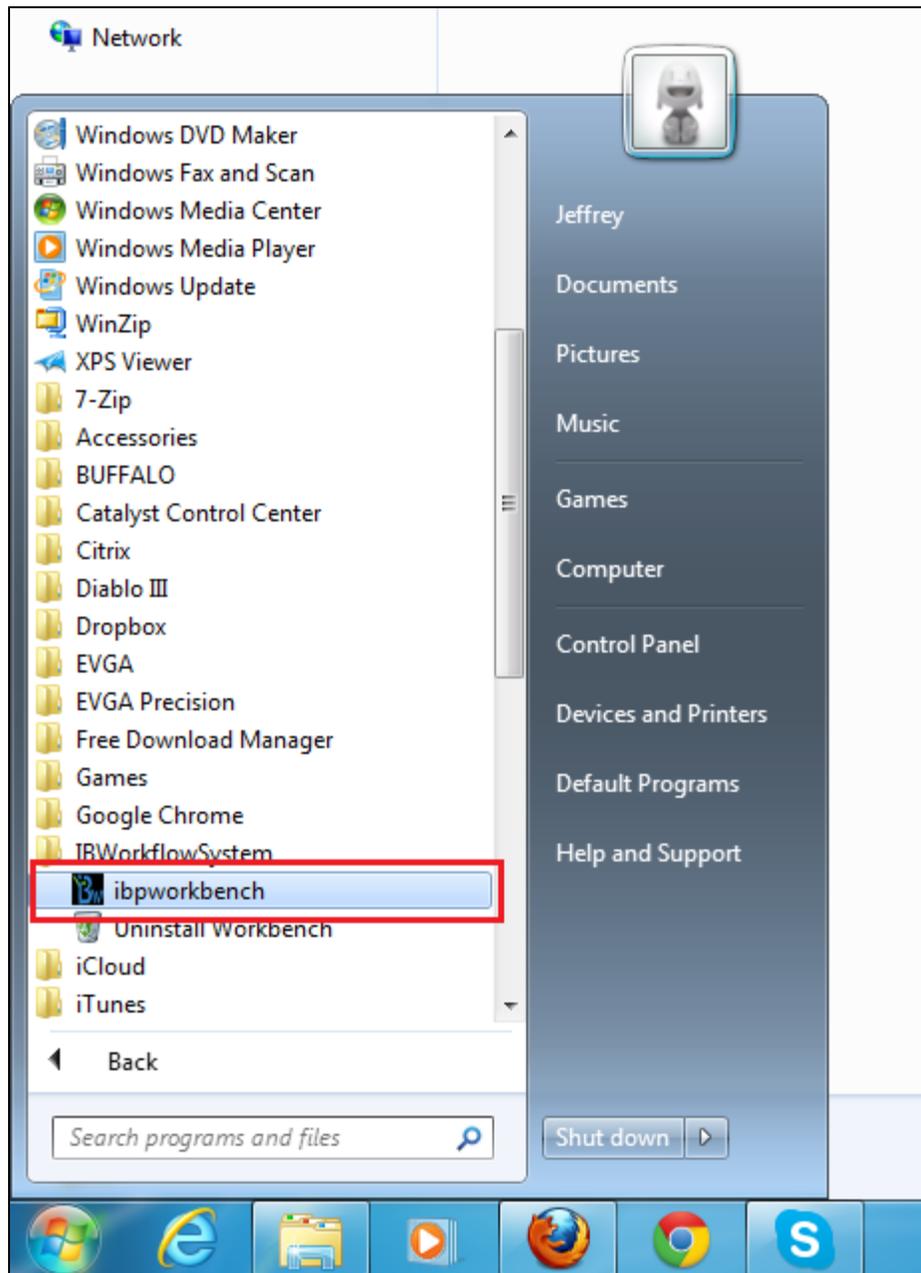
Note: Before clicking "**All Programs**", you may choose to open the application right away on this current step if you see the  icon in the current list of frequently-accessed windows applications.

Just **click** the  icon and it will start-up the application. You may scroll down and proceed to the 4th step of this tutorial segment if you have already started the application in this manner.

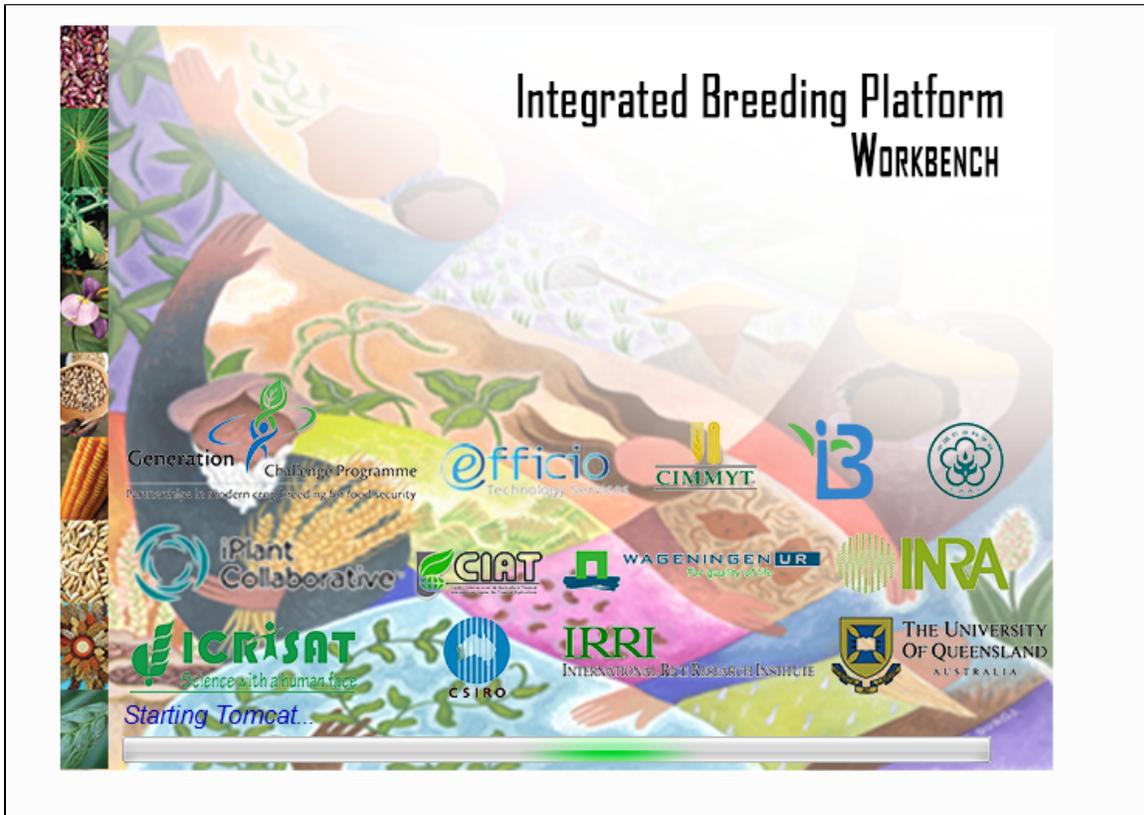
2. Next, browse for the **IBWorkflowSystem** folder on the list. When you find it, **click** that folder to open its contents.



3. Under the IBWorkflowSystem folder, look for the **ibpworkbench icon** and click it, this will start-up the application.



4. After clicking, please wait for the system to finish its start-up configuration and loading process. (See image below)
You will know that the application has finished loading once the **login page** is displayed on your default web browser.



User Account Functionalities

Registering a User Account

1. To start, click the **Register New Account** link:

A screenshot of the "IB Workflow System - Sign-in" form. The form is overlaid on a colorful background of people's faces and agricultural products. It contains two input fields for "Username" and "Password", a "Login" button, and two links: "Forgot your password?" and "Register New Account". The "Register New Account" link is circled in red.

2. After clicking, a **Register User Account Form** will be displayed. Fill the entry fields, only the Middle Name field is **not** required.

Register User Account Form

First Name * Middle Name Last Name *

Email Address *

Username *

Password *

Re-type Password *

Security Question *

Answer to Security Question *

Save Cancel

3. Next for this page, select a **Security Question** of your choice.

Register User Account Form

First Name * Middle Name Last Name *

Email Address *

Username *

Password *

Re-type Password *

Security Question *

What is your mother's maiden name?
What is your first pet's name?
What is your town of birth?

Save Cancel

4. After selecting a Security Question, enter your **Secret Answer**.

Register User Account Form

First Name * Given Middle Name Last Name * Surname

Email Address * given@email.com

Username * user

Password * ●●●●●●

Re-type Password * ●●●●●●

Security Question * What is your first pet's name?

Answer to Security Question * foobar

Save Cancel

5. Click the **Save Button** and it will return to the Login Window with a **Registration Success Notification**.

Register User Account Form

First Name * Given Middle Name Last Name * Surname

Email Address * given@email.com

Username * user

Password * ●●●●●●

Re-type Password * ●●●●●●

Security Question * What is your first pet's name?

Answer to Security Question * foobar

Save Cancel

Registration Success
New user account successfully created.

Username

Password

Login

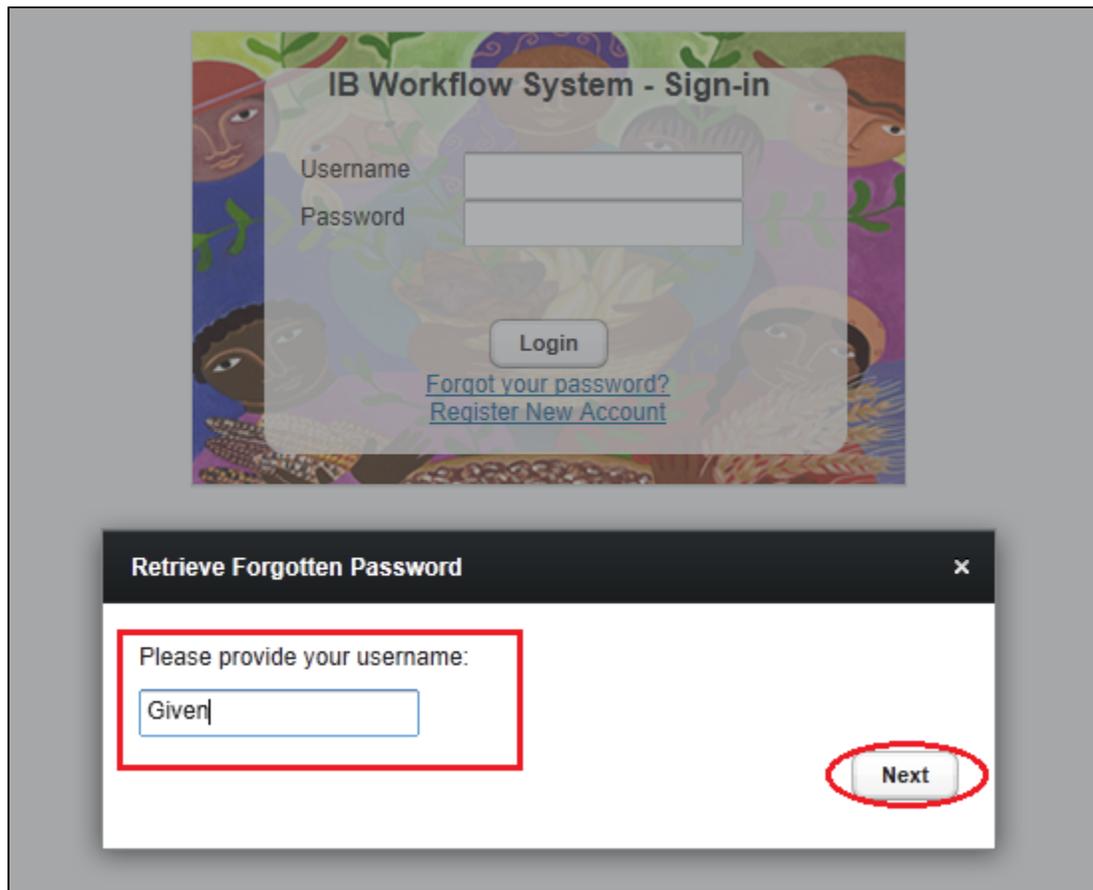
[Forgot your password?](#)
[Register New Account](#)

Retrieving Forgotten Account Passwords

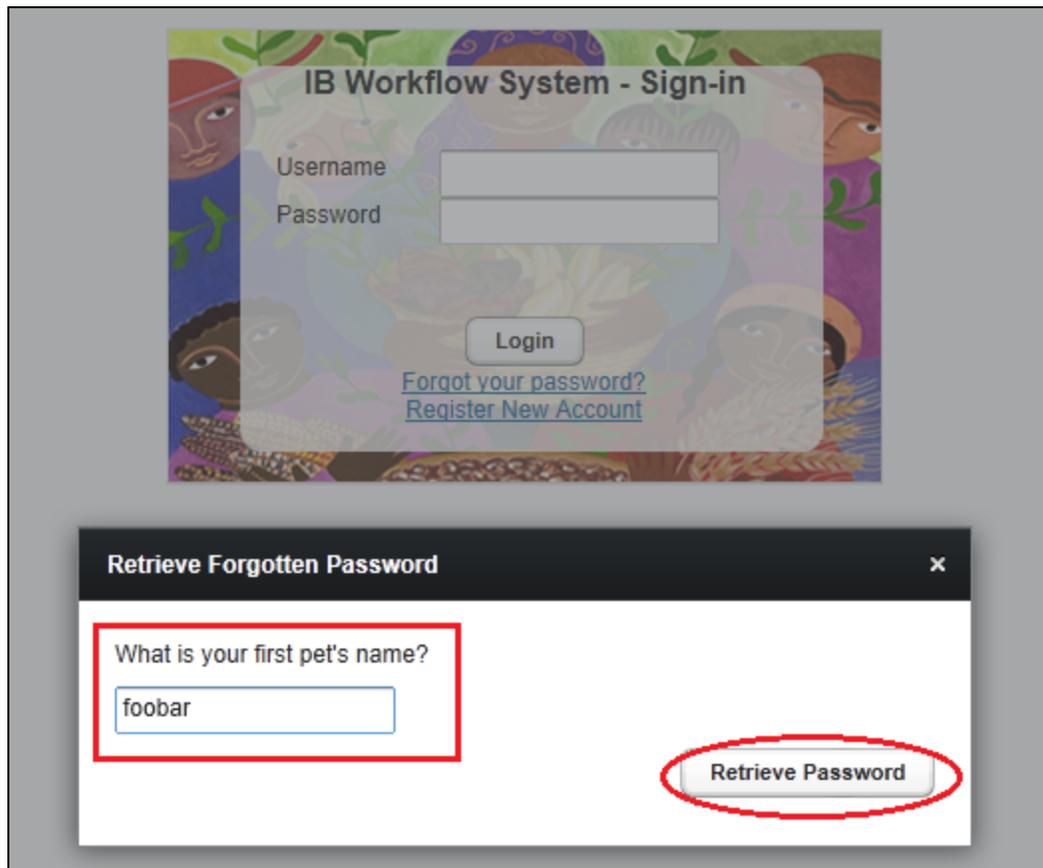
1. Click the **Forgot your password?** link.



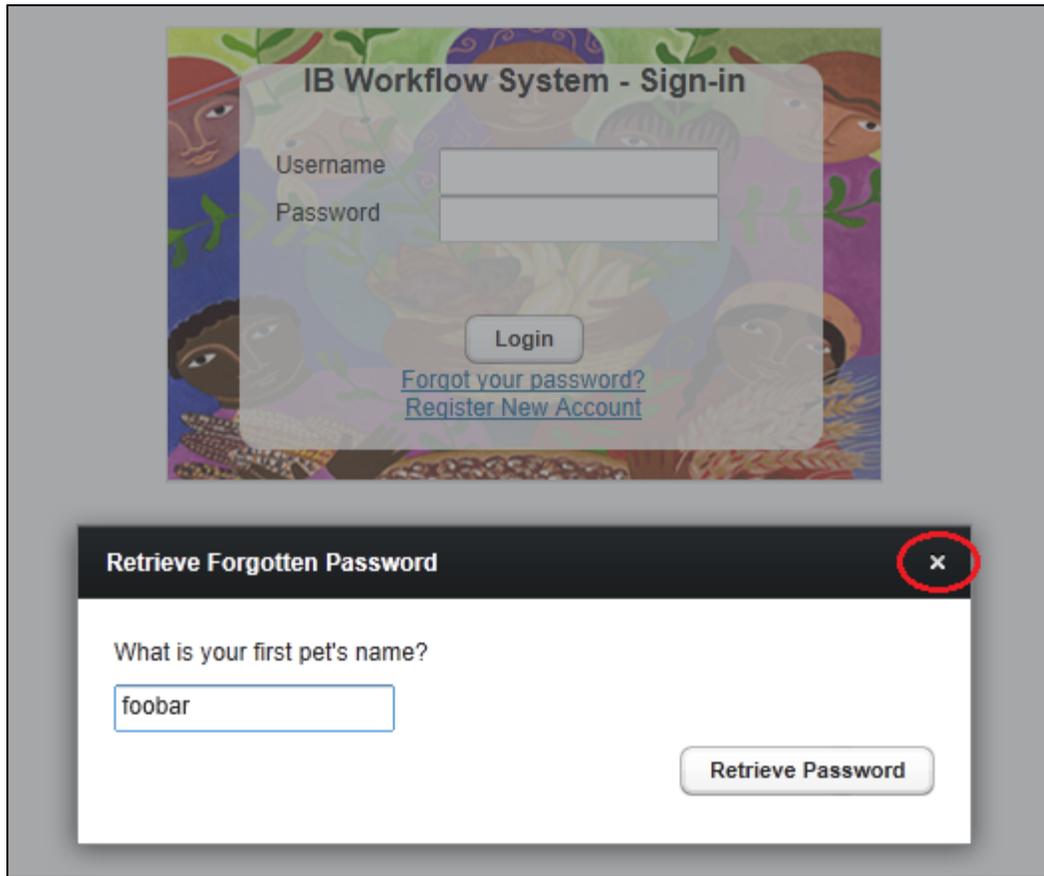
2. After clicking the link, a new sub-window will be displayed. Provide your **username** on the field and click the **Next** Button.



3. The **Security Question** will be asked next, provide your **Secret Answer** and click **Retrieve Password**. A **notification** will be shown, including your **forgotten password**.



4. Click the 'x' symbol to exit the Security Question Window and proceed with **Login**.



Logging in and Closing the System

To start using the IB Workflow System, enter your **Username** and **Password** and click **Login**.



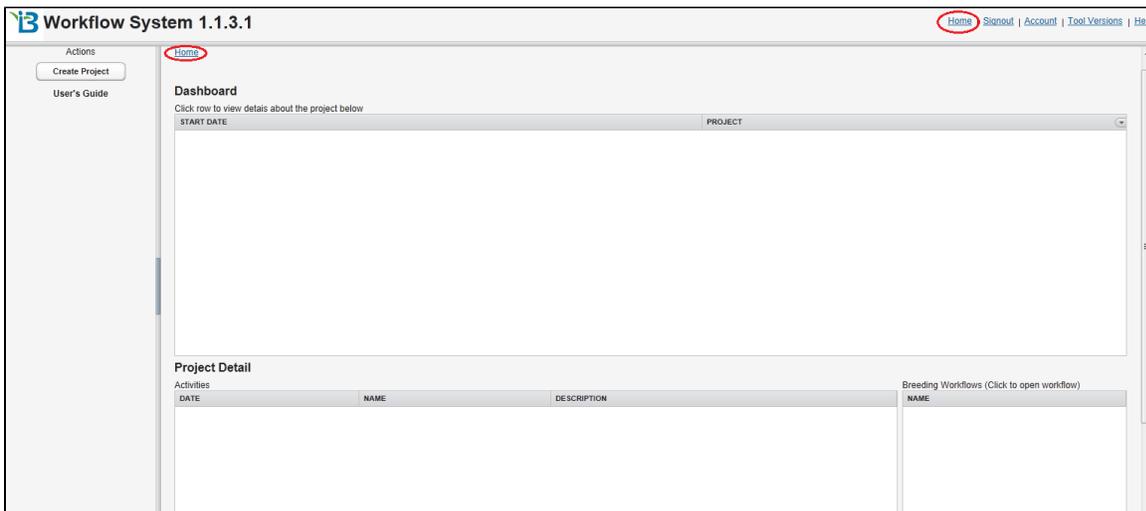
If the IB Workflow System application is closed by closing its browser tab/window, it can be re-started from the desktop icon , or by selecting 'Launch IBWorkbench' after right clicking on its icon in the application tray. Selecting 'Exit' will close the workbench, Tomcat and MySQL.



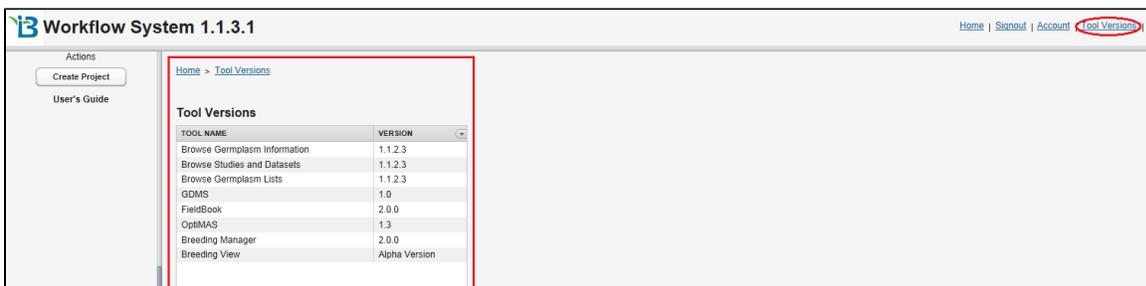
Application Functionalities

Using the General Options

1. This is the **Home** section of the IB Workflow System. Clicking the **Home Links** will always display this view.



2. Click the **Tool Versions** to view the current version number of all tools supported by the IB Workflow System.



3. If you wish to exit the application, just click the **Signout** Link anytime. *(If you did click, just follow the step for logging back in the application, else proceed with the next step of this tutorial.)*

Creating a Project

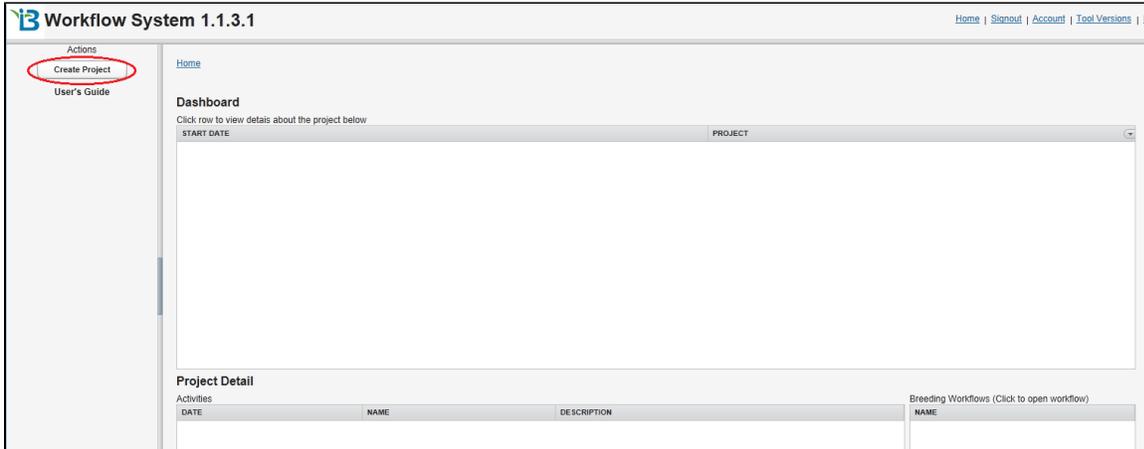
An IBWorkbench Project creates a workspace to manage information about all the activities in a breeding project. When you set up a project you identify the central crop database which will be used, the IBWorkbench users who will have access to that project (Project Members) and the workflow(s) they will be able to use. The IBWorkbench also creates a local database where data from the project activities will be stored.

The activities included in a project may be quite extensive covering a big breeding project including several breeding schemes (MAS, MABC, MARS, etc) and several Project Members, or they may be quite narrow involving only one breeding scheme and a single Project Member. For

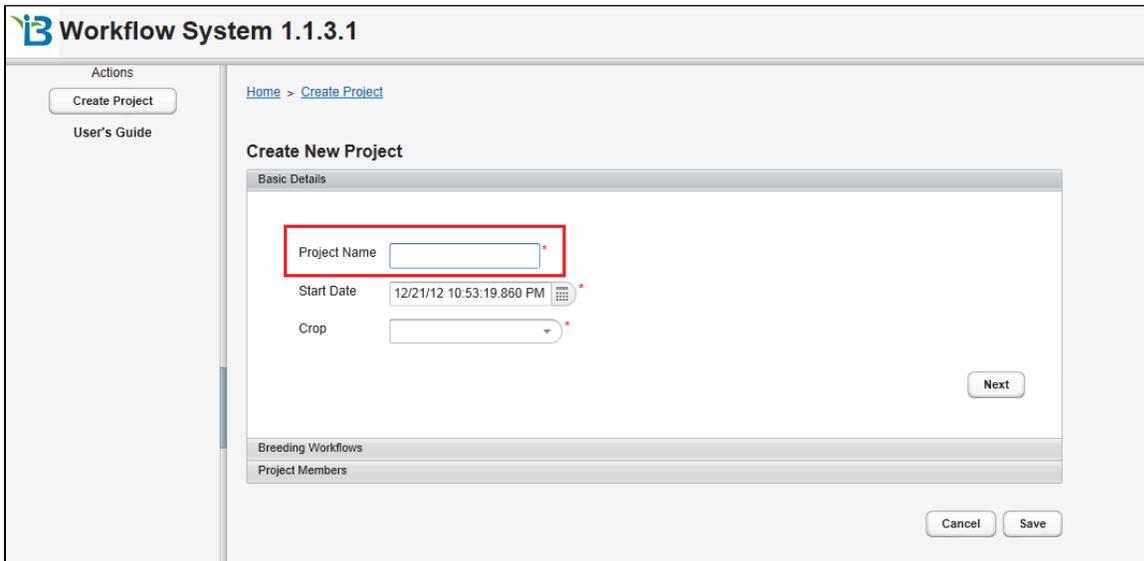
example, backcrossing a single trait into several locally adapted cultivars. You can have as many projects as you want, and as many users as you like (currently all users must access the same computer, but later versions of IBWS will run on networks and eventually in the cloud). The decision about how many activities should go into a single project hinges on the need to share current data between activities. If two activities need to share data (local germplasm data, characterization or evaluation data) then they should be in the same project. If one activity can wait for the local data to be uploaded to the central before using it, then they could be in separate projects.

Here are the steps to create a project:

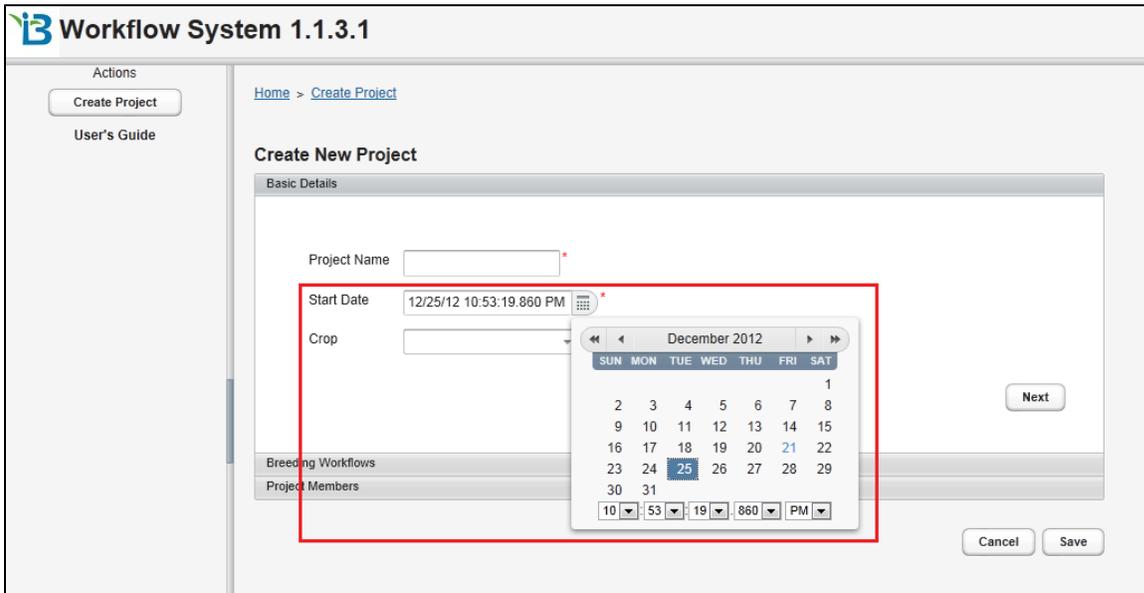
1. At Home View, **Click the Create Project Button.**



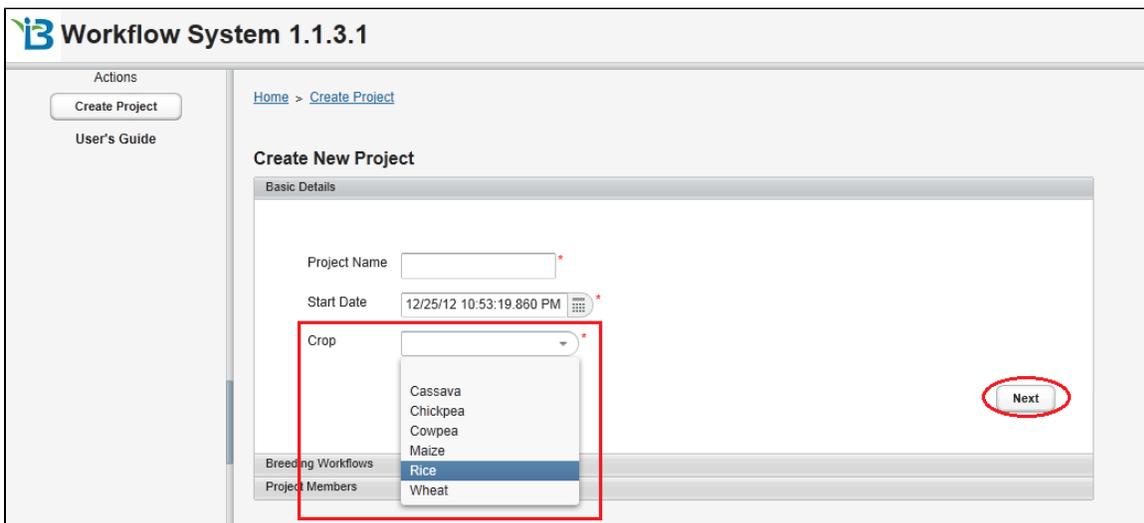
2. Enter the **Name** of your Project.



3. Select the **Date** for the Project.



4. For the **Basic Details**, Select a specific **Crop** and click **Next**.



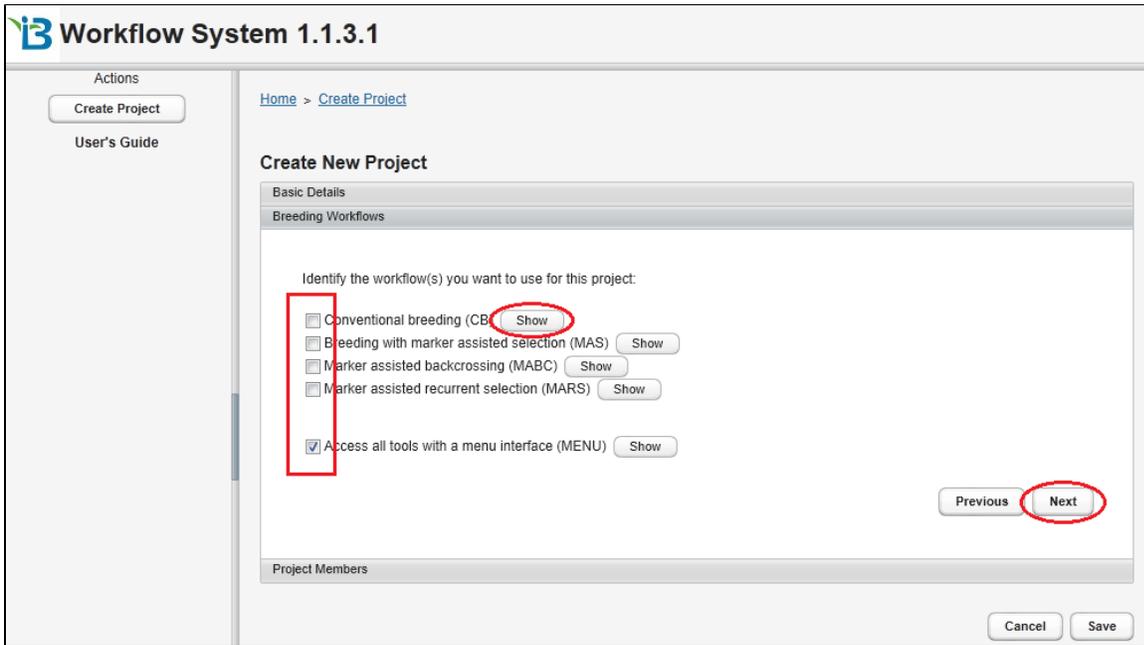
5. For the **Breeding Workflows**, the user creating the project is the Project Manager and is automatically assigned the full menu interface.

The Project Manager can also select breeding workflows for himself/herself.

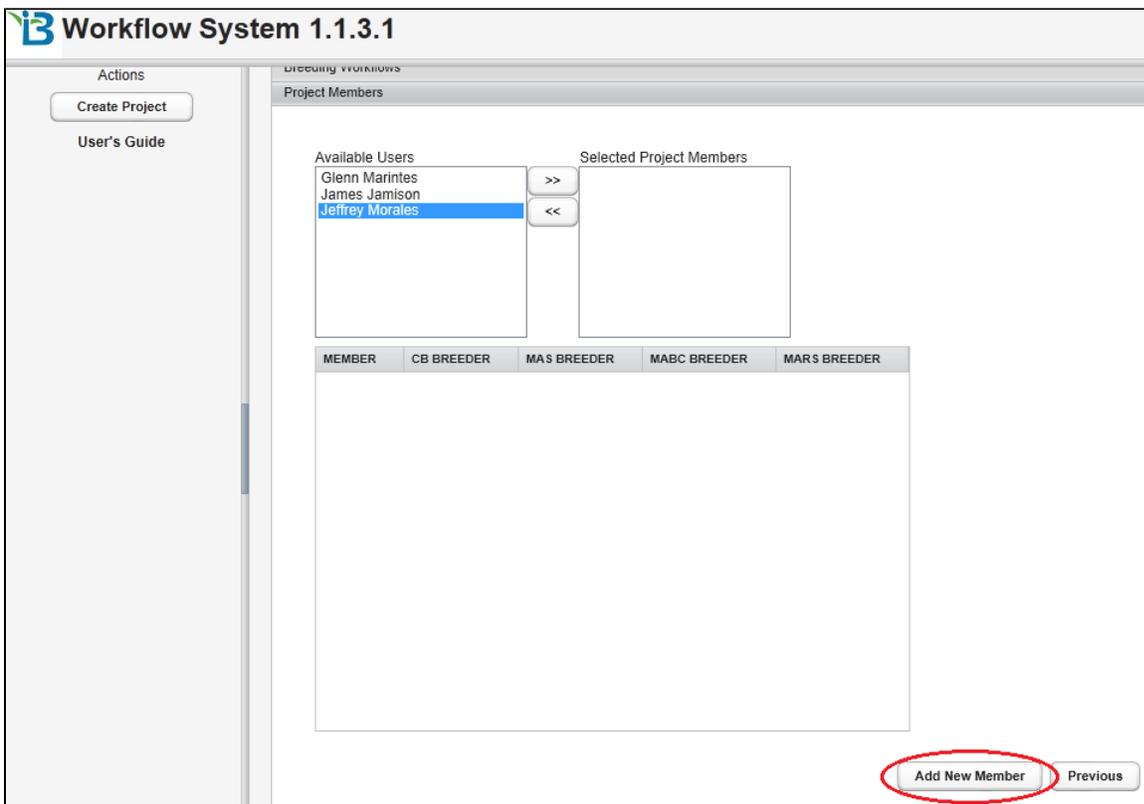
Click the **Show** button to view the current workflow of interest. Click the "x" symbol to close the preview.

Select one or more of the **checkboxes** to specify workflows for this project.

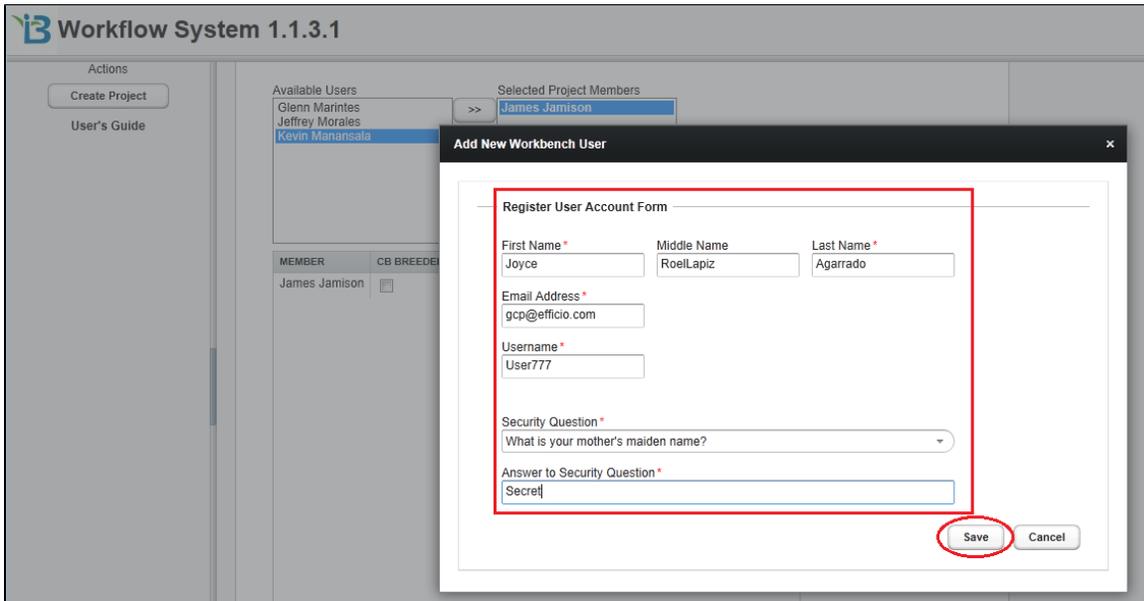
Click **Next** to continue.



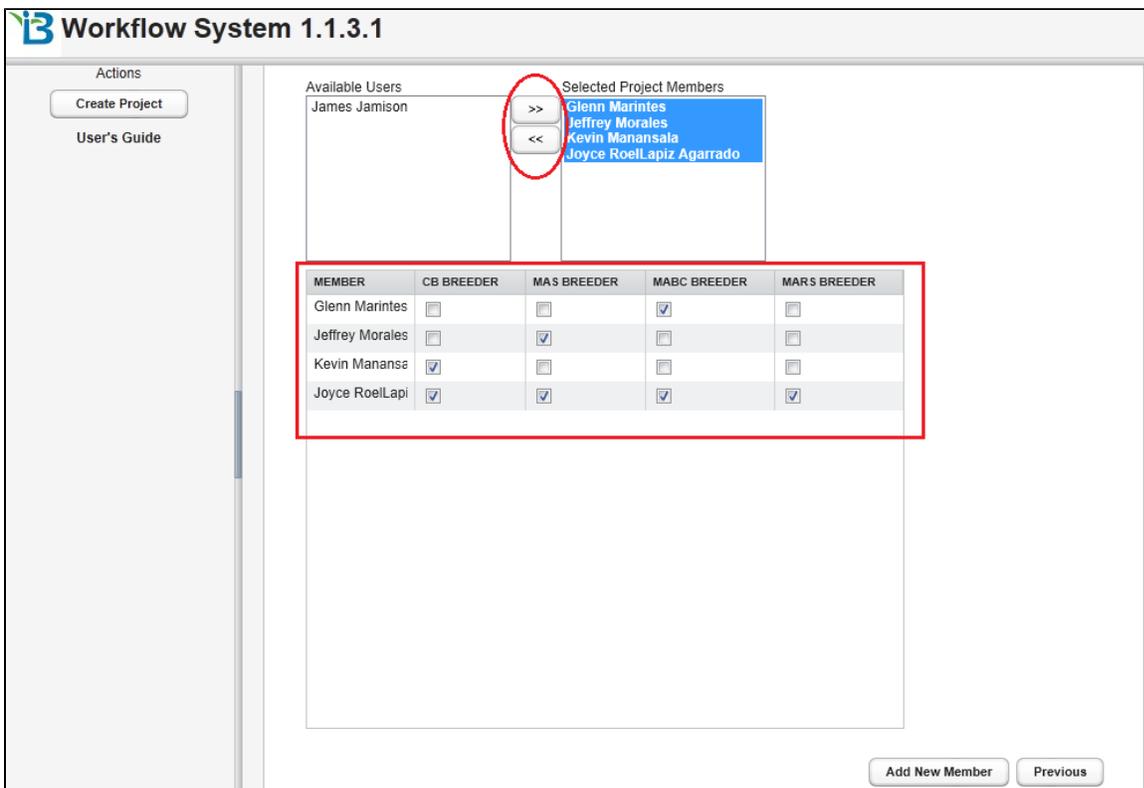
6. Next step is the **Project Members** that you want to be included on the current Project. To start adding members, please click the **Add New Member** Button.



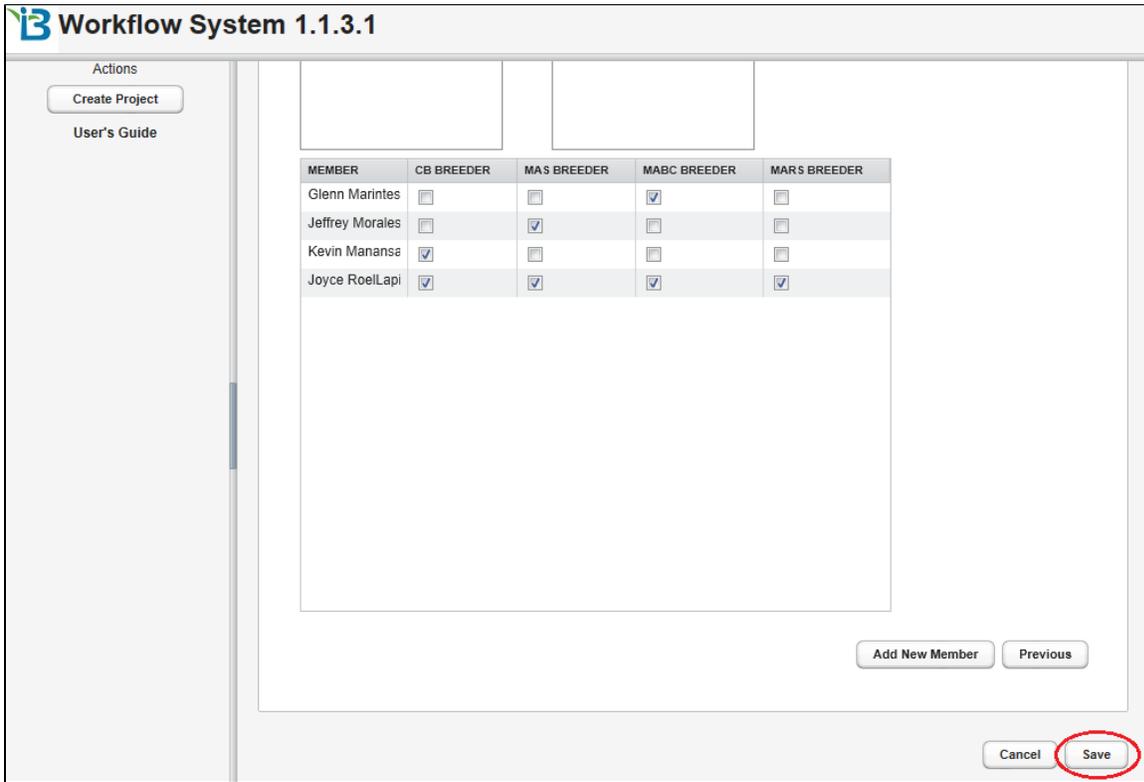
7. Upon clicking the Add New Member, a sub-window will be displayed. Fill the **required** fields and click **Save**. Please note that the passwords of new workbench users added this way will be equal to the username specified in the form (this is the default password).



8. Back on the Project Members, select members using the << and >> buttons. Below are **selectable checkboxes** which sets each member's assigned workflows. By default the workflows selected in the previous step are checked.

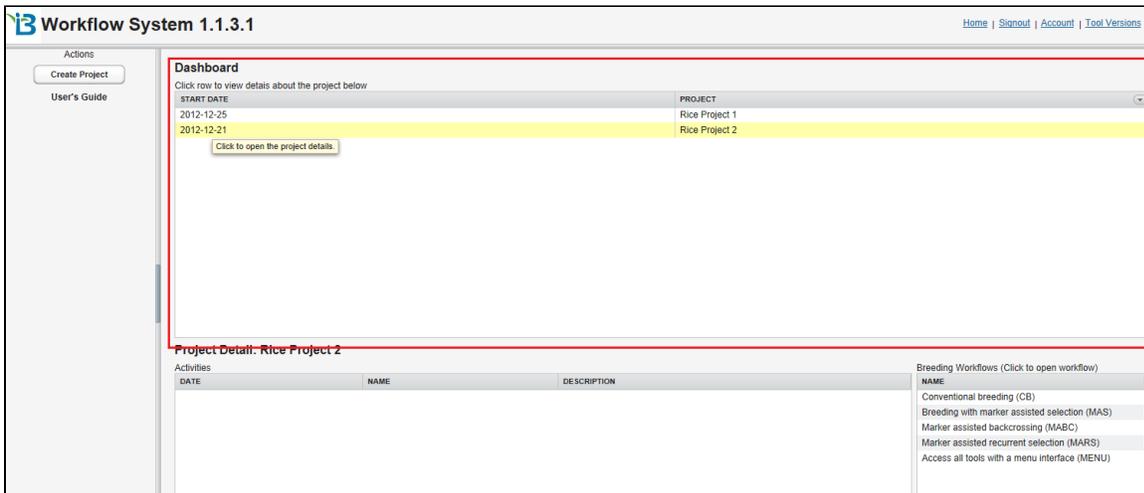


9. Click **Save** to complete the Project Creation.



Exploring the Project Workflows

1. At the **Home** section of the IB Workflow System, any project created will be **displayed** here.



2. Click a project of interest to display **all available workflows** for that project. (refer to the **circular** marker)
After viewing available workflows, **click one and proceed** with the execution of the chosen workflow. (refer to the **rectangular** marker)

Workflow System 1.1.3.1 [Home](#) | [Signout](#) | [Account](#) | [Tool Versions](#)

Actions
[Create Project](#)
 User's Guide

Dashboard
 Click row to view details about the project below

START DATE	PROJECT
2012-12-25	Rice Project 1
2012-12-21	Rice Project 2

[Click to open the project details](#)

Project Detail: Rice Project 2

Activities

DATE	NAME	DESCRIPTION

Breeding Workflows (Click to open workflow)

NAME
Conventional breeding (CB)
Breeding with marker assisted selection (MAS)
Marker assisted backcrossing (MABC)
Marker assisted recurrent selection (MARS)
Access all tools with a menu interface (MENU)

Below are **all the workflows** that the IB Workflow System supports as of this writing:

Manager Workflow

Workflow System 1.1.3.1

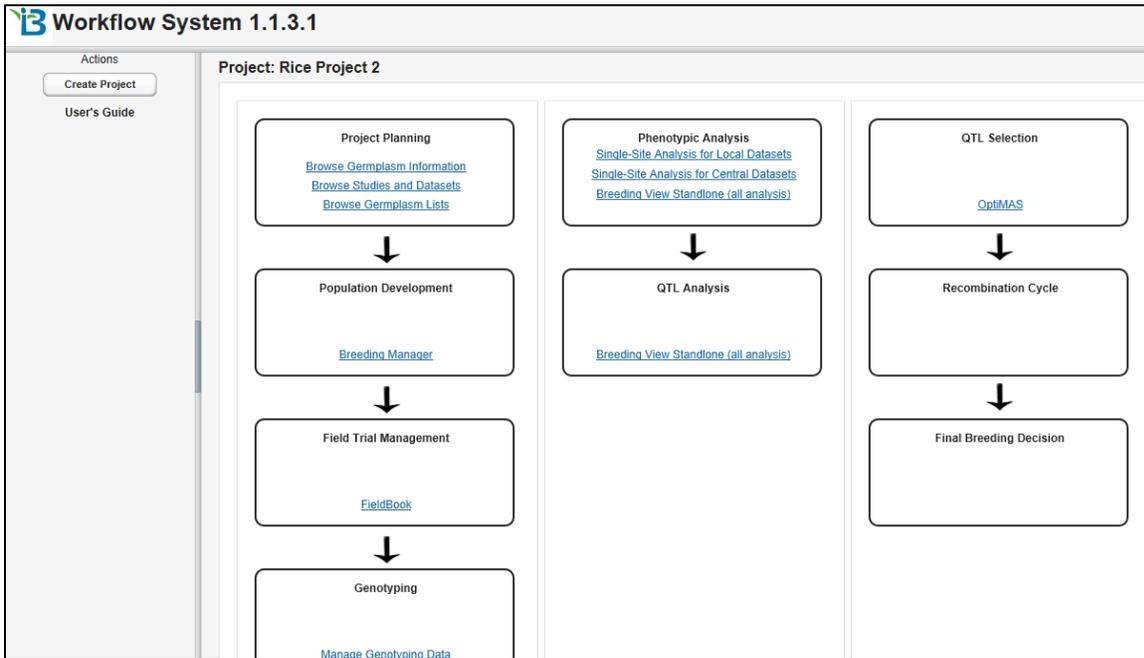
Actions
[Create Project](#)
 User's Guide

[Home](#) > [Project Workflow: Rice Project 2](#)

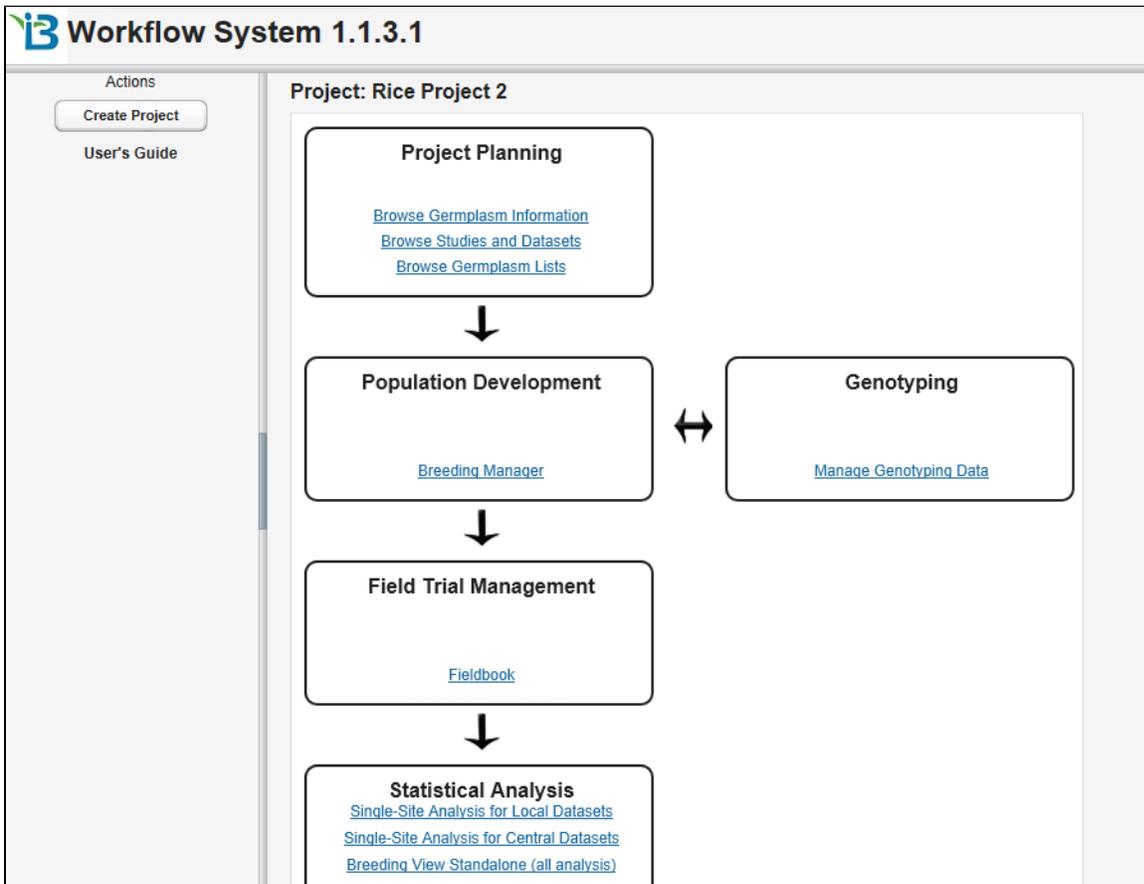
Project: Rice Project 2

Administration	Project Planning Germplasm Browser Study Browser Germplasm List Browser	Analysis Pipeline Single-Site Analysis for Local Datasets Single-Site Analysis for Central Datasets Breeding View Standalone (all analysis)
Configuration	Breeding Management Fieldbook Nursery Manager	Decision Support OptiMAS

MARS Workflow

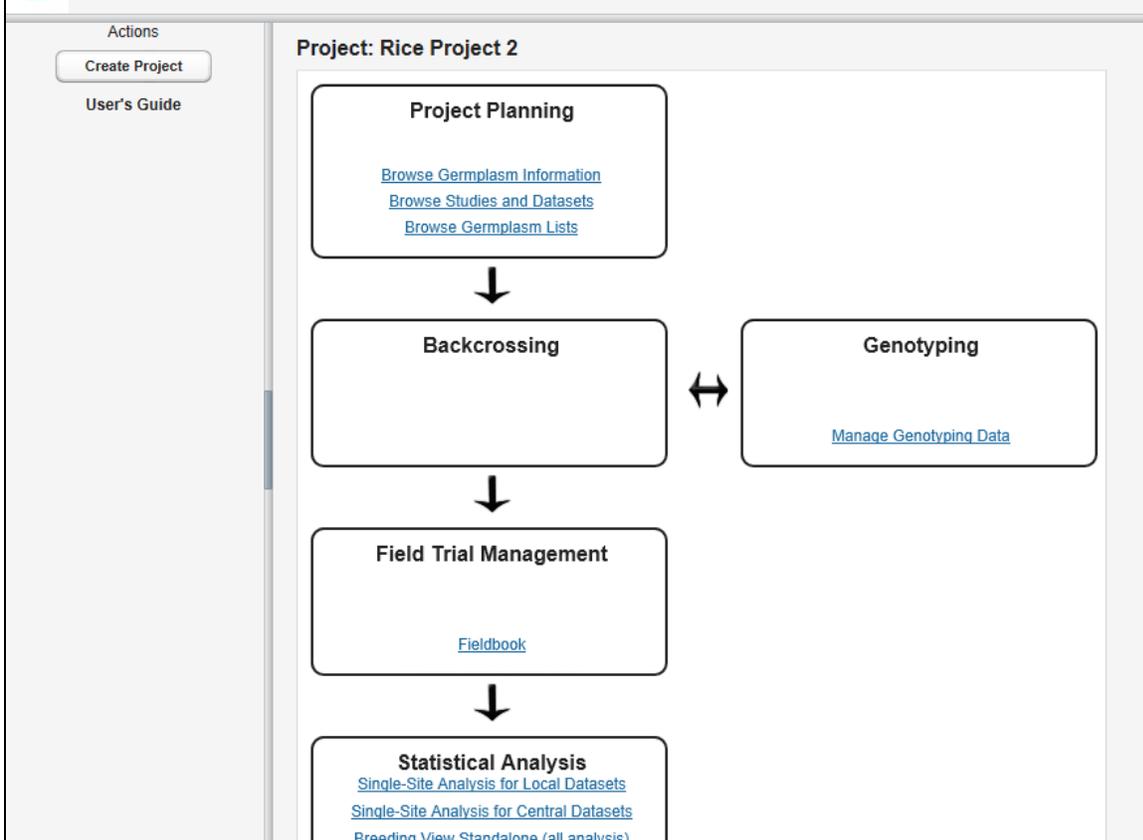


MAS Workflow



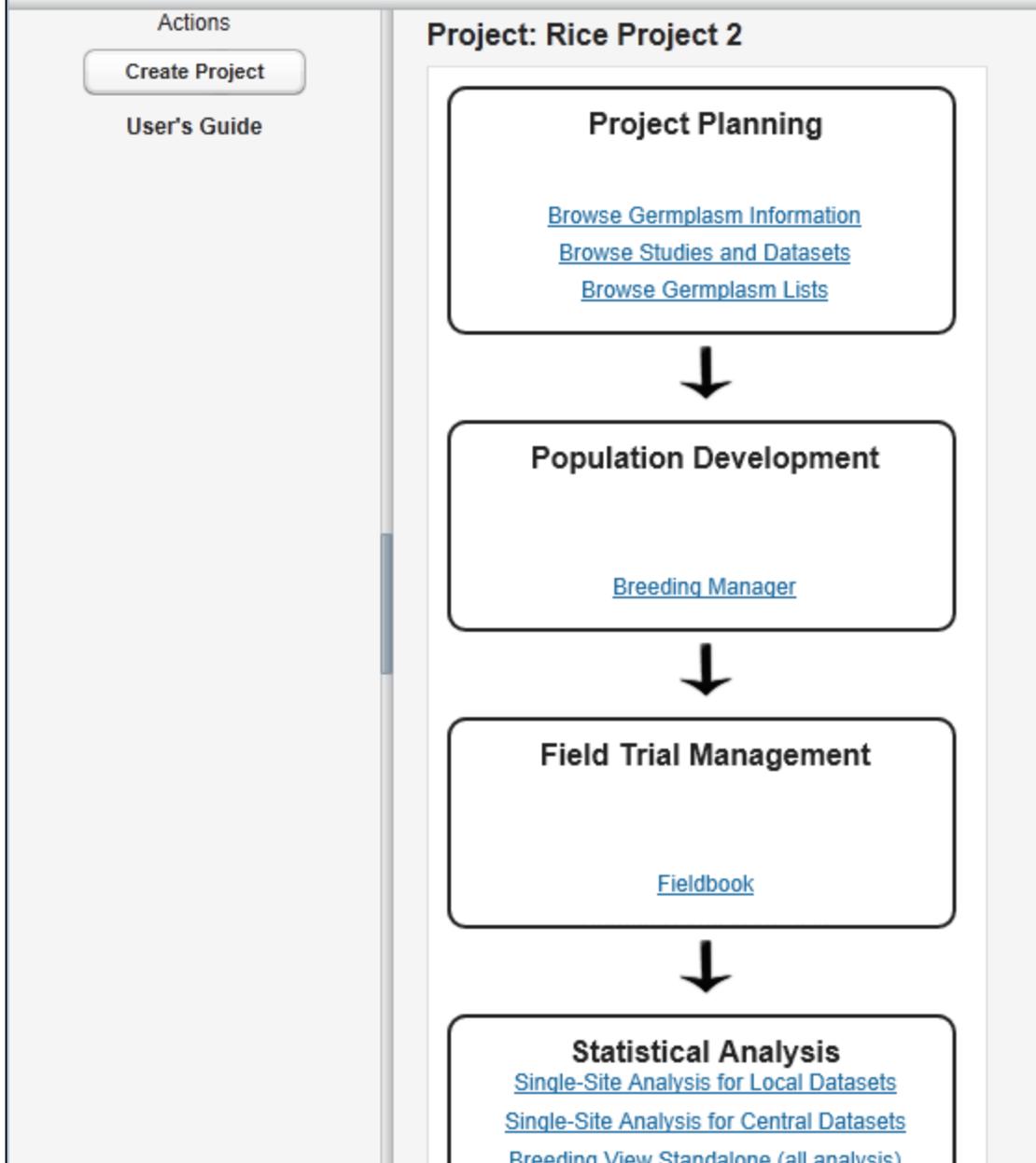
MABC Workflow

B Workflow System 1.1.3.1



CB Workflow

Workflow System 1.1.3.1



3. Each workflow has available links to tools of interest. Clicking a link will launch the tool that can be used in the specific step.

