

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. As of this writing, the latest version of this tool is 1.1.3.2.

INSTALLING THE IB WORKFLOW SYSTEM

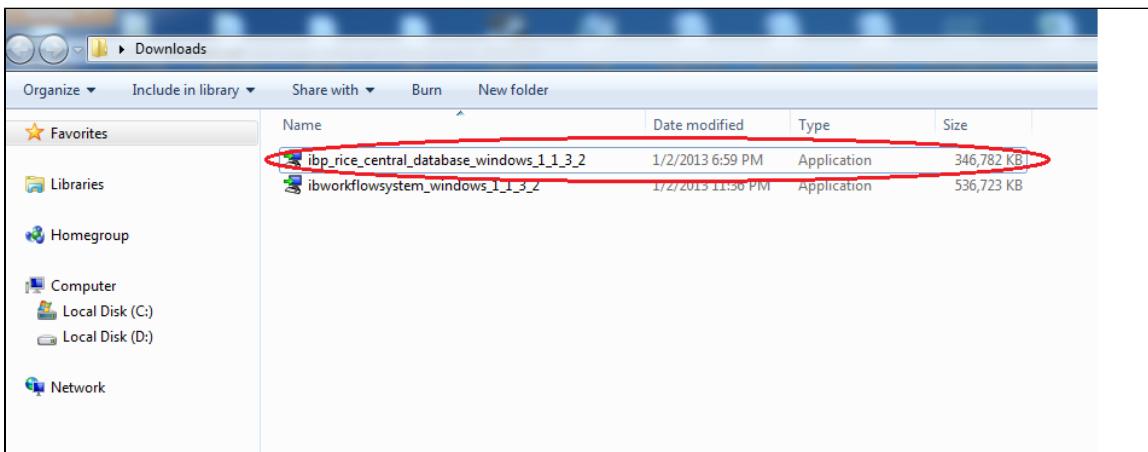
The installation of the Integrated Breeding Workflow System (IBWS) involves two steps. First the download and installation of the central crop databases and, second the download and installation of the Workbench and tools.

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

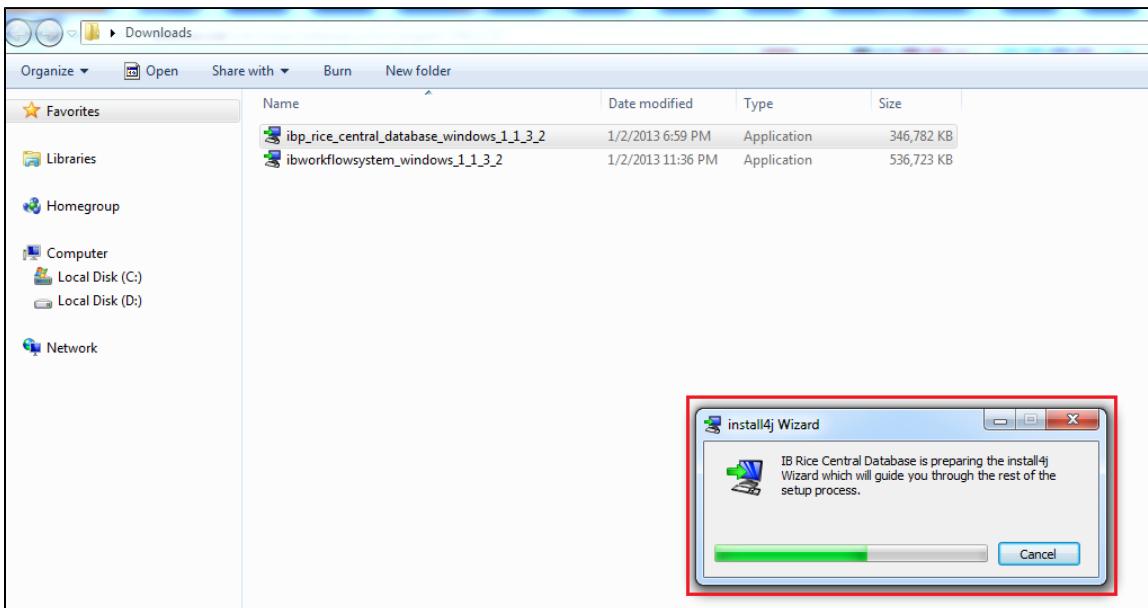
Crop Database Installation

1. Run the ibp_[crop]_central_database_windows_1_1_3_2.exe installer.

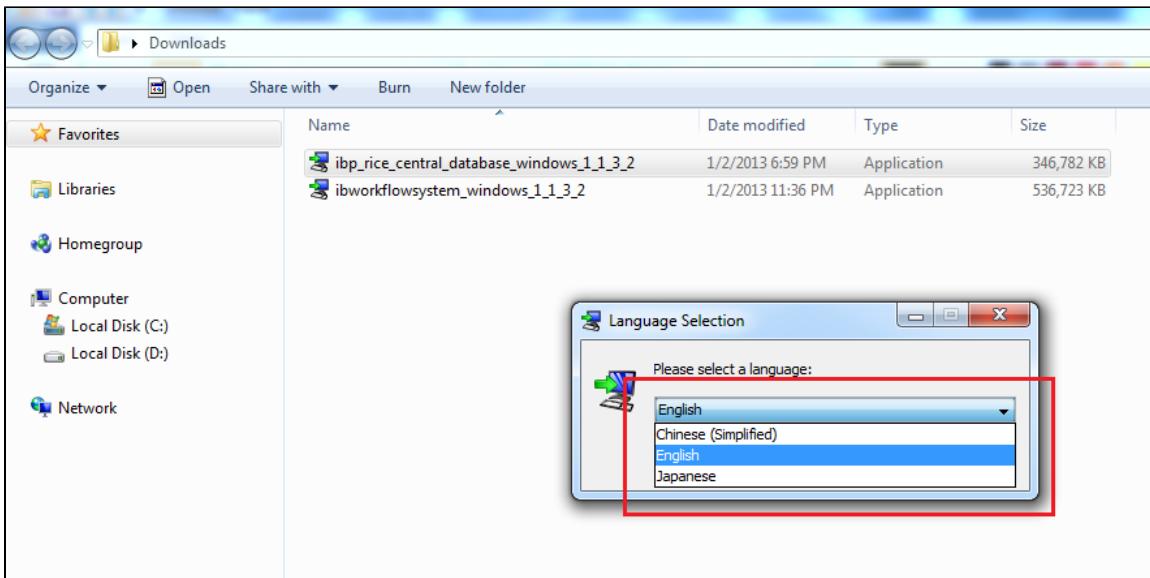
Note: where [crop] is the type of crop database you want to install. e.g rice, wheat, cassava, etc.



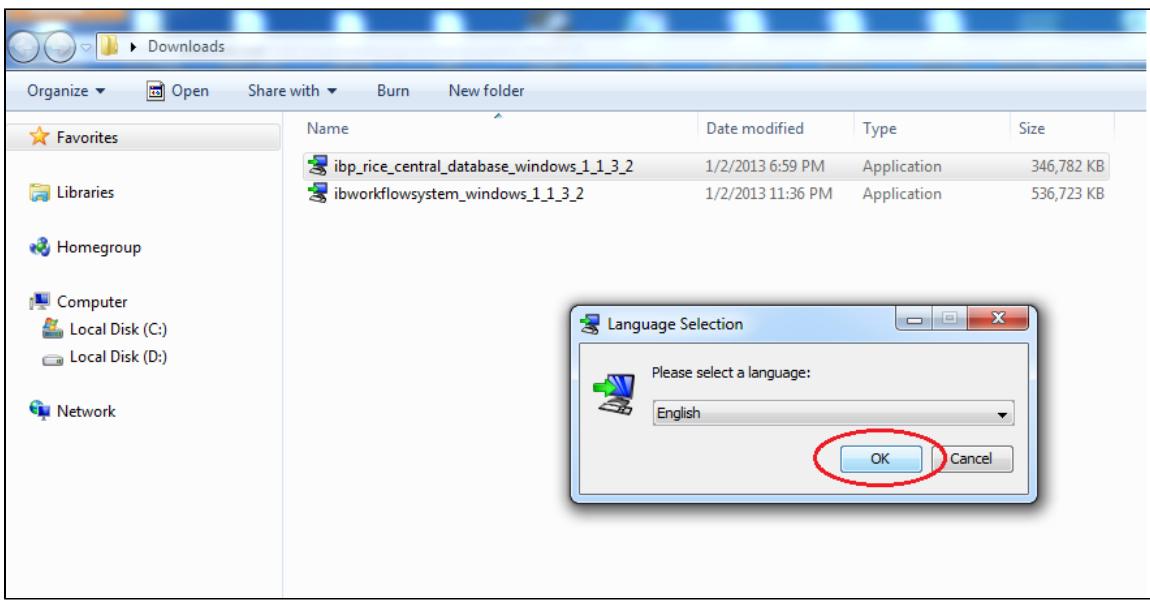
After running the installer, a progressbar window will pop-up, indicating the preparation of the setup process.



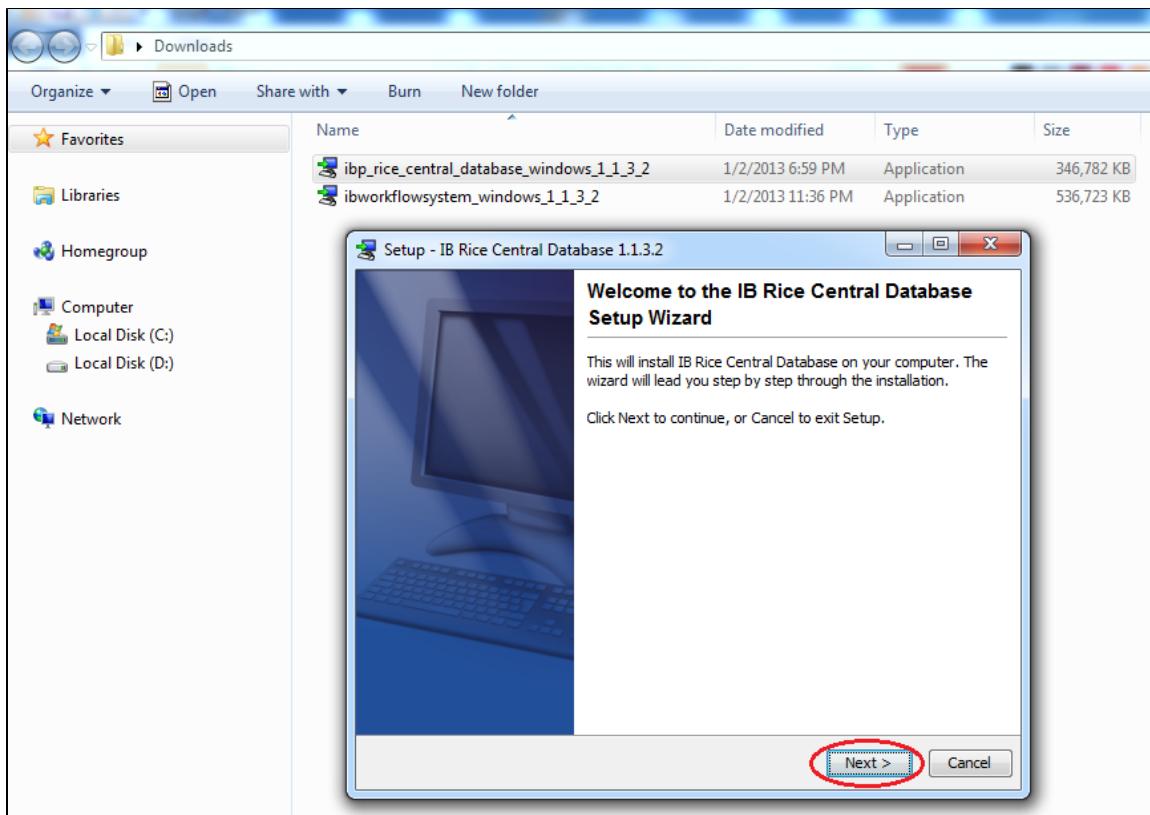
2. Next, **select the language** for the setup process.



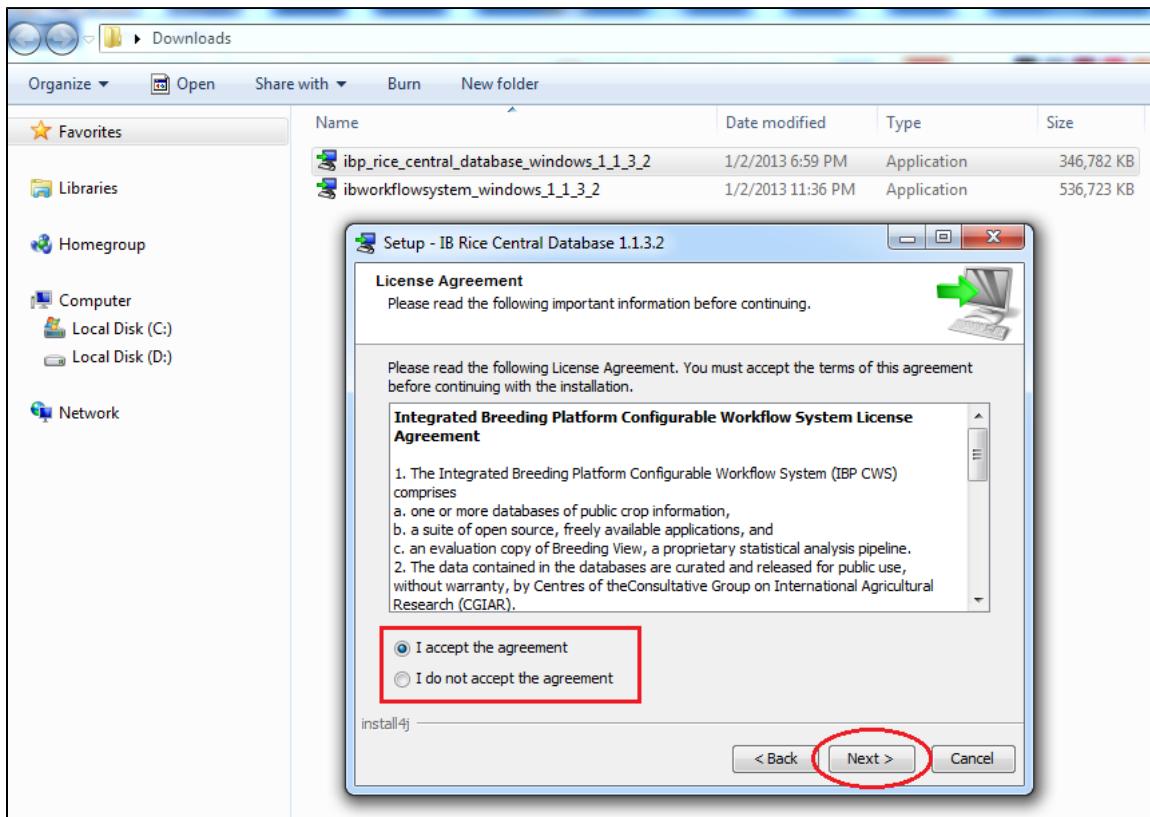
3. After selecting a language, click **OK**.



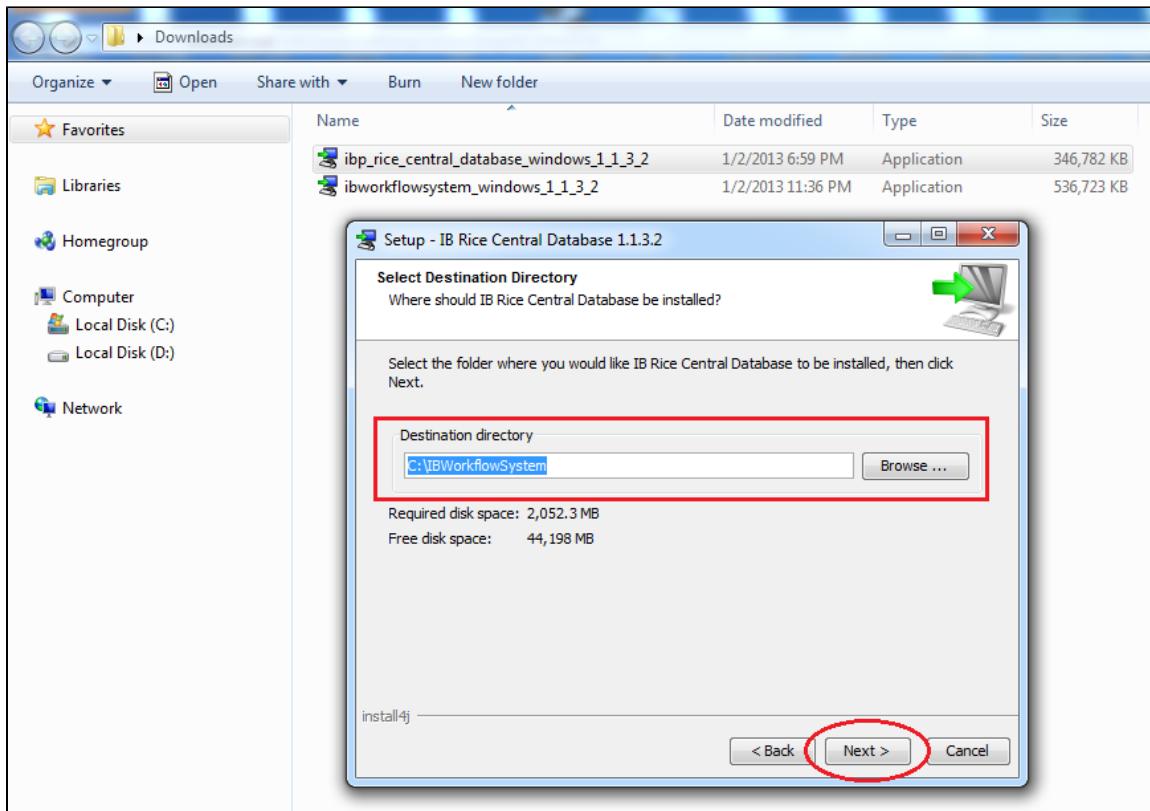
4. For the next step, click **Next**.



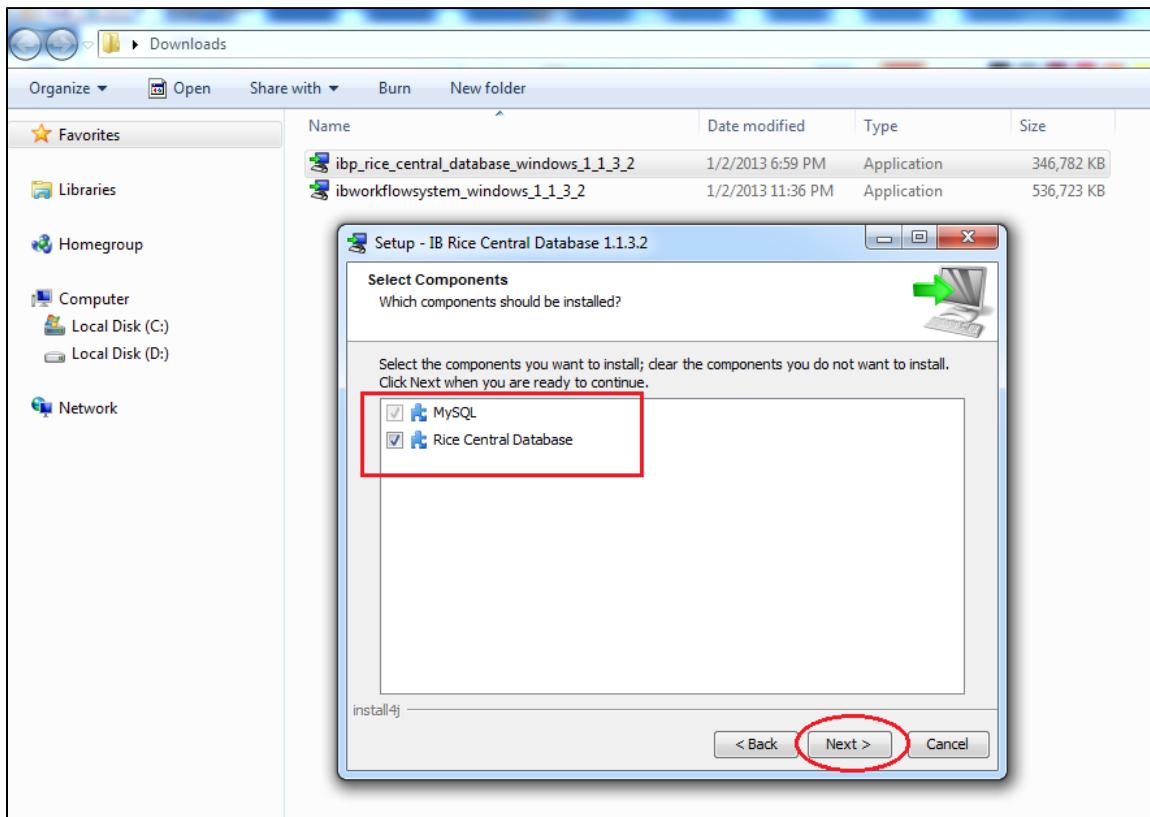
5. Read the License Agreement, select "I accept the agreement" on the checkbox and click **Next**.



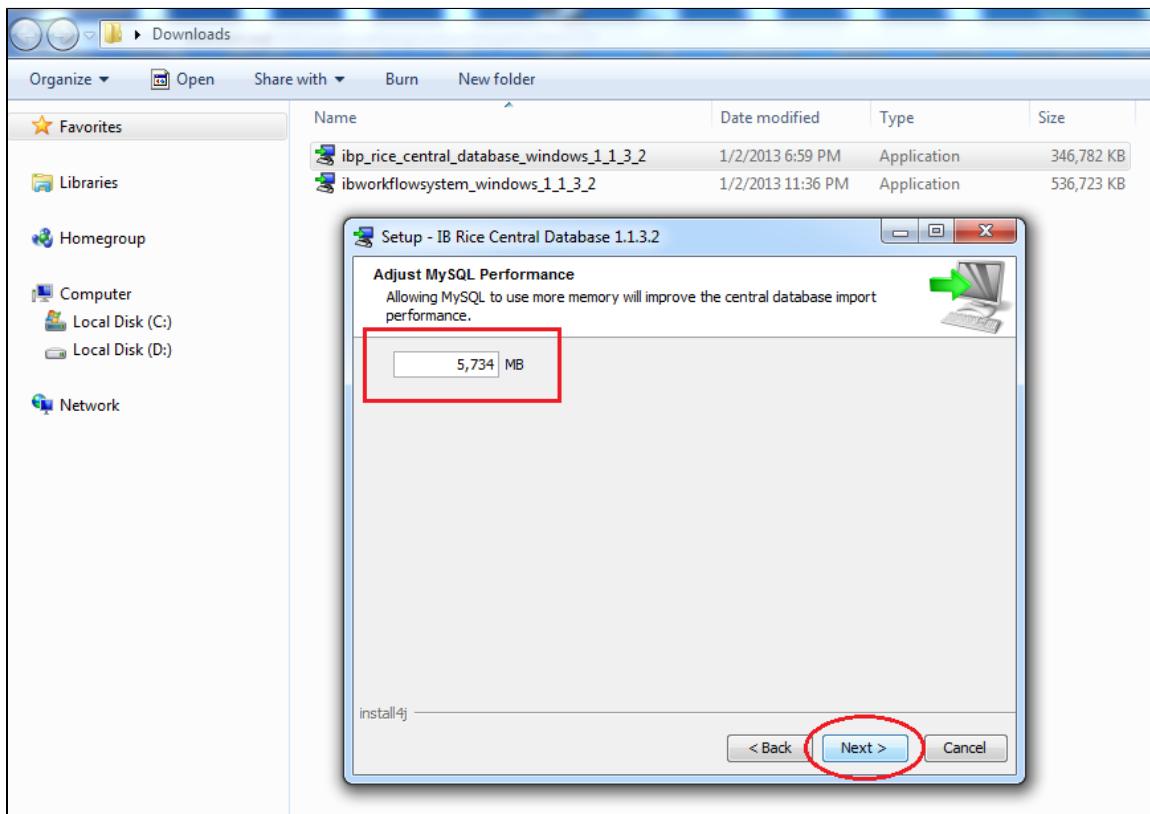
6. Enter the desired directory for the installation or use the **default**, then click **Next**.



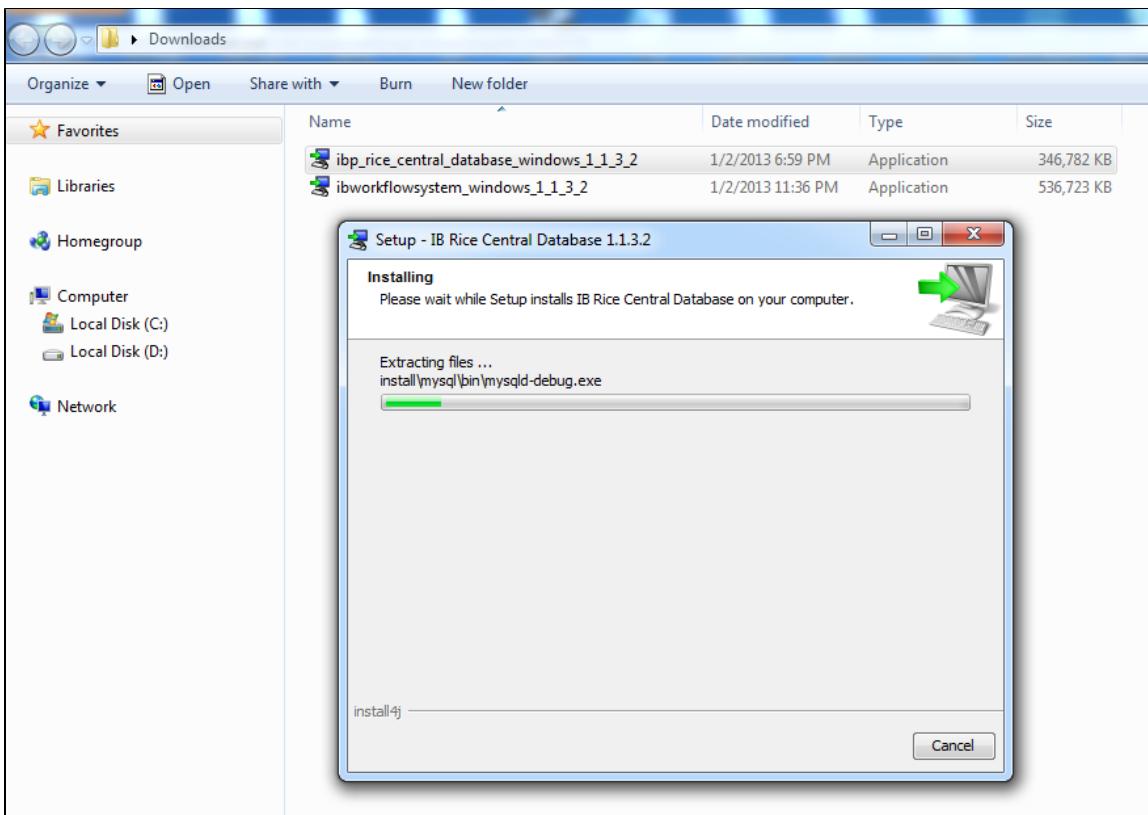
7. Make sure that the crop database of interest is selected on the check box, then click **Next**.



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.

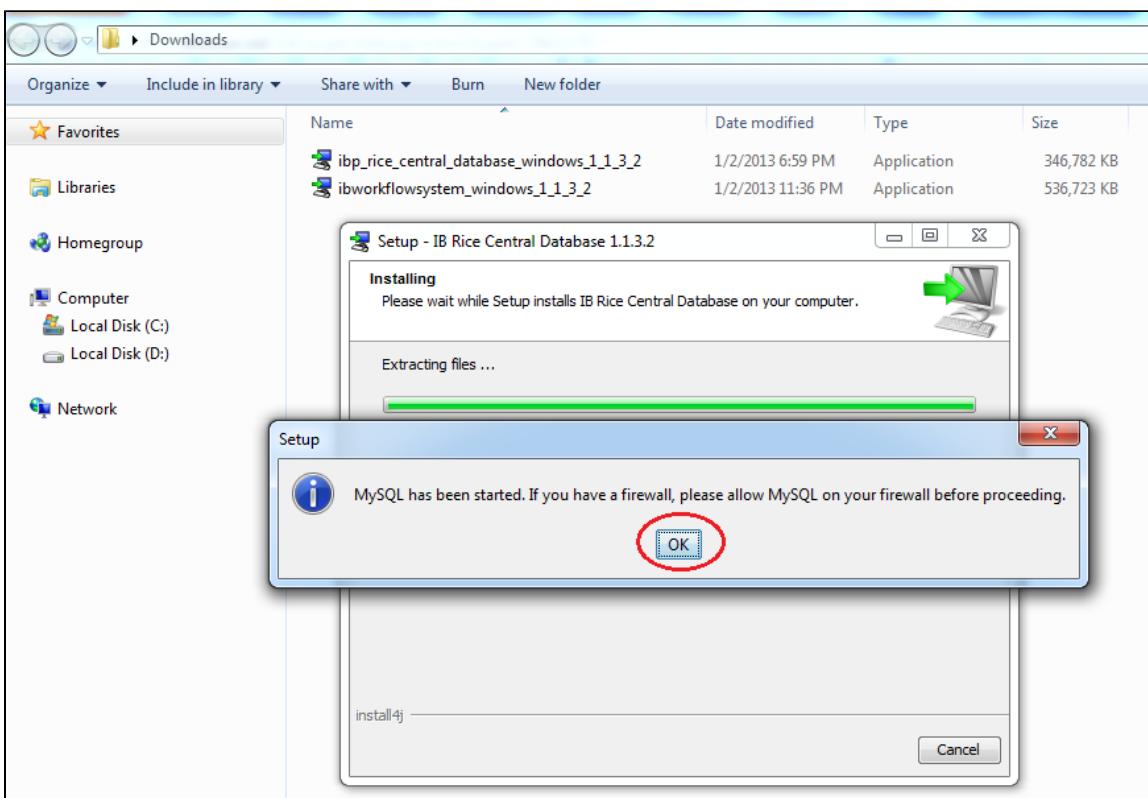


9. Please wait while the installation is in progress, you may click **Cancel only** if you wish to **stop** the whole setup process.

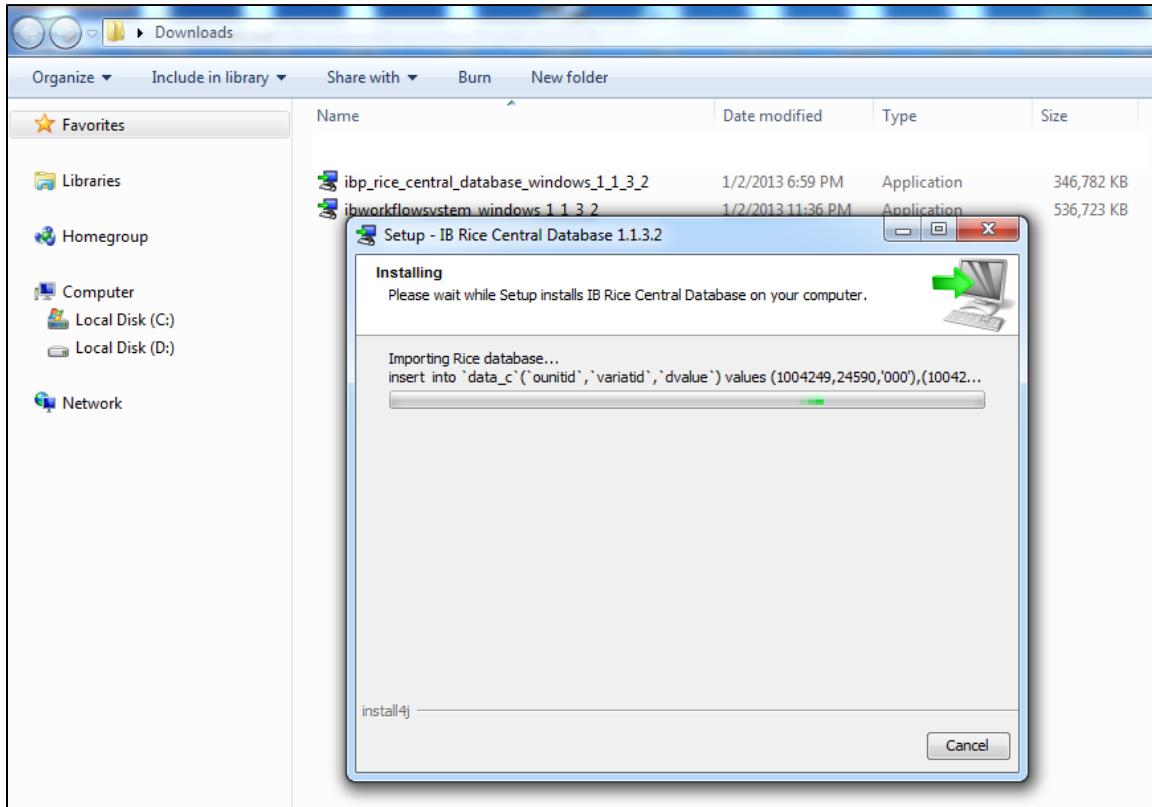


10. Make sure that you allow the MySQL on your firewall.

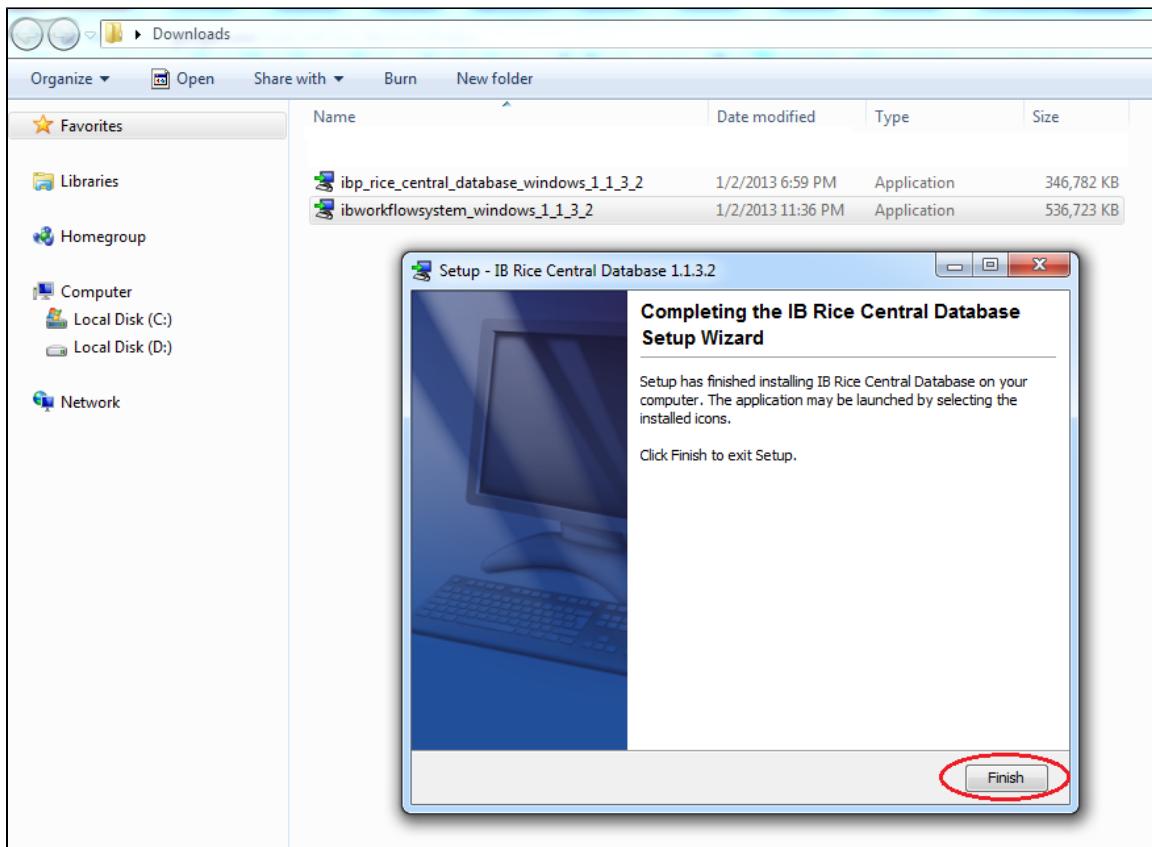
A different window will be displayed for this and you just have to select that you allow the MySQL process to run. Then you can click **OK** on the message window displayed by the installer (shown below).



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.

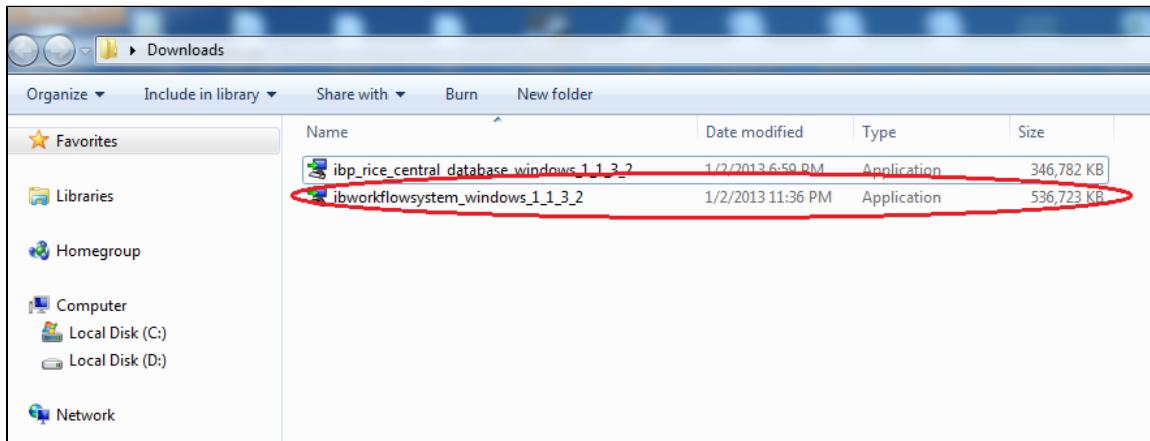


You have now **completed** the installation of your selected crop database.

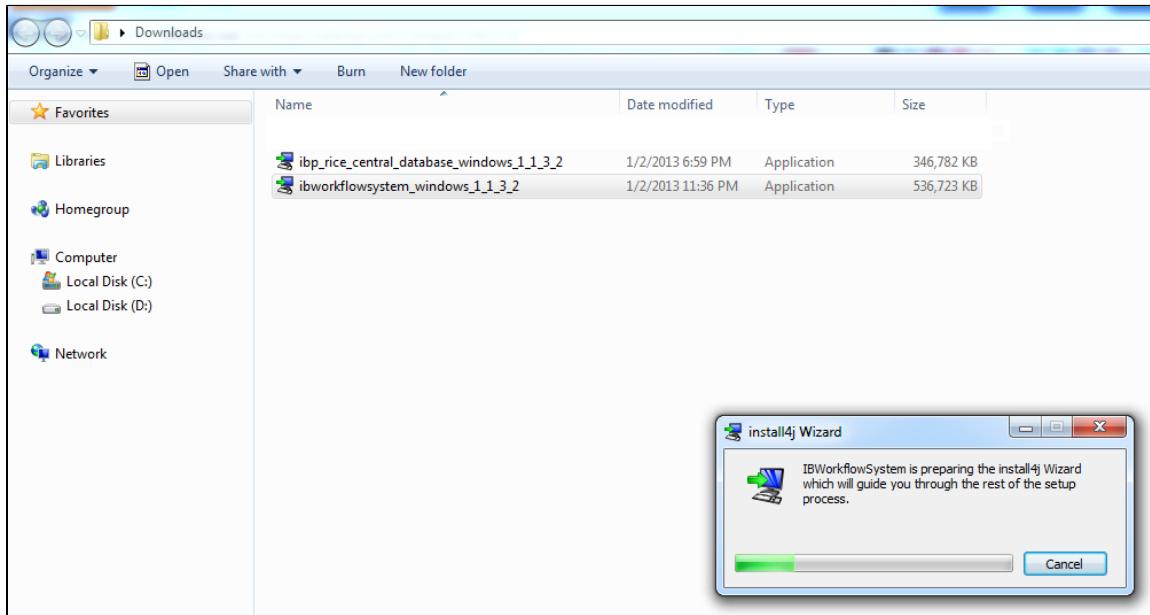
IB Workflow System Installation

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.

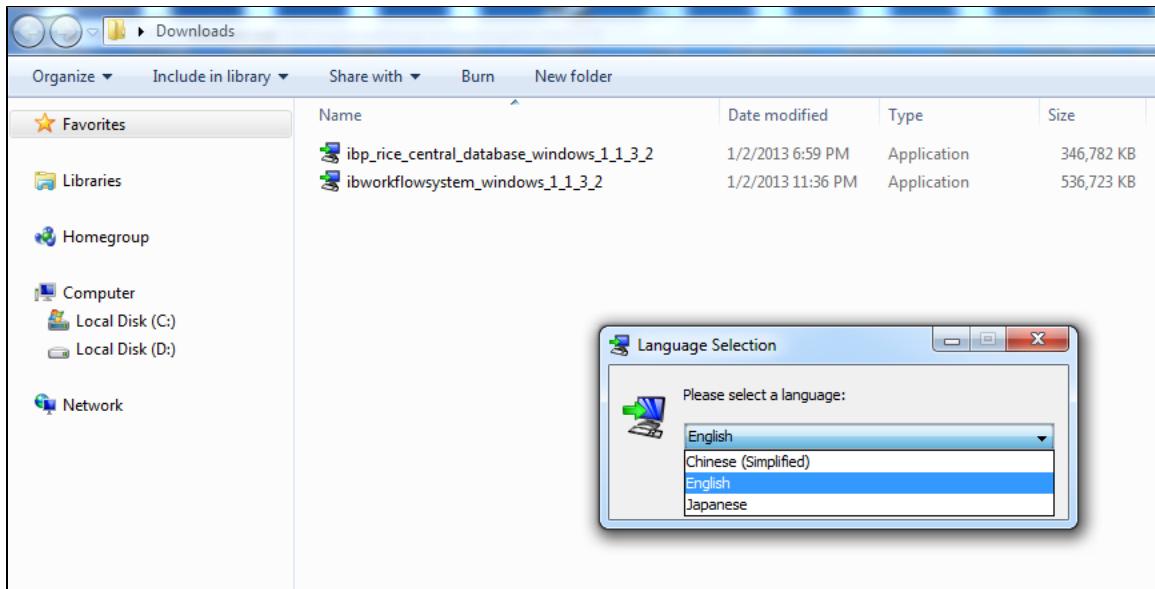
1. Run the ibpworkflowsystem_windows_1_1_3_2.exe installer.



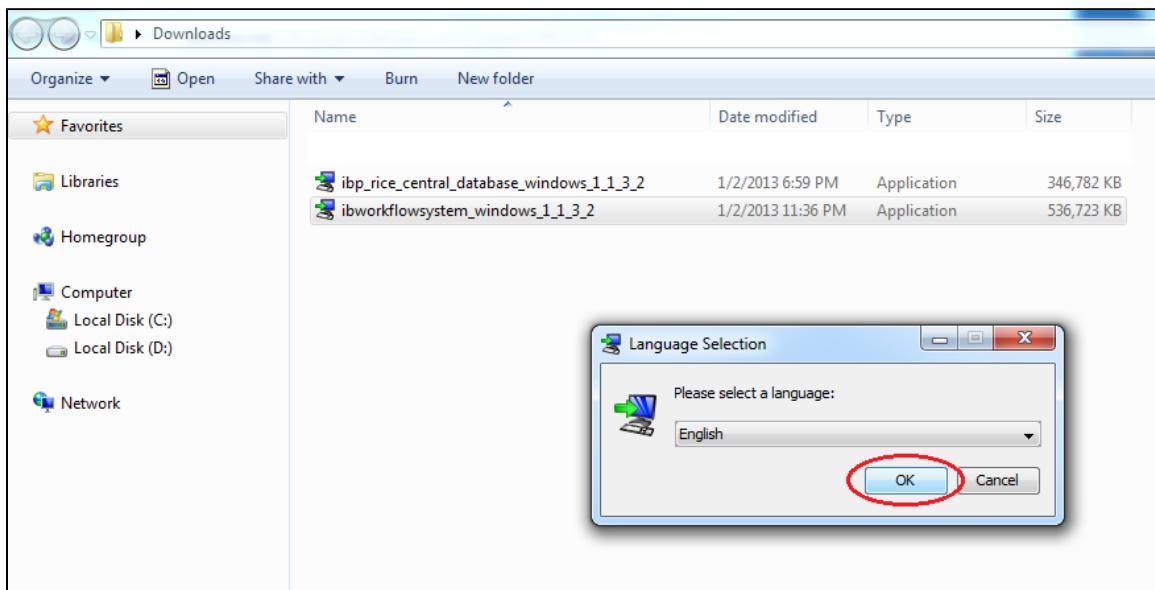
After running the installer, a progressbar window will pop-up, indicating the preparation of the setup process.



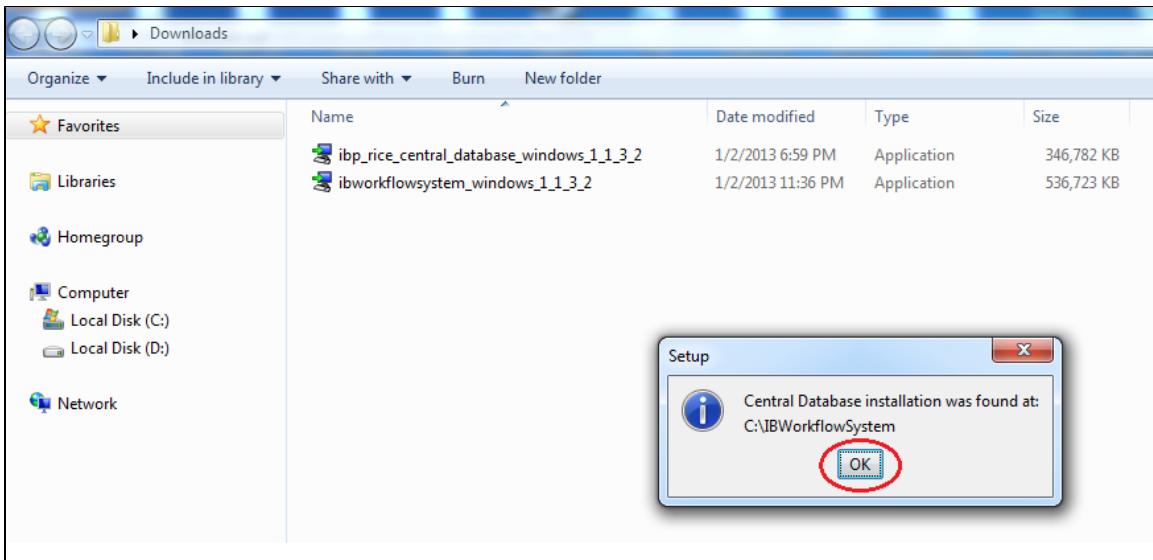
2. Next, **select the language** for the setup process.



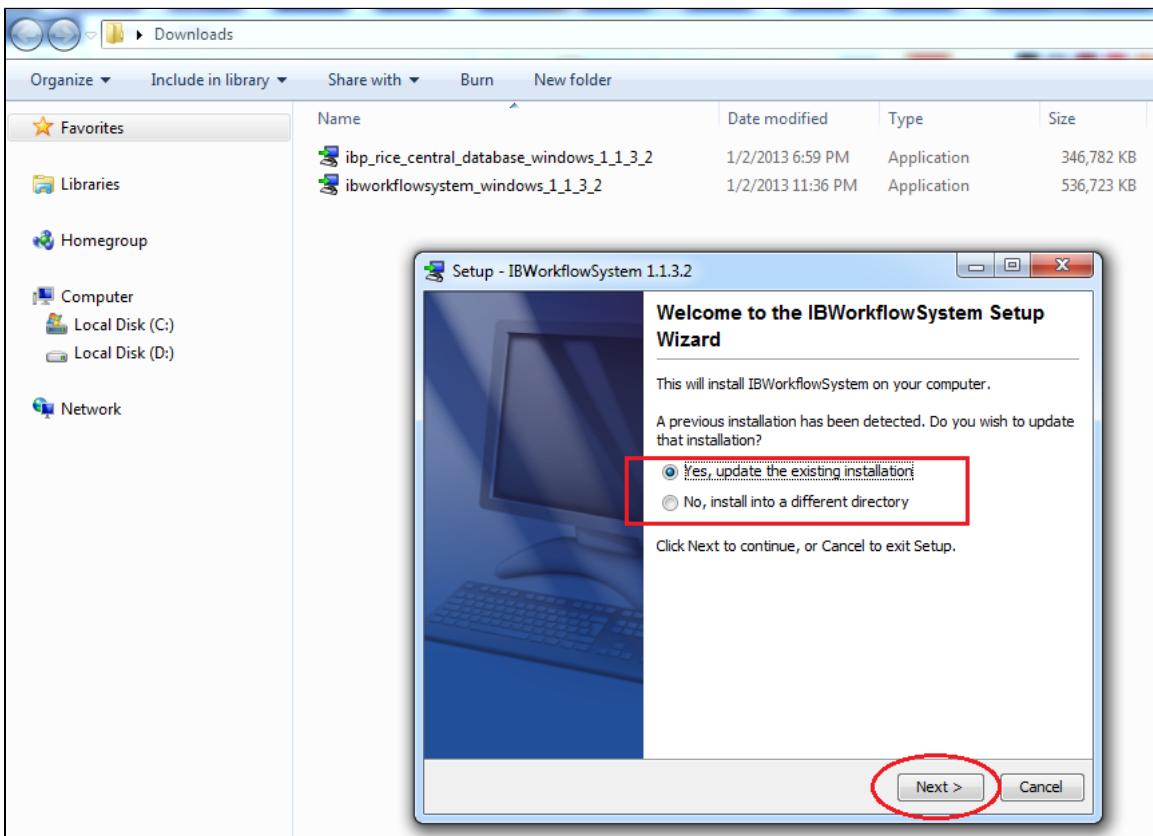
3. After selecting a language, click **OK**.



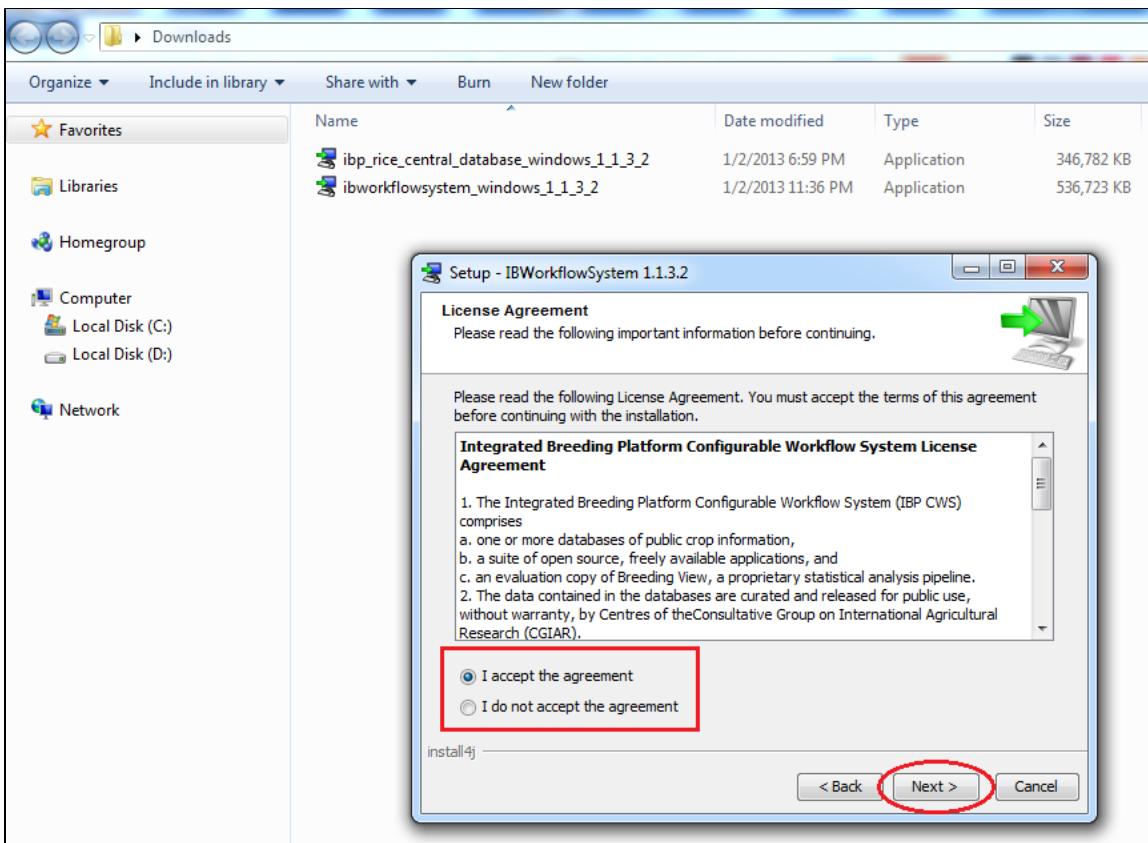
4. A notification window will pop-up displaying where a crop database was previously installed, after this just click **OK**.



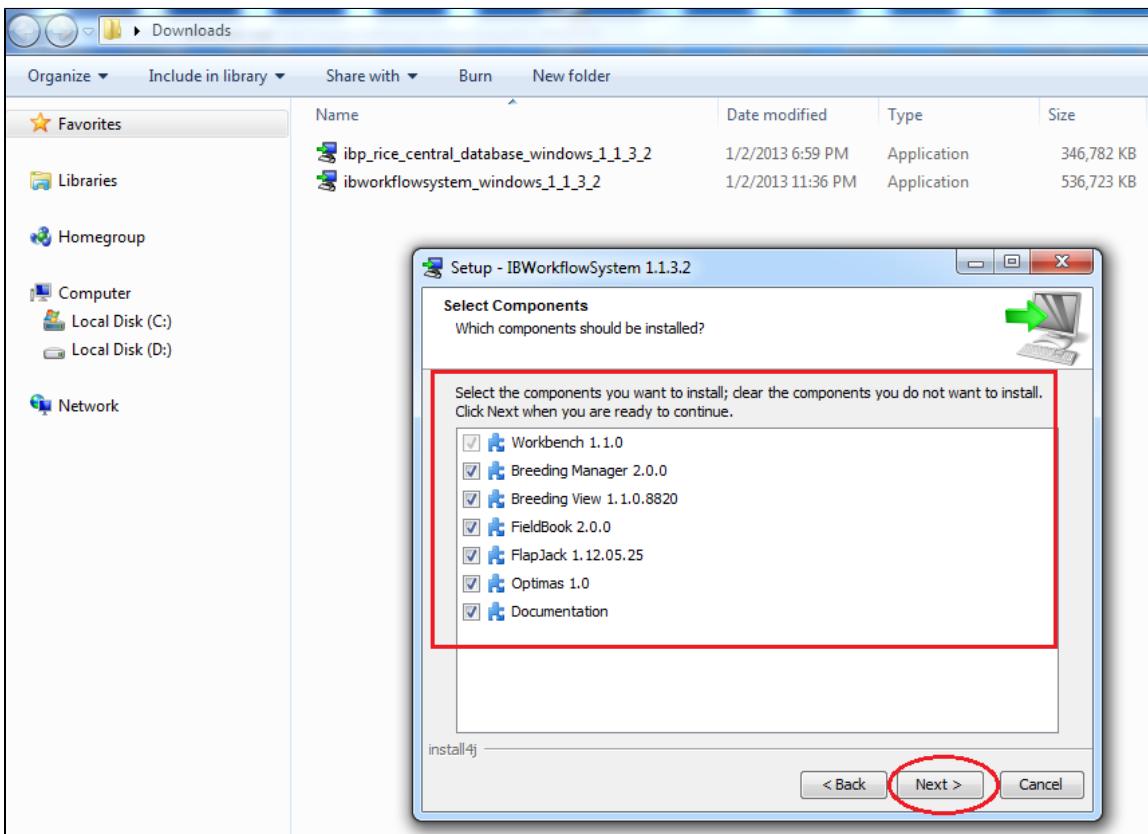
5. For this step, you may choose to update an existing installation or install on a different directory. For now choose the default selection and click **Next**.



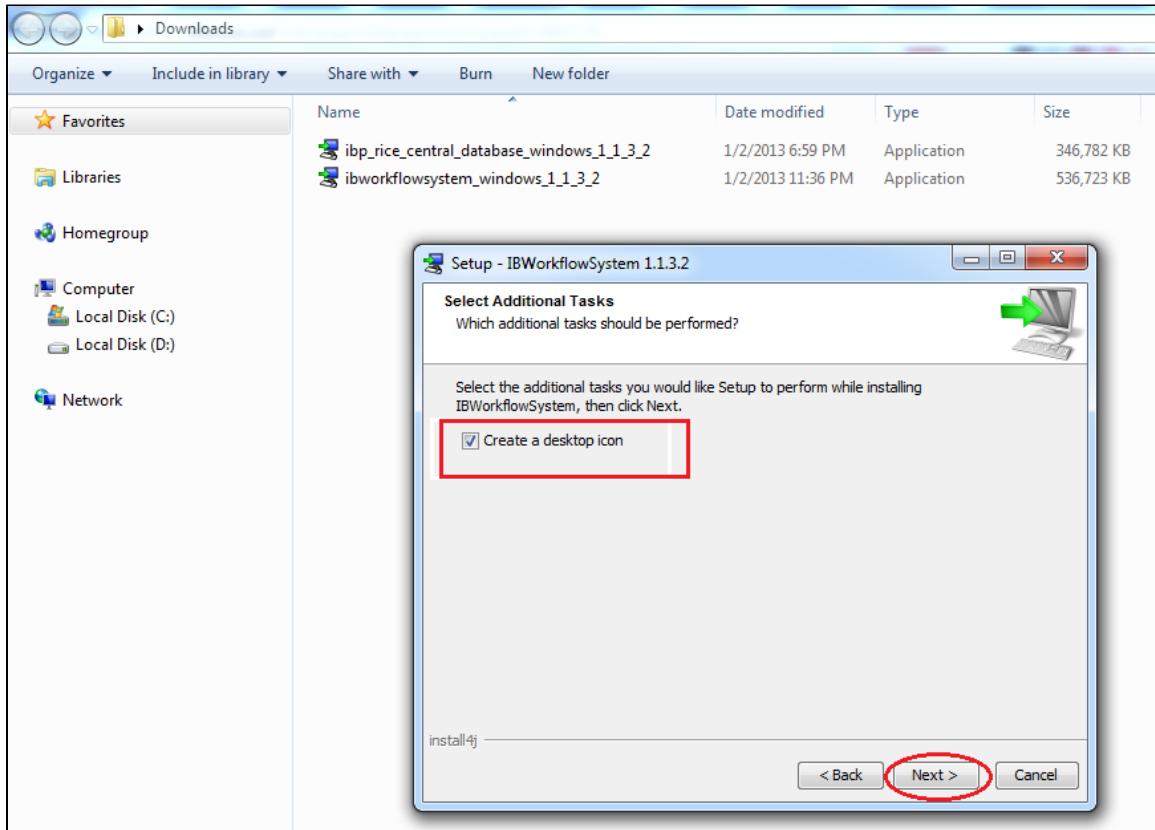
6. Read the License Agreement, select "I accept the agreement" on the checkbox and click **Next**.



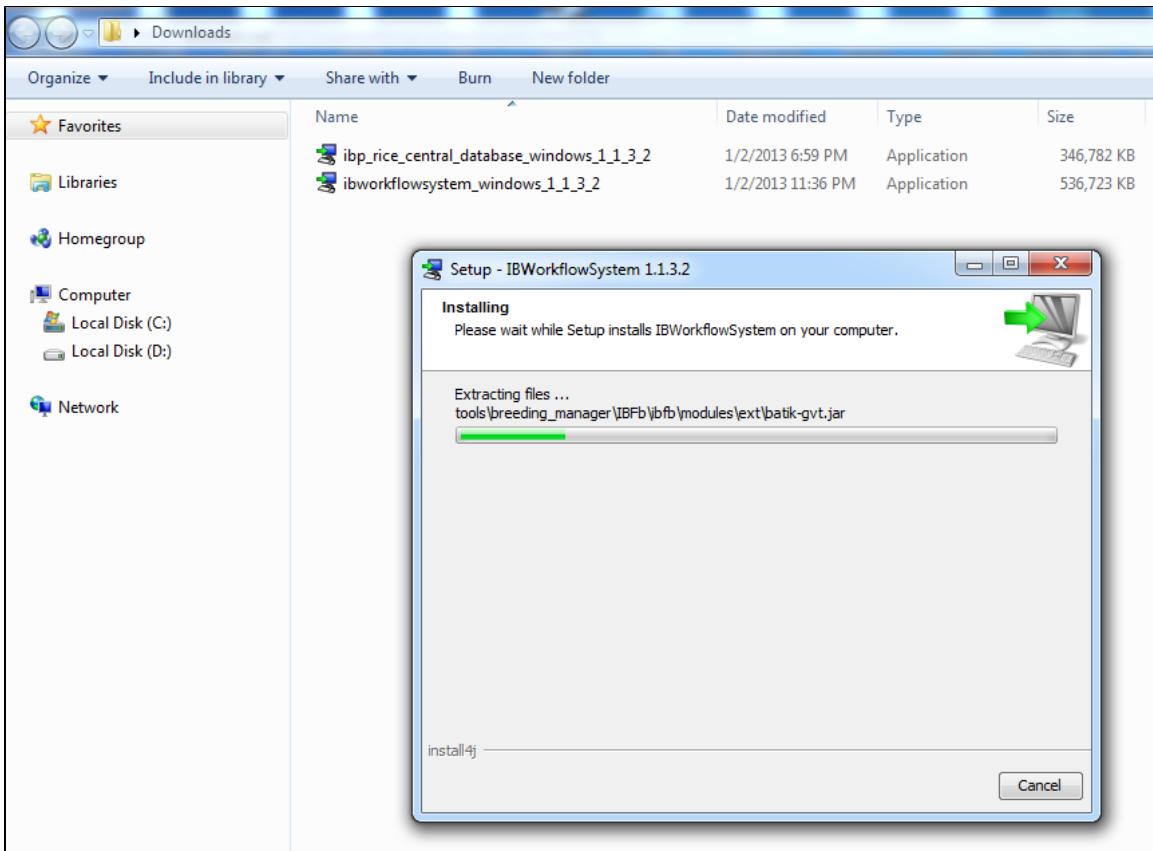
7. Select the tools you wish to be installed then click **Next**.



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.

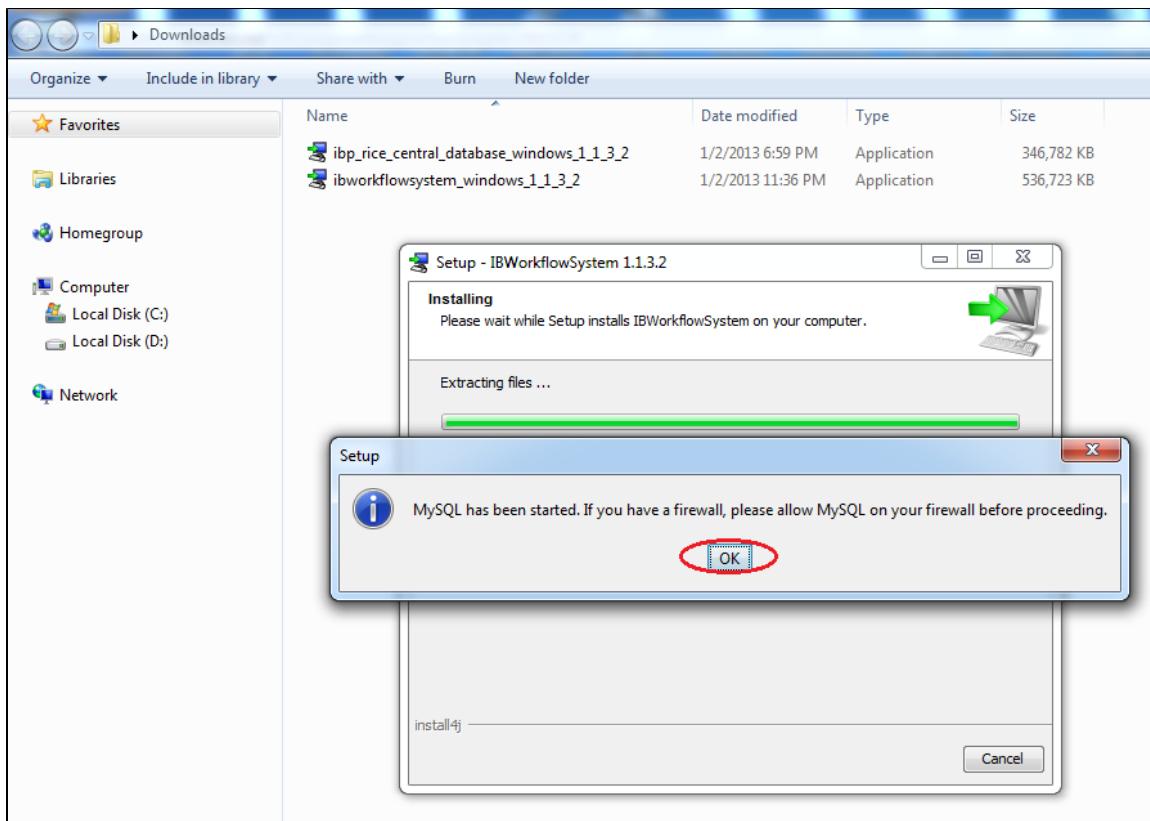


10. Make sure that you allow the MySQL on your firewall.

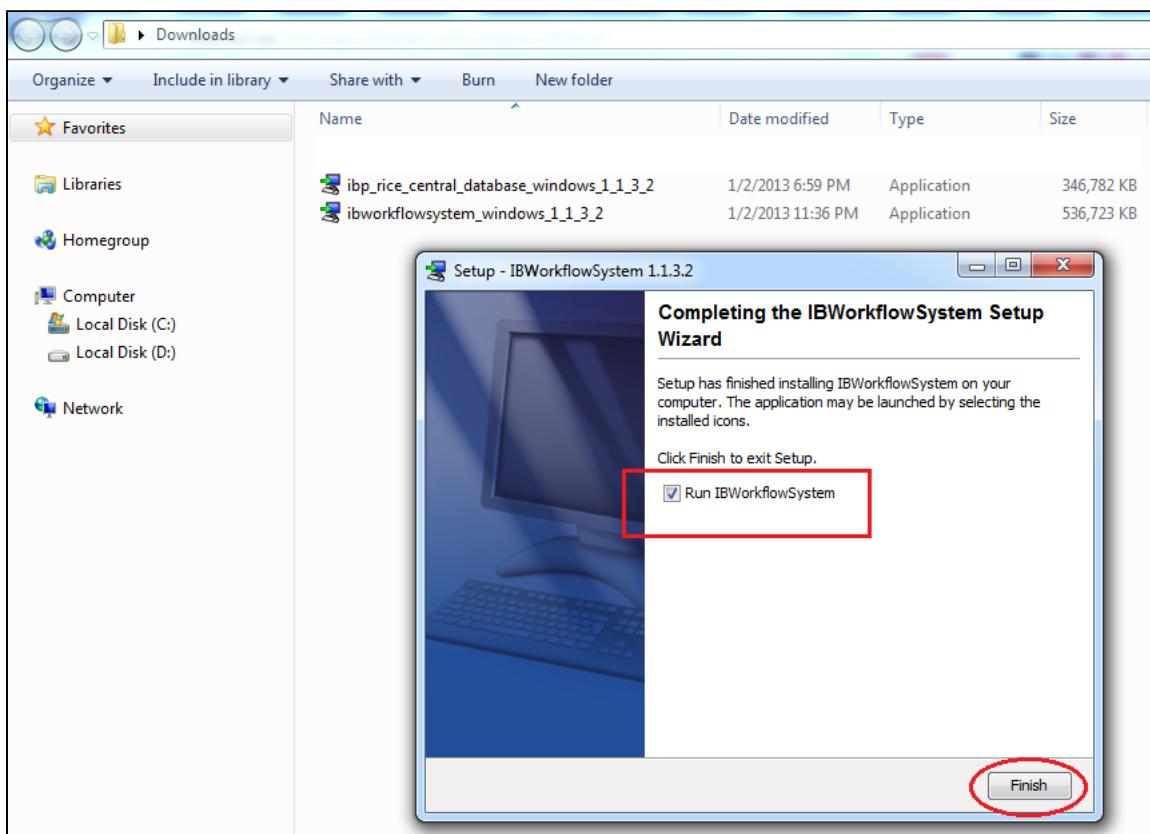
A different window will be displayed for this and you just have to select that you allow the MySQL process to run.

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

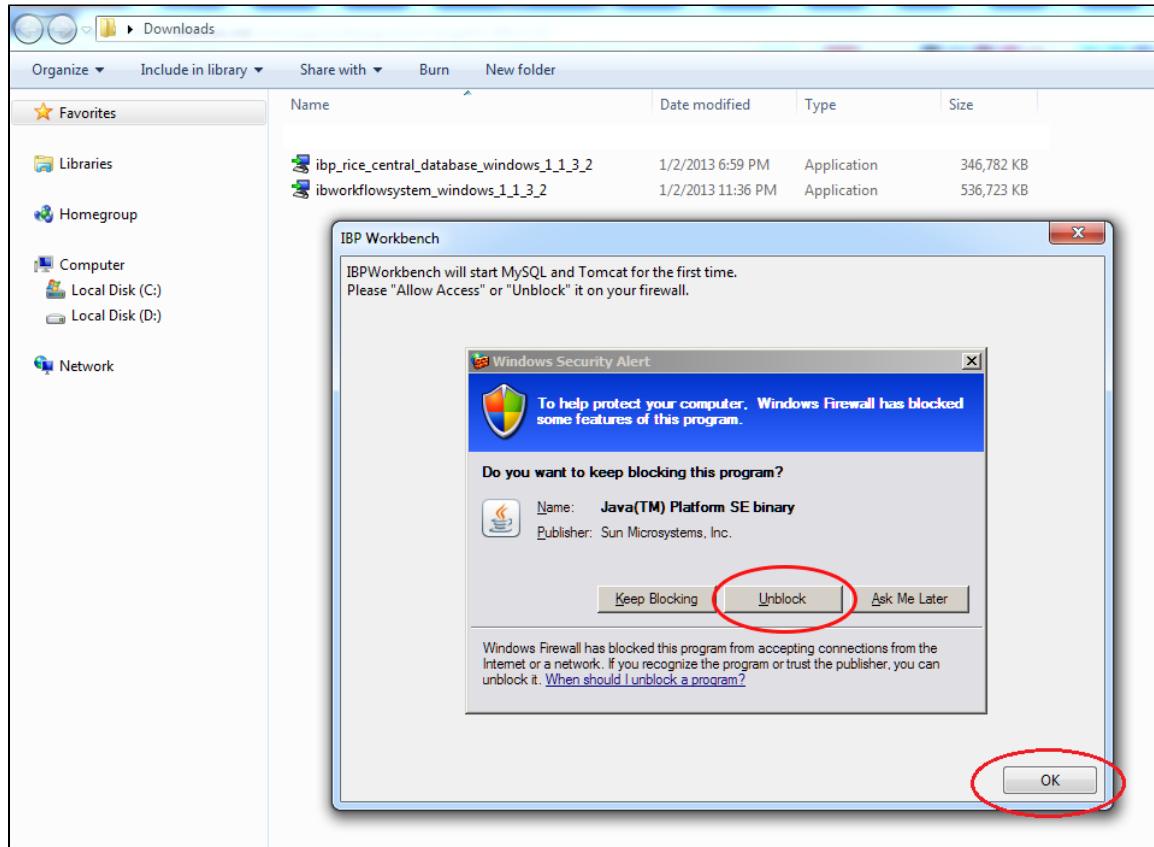
Then you can click **OK** on the message window displayed by the installer (shown below).



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**.



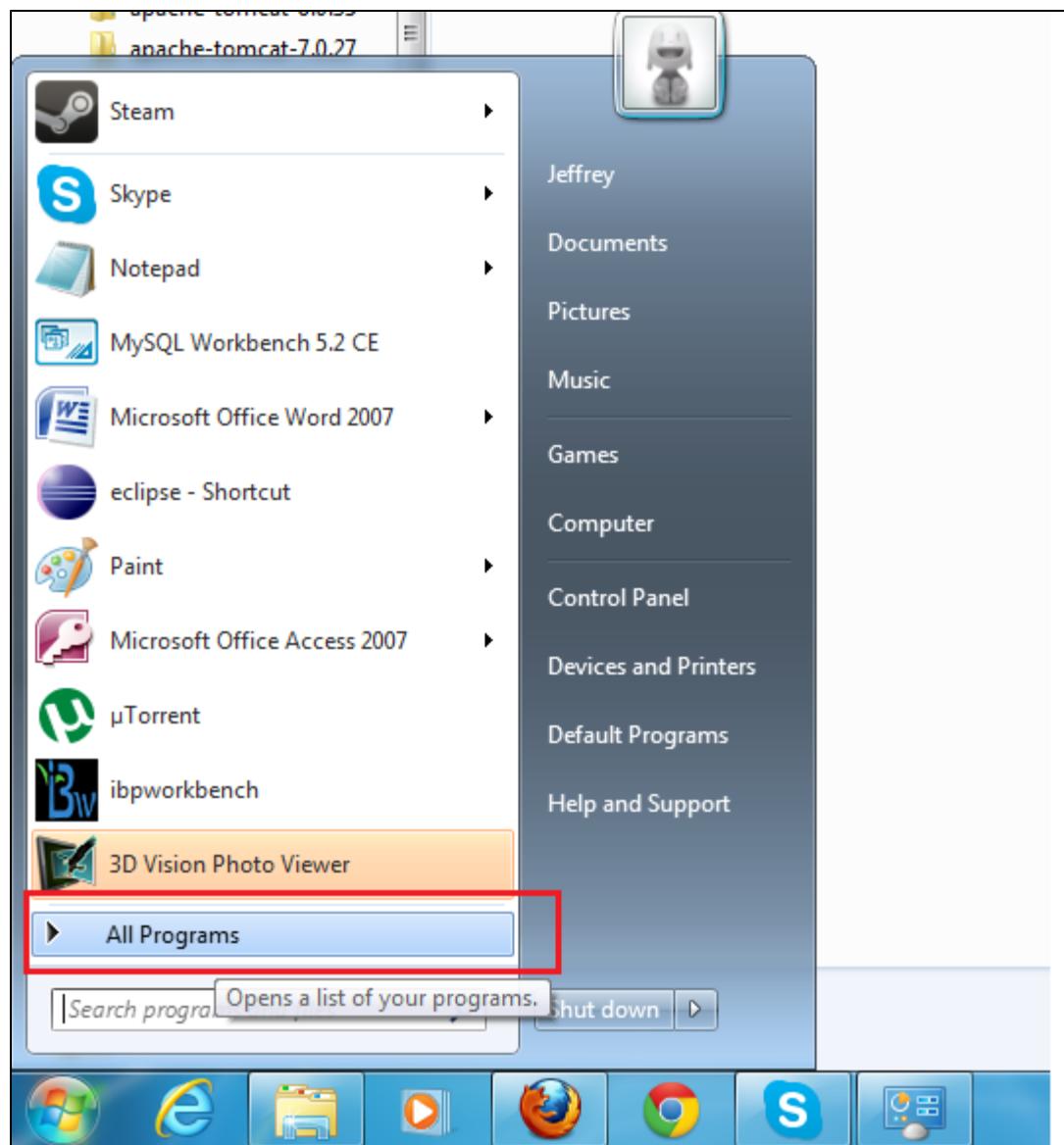
13. Please wait while the MySQL and Tomcat is being started for the first time.



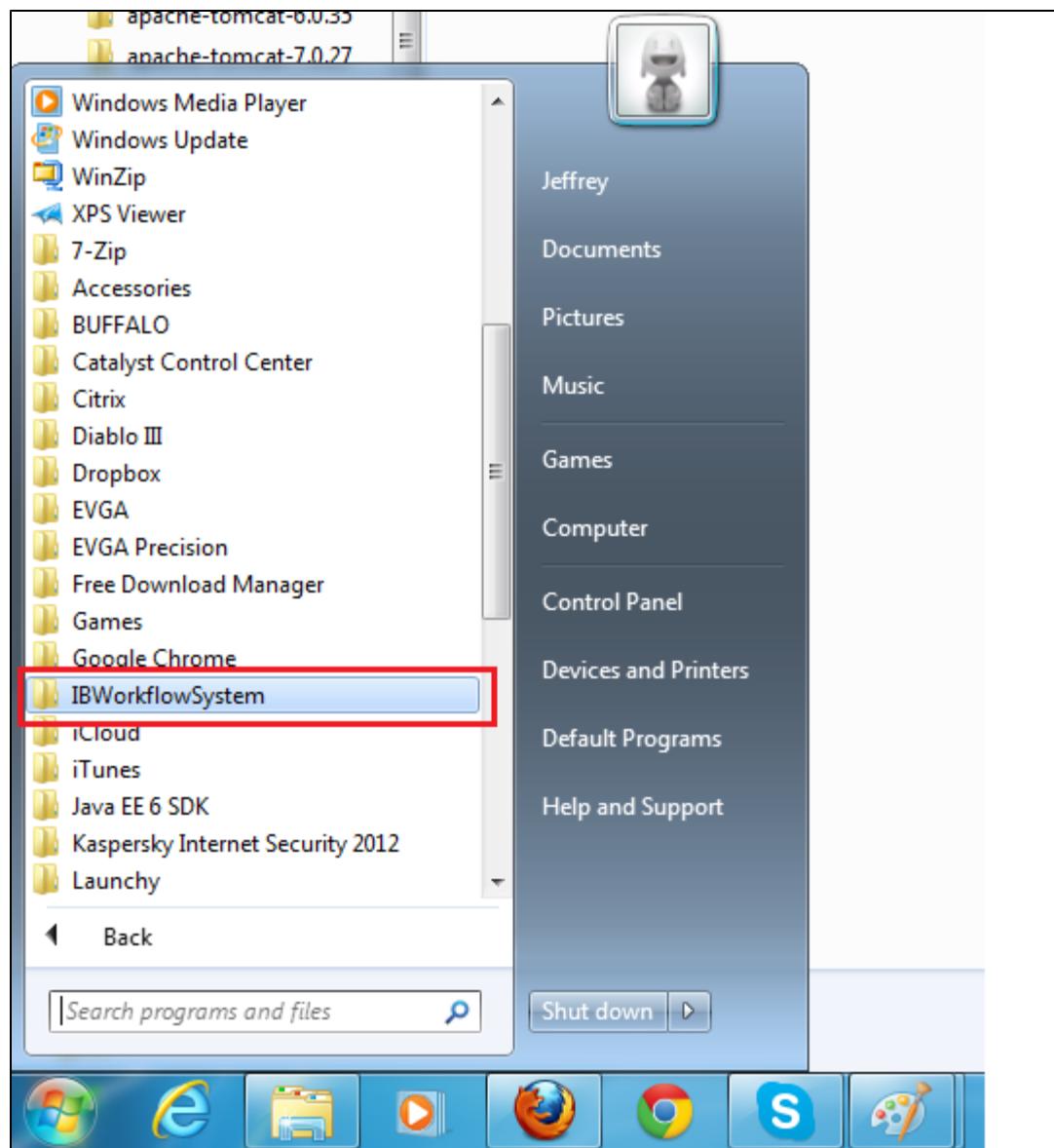
You have now **completed** the full installation of the IB Workflow System.

IB WorkflowSystem Uninstallation

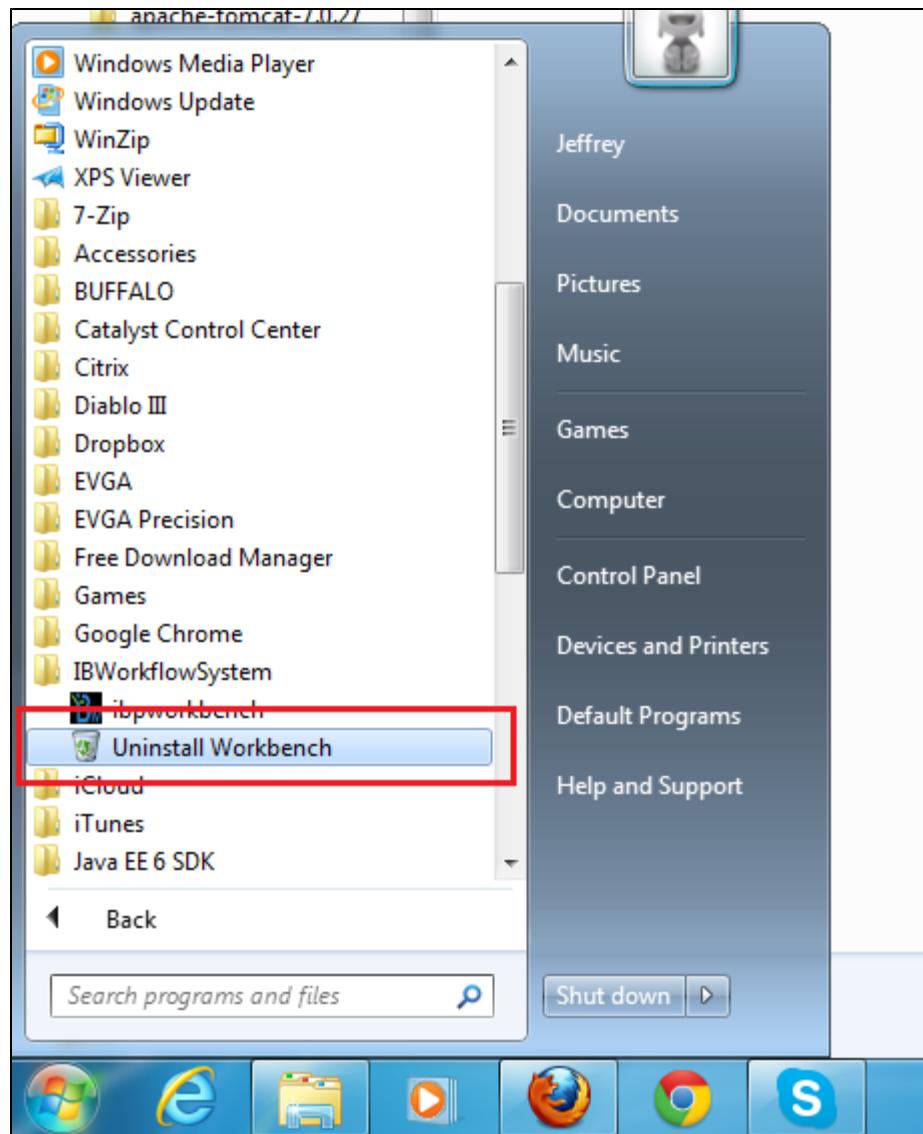
1. First off, click the **windows icon** button to display the starting menu. On this menu, click "**All Programs**".



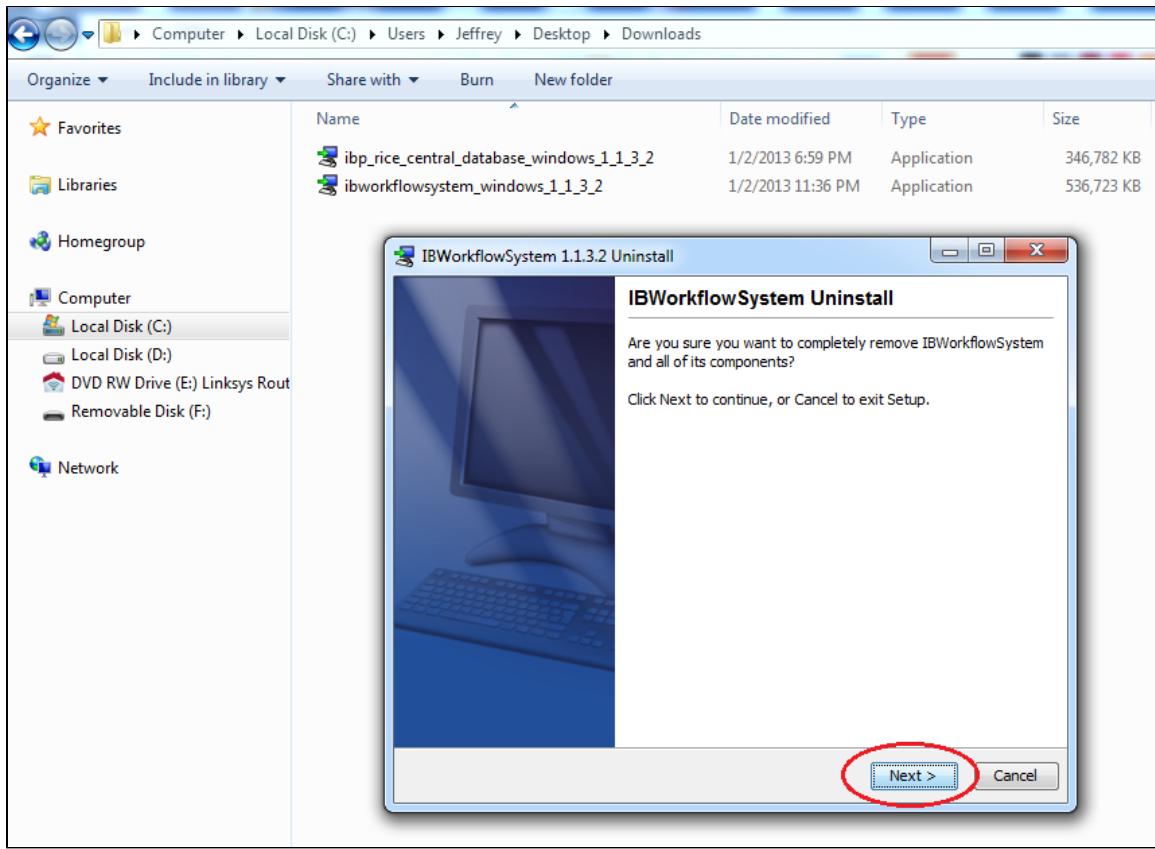
2. Next, browse for the **IBWorkflowSystem** folder on the list. When you find it, **click** that folder to open its contents.



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**.

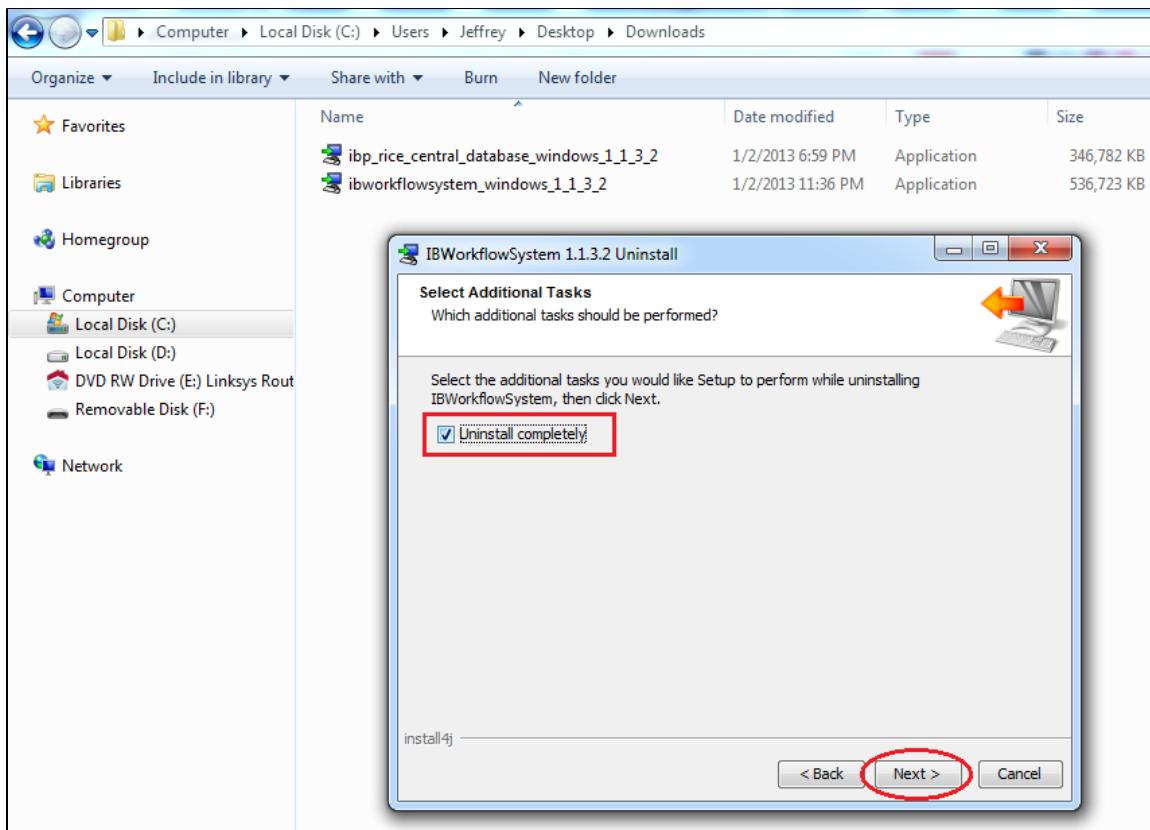


5. The next step will ask you if you wish to uninstall the application completely or not.

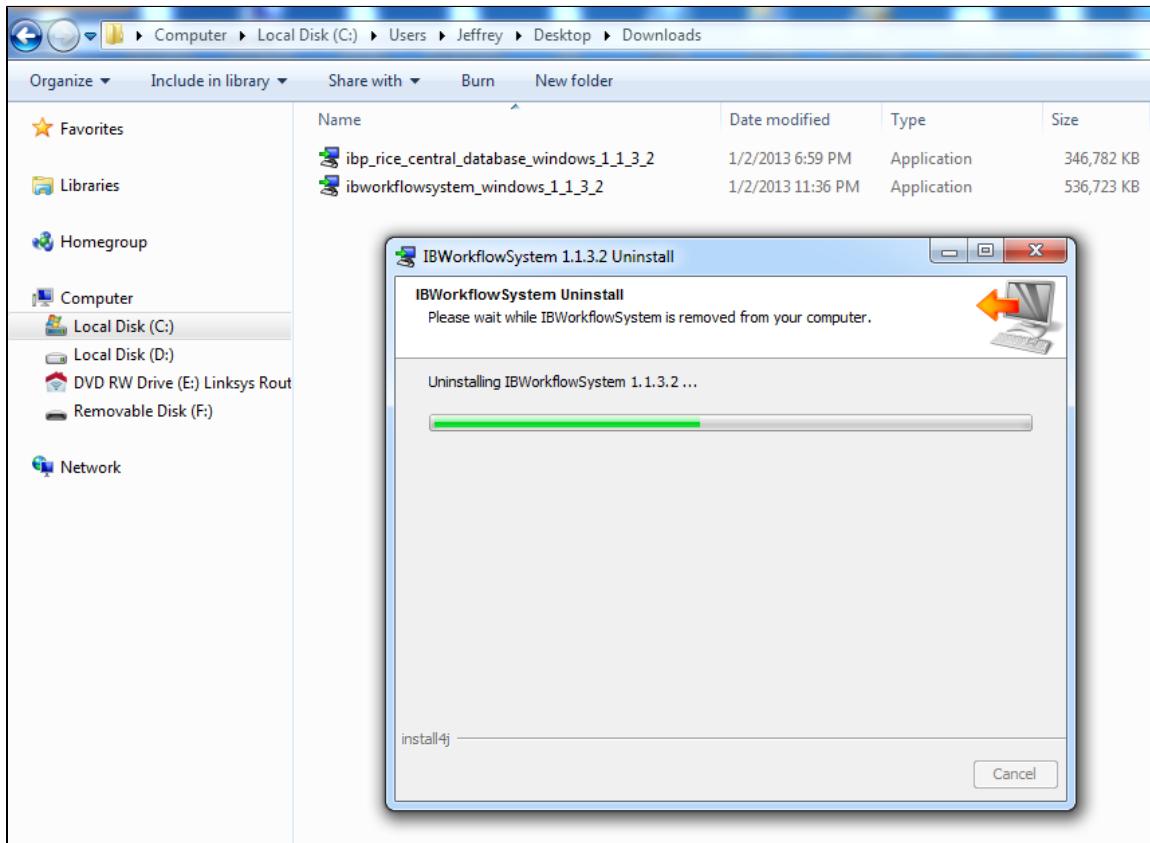
If you **uncheck** the "**Uninstall completely**" option the installed databases, MySQL service and MySQL itself will not be removed from your computer but the IBWorkbench application and its tools will be.

On the other hand, if you **check** the option, then the whole IB Workflow System will be removed from your computer.

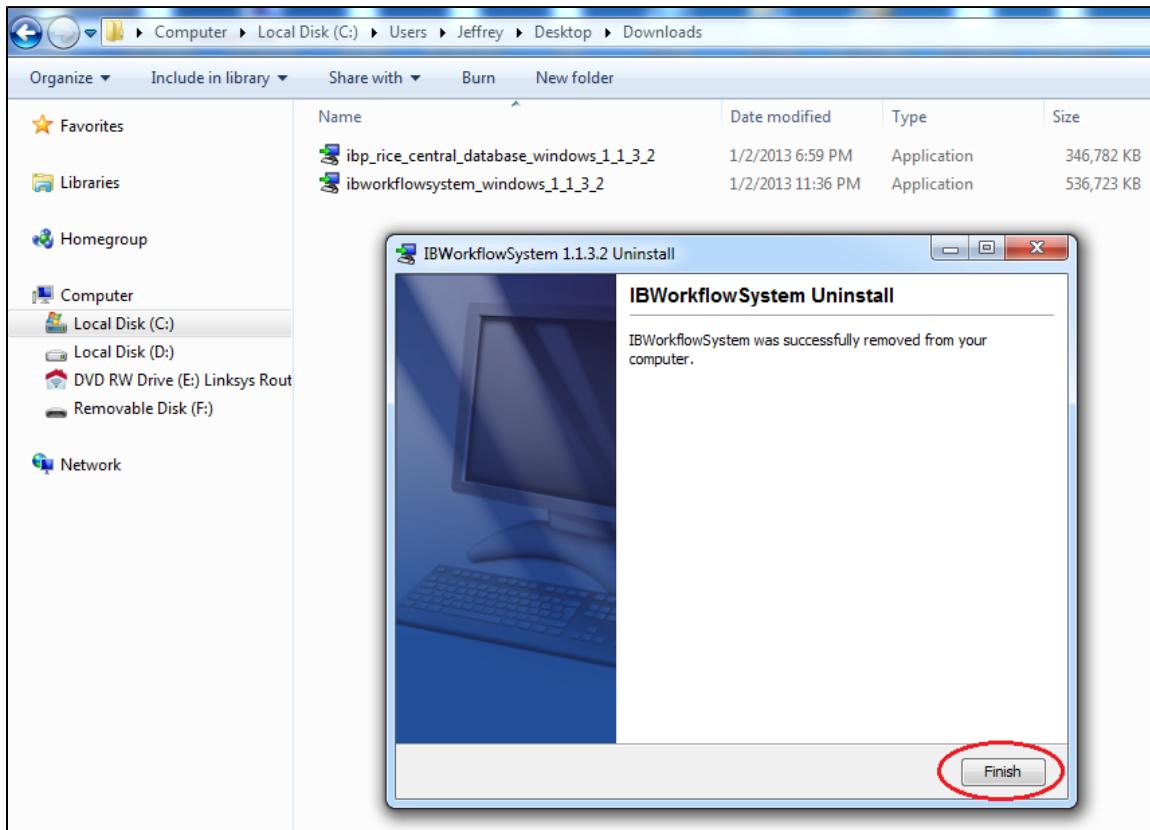
Choose the option that you prefer for the uninstallation and then click **Next**.



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



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



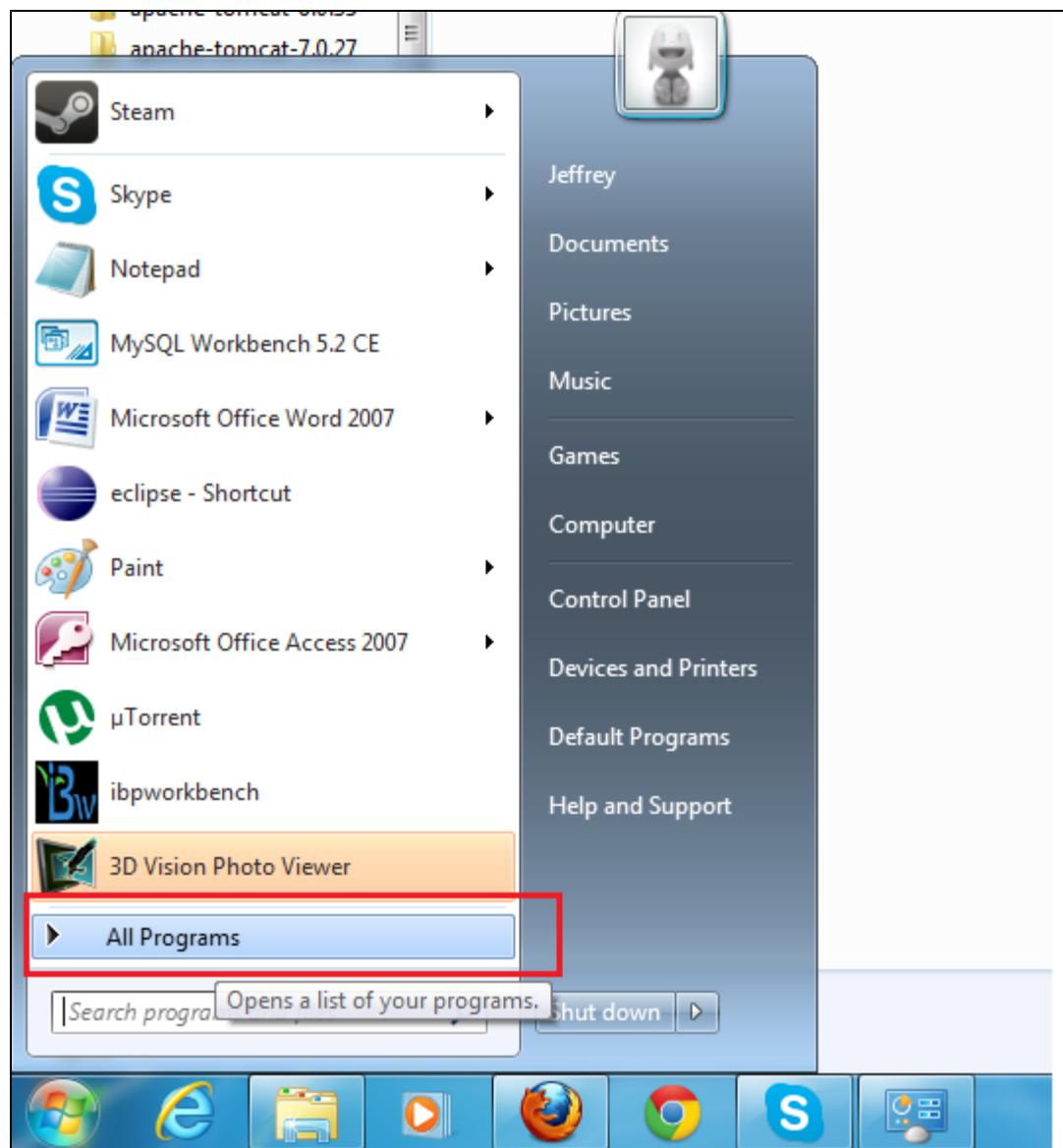
You have now **completed** the full uninstallation of the IB Workflow System.

STARTING-UP THE IB WORKFLOW SYSTEM

Follow the steps listed below to use this tool:

Application Start-up

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

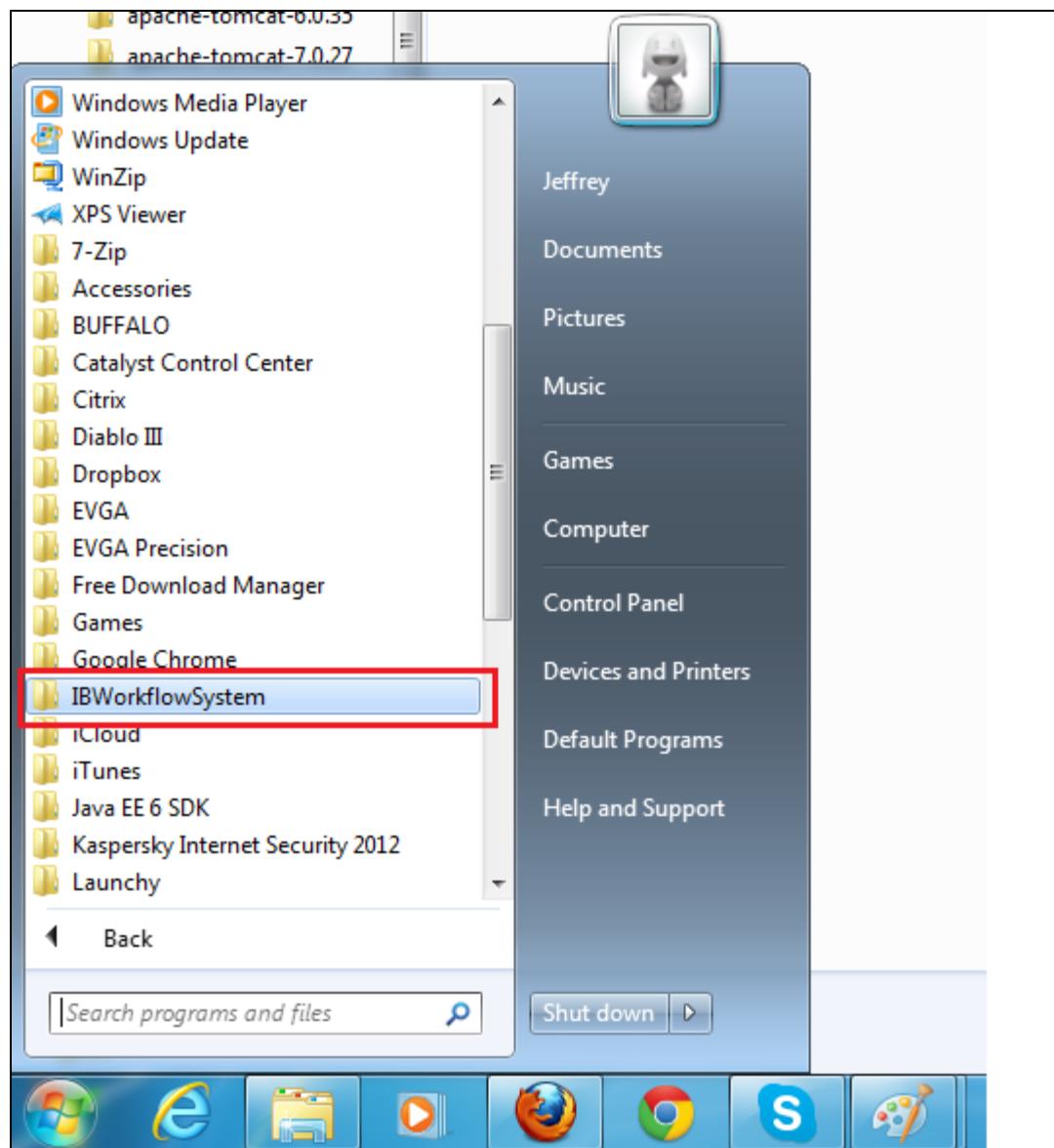


Note: Before clicking "All Programs", you may choose to open the application right away on this current step if you see the  icon in the current list of frequently-accessed windows applications.

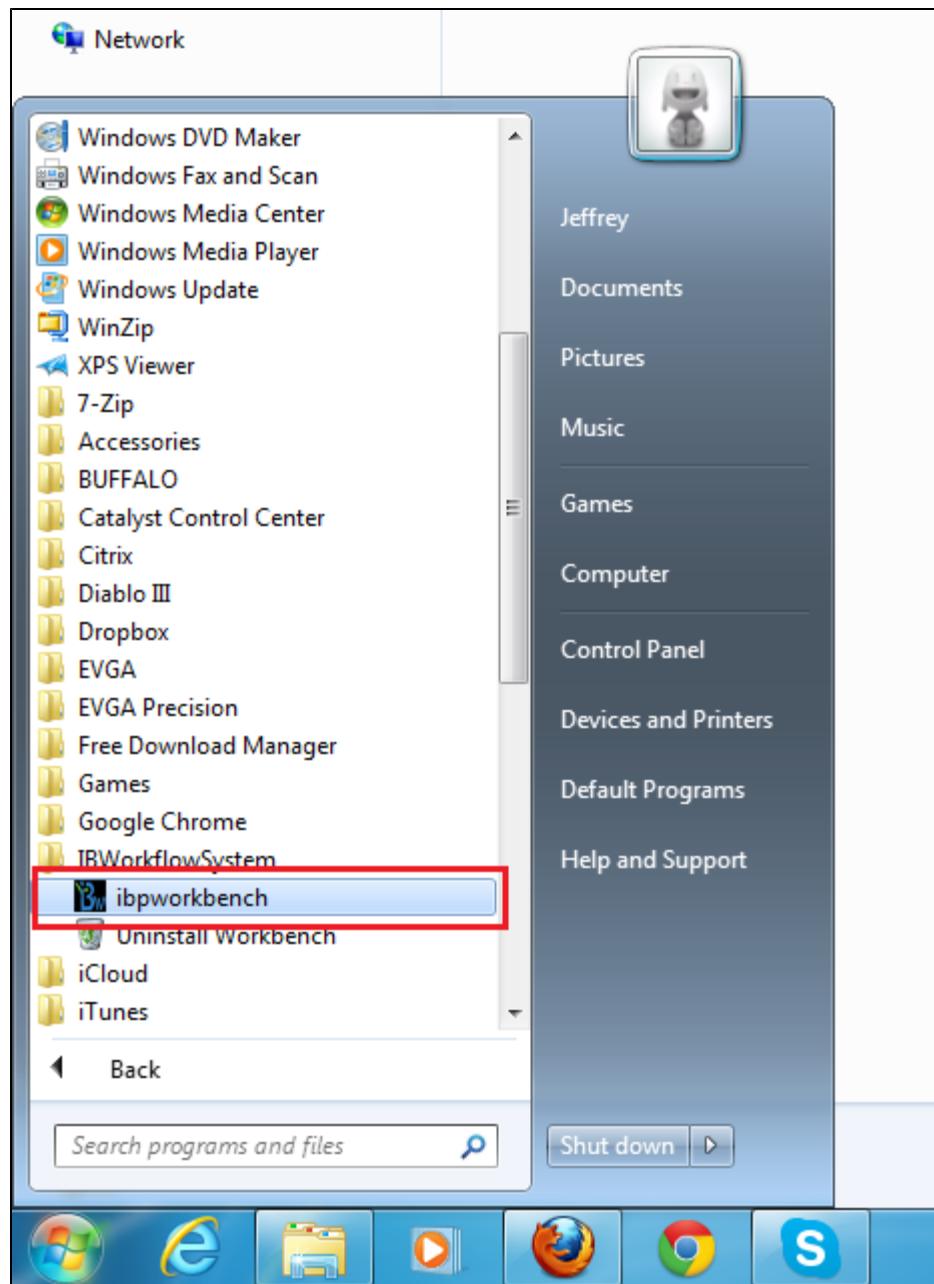


Just **click** the  icon and it will start-up the application. You may scroll down and proceed to the 4th step of this tutorial segment if you have already started the application in this manner.

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:

IB Workflow System - Sign-in

Username

Password

Login

[Forgot your password?](#)

[Register New Account](#)

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 *

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

Register User Account Form

First Name *	Middle Name	Last Name *
<input type="text"/>	<input type="text"/>	<input type="text"/>
Email Address *	<input type="text"/>	
Username *	<input type="text"/>	
Password *	<input type="text"/>	
Re-type Password *	<input type="text"/>	
Security Question *	<input type="text"/> <div style="background-color: #f0f0f0; padding: 5px;"> What is your mother's maiden name? What is your first pet's name? What is your town of birth? </div>	

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 *	Middle Name	Last Name *
Given		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 *	Middle Name	Last Name *
Given		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

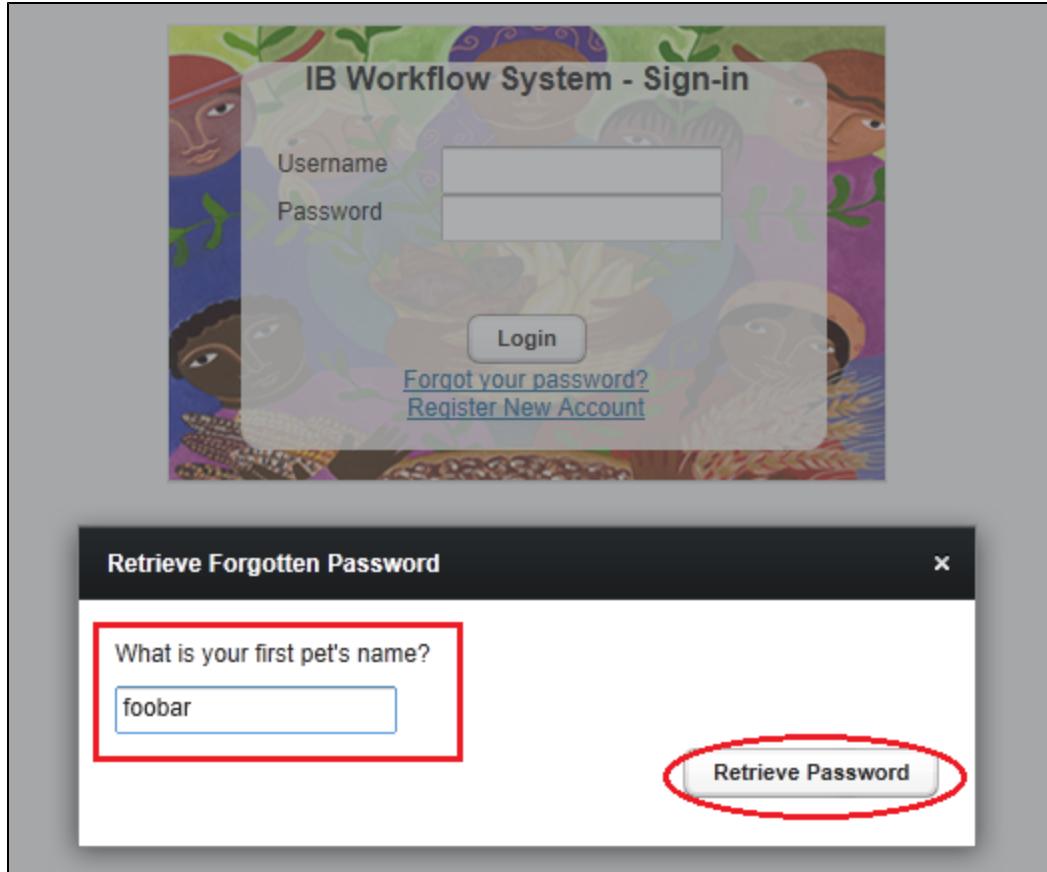
1. Click the **Forgot your password?** link.



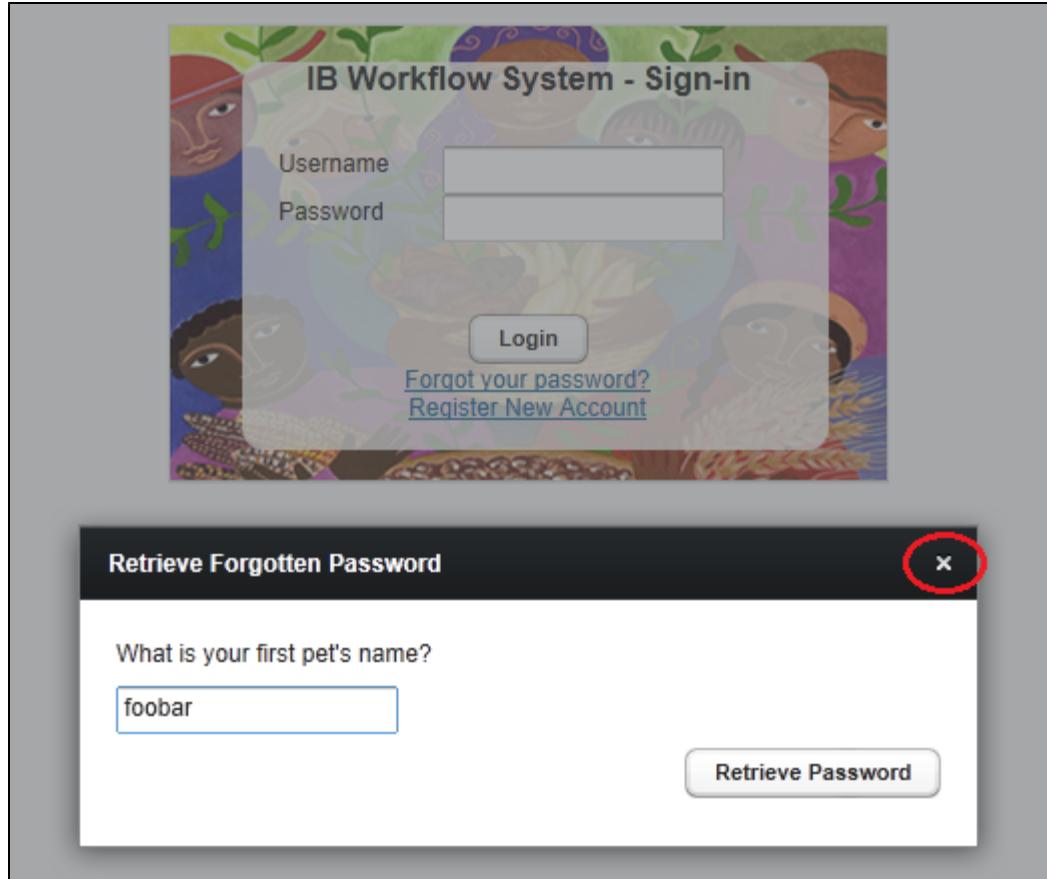
2. After clicking the link, a new sub-window will be displayed. Provide your **username** on the field and click the **Next** Button.

A screenshot of a sub-window titled "Retrieve Forgotten Password". The window has a dark header bar with the title and a close button. The main area contains a label "Please provide your username:" above an input field. The input field contains the text "Given" and is highlighted with a red border. To the right of the input field is a "Next" button, which is also circled in red.

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**.



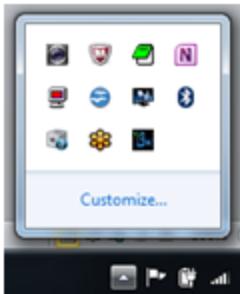
Logging in and Closing the System

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.

The screenshot shows the 'Workflow System 1.1.3.1' interface. On the left, there's a sidebar with 'Actions' (Create Project, User's Guide), 'Dashboard' (with a table for 'Project Detail' showing columns for DATE, NAME, DESCRIPTION, and BREEDING WORKFLOWS), and a 'Tool Versions' section. The top right has links for Home, Signout, Account, Tool Versions, and Help. The 'Home' link in the top right and the 'Home' link in the sidebar are both circled in red.

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

The screenshot shows the 'Tool Versions' page under the 'Tool Versions' link in the sidebar. It lists various tools with their versions: Browse Germplasm Information (1.1.2.3), Browse Studies and Datasets (1.1.2.3), Browse Germplasm Lists (1.1.2.3), GDMS (1.0), FieldBook (2.0.0), OptiMAS (1.3), Breeding Manager (2.0.0), and Breeding View (Alpha Version). The entire 'Tool Versions' table is highlighted with a red box.

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

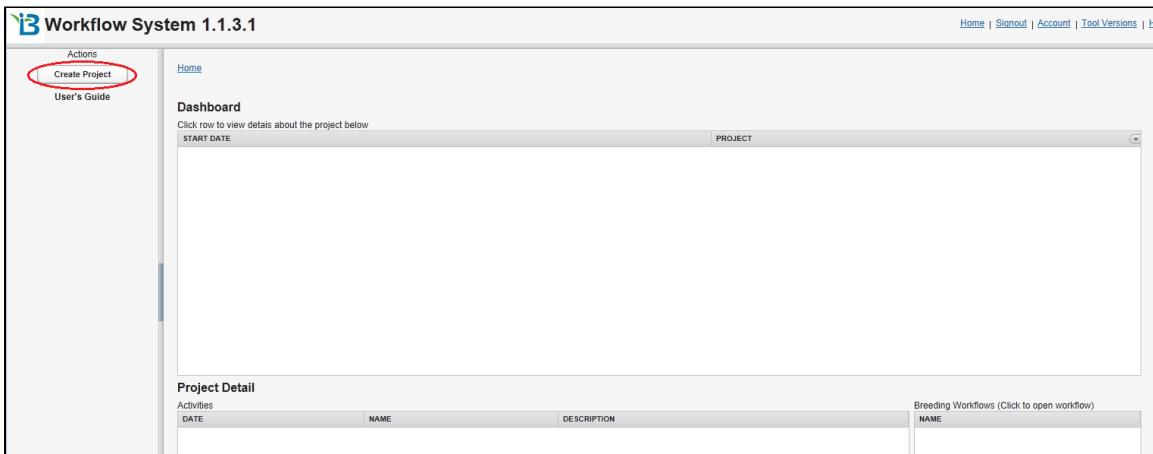
An IBWorkbench Project creates a workspace to manage information about all the activities in a breeding project. When you set up a project you identify the central crop database which will be used, the IBWorkbench users who will have access to that project (Project Members) and the workflow(s) they will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

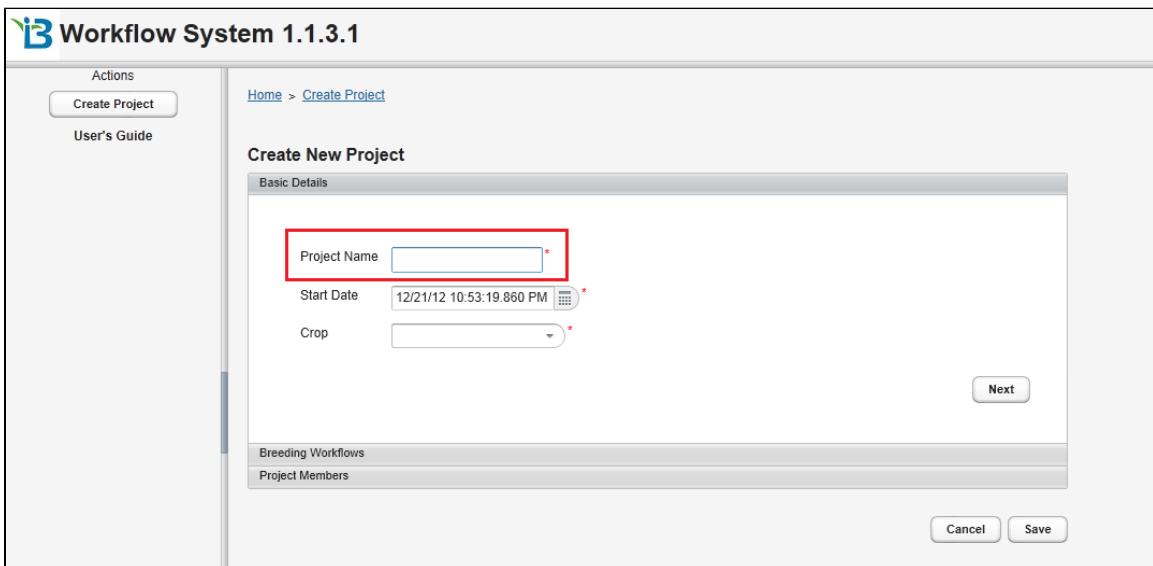
Here are the steps to create a project:

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



The screenshot shows the iB Workflow System 1.1.3.1 interface. On the left, there's a sidebar with 'Actions' (Create Project, User's Guide), 'Home' (Dashboard), and 'Project Detail' sections. The 'Create Project' button is circled in red. The main area shows a large empty dashboard and a 'Project Detail' table with columns for DATE, NAME, DESCRIPTION, and BREEDING WORKFLOWS (NAME).

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



The screenshot shows the 'Create New Project' dialog. It has a 'Basic Details' section with fields for 'Project Name' (highlighted with a red box), 'Start Date' (12/21/12 10:53:19.860 PM), and 'Crop'. Below this are sections for 'Breeding Workflows' and 'Project Members'. At the bottom are 'Cancel' and 'Save' buttons.

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

Create New Project

Basic Details

Project Name: [] *

Start Date: 12/25/12 10:53:19.860 PM [] *

Crop: [] *

December 2012

SUN	MON	TUE	WED	THU	FRI	SAT
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

10 [] 53 [] 19 [] 860 [] PM []

Breeding Workflows

Project Members

Next Cancel Save

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

Create New Project

Basic Details

Project Name: [] *

Start Date: 12/25/12 10:53:19.860 PM [] *

Crop: [] *

Cassava
Chickpea
Cowpea
Maize
Rice
Wheat

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.

Workflow System 1.1.3.1

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

Home > Create Project

Create New Project

Basic Details
 Breeding Workflows

Identify the workflow(s) you want to use for this project:

Conventional breeding (CB) [Show](#)

Breeding with marker assisted selection (MAS) [Show](#)

Marker assisted backcrossing (MABC) [Show](#)

Marker assisted recurrent selection (MARS) [Show](#)

Access all tools with a menu interface (MENU) [Show](#)

[Previous](#) Next [Cancel](#) [Save](#)

Project Members

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.

Workflow System 1.1.3.1

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

Breeding Workflows
 Project Members

Available Users
 Glenn Marientes
 James Jamison
Jeffrey Morales

Selected Project Members

>> <<

MEMBER	CB BREEDER	MAS BREEDER	MABC BREEDER	MARS BREEDER

Add New Member [Previous](#)

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).

Workflow System 1.1.3.1

Actions
Create Project
User's Guide

Available Users		Selected Project Members	
Glenn Marientes Jeffrey Morales Kevin Manansala		>> James Jamison <<	
MEMBER	CB BREEDER	MAS BREEDER	MABC BREEDER
James Jamison	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Add New Workbench User

Register User Account Form

First Name *	Middle Name	Last Name *
Joyce	RoelLapiz	Agarrado
Email Address *	gcp@efficio.com	
Username *	User777	
Security Question *	What is your mother's maiden name?	
Answer to Security Question *	Secret	

Save **Cancel**

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.

Workflow System 1.1.3.1

Actions
Create Project
User's Guide

Available Users		Selected Project Members	
James Jamison		>> Glenn Marientes Jeffrey Morales Kevin Manansala << Joyce RoelLapiz Agarrado	
MEMBER	CB BREEDER	MAS BREEDER	MABC BREEDER
Glenn Marientes	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Jeffrey Morales	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Kevin Manansa	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Joyce RoelLapi	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Add New Member **Previous**

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

IB Workflow System 1.1.3.1

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

MEMBER	CB BREEDER	MAS BREEDER	MABC BREEDER	MARS BREEDER
Glenn Marientes	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Jeffrey Morales	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kevin Manansa	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Joyce RoelLapi	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

[Add New Member](#) [Previous](#)

[Cancel](#) [Save](#) (circled)

Exploring the Project Workflows

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

IB Workflow System 1.1.3.1

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

[Home](#) | [Signout](#) | [Account](#) | [Tool Versions](#) |

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)

- 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**)

IB Workflow System 1.1.3.1

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

IB Workflow System 1.1.3.1

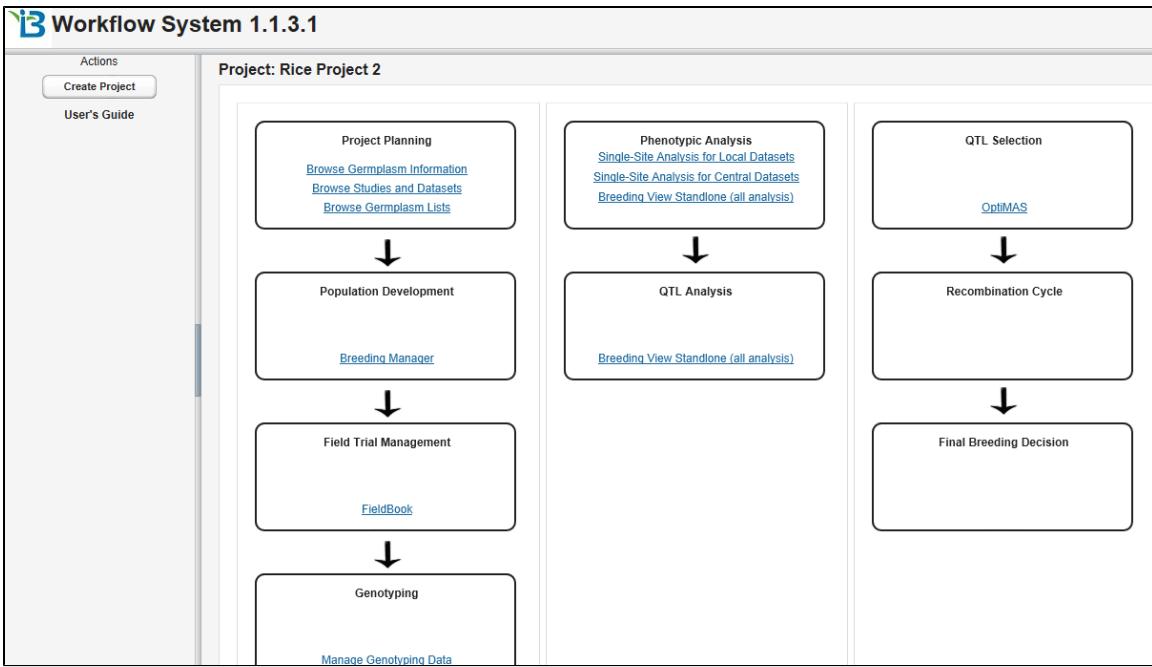
Actions
Create Project
User's Guide

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

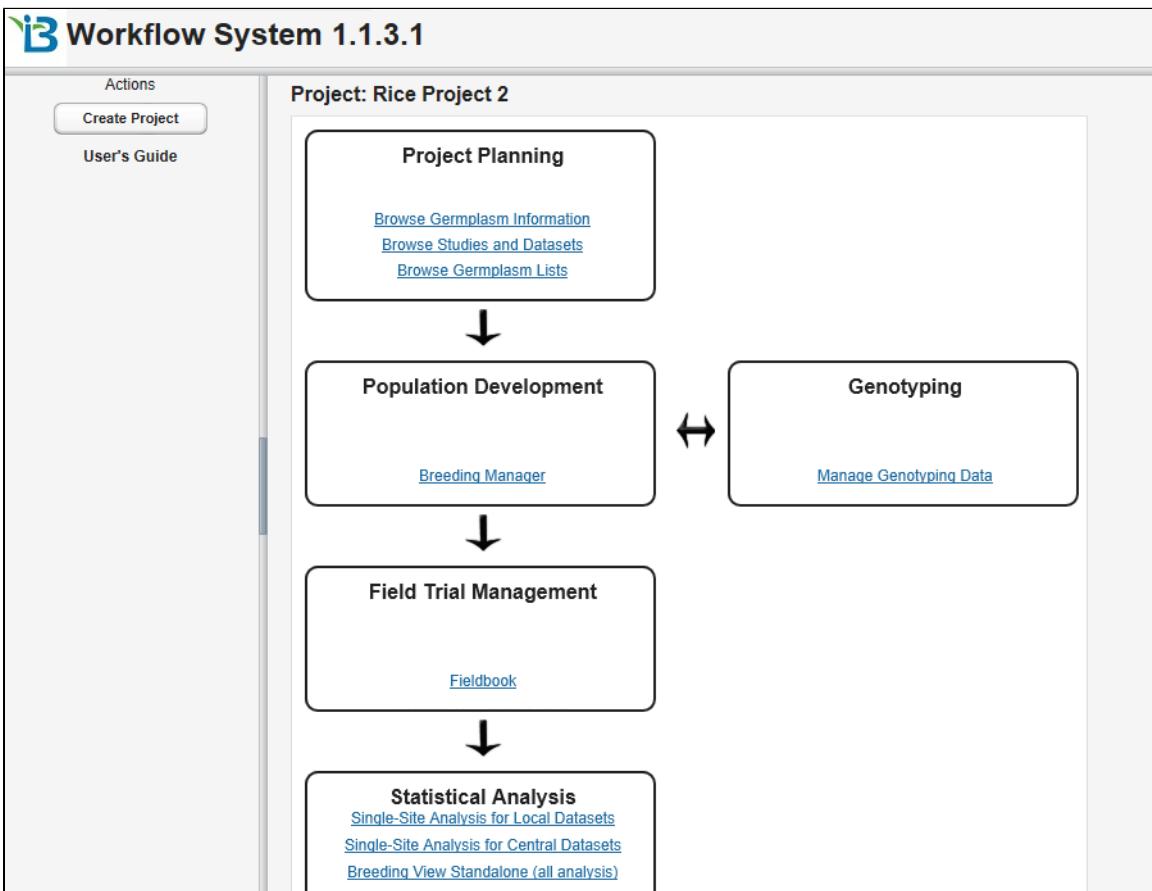
Project: Rice Project 2

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

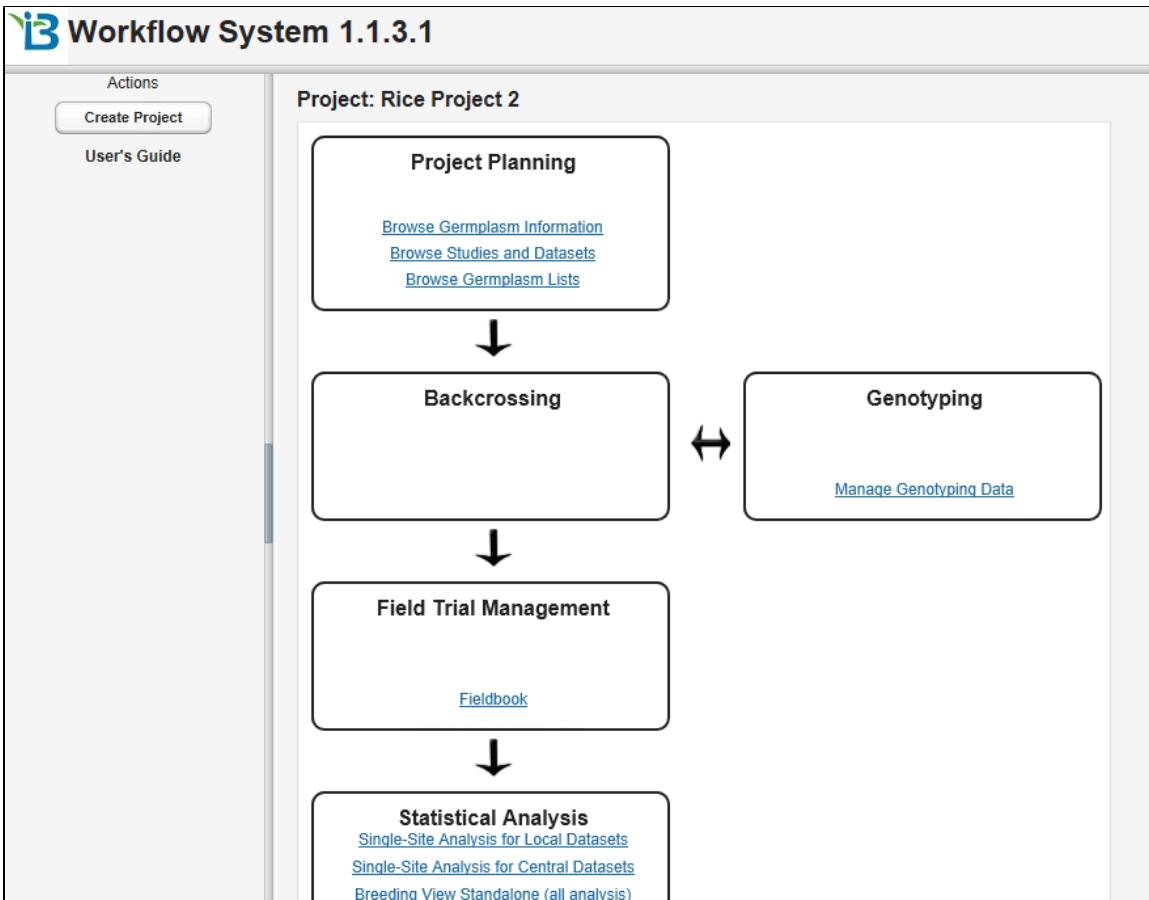
MARS Workflow



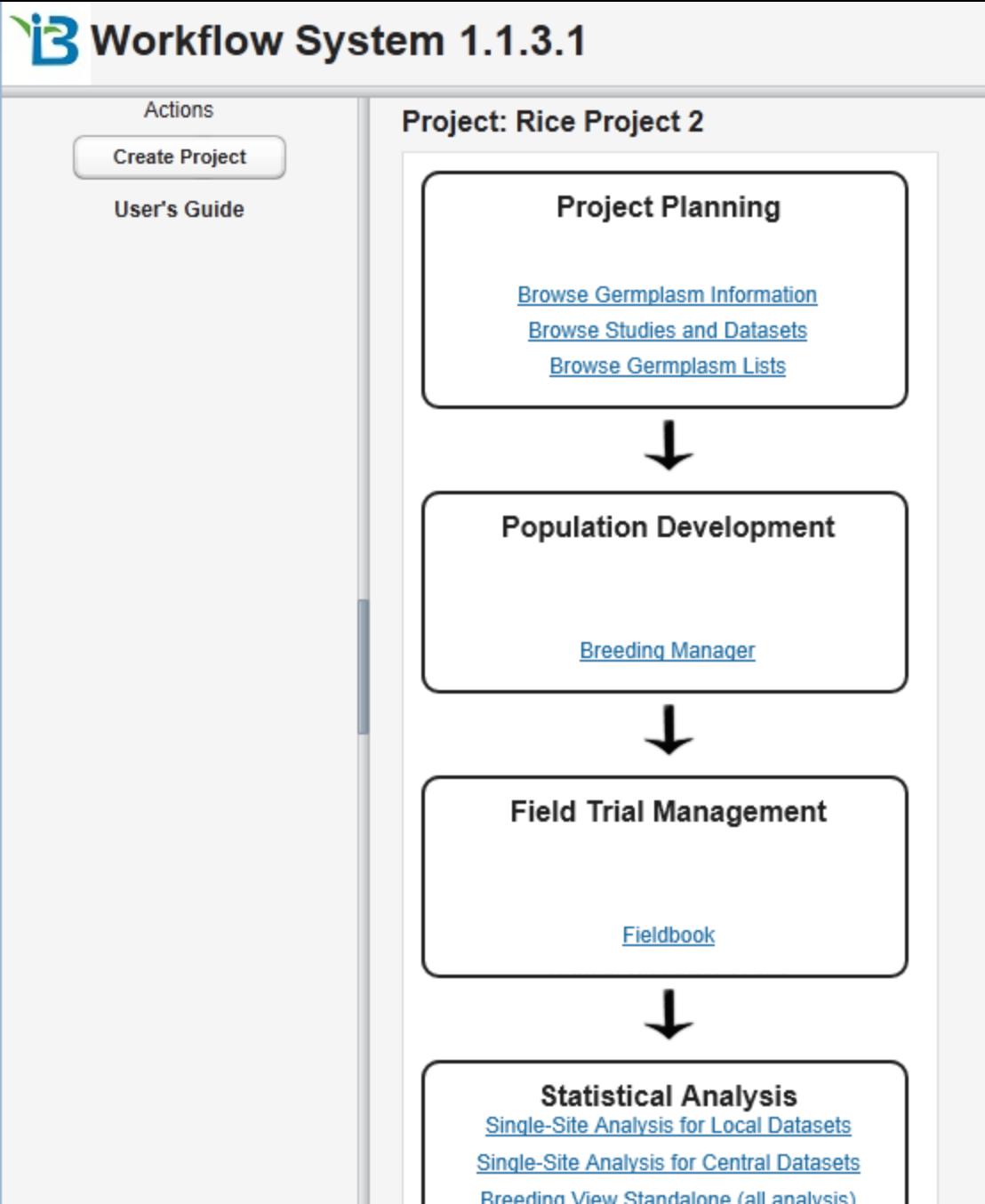
MAS Workflow



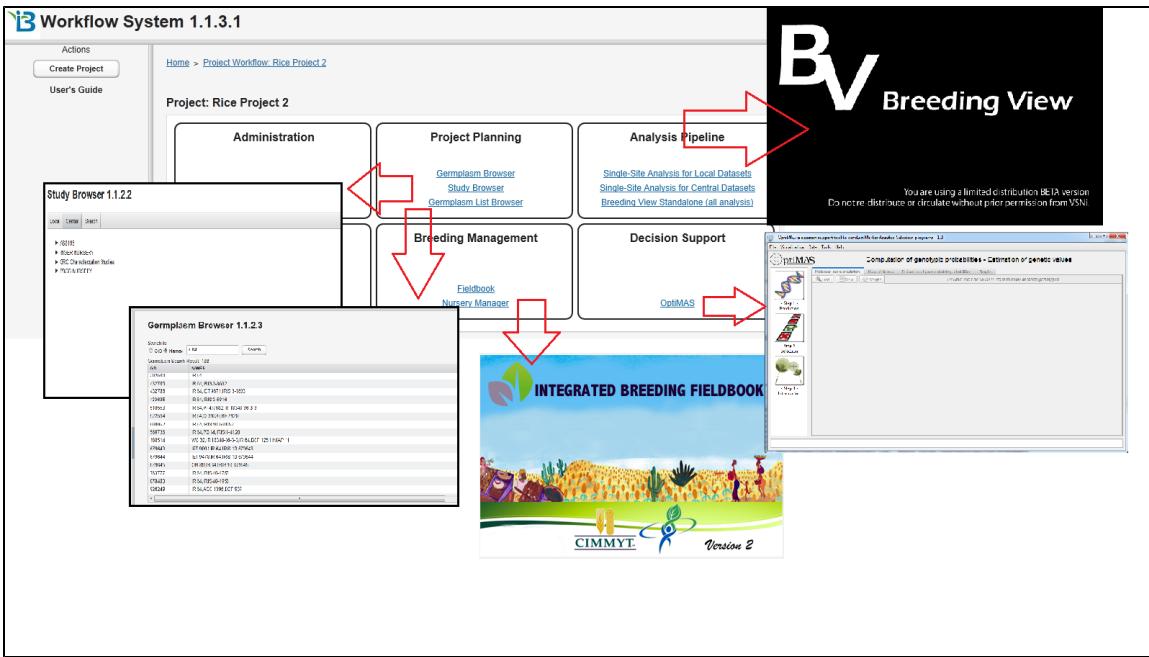
MABC Workflow



CB Workflow



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.



This concludes the tutorial for the IB Workflow System.