# **Urban code Deploy**

# **DevOps Team**

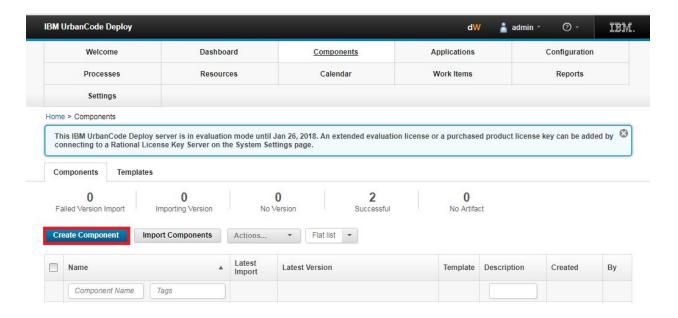
Author Designation
Miracle Software Systems, Inc.

18<sup>th</sup> December,2017

# Deployment of Node.js application on Docker and Integrating with JFrog Artifactory

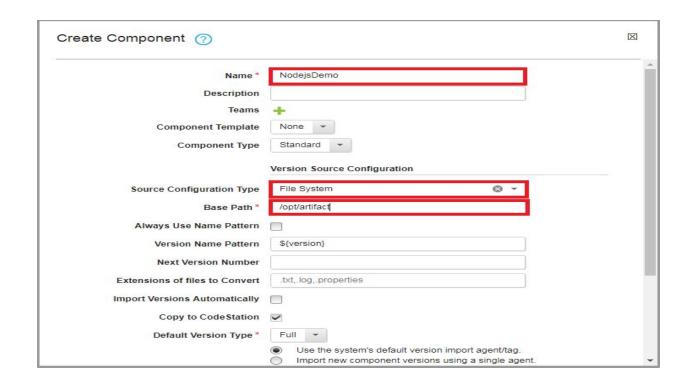
# **Component Creation**

We need to create component as Follows:

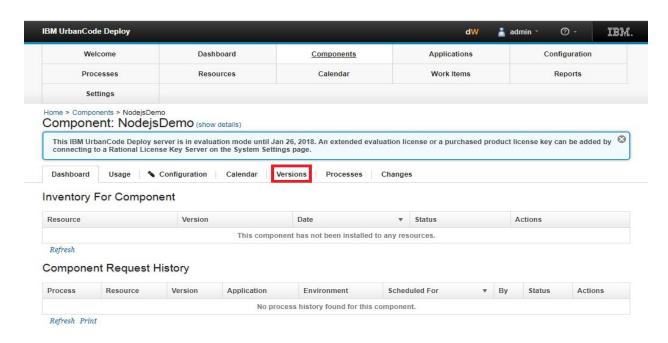


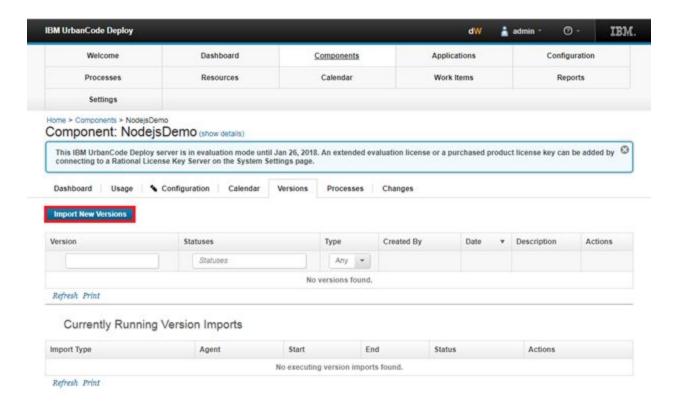
#### Here,

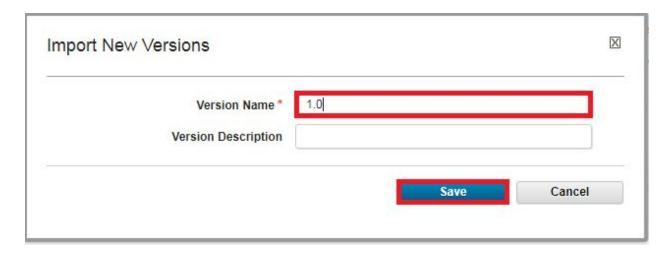
First click on Create Component for Create New Component, then we need to Name or Configured it. In that we should provide the name, source configuration type and base path. Go down and Save.

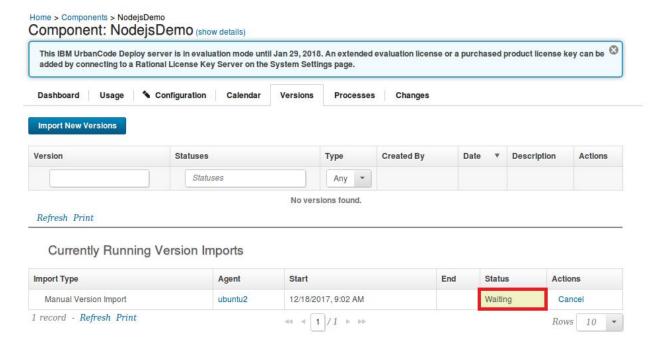


# **Version Creation Manually:**

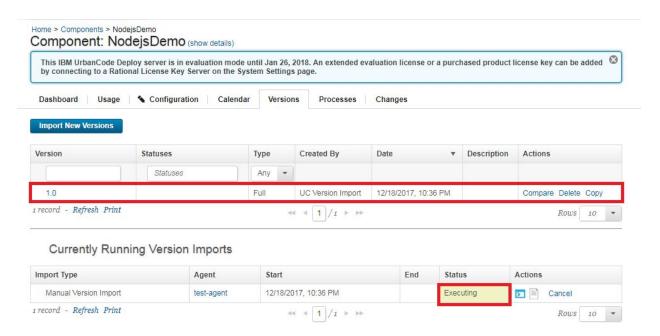








## Once, Refresh the Page

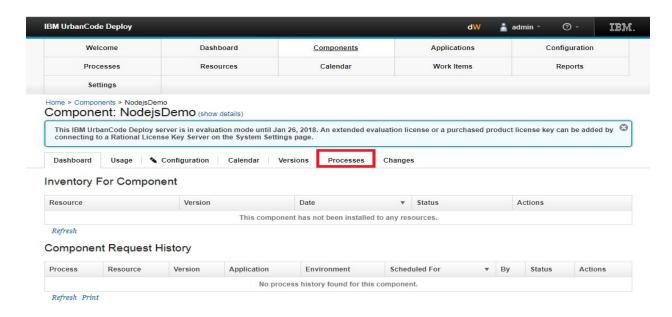


We get the version, what we assigned.

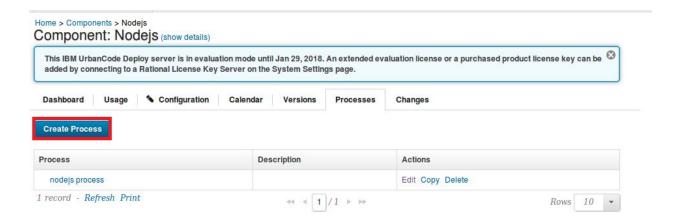
Note: If we select **source configuration type** as **File systems** (Version), then it takes the version Automatically. Need not to create version manually.

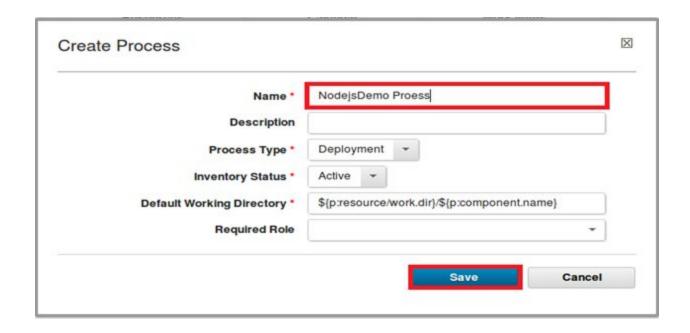
# **Component Process Creation:**

In the following figure, Go to processes Tab



#### click Create Process

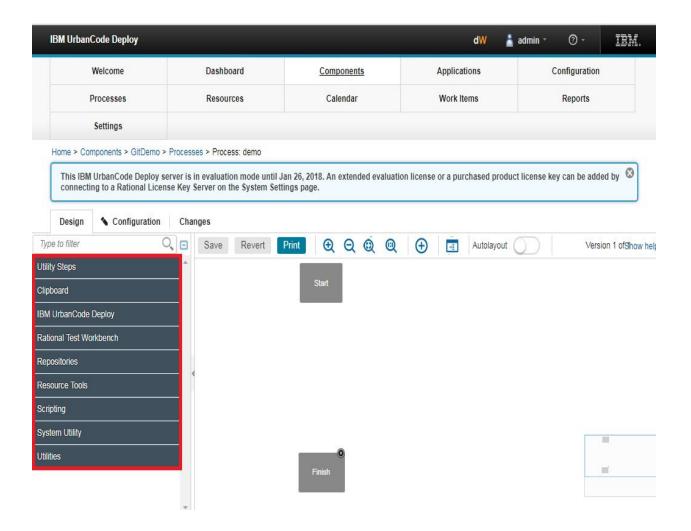




In the **Process Type list**, select **Deployment**. This list has other options for processes that uninstall or configure components. Accept the default values for the other properties and click **Save**.

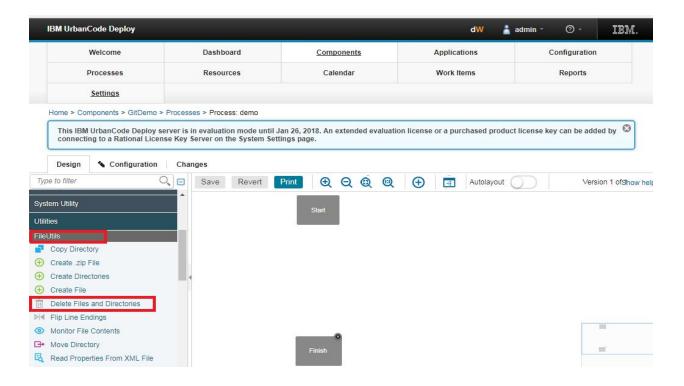
The process opens in the **process editor**. This editor shows the steps in the process in a graphical form, as a flowchart. The **Start** and **Finish** boxes represent the beginning and the end of the process. From here, you add steps to the process and link them between the Start and Finish steps to show the order of the steps.



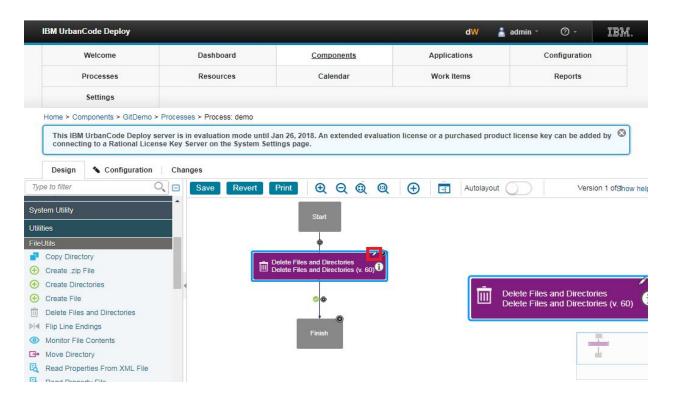


#### Step1:

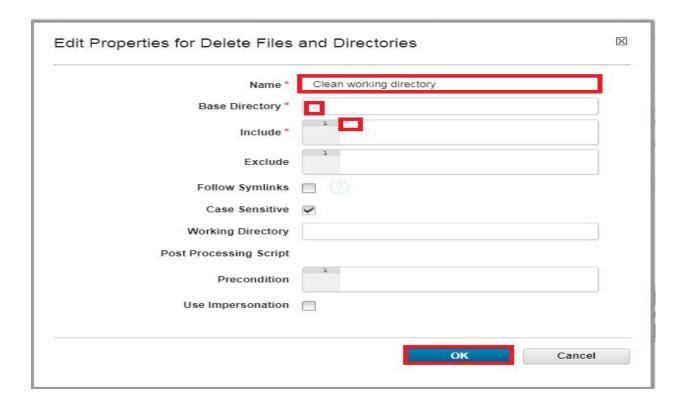
- In **Step Palette**, expand **Utilities** > **FileUtils**. The **Step Palette** menu shows the available steps. You can explore the trees to find steps, or you can type into the search box at the top of the window.
- Under the **FileUtils** tree item, click and drag the **Delete Files and Directories** step to the process editor. The Edit Properties window opens, showing the properties for the step. Some of these properties are unique to the step and others are the same for all steps.



## The process editor looks like the following figure:



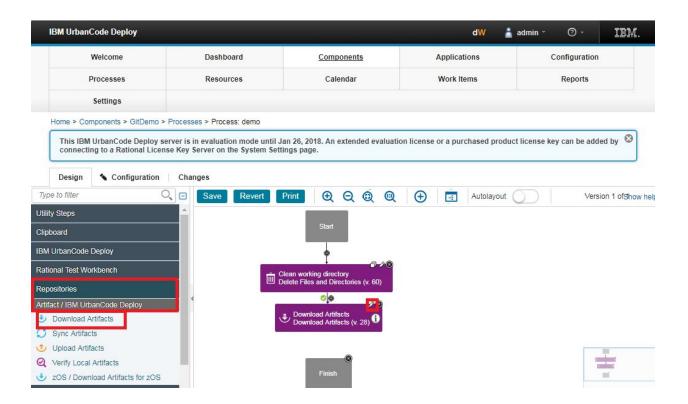
- In the Name field, we can specify the name like Clean working directory.
- In the **Base Directory** field, specify a single period (.), **Include** field, specify an asterisk (\*) and Accept the defaults for the other properties and then click **OK**.



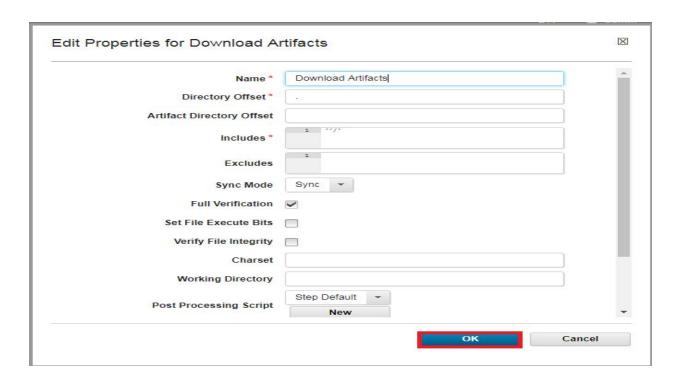
#### Step2:

To download the latest version of the component artifacts. The <code>Download</code> <code>Artifacts</code> step is used in most deployment processes. This step downloads the specified version of the component artifacts to the target computer. When you run the process, you will specify whether to use the most recent version of the component artifacts or a specific version.

• Under Step Palette, expand Repositories > Artifact > IBM UrbanCode Deploy and drag the Download Artifacts step to the process editor.



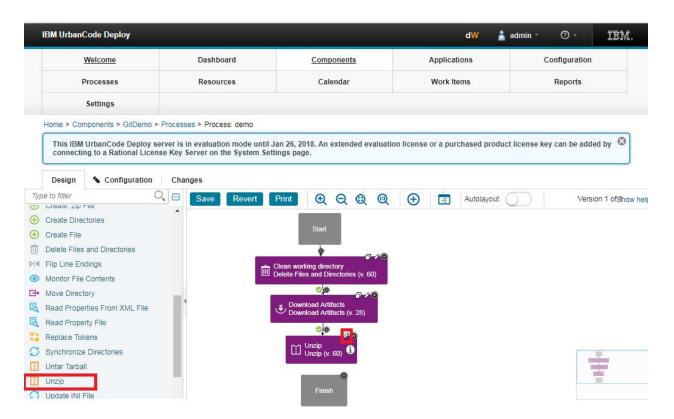
In the Edit Properties window, accept the default values and then click OK.



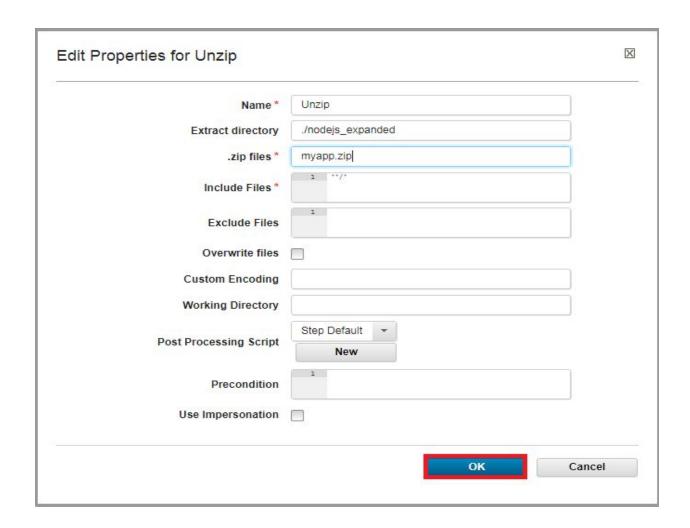
#### Step3:

To extract the WAR file. You must extract the WAR file so you can update a property file with the database connection information.

 In the list of available steps, expand the Utilities > FileUtils folder and drag an Unzip step to the process editor

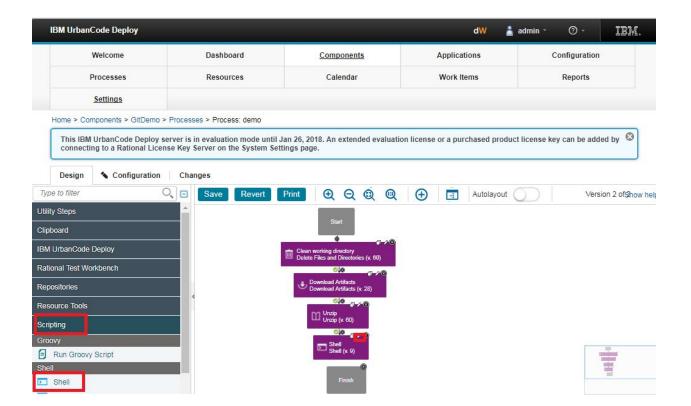


- Specify the name to be Expand WAR
- In the **Extract directory** field, specify the following code:
  - ./nodejs expanded
- In the .zip files field, specify the following file: myapp.js
- In the **Include Files** field, specify the following code: \*\*/\*
- Accept the default values for other fields and then click OK

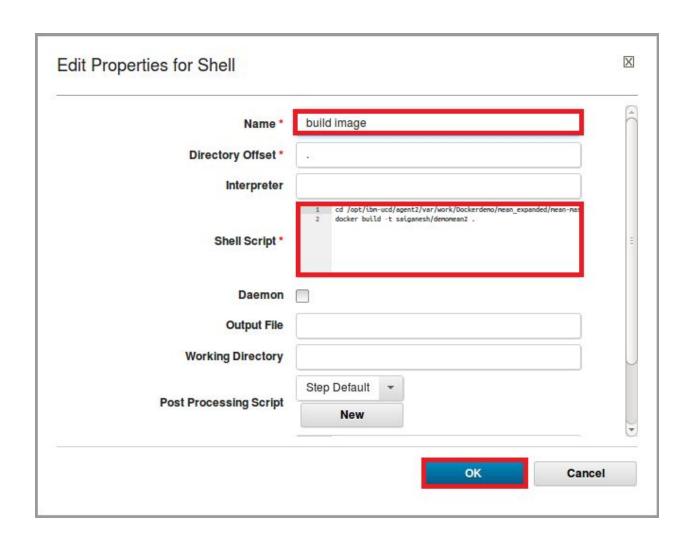


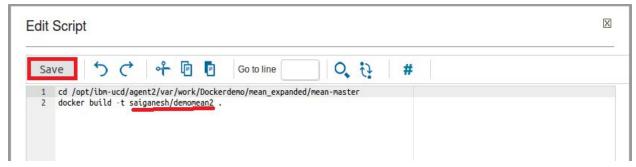
# Step4:

To **Build an image** in Docker container. We must write the script for build an image on Ubuntu machine.



- In the list of available steps, expand the **Scripting**> Shell folder and drag a step to the process editor for build an image
- In the Name field, we can specify the name like Run application
- In the Script field, write steps for installing node and npm modules on agent folder which exists on Ubuntu machine
- Accept the default values for other fields and then click OK



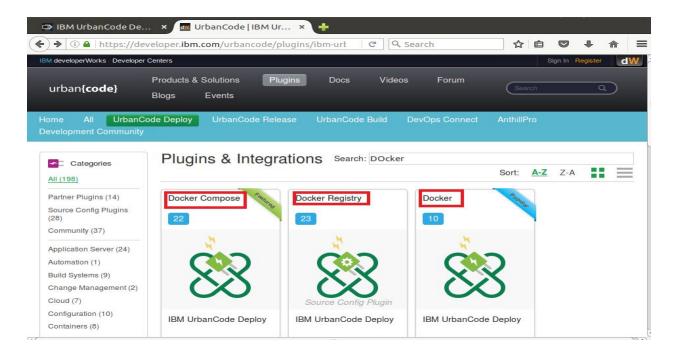


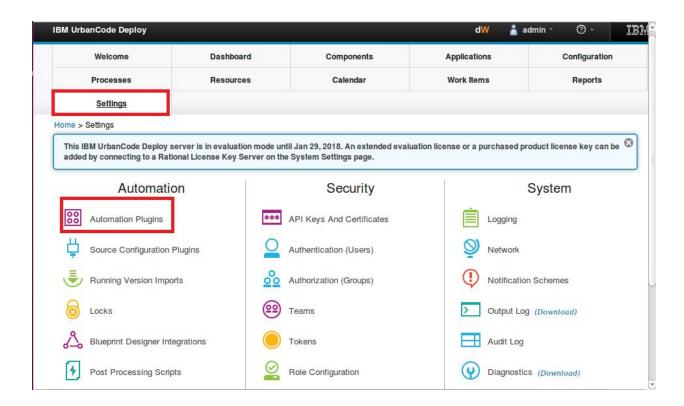
Flow will be:

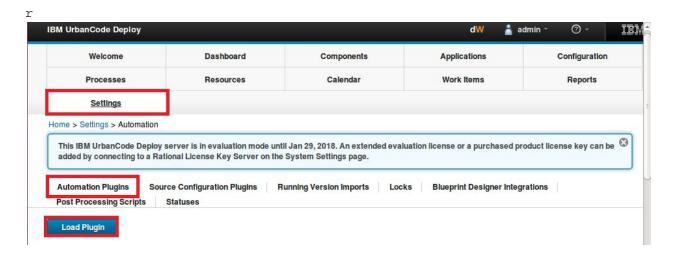


### Step5:

In order to create nodejs application runtime environment on agent machine, add Docker plugins which are provided by the UCD. Once we build an image for our application it automatically creates the node environment. For that we need to write Docker file in our application folder.



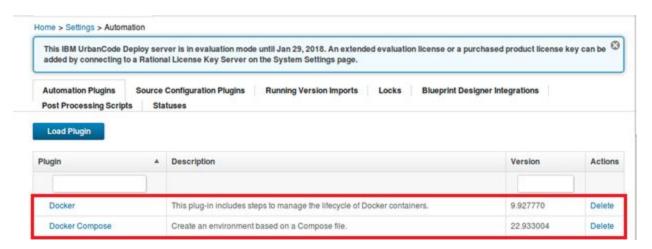




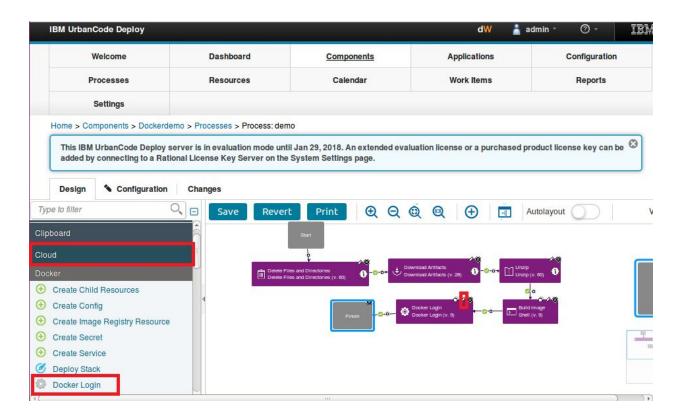
• Browse the location where the plugins downloaded.



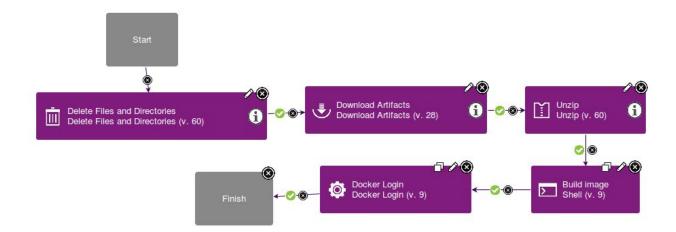
 After plugins were downloaded, it shows list available plugins which were added in UCD

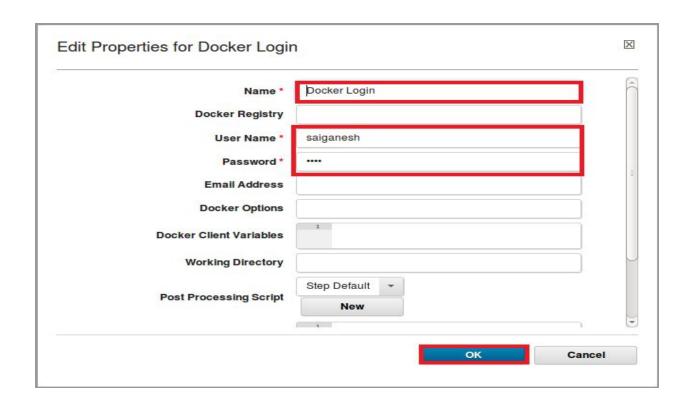


To login into the Docker, Cloud < Docker < Docker Login folder drag and edit the Provide the details.

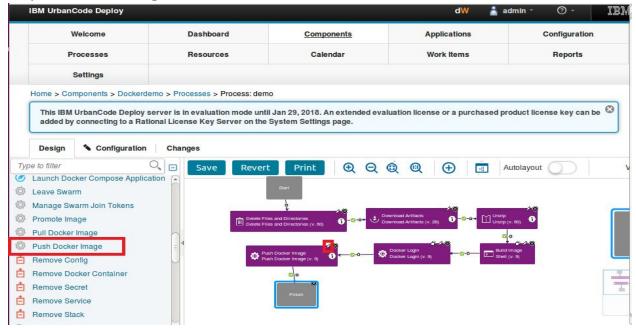


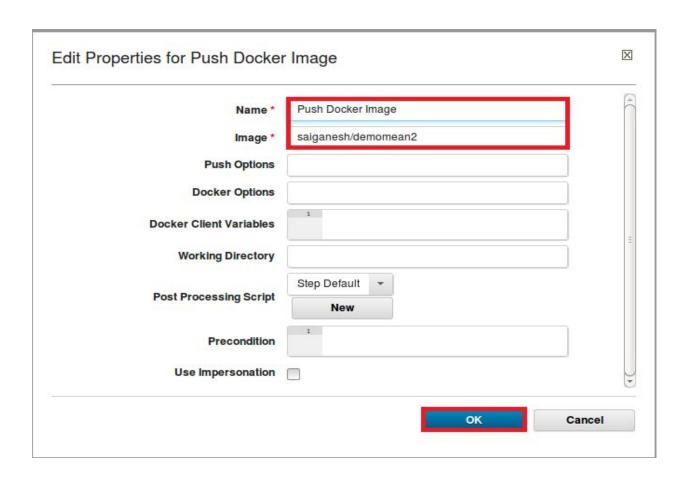
#### Flow will be:

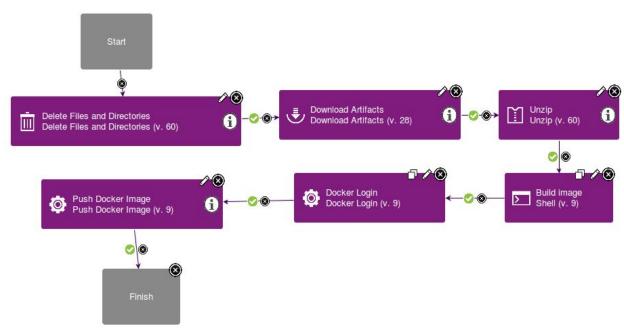




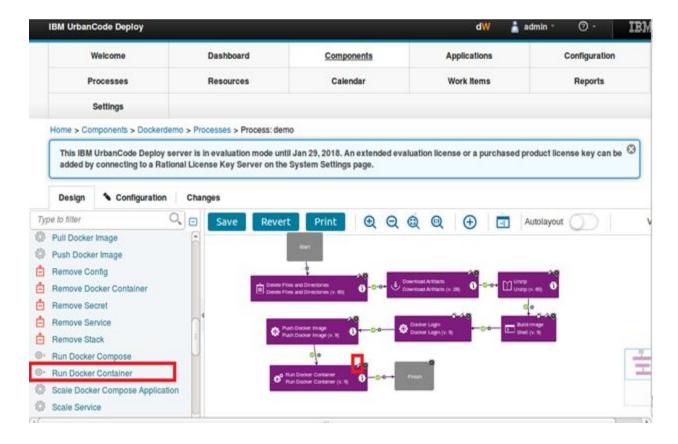
Step6: Push an image into Docker Hub

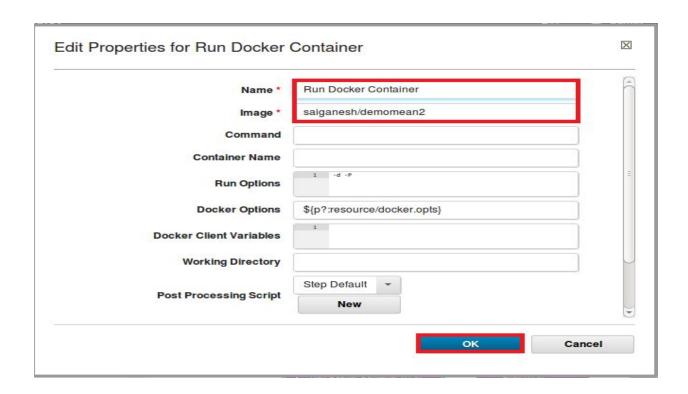




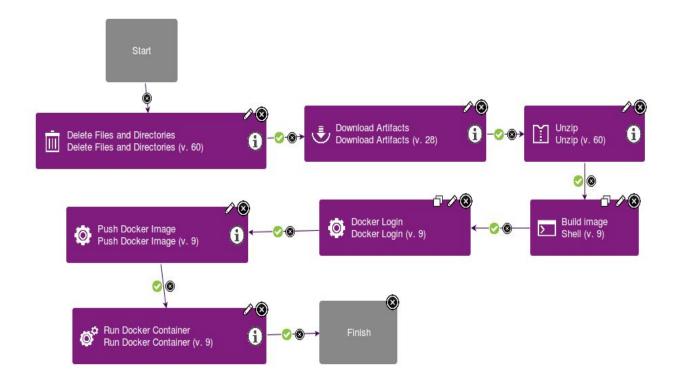


# Step7:Run Docker Container

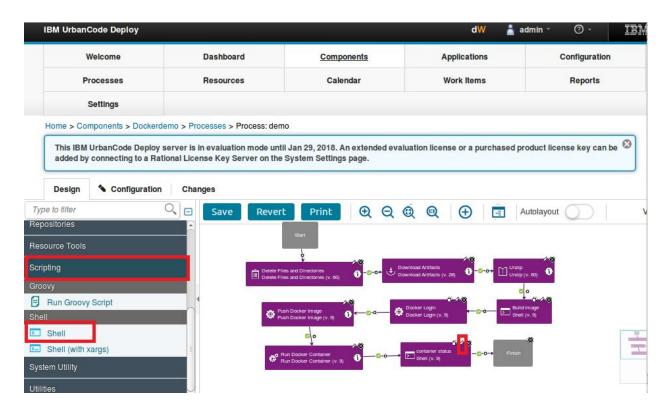


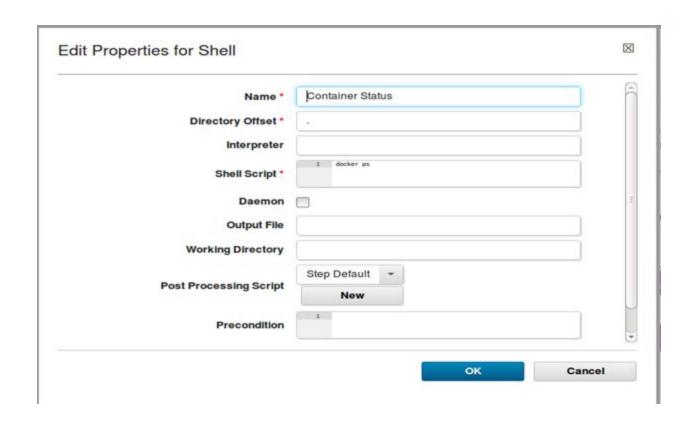


#### Flow as follows:

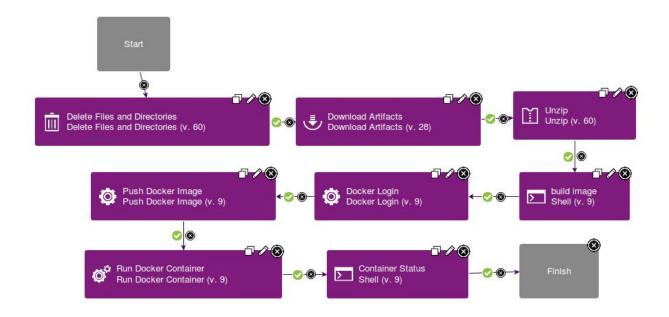


## Step8: Check Container Status





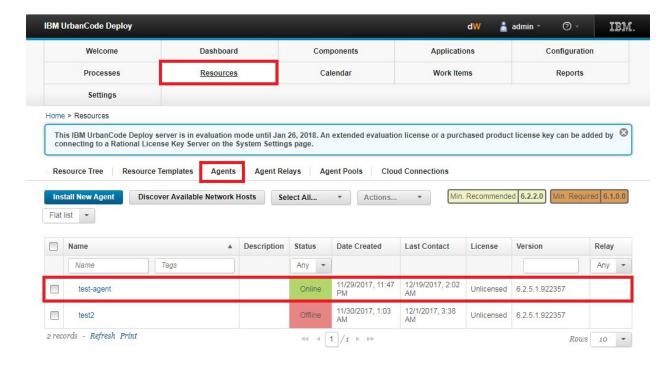
# Final Flow will appears as follows:

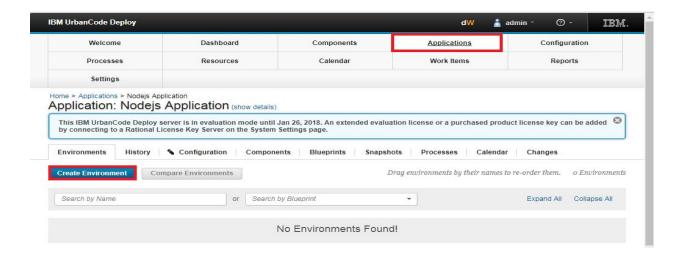


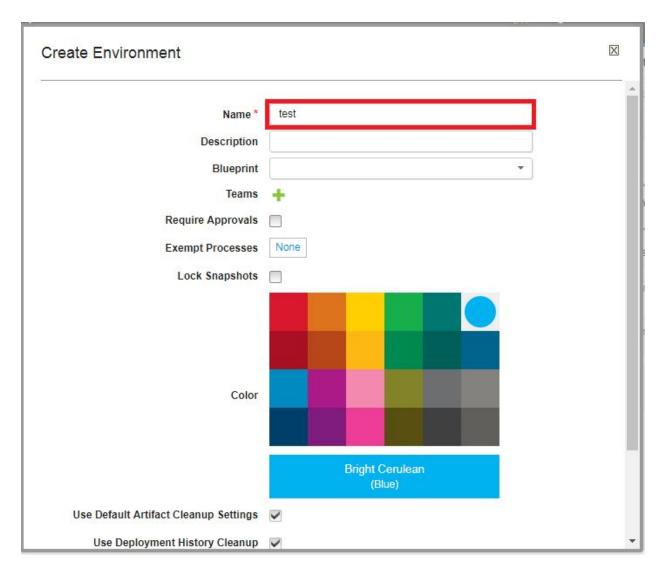
# **Application and Environment Creation**

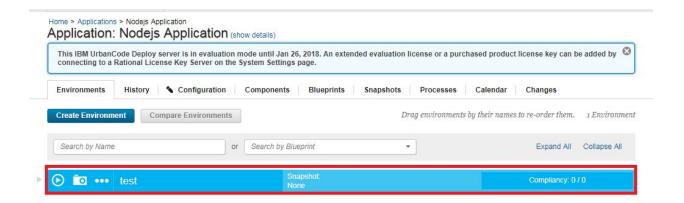
Applications are collections of components. Environments represent systems on which you deploy the application components.

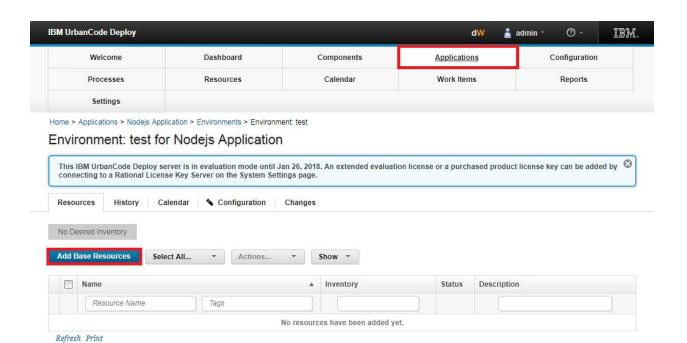
Before you start this step, ensure that your agent is running. Click **Resources > Agents** and make sure that your agent is listed as Online, as in the following figure:



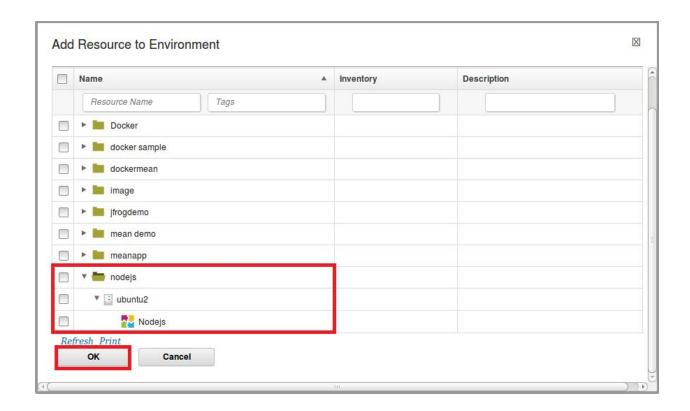


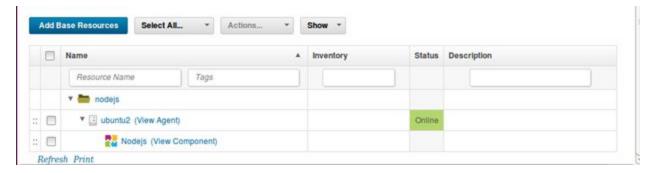






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# **Creating an application**

Creating an application involves selecting the components that are in the application.

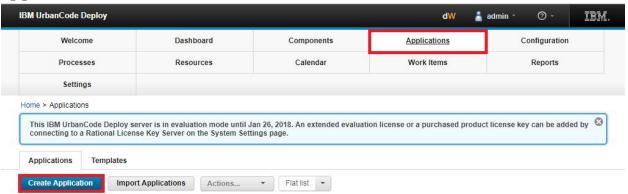
## Procedure:

• Click the **Applications** tab and then click **Create Application**.

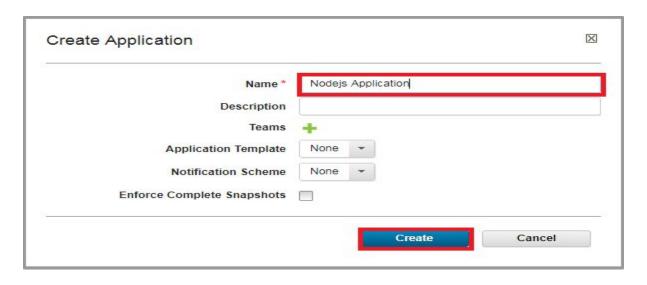
• Name the new application Nodejs application and then click Save.

Add the components to the application:

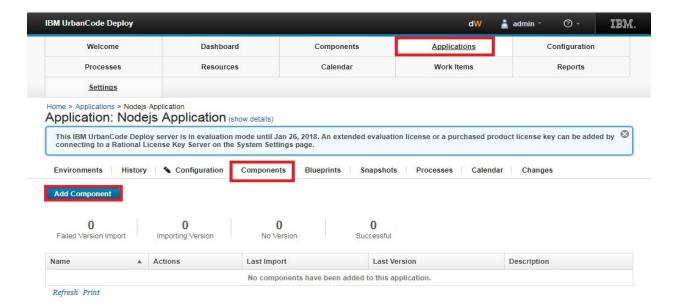
Click the Applications tab and then click the new application Nodejs Application



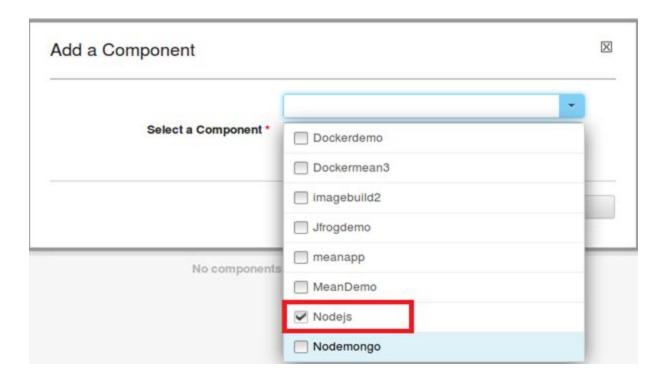
#### Naming of application:

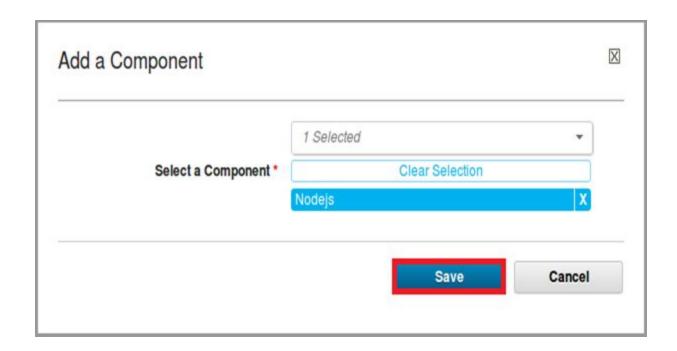


Click the **Components** tab for the application (not the Components tab at the top of the page) and then click **Add Component**.

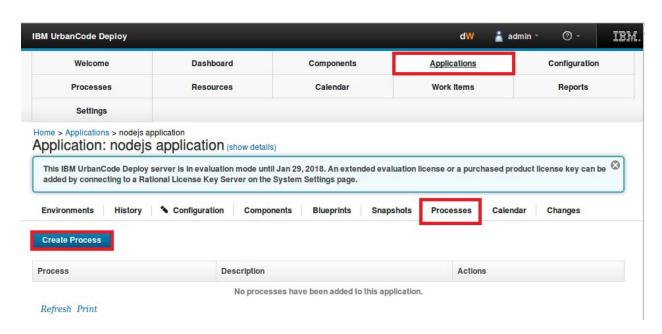


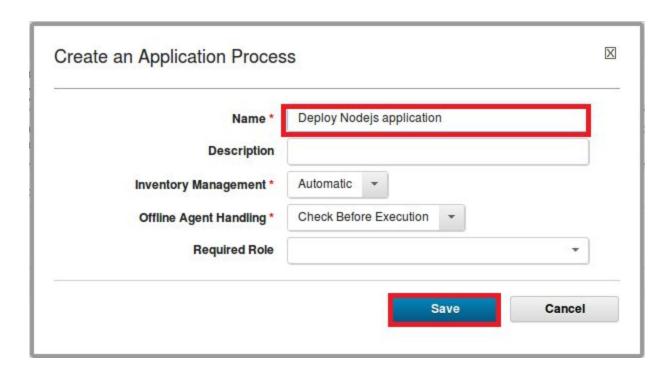
- In the Add a Component window, in the Select a Component list, select the component: NodejsDemo
- Click Save

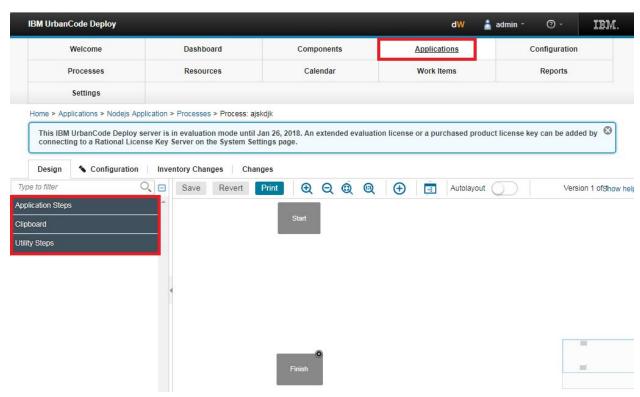


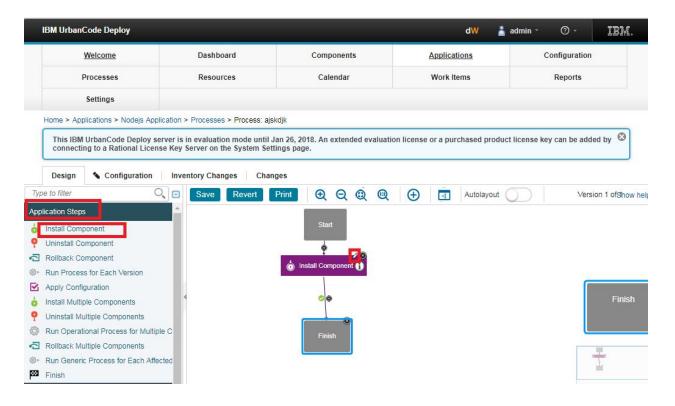


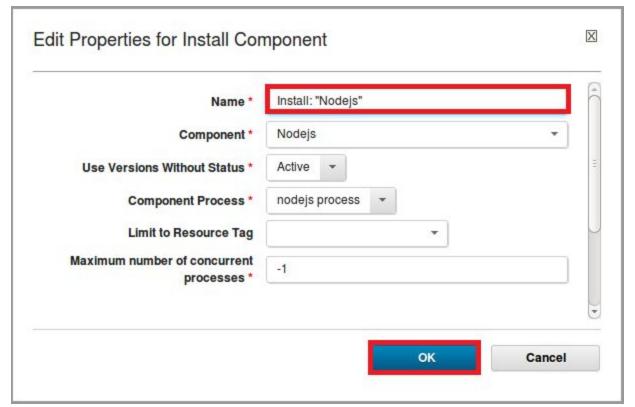
# **Application Process Creation**

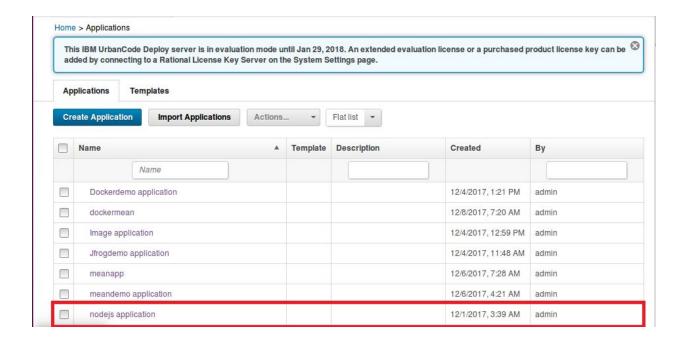






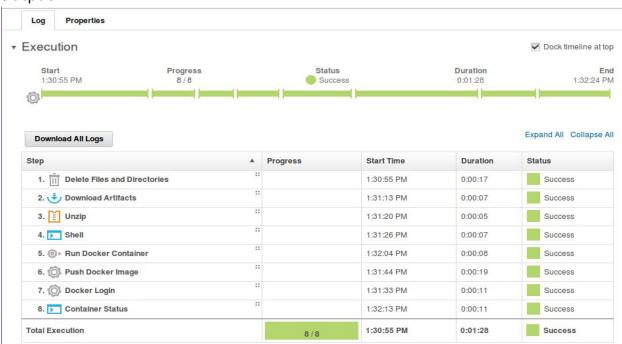






# **Run Application**

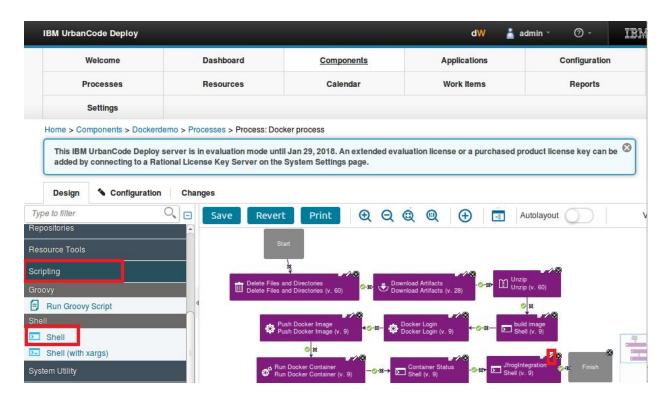
#### Output:

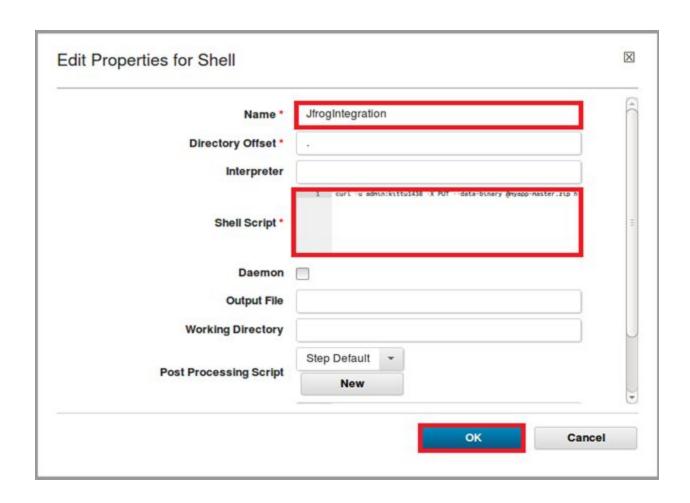




# **Integrating with JFrog Artifactory**

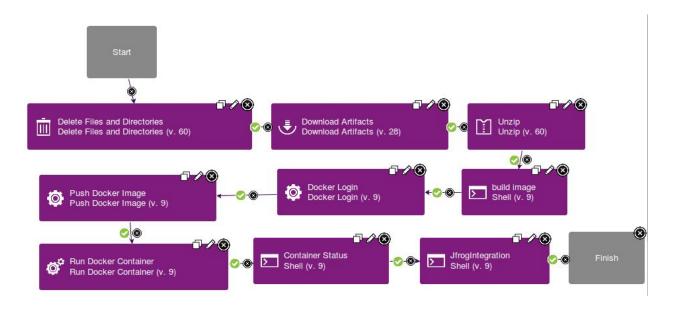
Add One more step to above process integrating with JFrog Artifactory. In this, the application which is running successfully in Docker container, pushed into the Artifactory from Agent machine.







## Final flow of application:



# **Output:**

