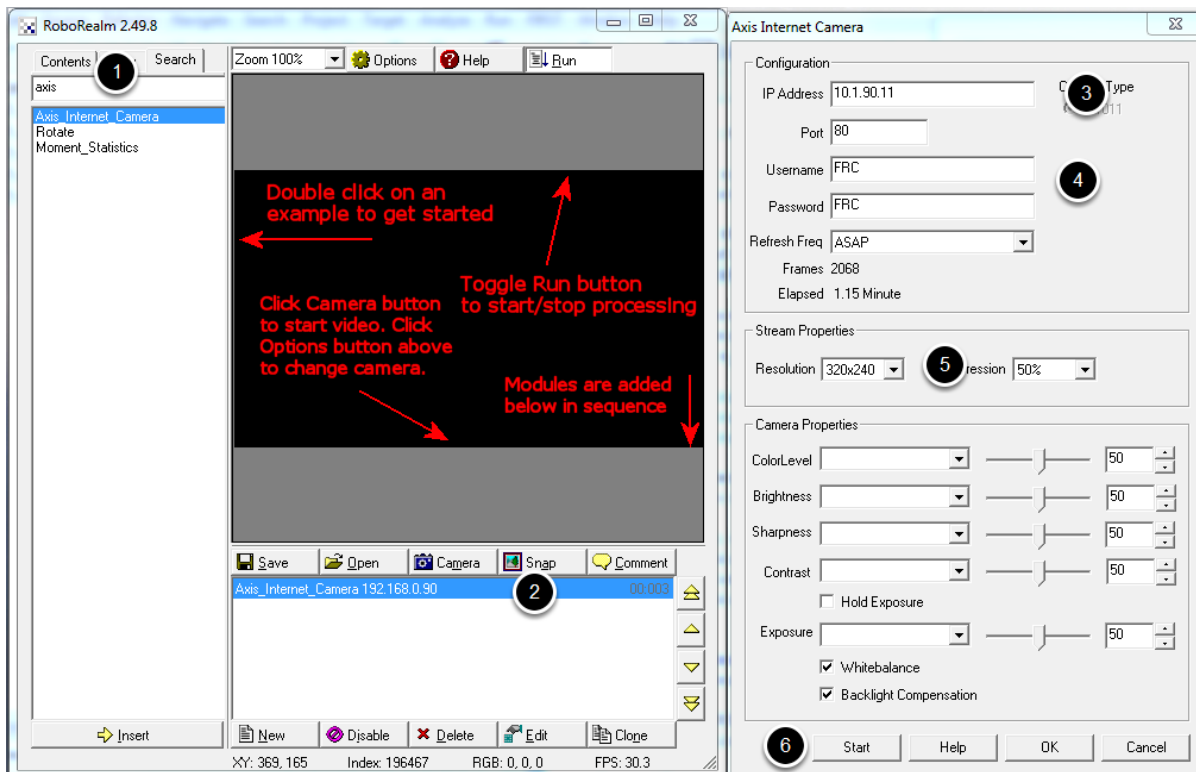


## Viewing the RoboRealm output in SmartDashboard

# Viewing the RoboRealm output in SmartDashboard

RoboRealm is a vision processing application that runs on a Windows PC connected to the robot via a network connection. It can read the camera stream, process images and send results back to the robot. It is often desirable to see the results of the image processing on your driver station laptop, but screen real estate is at a premium. You can display images from RoboRealm on the SmartDashboard by using it's internal web server as shown in this article.

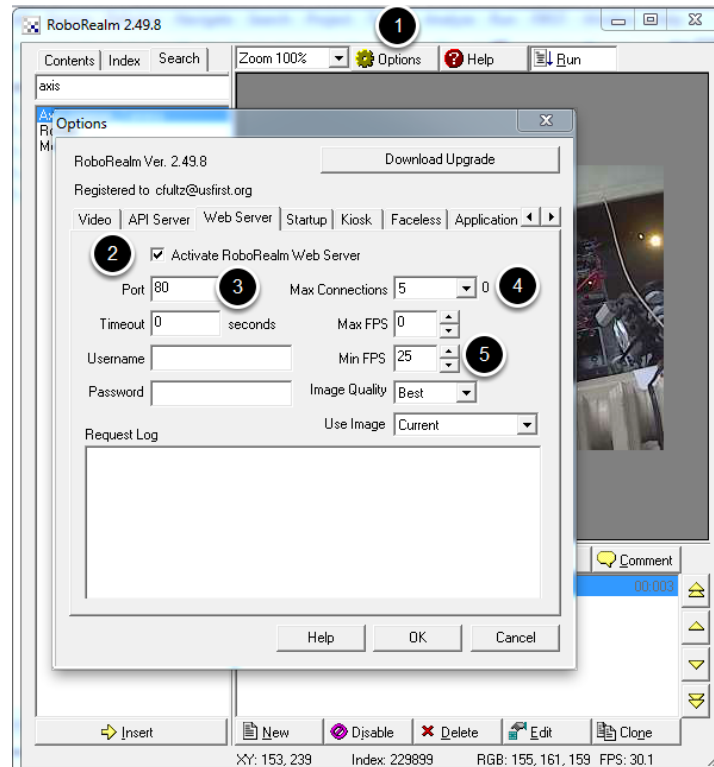
## Set up the Axis camera in RoboRealm



Start RoboRealm and (1) search for Axis\_internet\_Camera and (2) add the Axis camera to the program. You'll see a popup of the camera properties. Set (3) the camera IP address (10.10.10.11), the (4) Username and Password to FRC and the (5) Resolution to 320x240, and hit (6) Start. You should see the image appear in the RoboRealm window. Hit OK to dismiss the Axis Internet Camera properties.

# Viewing the RoboRealm output in SmartDashboard

## Enable the RoboRealm web server



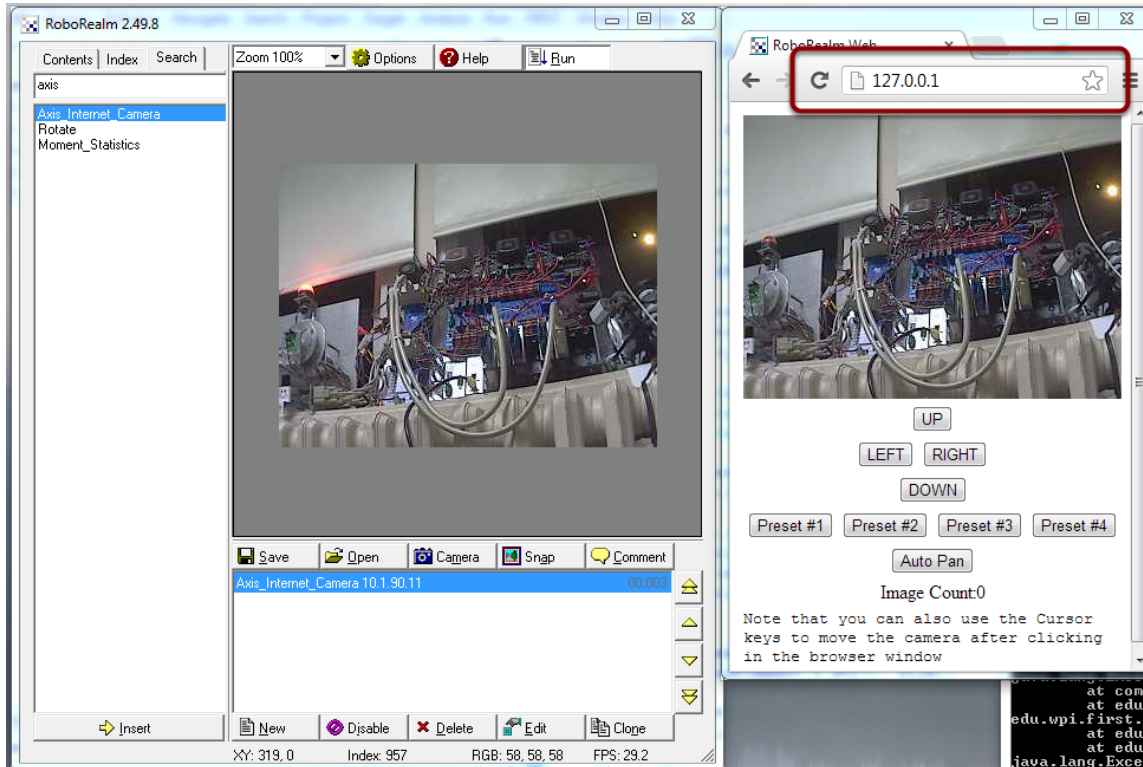
Do the following steps to set up the RoboRealm web server which will serve the processed image:

1. Click Options
2. Activate the RoboRealm web server
3. Set the port number to 80
4. Set the Max Connections to 5 for testing
5. Set the Min FPS to 25

And click OK to save the settings and start the web server.

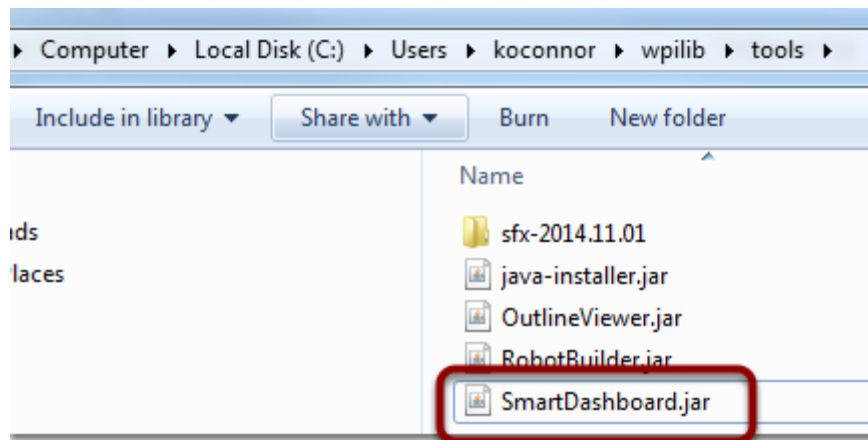
# Viewing the RoboRealm output in SmartDashboard

## Verify that the web server is running



Verify the web server is running by opening up a browser on the system and entering the URL: 127.0.0.1. This is the address of this system (localhost) and should show the same image that RoboRealm is displaying.

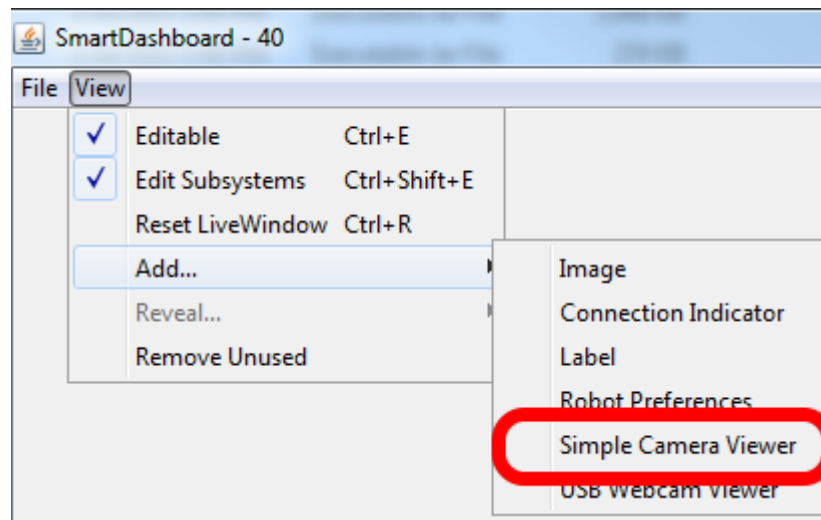
## Run SmartDashboard



# Viewing the RoboRealm output in SmartDashboard

Run SmartDashboard located in HOME\wpilib\tools (on Windows HOME is usually C:\Users\USERNAME)

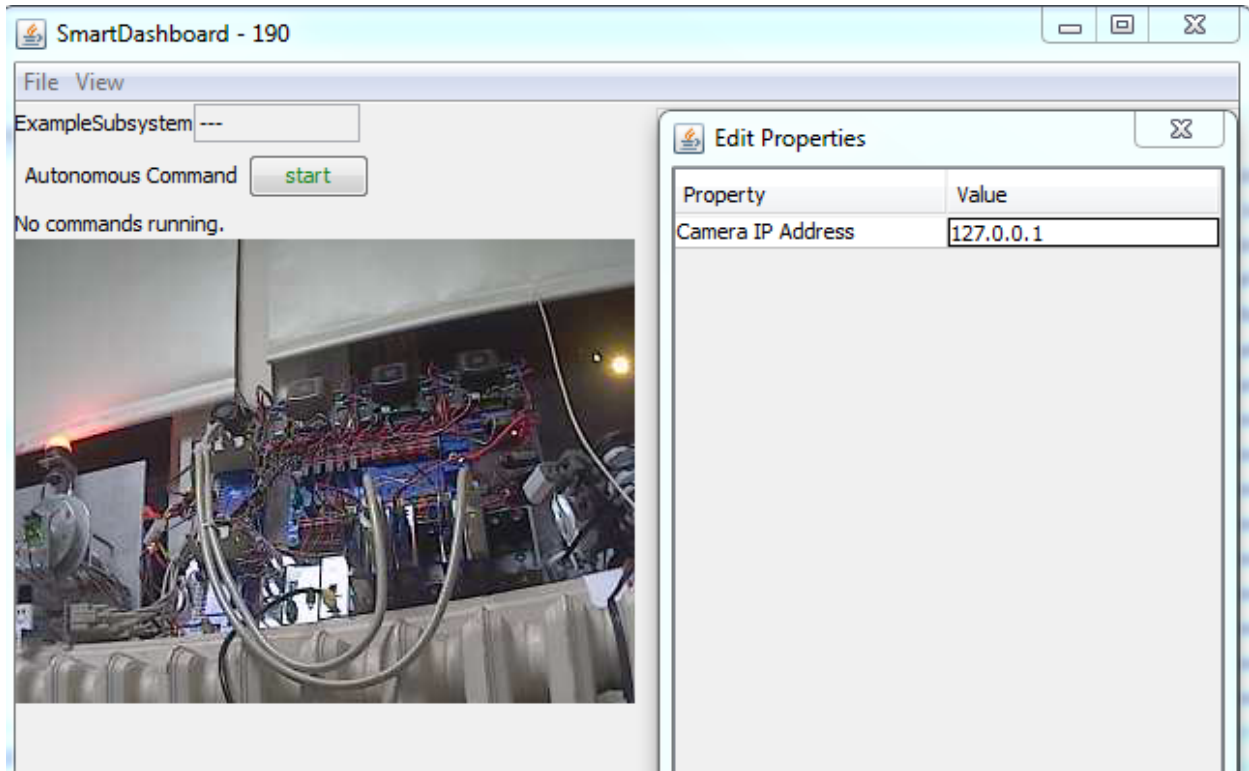
## Add the camera to the SmartDashboard display



Add the Simple Camera Viewer to the SmartDashboard display by selecting View -> Add -> Simple Camera Viewer.

# Viewing the RoboRealm output in SmartDashboard

## Set the camera plugin IP address

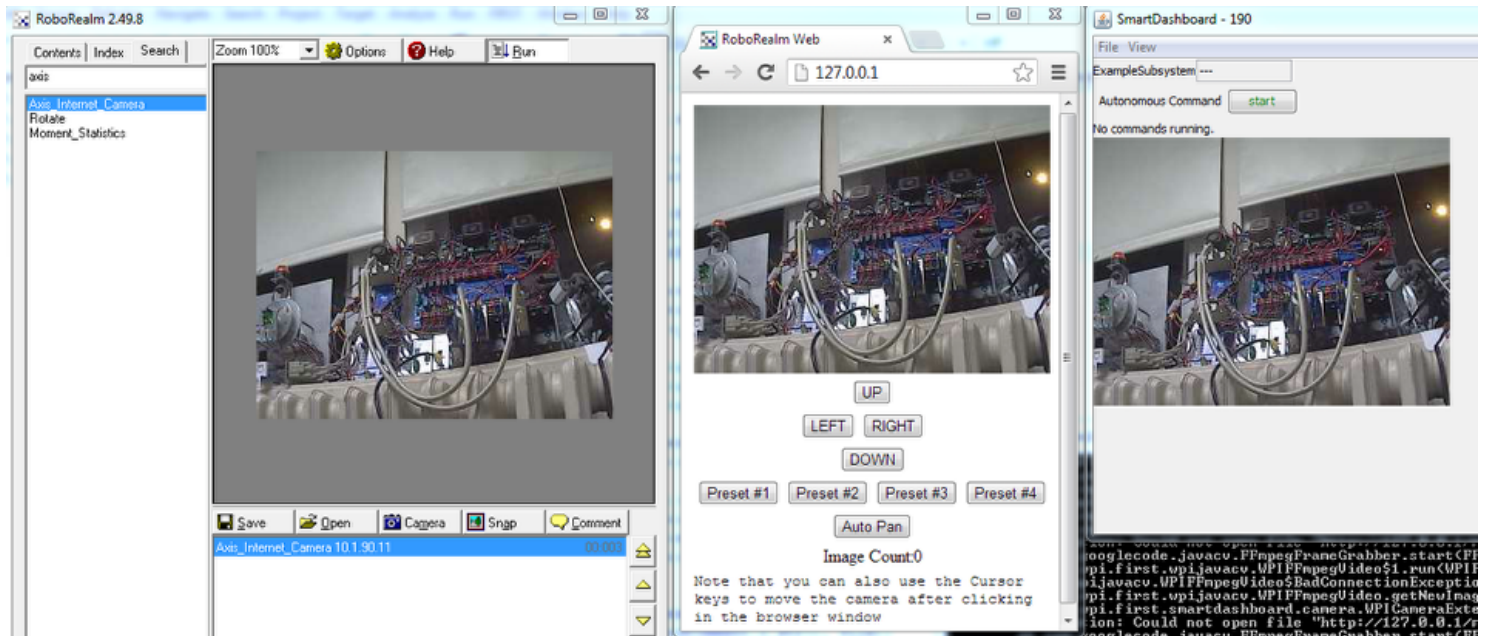


Verify that the camera IP address is set correctly by:

1. Selecting "View" then "Editable" to make the camera image properties accessible. Then right-click on the image and select Properties. Set the system IP address in the Camera IP Address field. This will be viewing the RoboRealm web server just as in the previous steps with the browser.

# Viewing the RoboRealm output in SmartDashboard

## View the RoboRealm image



You should now see the RoboRealm image in both the Web Browser and in SmartDashboard at the same time.