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Configuring Hudson Jobs: An Automated Build System

Ronald Ross
rross@spkaa.com

In a prior posting, we went through the mechanics of installing and setting up Hudson on Windows. Hudson is a continuous build and integration tool, which was released by Sun Microsystems. It is now open source software and is free to use, subject to its license.

Once Hudson has been installed, the next step is to create a job. A Hudson job can be scheduled to run either by explicitly launching the job, or on a regular timetable. Let's have a look at how to setup a job, launching the job and viewing the resulting log file.

First, let's start Hudson. This is done by launching a browser, and viewing the Hudson GUI. Use a URL such as the following: http://localhost:8080 to begin our interaction with Hudson. See the next screenshot for an example of the Hudson GUI.

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The above screenshot shows the initial Hudson screen. Note that the browser URL is set to a server name with the default port number of 8080. There are already a number of jobs defined on this server, but let's go through the steps to create a new job to see how it is accomplished.

To begin, click the New Job link shown on the above screenshot. The following screen is where we begin setting up the new job.

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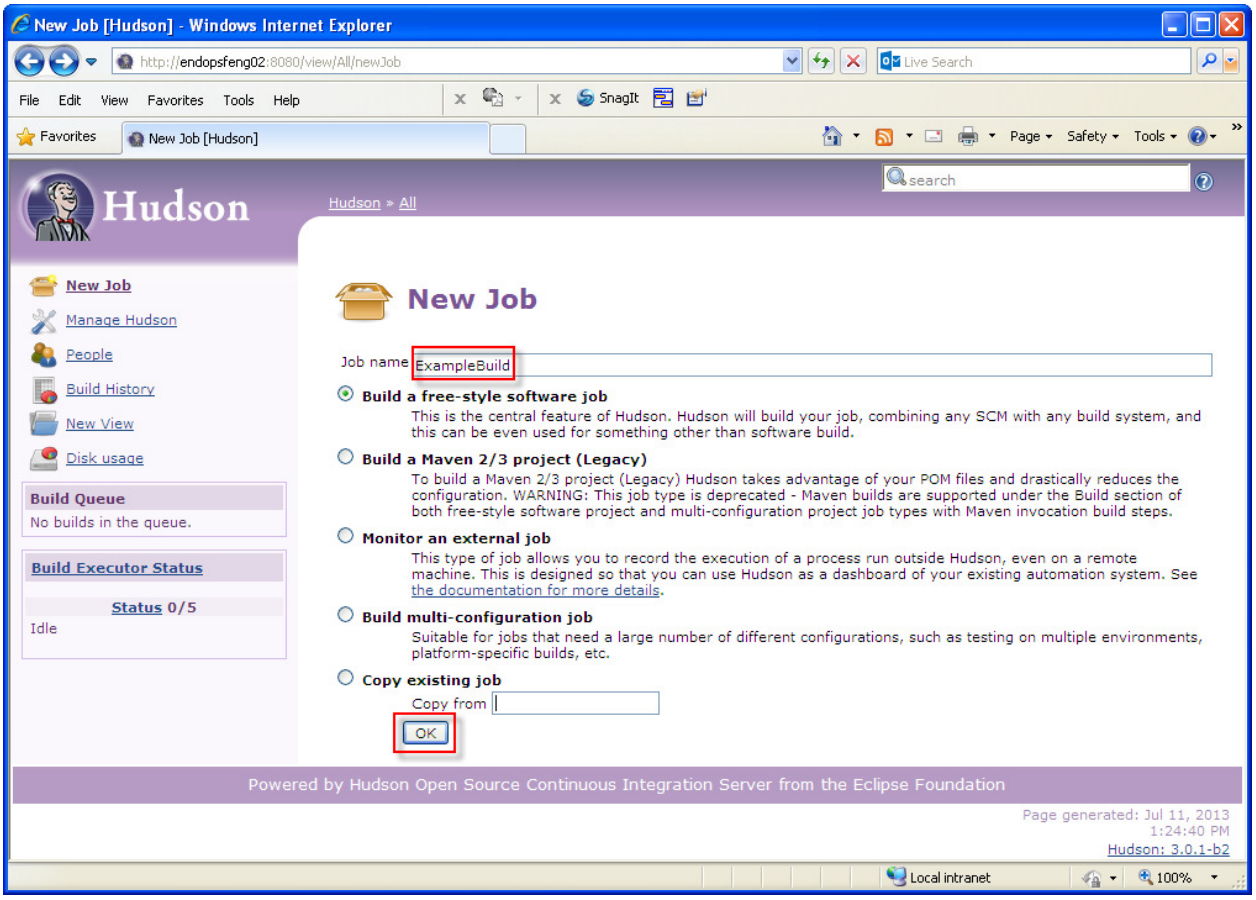

Here is the New Job screen. The obvious first step is to assign the job a name, followed by further configuration. In the case shown above, we will take the default option, since going through all the choices is a bit beyond what we want to accomplish here. After naming the job, click OK at the bottom.

The next screen allow for further opportunities to configure our new job.

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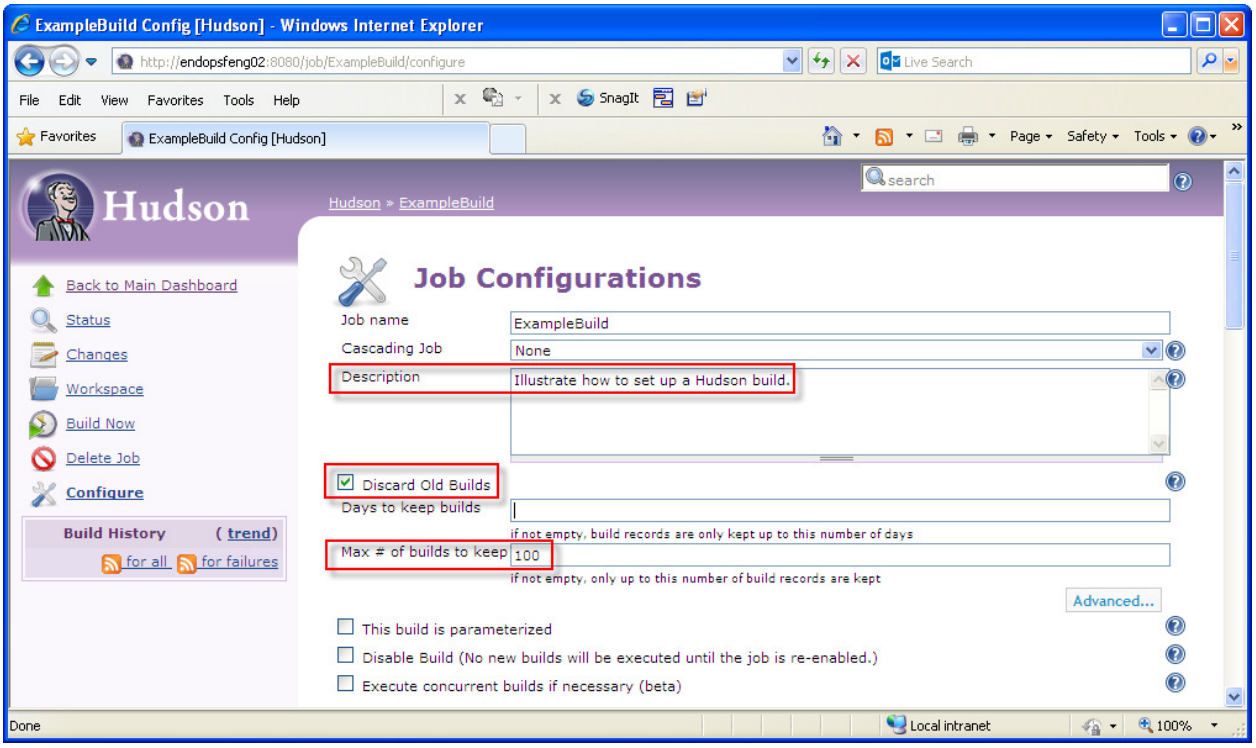

We now continue with configuring our new job. First, we might want to add a brief description of the job, so that others who later encounter the job will have greater context to understand our purpose.

Next, we decide that we only want to keep 100 runs (builds) of this job around. Instances of this job beyond 100 will be discarded. This whole configuration screen is a bit long, and we are only seeing the first part of it. In the next screenshot, we have scrolled down to the next part of the screen.

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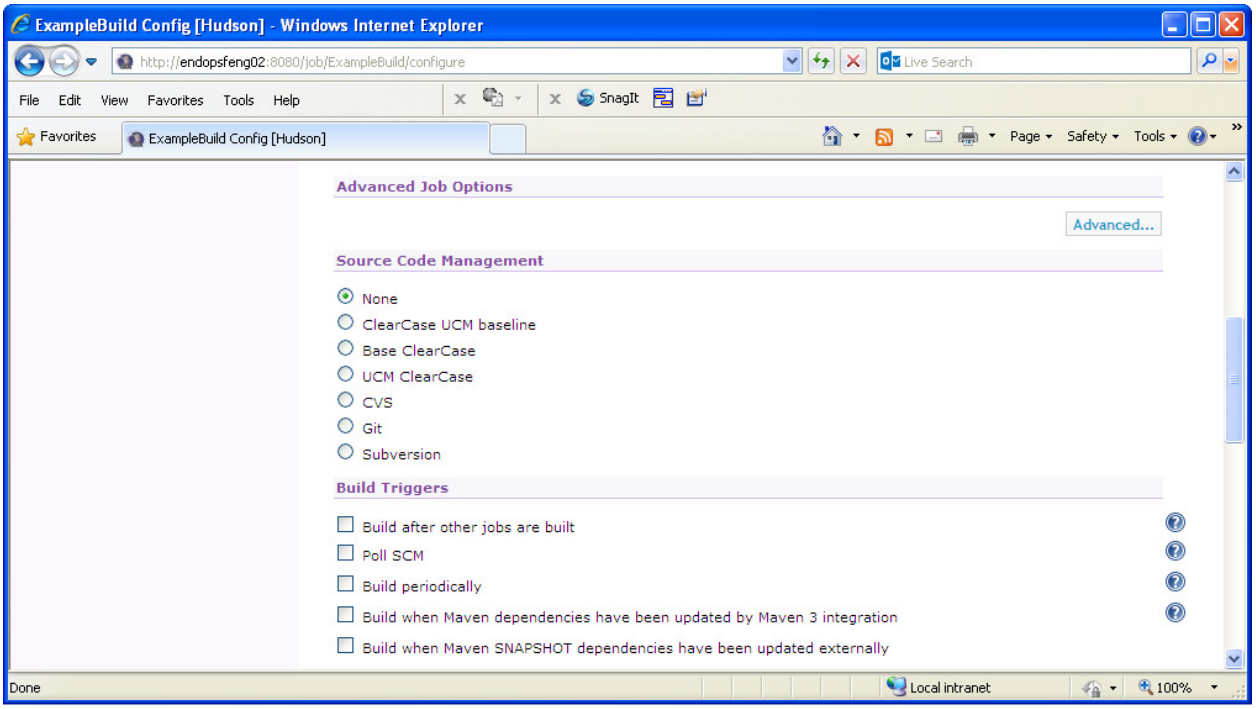

We are taking the default options of the above screenshot. We next continue scrolling down to begin the actual creation of our (very short) build.

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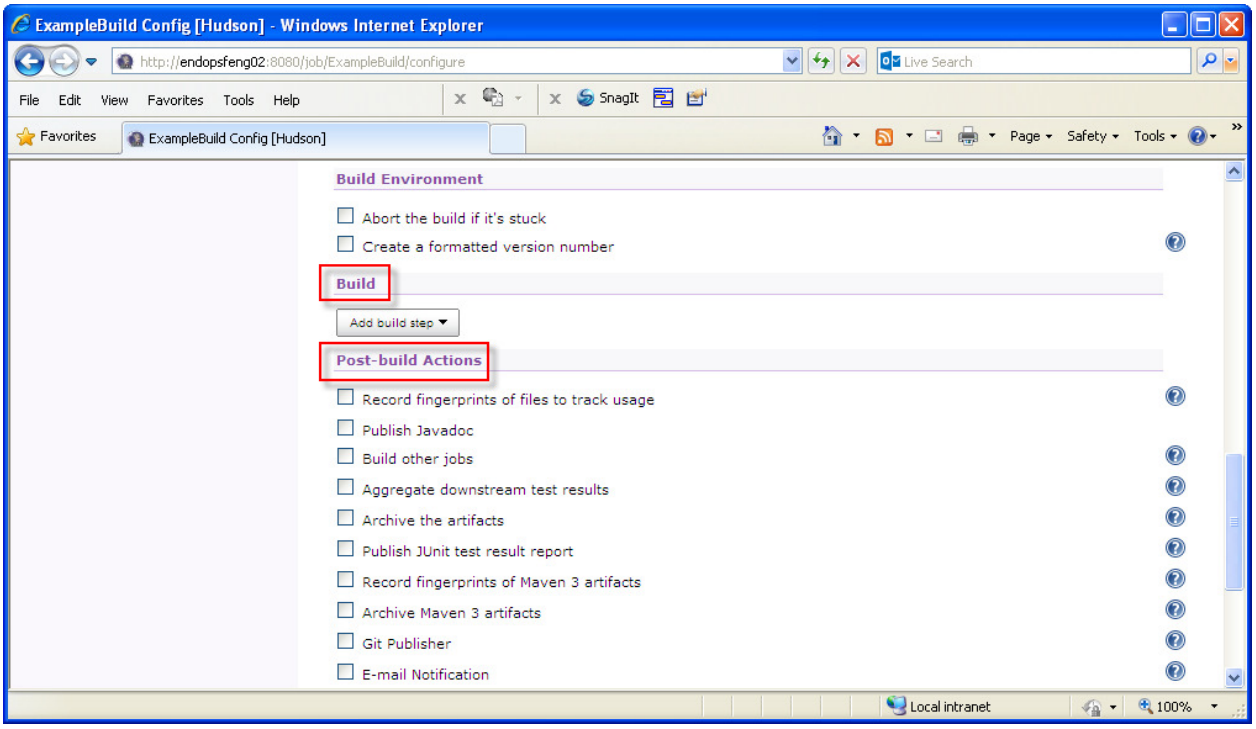
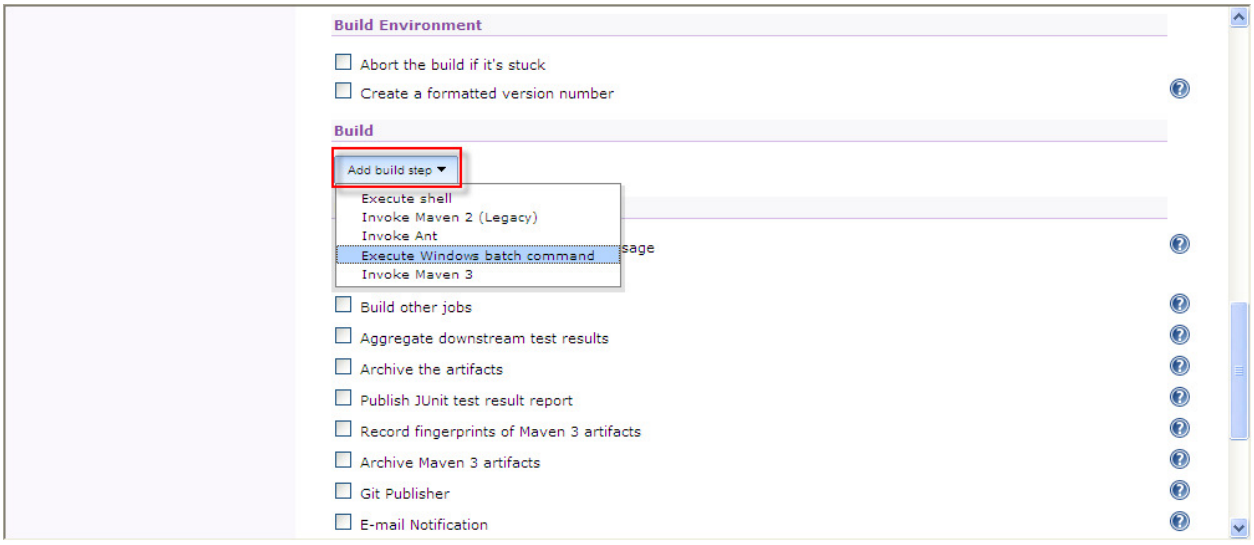


We have now arrived at the configuration section where we define a build. See the two sections above named Build and Post-build Actions. Let's pull down the menu entitled: Add build step. See the following screenshot.



We select "Execute Windows batch command". In the next screen, we add a build job.

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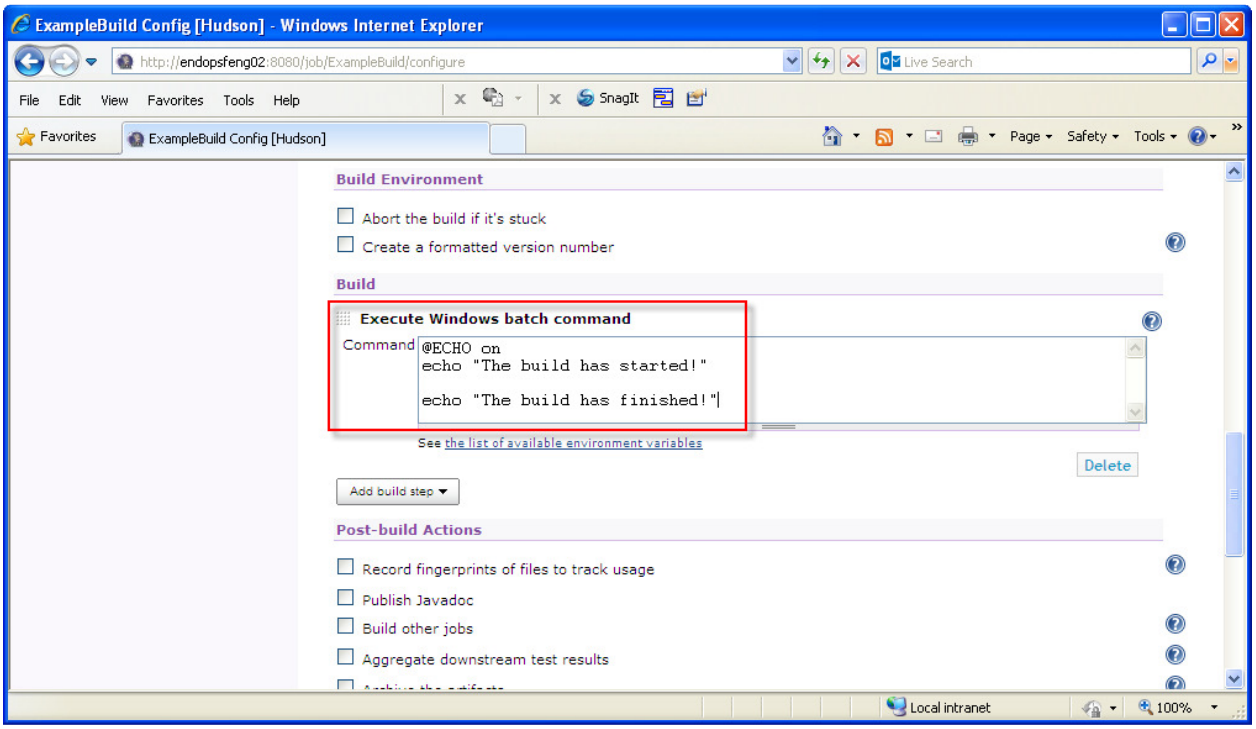

Selecting the "Execute Windows batch command" opens up a command window where we can enter our build commands. We have elected create a very simple job which does nothing except issue start and finish messages.

Often what might be entered here would be commands to navigate to a directory containing a build script, and then to launch the script. The next screen completes the creation of our new job.

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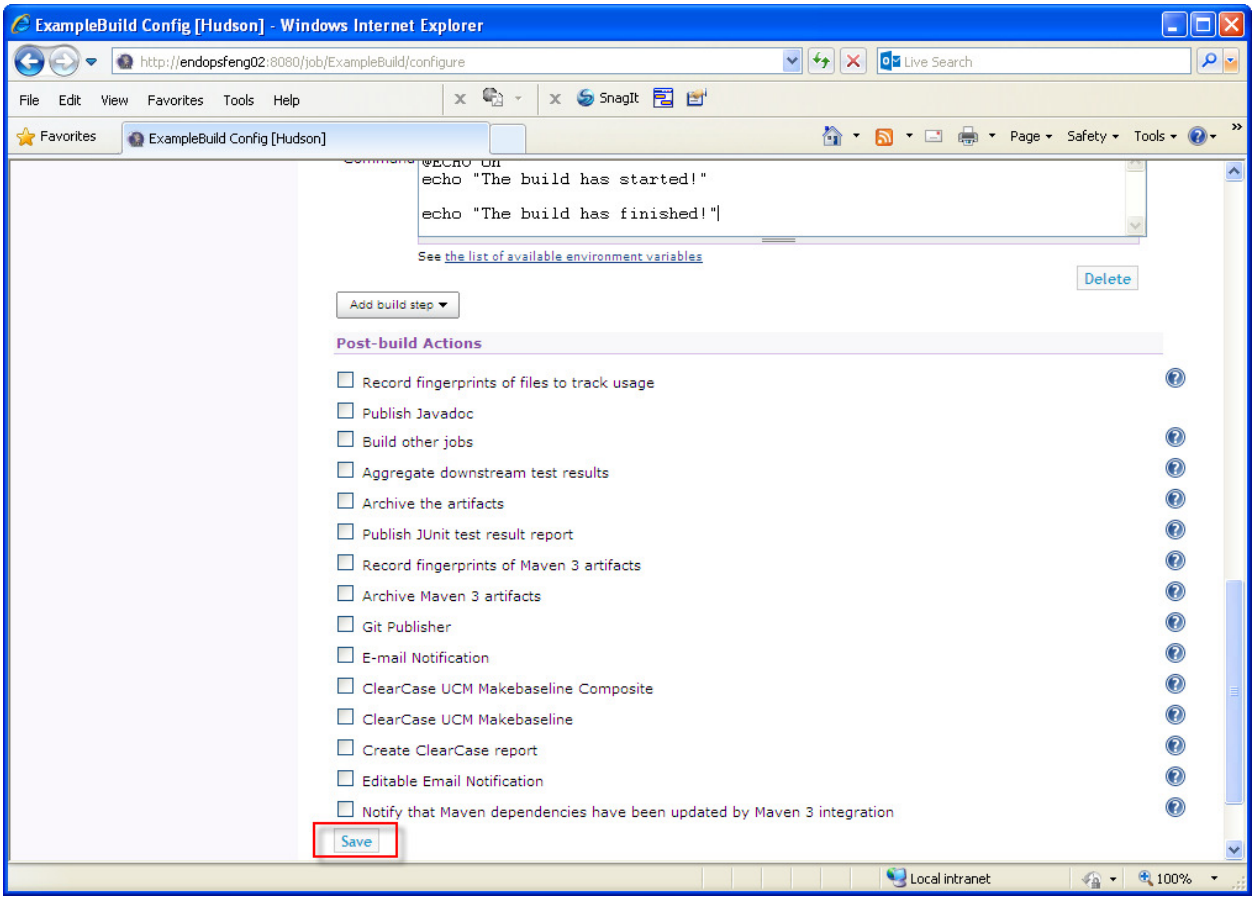

Now that we have entered all the options for our small "build job", we save it, and then begin testing the job. In the screenshot above, there are numerous "Post-build Actions" that can be specified for the job. In order to keep this simple, we have selected nothing. But when you are setting up your own jobs, have a look at the options to see if there is anything that might be of help to you.

Click Save at the bottom to save the job.

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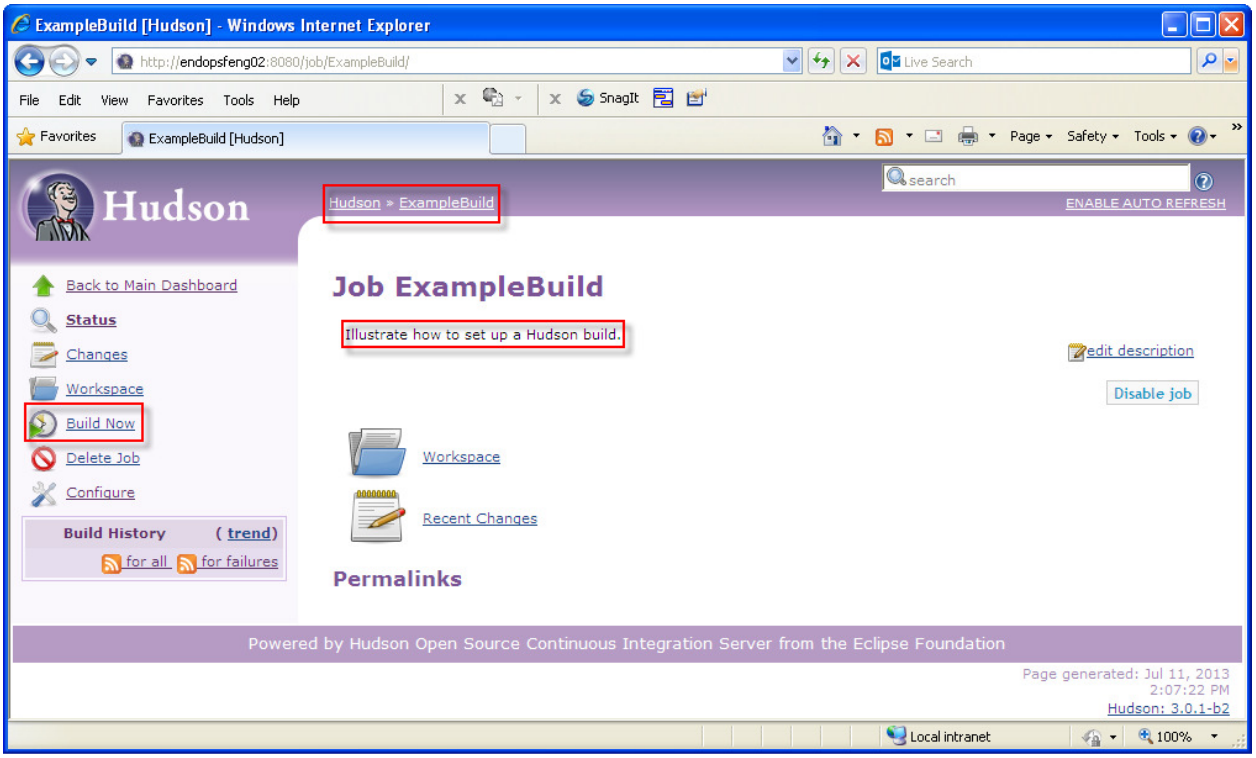

Our new job is now created and operational! Let's test it out by clicking on the Build Now button. The next screenshot have some results.

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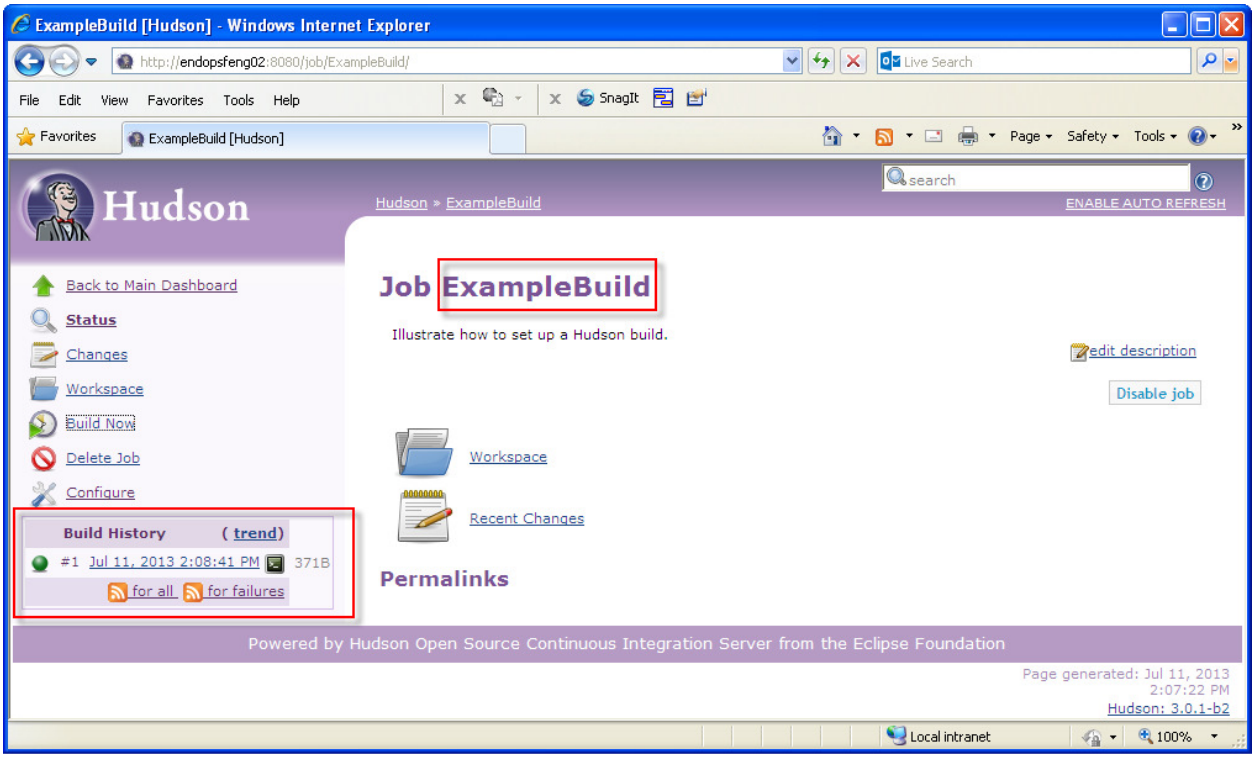

In the lower left corner of the job page, notice that we now have a record of the first build. This was not present in the prior screenshot, but once a build is launched, a record of the build is presented to us. Let's click on the build link and have a look at the details, shown in the next screen.

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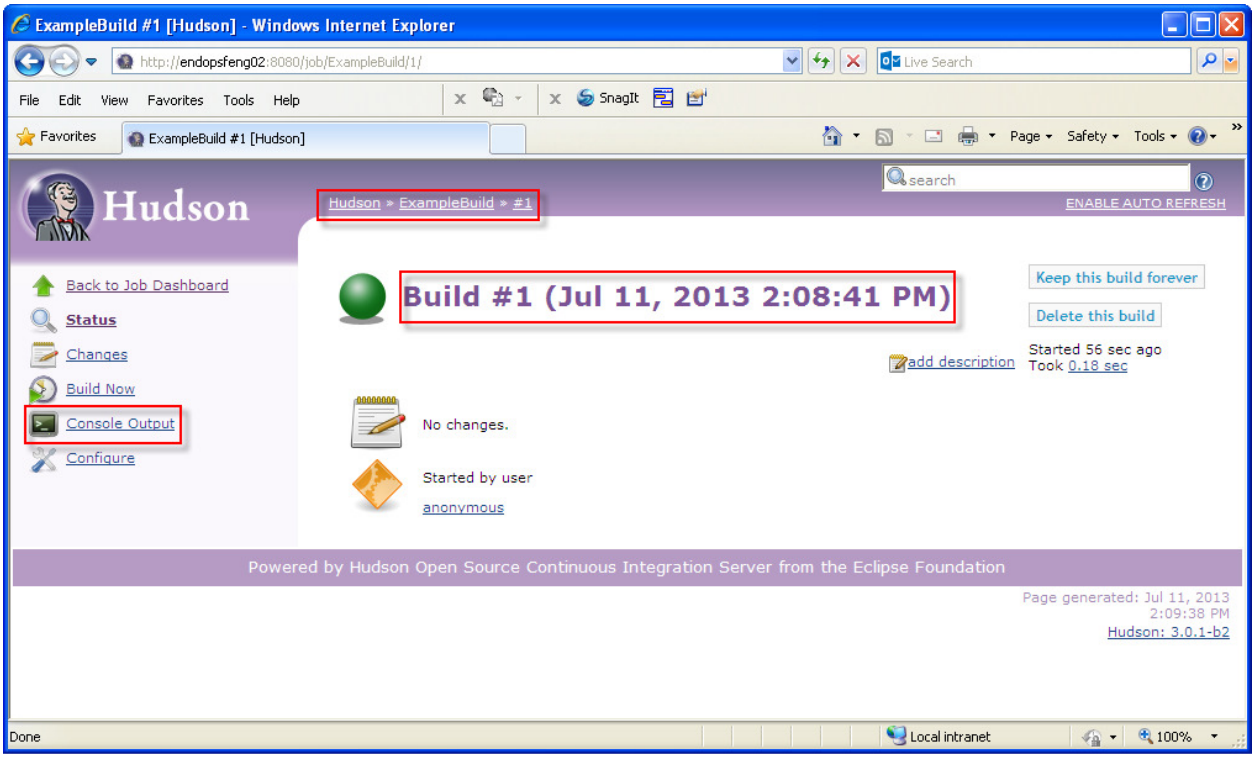

The screenshot above gives details about the build we just launched. This includes a build number, and a data-time stamp when the build completed. Let's take a look at the console output to see the results of running the job. Click on "Console Output" and then let's look at the next screenshot.

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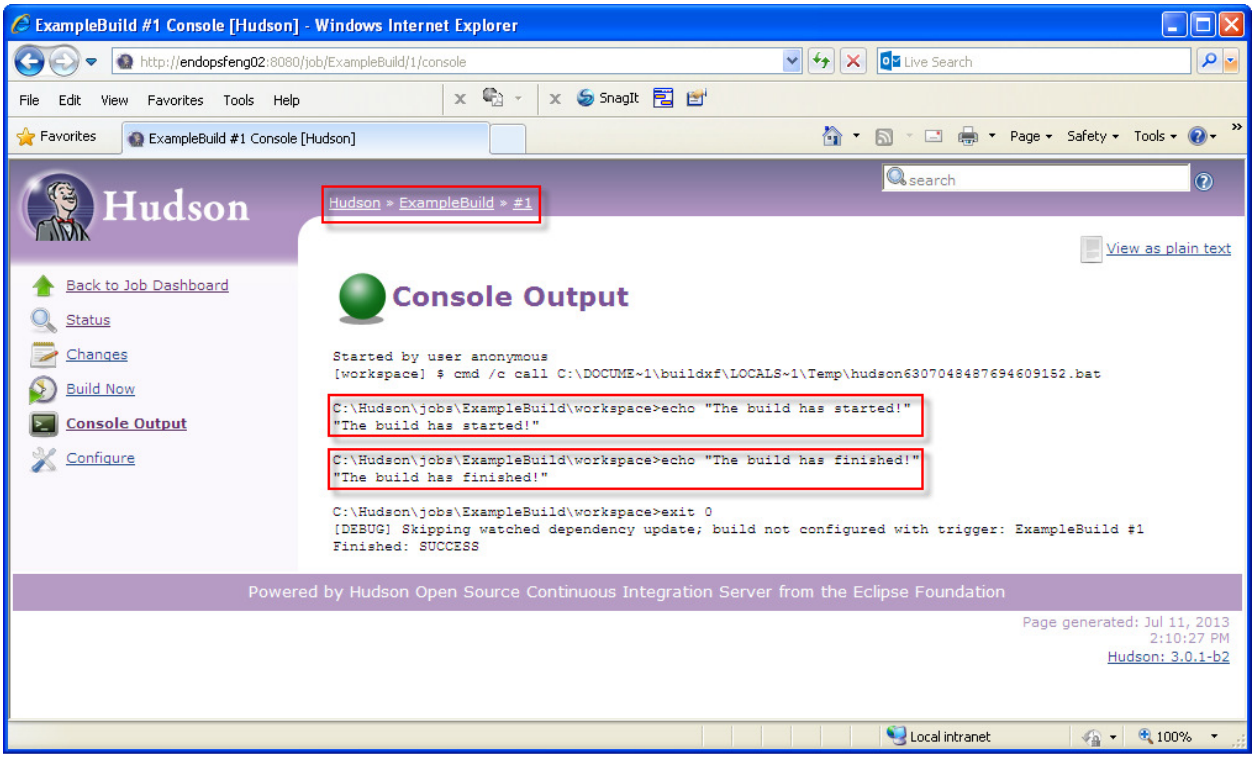

The screenshot above shows the console output of running our short "build job". We can see the results of our two echo commands in the output, and then the job successfully finishing up.

Of course the job that we created and ran isn't of much interest, except that it illustrates how to set up and run a Windows batch job. Whatever type of job you elect to run using Hudson, it can be launched by hand, or scheduled to run at a particular time of day. Or the job can be run on some schedule which is defined by you.

I hope this demonstration have been useful, and perhaps helps to dispel any mystery regarding how to use Hudson. Hudson really is pretty easy to set up and put into production. But don't let the ease of setting it up fool you. There are plenty of other options available, including email notification of failed jobs. Have a look at all the different options available, and decide for yourself what best meets your needs.