

# Updating Docker Images

How to update Banner Applications from updated Docker images

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## 1. Updating Images

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## 1.1. Updating the Tomcat Image

It's time to upgrade Tomcat from one version to another. Seems like that might be a daunting task. Not really.

For this exercise, we're going to upgrade the Tomcat image from using JDK 8 to JDK 11, something that will be required for the Grails 5 upgrade. Just for kicks, we may even upgrade from Tomcat 8 to Tomcat 9.

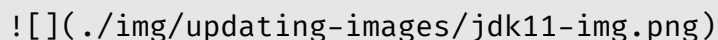
Open the Tomcat Dockerfile and find the line where the version of Tomcat is specified.

```
{.dockerfile tomcat1/Dockerfile} FROM tomcat:8.5-jdk8-openjdk
```

Go out to Docker Hub and search for the official tomcat image page

[https://hub.docker.com/\\_/tomcat](https://hub.docker.com/_/tomcat)

Search for the latest version of Tomcat, for the JDK 11 openjdk version \* Click on the Tags tab \* In the Filter box type: 9-jdk11-openjdk \* Scroll down until you find the right image

A screenshot of a Docker Hub search result for the image 'tomcat:9-jdk11-openjdk'. The text shows the image name and version.

- Click on the identified image link
- Verify the JDK and tomcat versions

```
ENV JAVA_VERSION=11.0.16
```

```
ENV TOMCAT_VERSION=9.0.65
```

Looks like we found what we need. Make note of the image name as that is what we'll need to update our tomcat image.

```
tomcat:9-jdk11-openjdk
```

Now that know what official Docker image to reference, replace the value in the tomcat Dockerfile with what we just found:

```
tomcat1/Dockerfile
```

```
FROM tomcat:9-jdk11-openjdk
```

Now rebuild your image with a new tag showing the version of Tomcat if you want. Then verify that your image was created.

```
. buildspec.sh mytomcat 9.0.65 1
```

```
docker images
```

```
...
```

```
mytomcat          9.0.65-1    1370ebfdaaf4    8 minutes ago    824MB
```

Terrific! We have an new Tomcat image we can use with Banner applications. Let's move on and upgrade our Banner container.

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## 1.2. Updating the Banner Containers

Open the Dockerfile for the Banner application and find the FROM line where the tomcat image is specified.

```
applicatonNavigator/Dockerfile
```

```
FROM mytomcat:8.5.82-2
```

Change the version to the new image version just created:

```
applicatonNavigator/Dockerfile
```

```
FROM mytomcat:9.0.65-1
```

Save the file and rebuild the container.

```
. build.sh applicationNavigator appnav 3.7 8081
```

Check the log file and see how the container build went

```
docker logs applicationNavigator -f
```

```
*** warning - no files are being watched ***
```

```
bin/catalina.sh: line 421: /usr/local/openjdk-8/bin/java: No such file or  
↪ directory
```

Something went wrong. Apparently, we missed changing an environment variable. Let's take care of that.

```
ENV TOMCAT_JAVA_HOME="/usr/local/openjdk-11" \
```

Let's try that build again and check the logs

This time it turned out better. Let's jump in the container and check a few things.

- Check the environment variables
- Check the /usr/local/openjdk-11 to make sure it exists
- Run bin/version.sh to check the version of tomcat
- The jar files will work fine with JDK 11 so no need to update those.

If everything looks good - congrats - you just upgraded Tomcat and JDK! Rinse/Repeat for every other application.

### 1.3. Application Update recap

- Update FROM version
- Update JAVA\_HOME environment variable
- Rebuild container

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