

**WA2675 Architecting Microservices
with Kubernetes, Docker, and
Continuous Integration**

Classroom Setup Guide

Web Age Solutions Inc.

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Part 1 - Minimum Hardware Requirements

- 64-bit x86 CPU that supports hardware virtualization (Intel-VT or AMD-V).
- Hardware virtualization enabled in the BIOS.
- 16 GB RAM minimum
- 80 GB in the hard disk
- Access to Internet

Part 2 - Minimum Software Requirements

- Windows 8.1-64 bits or later
- 7-zip
- VMWare Workstation Player 14 or later

Part 3 - Software Provided

List of VMWare images required for this course and used in next steps on this document:

- `VM_WA2675_REL_5_0`
- `VM_WA2919_REL_1_0`

Send an email to support@webagesolutions.com in order to obtain a copy of the software for this course if you haven't receive it yet.

All other software listed under Minimum Software Requirements is either commercially licensed software that you must provide or software that is freely available off the Internet.

Part 4 - Setup # 1: VM_WA2675_REL_5_0

__1. Download the following Virtual Machine:

- VM_WA2675-REL_5_0.7z.001
- VM_WA2675-REL_5_0.7z.002

__2. Make you you have installed VMWare Workstation, you can download it from:

<https://www.vmware.com/ca/products/workstation-player.html>

__3. Make sure you have installed 7zip, you can download it from:

<https://www.7-zip.org/>

__4. Open the folder where you downloaded the files and then right click the **VM_WA2675-REL_5_0.7z.001** file and select **7-Zip** → **Extract here**.

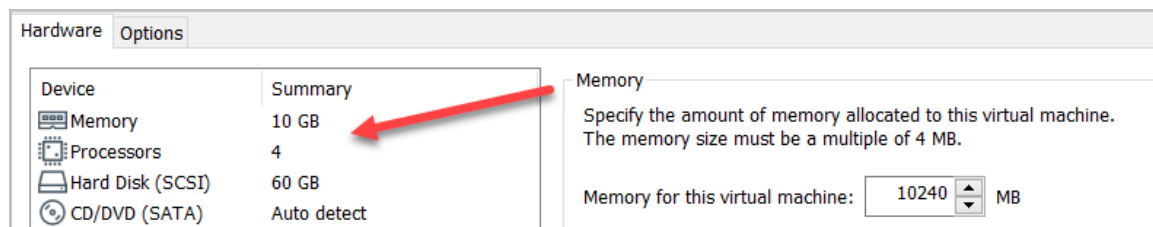
__5. This will extract all the compressed files from the 2 files (001 and 002) in the folder where you are located. After extraction you will see a new folder called **VM_WA2675-REL_5_0**

__6. Open **VMWare Workstation**.

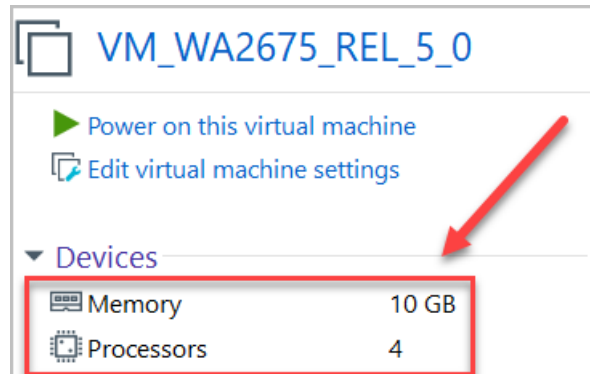
__7. Click **Open a Virtual Machine**.

__8. Click **Edit virtual machine settings**.

__9. Change the **Memory** to **10240** and **Processors** to **4** and click **OK**.



__10. MAKE SURE THE CHANGES SHOWS THE INCREASED OF THE MEMORY TO 10 GB AND PROCESSORS TO 4 CORES.



__11. Navigate to the folder where you extracted the VM, select **Ubuntu 18.04 for Docker.vmx and click **Open**.**

__12. Open the **VM_WA2675-REL_5_0 folder.**

__13. Right click **Ubuntu 18.04 for Docker.vmx and select **Send to → Desktop (create a shortcut)****

__14. On the desktop, rename the create shortcut to **VM_WA2675-REL_5_0**

__15. Double click on the shortcut named as **VM_WA2675-REL_5_0. This will start the VM.**

__16. Select **I Moved It if prompt.**

__17. Login using **wasadmin for user and password.**

__18. Open the version.txt file in the desktop and verify is the same than the VM.

__19. Open a terminal and enter the following command:

```
sudo -i
```

[Enter **wasadmin** as password]

__20. Make sure you have internet by entering:

```
ping www.google.com
```

__21. Press Ctr + C to stop the ping.

Important: If you cannot reach www.google.com means you don't have internet, check that the Network Adapter in the VM is configured as NAT.

__22. Type **exit** to close the Terminal.

__23. Stop the VM.

Part 5 - Setup # 2: VM_WA2919_REL_1_0

__1. Download the following Virtual Machine:

- **VM_WA2919_REL_1_0.7z.001**
- **VM_WA2919_REL_1_0.7z.002**

__2. Open the folder where you downloaded the files and then right click the **VM_WA2919_REL_1_0.7z.001** file and select **7-Zip** → **Extract here**.

__3. This will extract all the compressed files from the 2 files (001 and 002) in the folder where you are located. After extraction you will see a new folder called **VM_WA2919_REL_1_0**

__4. Open the **VM_WA2919_REL_1_0** folder.

__5. Right click **VM_WA2919-REL_1_0.vmx** and select **Send to** → **Desktop (create a shortcut)**

__6. On the desktop, rename the create shortcut to **VM_WA2919-REL_1_0**

__7. Double click on the shortcut named as **VM_WA2919-REL_1_0**. This will start the VM.

__8. Select **I Moved It** if prompt.

__9. Login using **wasadmin** for user and password.

__10. Open a Terminal.

__11. Enter the following command. [Enter the password **wasadmin**]

```
sudo -i
```

__12. Make sure you have internet by entering:

```
ping www.google.com
```

__13. Press Ctr + C to stop the ping.

<p>Important: If you cannot reach www.google.com means you don't have internet, check that the Network Adapter in the VM is configured as NAT.</p>

__14. Enter the following command:

```
~/pull-images.sh
```

Wait for it to complete.

__15. Close the Terminal.

__16. Stop the VM.

Part 6 - Create a Docker Account and Obtain an Access Token [This part needs to be done by the Students or by the setup person]

In the next steps you will create a Docker account and obtain an access token. With the free Docker account, you can pull up to 200 Docker images every 6 hours. Without the account, you will most likely run into Docker pull rate-limiting issue where anonymous users get restricted to 100 Docker image pulls every 6 hours and that can cause issues especially when multiple anonymous users connect from the same network.

__ 1. Open a browser and navigate to the following URL:

`https://hub.docker.com/`

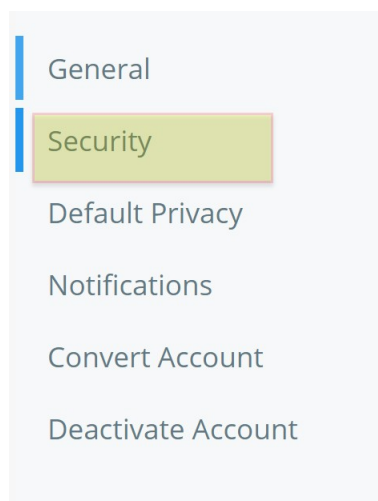
__ 2. Click **Sign Up** and create a new account.

__ 3. Sign in with your newly created account.

__ 4. Click on your username in the top right corner and select Account Settings.

Alternatively, click navigate to <https://hub.docker.com/settings/general> to access Account Settings.

__ 5. Select **Security**.



__ 6. Click **New Access Token**.

__7. Add the token description, such as *docker & Kubernetes labs*.

__8. Keep Access permissions as default (**Read, Write, Delete**).

__9. Click **Generate**.

Notice it shows the following information on the page:

To use the access token from your Docker CLI client:

1. Run `docker login -u [redacted]`
2. At the password prompt, enter the personal access token.



__10. Make a note of both the steps displayed on the page.

The following steps need to be done in each VM.

__11. Start the VM.

__12. Open a new terminal window.

__13. Switch to the root user. [enter the sudo password]

```
sudo -i
```

__14. Verify you are logged in as root.

```
whoami
```

It should show root.

__15. Run the following command to log into Docker.

```
docker login -u {your-docker-id} -p {your-access-token}
```

__16. Close the Terminal.

__17. Close the VM.

Part 7 - Summary

You have successfully installed the software for this course!

If you have any question please contact us by email at support@webagesolutions.com

From US and Canada call: 1-877-812-8887 ext. 26

International call: 416-406-3994 ext. 26