COMP2014 Lab 0 – Setup

2023-01-25, v1.1

1   Introduction

The aim of this lab is to ensure that you have a suitable environment for doing the rest of the labs, i.e. accessing the code, exploring it, and running it.

See the Lab Options document for the recommended approaches to doing this.

2   Initial setup

Please see the Lab Options document.

Q: Which approach are you going to use? Why?

Follow the instructions there to install, request or check access to the components needed, i.e.

- Visual Studio Code (for browsing source),
- git (for obtaining source and saving any changes) and
- Docker containers (for building and running in).

Q: Did you encounter any problems or have any suggestions for improving the guidance?

3   Gitlab access

Ensure you can access the Lab git repo,
https://projects.cs.nott.ac.uk/comp2014/comp2014-2022/comp2014-2022-lab0

Ensure you have a valid access token that you can use to check it out.

Q: Did you encounter any problems or have any suggestions for improving the guidance?

4   Lab tasks

The goal is to check out and run the application in the repo (in a docker container), and connect to it from a browser (typically via URL http://localhost:8000/test).

If you are using your own up-to-date version of Visual Studio Code then you can follow the Dev Containers version. If you are using the CS WVD or Lab PCs then please follow the Docker-only version.

Q: Which approach are you going to use? Why?

Note, keep notes on the steps you take, for future reference or in case you run into problems.

Q: What was the resulting web page?

Q: How exactly did the connection from the browser reach the running application? (See also Lecture 2)

Q: Is there anything that is unclear? Make a note and ask about it…

5   Common Issues

(Note, most of these are when using a docker in a VM)

- **Using a VM, after adding the host which SSH configuration should I update?**
  Update one that is specific to you, e.g. C:\Users\ps…\… or /home/ps…/…
- **Using a VM, Visual Studio Code is taking a long time to connect or set up the remote machine…**
  It may be waiting for a password; hover over the small dialog (bottom right) describing the current activity, click the "expand" icon and click "details"; the password prompt may now become visible at the top of the Visual Studio Code window.
- **Using a Vagrant VM, Visual Studio Code is prompting for the password**
  Presumably you have added the SSH configuration to the user's SSH config file and copied over the private key from .vagrant to the user's .ssh directory (see lab0 git docs)?!
  Check what SSH is doing by opening a terminal/command window and just typing "ssh NAME", where NAME is the SSH config entry you have created.
  If it says "Could not resolve host name…" then you've made the entry in the wrong config file.
  If it complains about "WARNING: UNPROTECTED PRIVATE KEY FILE" then you need to update the permissions on the key file that you have copied over. On Linux/Mac permissions 0400 should be fine. On Windows you can open the File Properties in Windows Explorer, Security tab, "Edit" and make sure that only you have Read access.
- **I tried opening a Dev Container on a VM and it didn't work**
  Use a new VSCode window and just try Remote-SSH and running docker directly
- **I tried opening in a Dev Container on a VM from the WVD or Lab PCs and now the Dev Container on that VM doesn't work from my own computer either**
  As a workaround use Remote-SSH and running docker directly.
  You'll need to try and clean up any mess that the old version of Dev Containers has left. E.g. connect to the remote machine without starting the Dev Container and in the terminal try: "docker ps" to see running containers and "docker stop ID" to stop them; "docker ps -a" to see stopped containers and "docker rm ID" to remove them (where "ID" is the container ID); "docker volume ls" to see volumes and "docker volume rm ID" to remove them; "docker image ls" to see container images and "docker image rm ID" to remove them (probably only remove images with repository "vsc-…").
- **Using Vagrant, what SSH username/password do I use?**
  You need to set up ssh to use the SSH private key that vagrant has set up – see the lab0 repo, https://projects.cs.nott.ac.uk/comp2014/comp2014-2022/comp2014-2022-lab0#local-vm
- **I get connection timeout to my VM**
  If it is in the Azure Lab then check that it is running; these VMs shut down automatically after a few minutes of not being used. You also can't connect if they are in the process of starting or stopping.
  If the VM is definitely running (and not already shutting down) and you are on campus then it might be a firewall issue. Try from the Computer Science Windows Virtual Desktop or from off campus.