WebSphere Application Server Troubleshooting and Performance Lab on Docker - Lab Preparation

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Contents

1 Lab Preparation

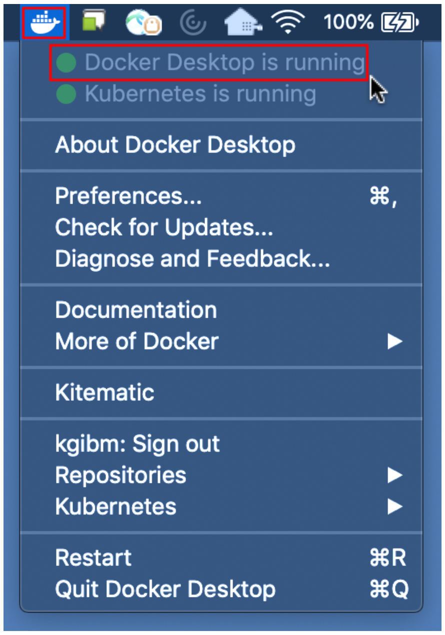
1. Install Docker:
    a. Windows ("Requires Microsoft Windows 10 Professional or Enterprise 64-bit.")
        - Download: https://hub.docker.com/editions/community/docker-ce-desktop-windows
        - For details, see https://docs.docker.com/docker-for-windows/install/

    b. Mac ("Requires Apple Mac OS Sierra 10.12 or above")
        - Download: https://hub.docker.com/editions/community/docker-ce-desktop-mac
        - For details, see https://docs.docker.com/docker-for-mac/install/

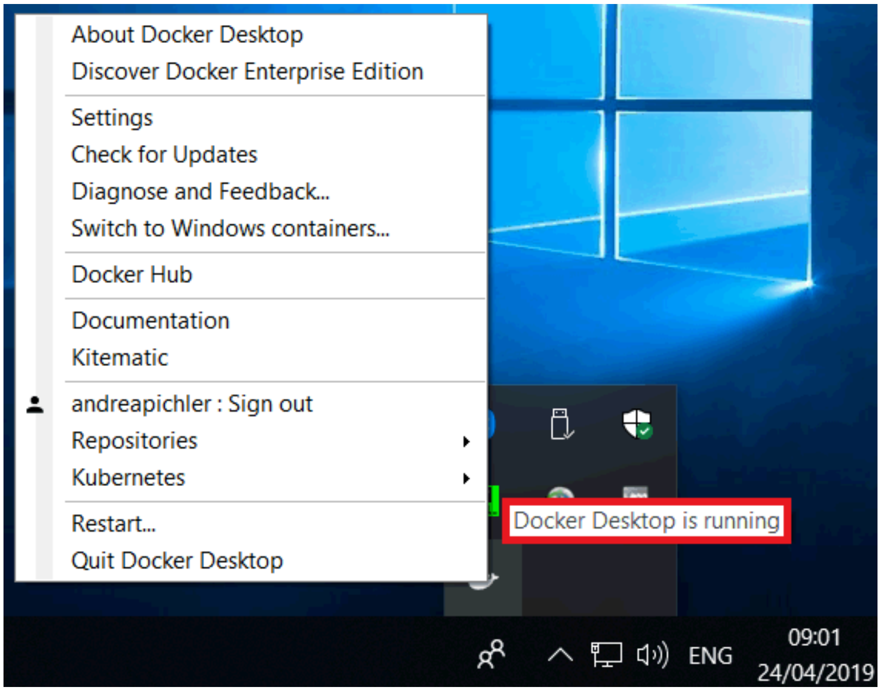
    c. For a Linux host, simply install and start Docker (sudo systemctl start docker):
        - For an example, see https://docs.docker.com/install/linux/docker-ce/fedora/

2. Ensure that Docker is started. For example, start Docker Desktop and ensure it is running:

    macOS:



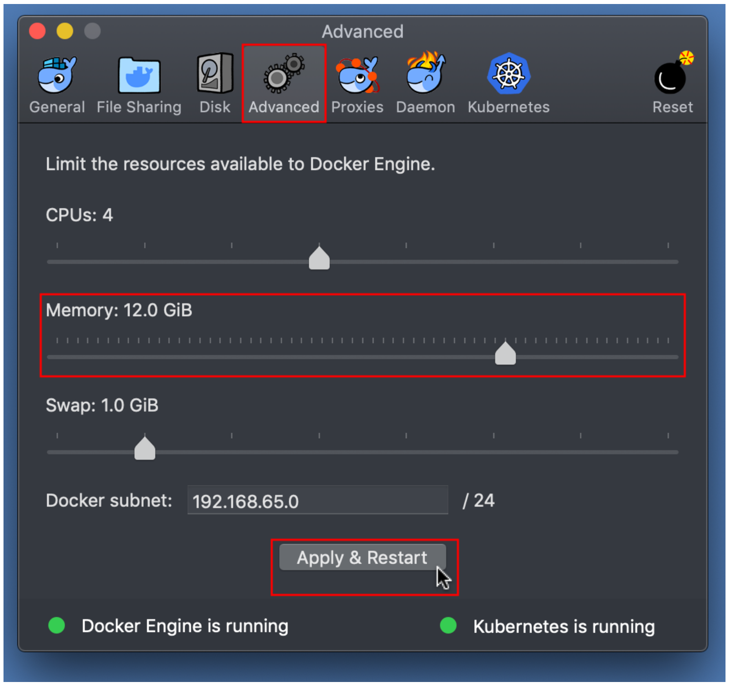
Windows:



Docker Desktop is running

3. Ensure that Docker receives sufficient resources, particularly memory:
    a. Click the Docker Desktop icon and select “Preferences…” (on macOS) or “Settings” (on Windows)
    b. Select the Advanced tab.
    c. Increase Memory, ideally to at least 8GB.
    d. Click Apply

macOS:



Limit the resources available to Docker Engine.

CPUs: 4

Memory: 12.0 GiB

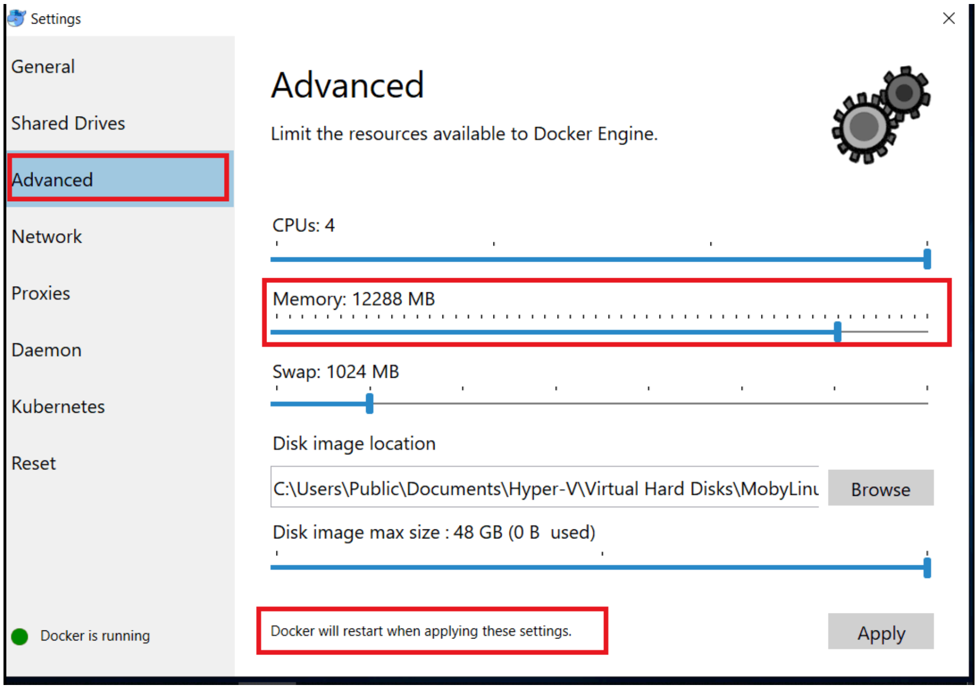
Swap: 1.0 GiB

Docker subnet: 192.168.65.0 / 24

Docker Engine is running

Kubernetes is running

Windows:



Advanced

Limit the resources available to Docker Engine.

CPUs: 4

Memory: 12288 MB

Swap: 1024 MB

Disk image location

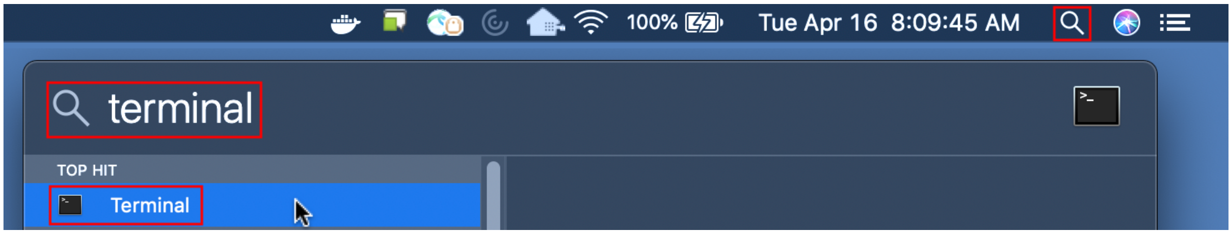
C:\Users\Public\Documents\Hyper-V\Virtual Hard Disks\MobyLinu

Disk image max size : 48 GB (0 B used)

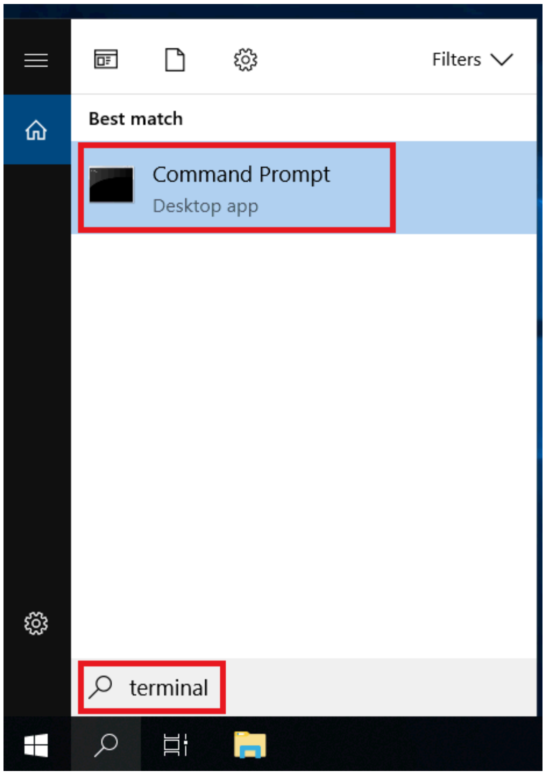
Docker will restart when applying these settings.

4. Open a terminal or command prompt:

   macOS:



   Windows:



5. Download the images:

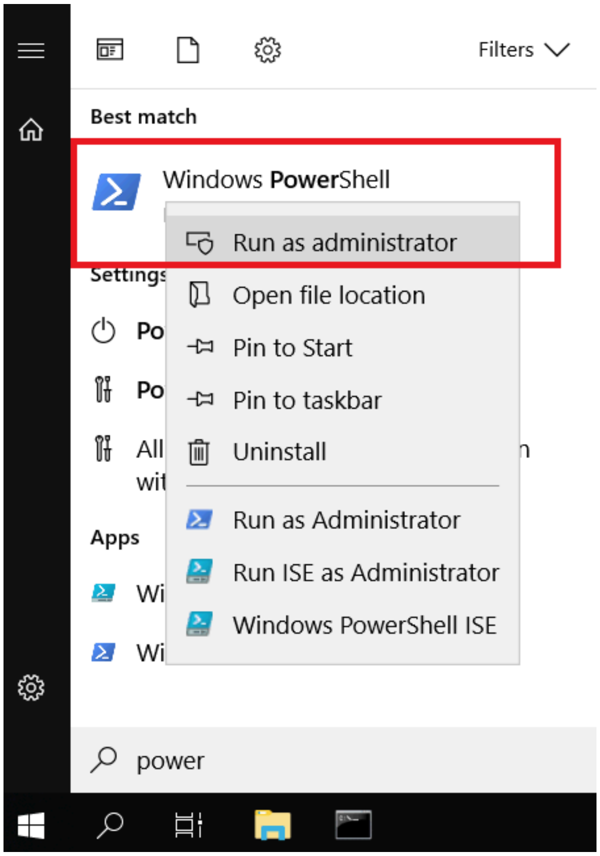
```
docker pull kgibm/fedorawasdebug
```

   e. Note that these images are about 20GB. If you plan to run this in a classroom setting, consider performing all the steps up to and including this item before arriving at the classroom.

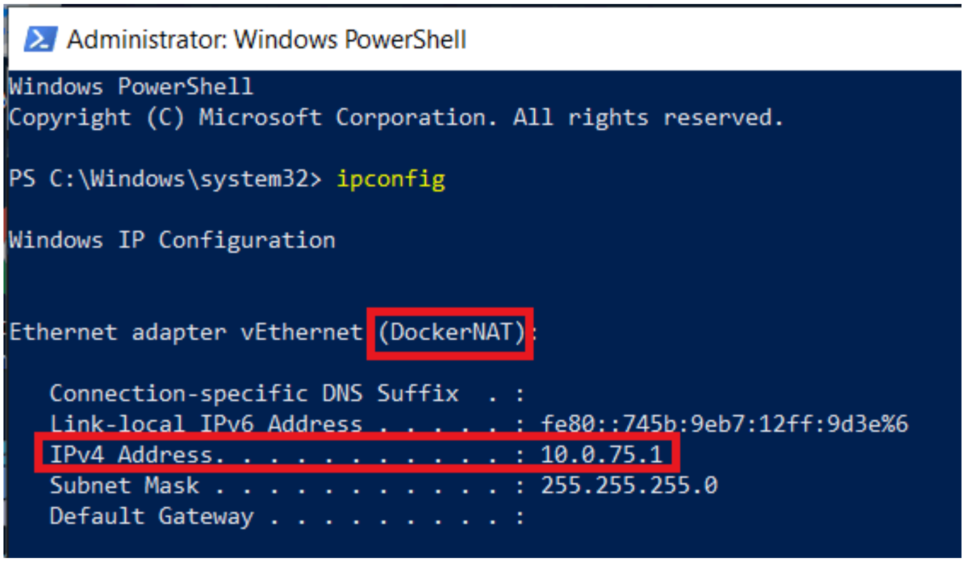
2 Appendix

2.1 Windows Remote Desktop Client

1. Open PowerShell as Administrator:



2. Run ipconfig and copy the IPv4 address of the DockerNAT adapter. For example:



```
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

PS C:\Windows\system32> ipconfig

Windows IP Configuration


Ethernet adapter vEthernet (DockerNAT):

   Connection-specific DNS Suffix  . :
   Link-local IPv6 Address . . . . . : fe80::745b:9eb7:12ff:9d3e%6
   IPv4 Address. . . . . . . . . . . : 10.0.75.1
   Subnet Mask . . . . . . . . . . . : 255.255.255.0
   Default Gateway . . . . . . . . . :
```

3. Run the following command in PowerShell:

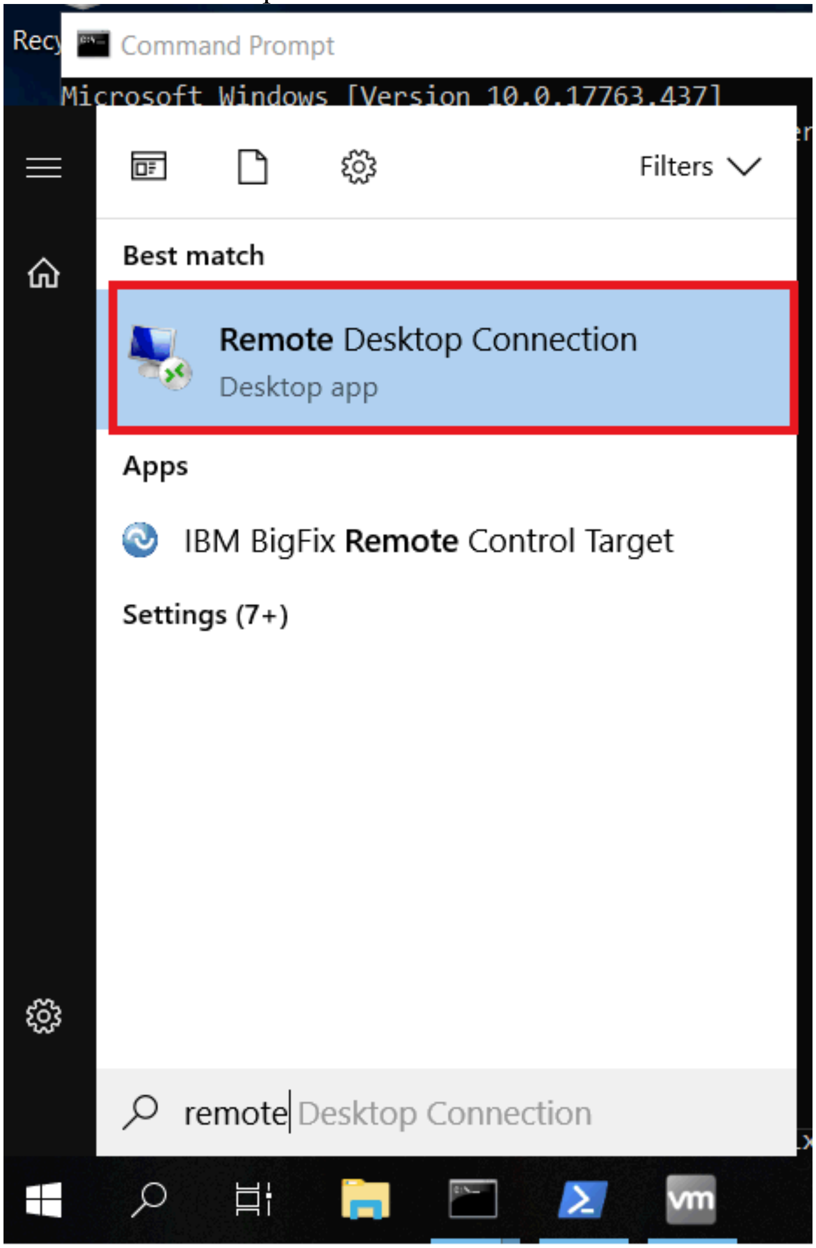
```
New-NetFirewallRule -Name "myRDP" -DisplayName "Remote Desktop Protocol" -Protocol
```

```
TCP -LocalPort @(3389) -Action Allow
```

4. Run the following command in PowerShell:

```
New-NetFirewallRule -Name "myContainerRDP" -DisplayName "RDP Port for connecting to
Container" -Protocol TCP -LocalPort @(3390) -Action Allow
```

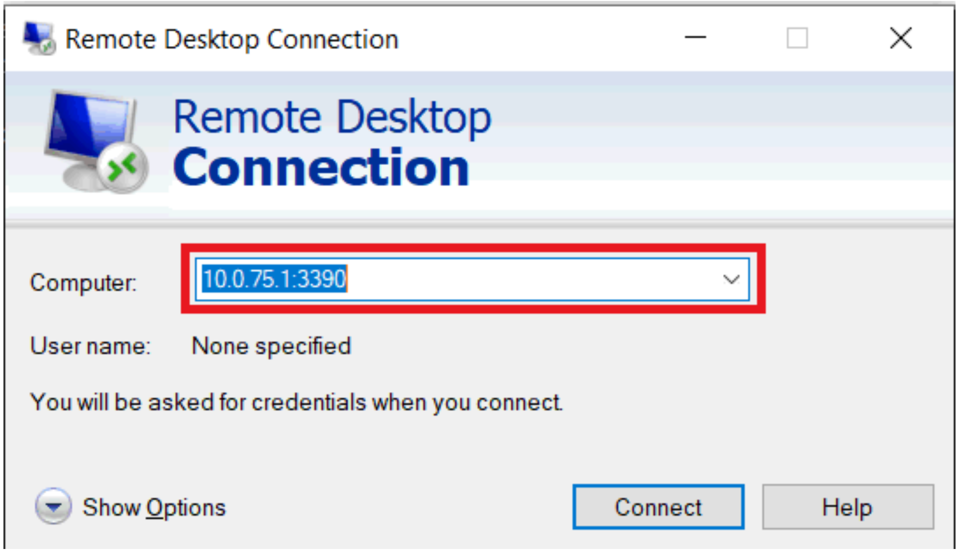
5. Run Remote Desktop



```
Microsoft Windows [Version 10.0.17763.437]
```

Rec
Command Prompt
Filters
Best match
Remote Desktop Connection
Desktop app
Apps
IBM BigFix Remote Control Target
Settings (7+)
remote Desktop Connection

6. Enter the DockerNAT IP address (for example, 10.0.75.1) followed by :3390 as "Computer" and click "Connect":

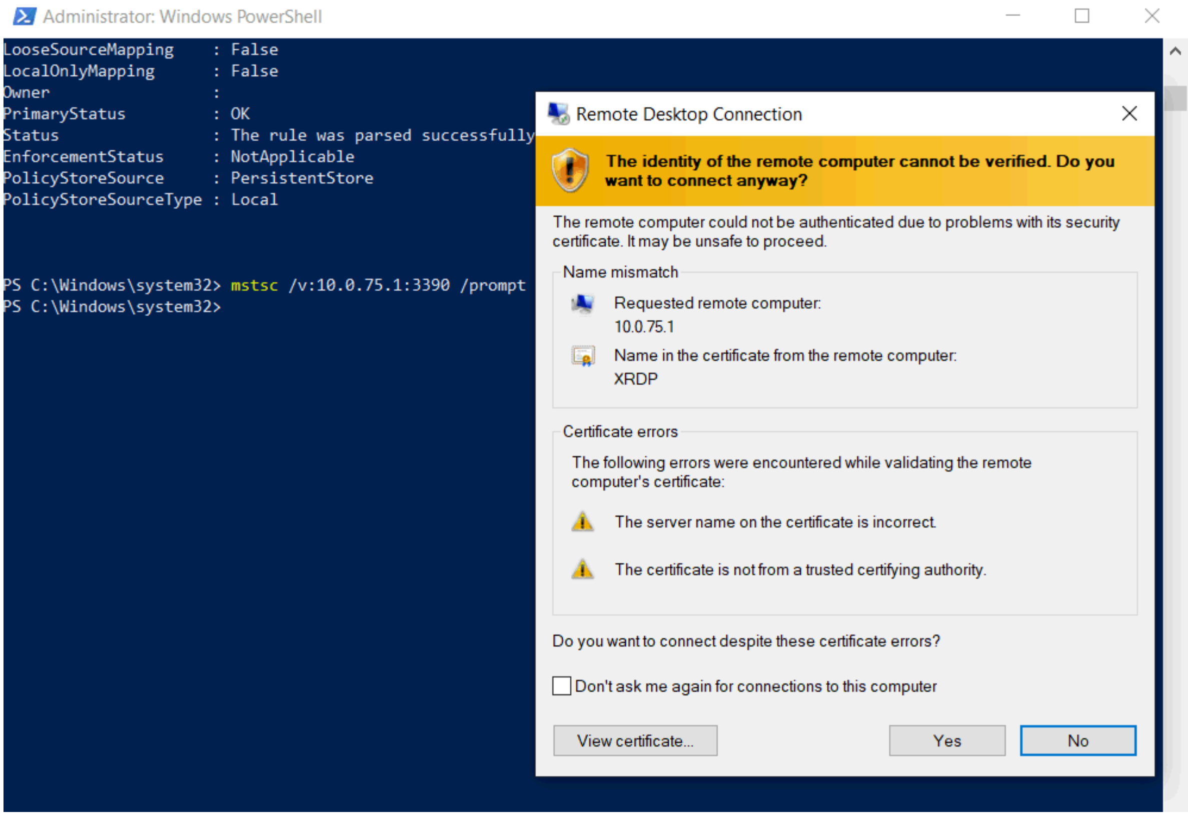


Computer: 10.0.75.1:3390

User name: None specified

You will be asked for credentials when you connect

7. You'll see a certificate warning because of the name mismatch. Click "Yes" to connect:



```
LooseSourceMapping    : False
LocalOnlyMapping      : False
Owner                 :
PrimaryStatus         : OK
Status                : The rule was parsed successfully
EnforcementStatus     : NotApplicable
PolicyStoreSource     : PersistentStore
PolicyStoreSourceType : Local


PS C:\Windows\system32> mstsc /v:10.0.75.1:3390 /prompt
PS C:\Windows\system32>
```

The identity of the remote computer cannot be verified. Do you want to connect anyway?

The remote computer could not be authenticated due to problems with its security certificate. It may be unsafe to proceed.

Name mismatch

Requested remote computer:
10.0.75.1

Name in the certificate from the remote computer:
XRDP

Certificate errors

The following errors were encountered while validating the remote computer's certificate:

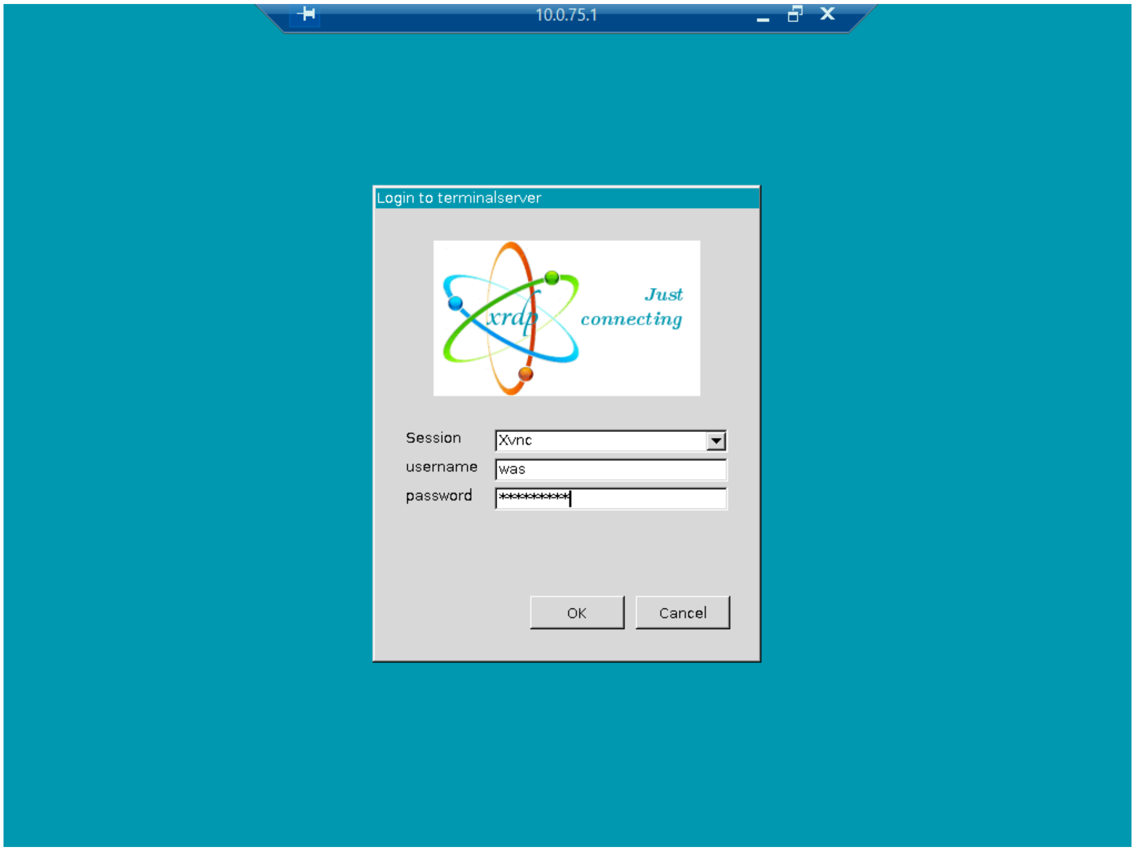
⚠ The server name on the certificate is incorrect.

⚠ The certificate is not from a trusted certifying authority.

Do you want to connect despite these certificate errors?

□ Don't ask me again for connections to this computer

8. Type username = **was** and password = **websphere**



10.0.75.1

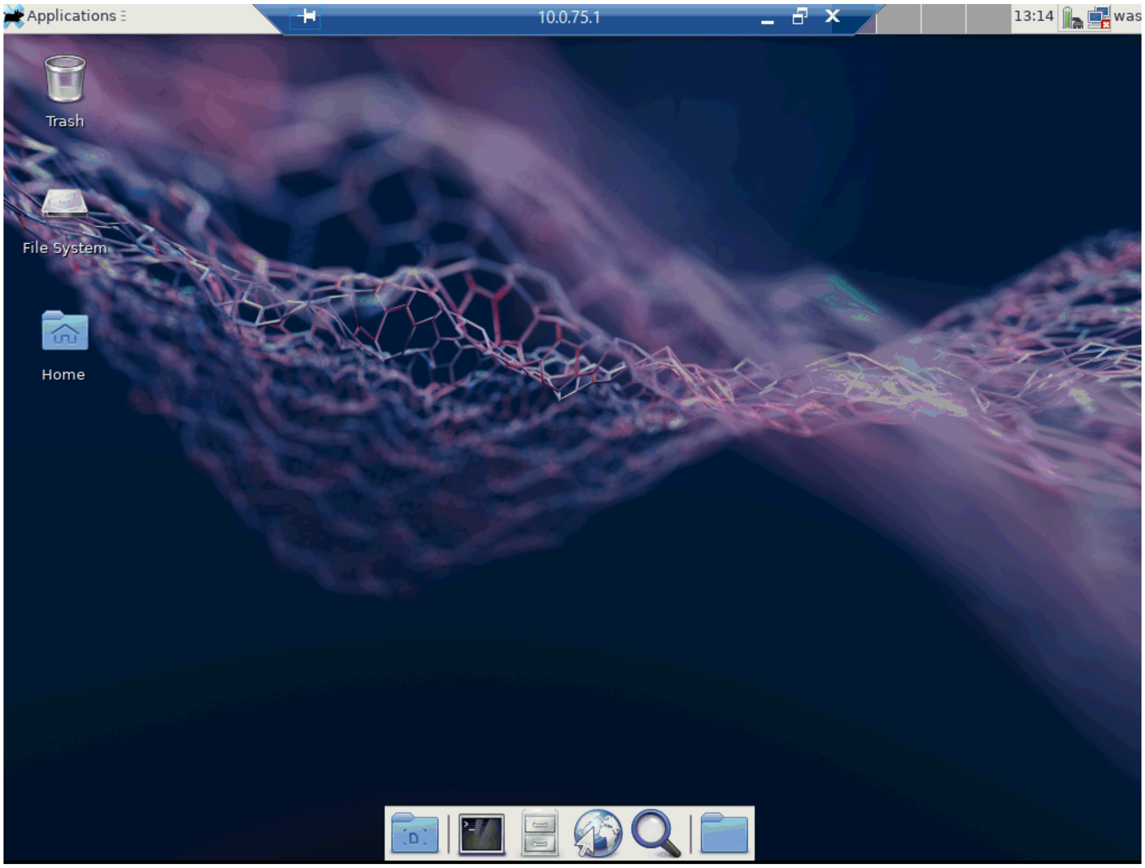
Login to terminalserver

Session: Xvnc

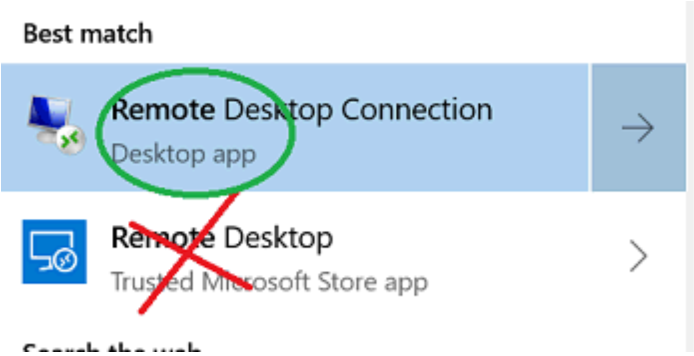
username: was

password: **********

9. You should now be remote desktop'ed into the container:



10. Note: In some cases, only the Remote Desktop Connection application worked, and not Remote Desktop:



11. Also note: for an unknown reason, the above instructions do not work on the classic RDP port of 3389.