

BAP207-Up and Running With Amazon Linux Workspaces Lab Guide

Launch Your Workspace and Directory

Note: This section assumes that you are using a new account and have never created WorkSpaces in this Account and/or Region. If that is not the case, jump to [Appendix 1: If you are using an Account that has already housed WorkSpaces in US-WEST-2.](#)

1. Browse to the Amazon Workspaces Service page, for Oregon, in your console
<https://us-west-2.console.aws.amazon.com/workspaces>
2. Click Get Started Now
3. Next to Quick Setup Click **Launch**
4. Check **Standard with Amazon Linux 2**
5. Enter a Username and a valid E-Mail address
6. Click + **Create Additional Users**
7. Enter a Username and the same E-Mail address
8. Change the bundle for your second user to **Standard with Windows 10**

Bundles

All hardware ▾ All software ▾

Bundle	CPU	Memory	Storage
<input type="checkbox"/> Value with Amazon Linux 2	1 vCPU	2 GiB	10 GiB
<input checked="" type="checkbox"/> Standard with Amazon Linux 2 <small>Free tier eligible</small>	2 vCPU	4 GiB	50 GiB
<input type="checkbox"/> Performance with Amazon Linux 2	2 vCPU	7.5 GiB	100 GiB
<input type="checkbox"/> Power with Amazon Linux 2	4 vCPU	16 GiB	100 GiB
<input type="checkbox"/> PowerPro with Amazon Linux 2	8 vCPU	32 GiB	100 GiB
<input type="checkbox"/> Standard with Windows 7 <small>Free tier eligible</small>	2 vCPU	4 GiB	50 GiB
<input type="checkbox"/> Standard with Windows 10 <small>Free tier eligible</small>	2 vCPU	4 GiB	50 GiB
<input type="checkbox"/> Standard with Windows 7 and Office 2010	2 vCPU	4 GiB	50 GiB

Language: English (US) ▾

Enter User Details

Username	First Name	Last Name	Email	Bundle	Language
TestUser1	Test	User	@amazon.com	Standard with Amazon Linux	English (US)
TestUser2	Test	User	@amazon.com	Standard with Windows 10	English (US)

+ Create Additional Users

Cancel Launch WorkSpaces

Your WorkSpaces will launch in the Ireland region

9. Select **Launch WorkSpaces** (This step will take approx. 20 minutes)
10. Switch to the Directories page in the WorkSpaces Console and make note of the **Directory ID**
11. Switch to the Directory Services Page in the Amazon Console

<https://us-west-2.console.aws.amazon.com/directoryservicev2>

NOTE: Wait for your Directory show Active under Status

12. Click on the Directory ID of the Directory you noted in Step 11
13. Click the **Reset user password** button in the upper right
14. Enter **Administrator** and a new password

Reset user password ✕

Directory ID
d-93672bc66f

Directory name
corp.amazonworkspaces.com

Username
Users must be in this directory. No results will be returned for any users that are stored in trusted directories.

Administrator

Username must be exact match

New password

.....

The password must meet the password policy requirements as defined in your directory.

Confirm password

.....

The password must match the new password above.

Cancel **Reset password**

15. Click **Reset password**

Enable SSH between WorkSpaces

16. Go to the EC2 Security Groups Page by selecting the **Services** menu (<https://us-west-2.console.aws.amazon.com/vpc/v2/home?region=us-west-2#securityGroups>)
17. Select **EC2**
18. Select **Security Groups** from the Left Hand menu under **Network and Security**
19. There will be 2 Security Groups with Group Names that start with the Directory ID of the Directory you created. Find the one that ends with **_workspacesMembers** and select it

<input type="checkbox"/>	sg-062cf732c325091c9	d-93672bc66f_controllers
<input type="checkbox"/>	sg-09d347c045480d638	d-93672bc66f_workspacesMembers

20. Change to the **Inbound** menu in the details section at the bottom of the page
21. Click the **Edit** button
22. Modify the blank rule to allow SSH access from member of the group

Edit inbound rules

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	Custom sg-09d347c045480d638	SSH for workspaces

Add Rule

23. Click **Save**
24. Return to the WorkSpaces Service page
25. Expand one of the WorkSpaces and note the Registration Code (It should be

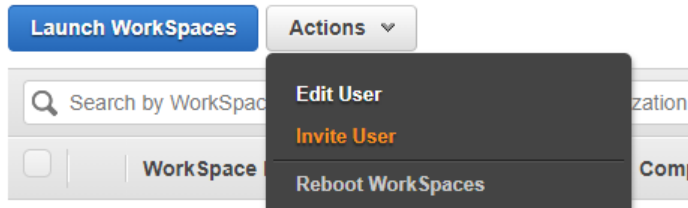
WorkSpace ID	Username	Compute	Running Mode	Root Volume	User Volume	Status
ws-2ws52hh0b	TestUser1	Standard	AutoStop	80 GB	Information unavailable	PENDING
Username	TestUser1			WorkSpace IP	Information unavailable	
Name	User, Test			Launch Bundle	Standard with Amazon Linux 2	
Email				Language	English (US)	
Clients Link	https://clients.amazonworkspaces.com/			Computer Name	Information unavailable	
Registration Code	WSpdx+XXXXXX			Encrypted Volumes	None	
Failure Message	None			Encryption Key	None	
Connection State	Information unavailable			AutoStop Time	1 hour	
User Last Active	Information unavailable			State	None	
Last State Check	Information unavailable					
Tags						

26. When your WorkSpaces are ready, you will receive emails to set the passwords for your newly created users and their Status will change to Available.

27. Check the radio box next to your first WorkSpace

28. Click **Actions**

29. Select **Invite User**



30. Find the Invite URL in the message body and copy it into your browser

31. Set a new password for your user

32. Repeat steps 27 thru 31 for your second WorkSpace

33. Open the WorkSpaces software client on your system and enter the registration code you noted in step 25

Setup your Linux WorkSpace

1. At the Login Prompt enter the Username and Password for your Linux user and click **Sign In**
2. Click the Terminal icon in the panel
3. Update the system by typing **sudo yum update** (press y when prompted)

```

Terminal
File Edit View Search Terminal Help
[CORP\testuser1@a-2bz2p73mfxnat ~]$ sudo yum update

We trust you have received the usual lecture from the local System
Administrator. It usually boils down to these three things:

#1) Respect the privacy of others.
#2) Think before you type.
#3) With great power comes great responsibility.

[sudo] password for CORP\testuser1:
Loaded plugins: halt_os_update_check, priorities, update-motd
amzn2-core | 2.4 kB 00:00
firefox | 2.9 kB 00:00
37 packages excluded due to repository priority protections
No packages marked for update
[CORP\testuser1@a-2bz2p73mfxnat ~]$

```

Add EPEL from Amazon Linux Extras

4. Add the EPEL repository using Amazon Linux Extras by typing **sudo amazon-linux-extras install epel** (press y when prompted)

```

[corp\testuser1@i-2bz2p73mfxnat ~]$ sudo amazon-linux-extras install epel
Installing epel-release
Loaded plugins: halt_os_update_check, priorities, update-motd
amzn2extra-GraphicsMagick1.3 | 1.3 kB 00:00:00
amzn2extra-docker | 1.3 kB 00:00:00
amzn2extra-epel | 1.3 kB 00:00:00
amzn2extra-gimp | 1.3 kB 00:00:00
amzn2extra-libreoffice | 1.3 kB 00:00:00
amzn2extra-mate-desktop1.x | 1.3 kB 00:00:00
amzn2extra-epel/2/x86_64/primary_db | 1.8 kB 00:00:00
37 packages excluded due to repository priority protections
Resolving Dependencies
--> Running transaction check
--> Package epel-release.noarch 0:7-11 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

=====
Package Arch Version Repository Size
=====
Installing:
epel-release noarch 7-11 amzn2extra-epel 15 k
=====
Transaction Summary
=====
Install 1 Package
=====
Total download size: 15 k
Installed size: 24 k
Is this ok [y/d/N]: y
Downloading packages:
epel-release-7-11.noarch.rpm | 15 kB 00:00:00
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
Installing : epel-release-7-11.noarch 1/1
Verifying : epel-release-7-11.noarch 1/1
Installed:
epel-release.noarch 0:7-11

```

Setup your Developer Environment

5. Open Firefox using the shortcut in your panel
6. Browse to <https://code.visualstudio.com>
7. Click the .rpm download link
8. Copy the instructions for RHEL, Fedora and CentOS into your terminal one command at a time

```

sudo rpm --import https://packages.microsoft.com/keys/microsoft.asc
sudo sh -c 'echo -e "[code]\nname=Visual Studio Code\nbaseurl=https://packages.microsoft.com/yumrepos/vscode\nenabled=1\ngpgcheck=1\ngpgkey=https://packages.microsoft.com/keys/microsoft.asc" > /etc/yum.repos.d/vscode.repo'

```

9. Update your repository index by typing **sudo yum check-update**
10. Install VSCode by entering **sudo yum install code** (enter y when prompted)

Configure Admin Access

11. Open the access.conf file for editing in Pluma by typing **sudo pluma /etc/security/access.conf** in your terminal
12. Scroll down to find the entry for the assigned user and add **+(corp\LinuxAdmins):ALL**

```

#...
#
# All other users should be denied to get access from all sources.
#-:ALL:ALL
+:corp\testuser1,(corp\domain admins):ALL
+(corp\LinuxAdmins):ALL
-:ALL:ALL

```

13. Exit Pluma and Save
14. In your terminal type in **sudo visudo**
15. Scroll to the bottom
16. Press **o**
17. Enter **%corp\LinuxAdmins ALL=(ALL) ALL**

```

## Allows members of the users group to shutdown this system
# %users localhost=/sbin/shutdown -h now
%corp\LinuxAdmins ALL=(ALL) ALL

```

18. Press the Esc key
19. Enter **:wq!** and press Enter

Configure PCoIP Protocol Settings

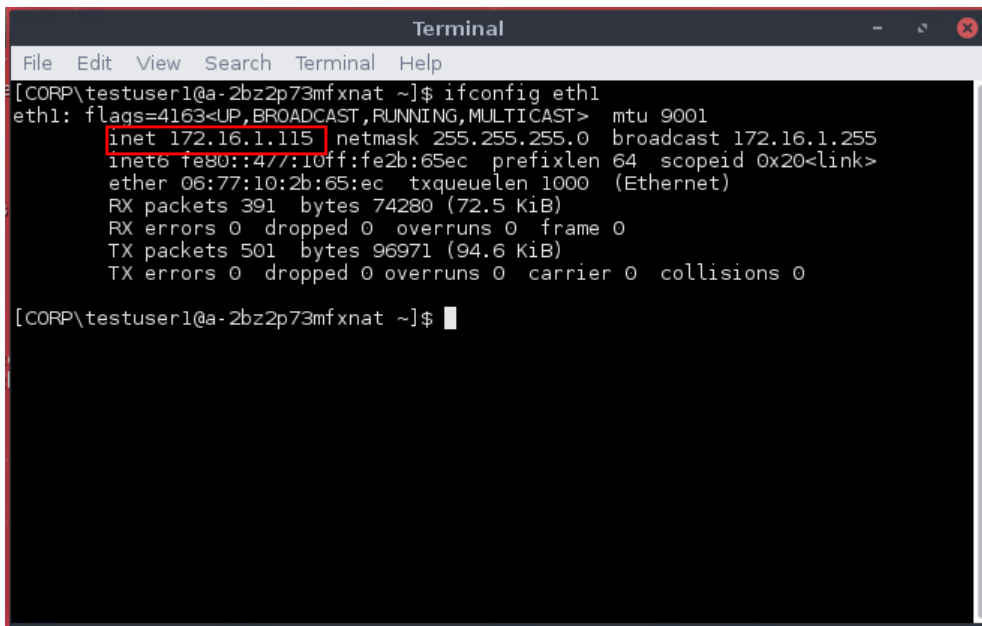
20. Open the PCoIP settings file for editing, in Pluma, by typing **sudo pluma /etc/pcoip-agent/pcoip-agent.conf**

Note: you can see all the available settings by looking at the Man entry. Just open a terminal and type `man pcoip-agent.conf`

21. For this lab we will configure verbose logging and ensure the clipboard is enabled in both directions

```
pcoip.event_filter_mode = 3
pcoip.desktop_session = mate
pcoip.server_clipboard_state = 1
```

22. Exit Pluma and save when prompted
23. In your terminal find your WorkSpace IP by typing **ifconfig eth1** and make note of it (note: you can also find this in the WorkSpaces console by expanding the details of your WorkSpace)



```
Terminal
File Edit View Search Terminal Help
[CORP\testuser1@a-2bz2p73mfxnat ~]$ ifconfig eth1
eth1: flags=4163<UP,BROADCAST,RUNNING,MULTICAST>  mtu 9001
    inet 172.16.1.115  netmask 255.255.255.0  broadcast 172.16.1.255
    inet6 fe80::477:10ff:fe2b:65ec  prefixlen 64  scopeid 0x20<link>
    ether 06:77:10:2b:65:ec  txqueuelen 1000  (Ethernet)
    RX packets 391  bytes 74280 (72.5 KiB)
    RX errors 0  dropped 0  overruns 0  frame 0
    TX packets 501  bytes 96971 (94.6 KiB)
    TX errors 0  dropped 0  overruns 0  carrier 0  collisions 0

[CORP\testuser1@a-2bz2p73mfxnat ~]$
```

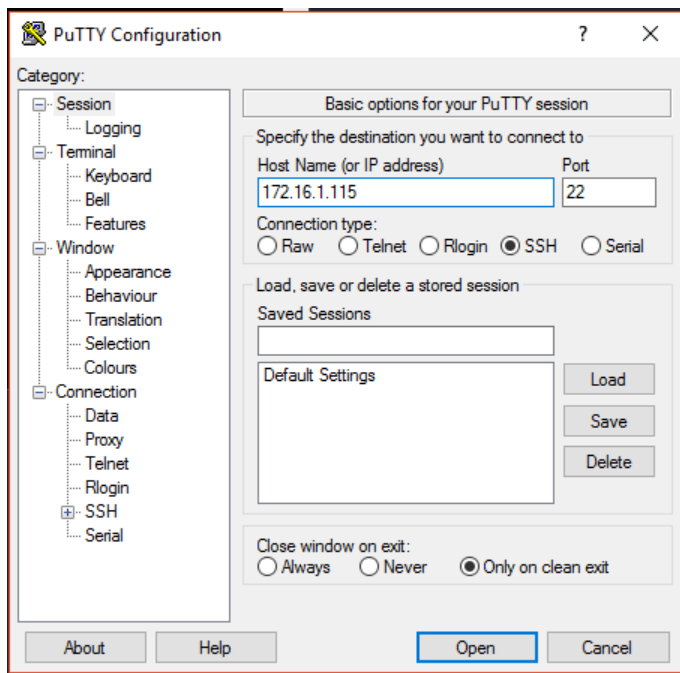
24. Disconnect from your Linux WorkSpace by selecting **Disconnect** from the **Connection** Menu

Setup your Active Directory Environment

1. Enter the Username and Password for your Windows user and click **Sign In**
2. Open Firefox
3. Browse to <https://www.putty.org>
4. Click the link to Download Putty
5. Select the 64bit installer on the resulting page
6. Click Safe file when prompted
7. Click the Folder icon in the Windows Taskbar
8. Select Downloads from the quick Access Toolbar
9. Double click the Putty Installer
10. Click **Run**
11. Click **Next, Next, Install**
12. Select Yes at the UAC prompt
13. Click **Finish**

Verify you cannot SSH to your Linux System

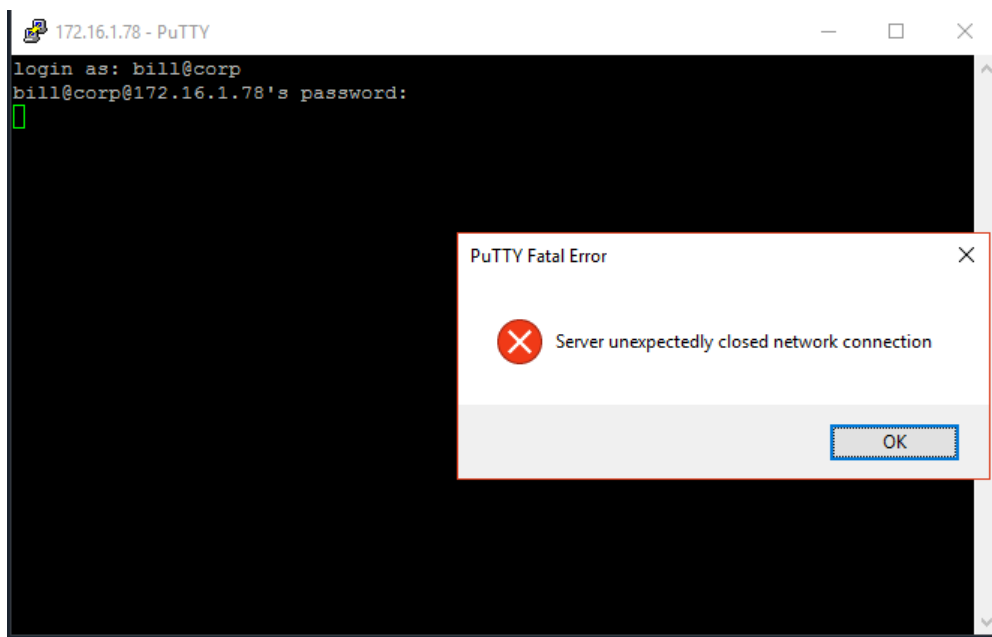
14. Click Start
15. Type Putty
16. Click the match
17. Enter the IP you got in step 23, from the last section, in the **Host Name** field



18. Click **Open**

19. Enter your Windows user's credentials in username@domain format

20. Enter your Windows user's password



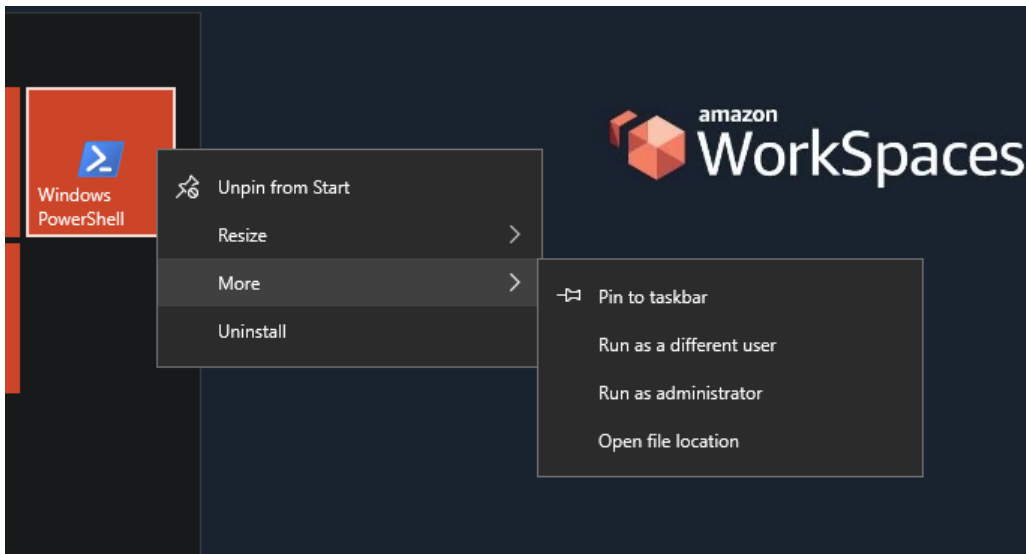
Add the user to your Linux Admins Group in AD

21. Click Start

22. Right click on the Windows PowerShell icon

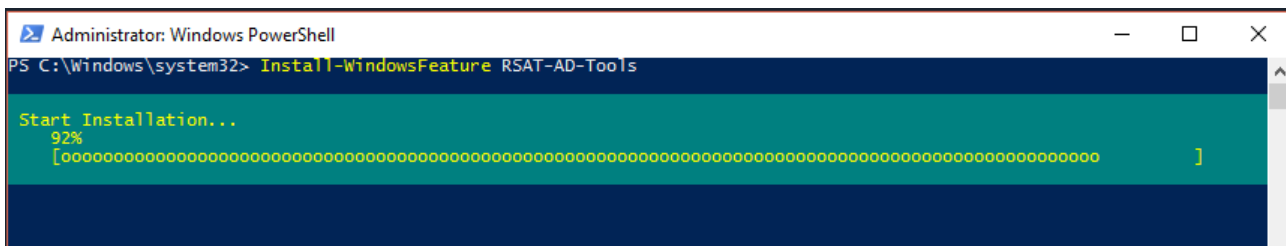
23. Select More

24. Select Run as administrator

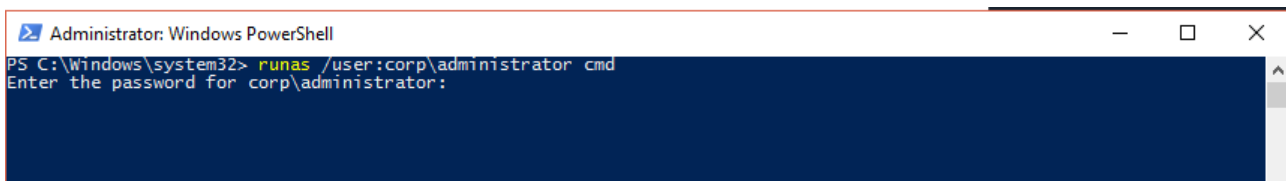


25. Select **Yes** at the UAC prompt

26. Enter **Install-WindowsFeature RSAT-AD-Tools** and press enter



27. In the same prompt type **runas /user:corp\Administrator cmd** and press enter



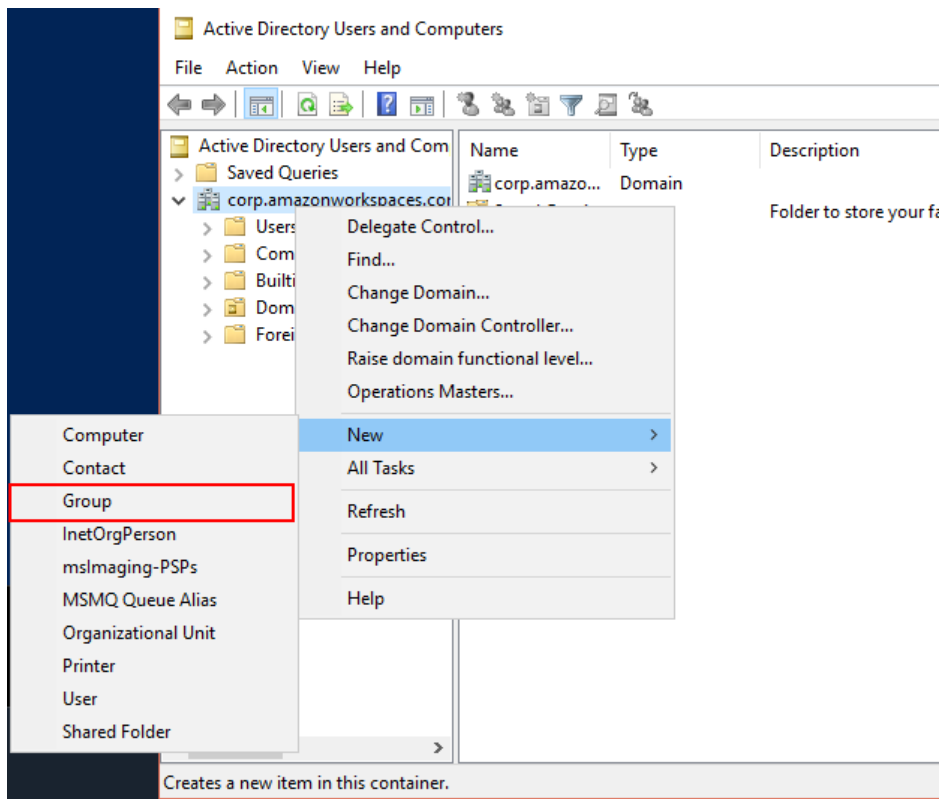
28. Enter the password you set for the Administrator user in step14

29. In the resulting prompt type **dsa.msc** (This will launch Active Directory Users and Computers as Administrator)

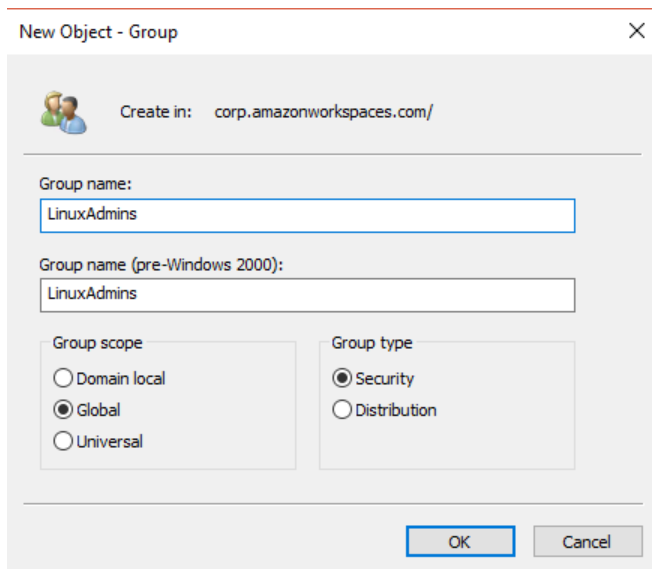
30. In the Active Directory Users and Computer window, right click **corp.amazonworkspaces.com**

31. Select **New**

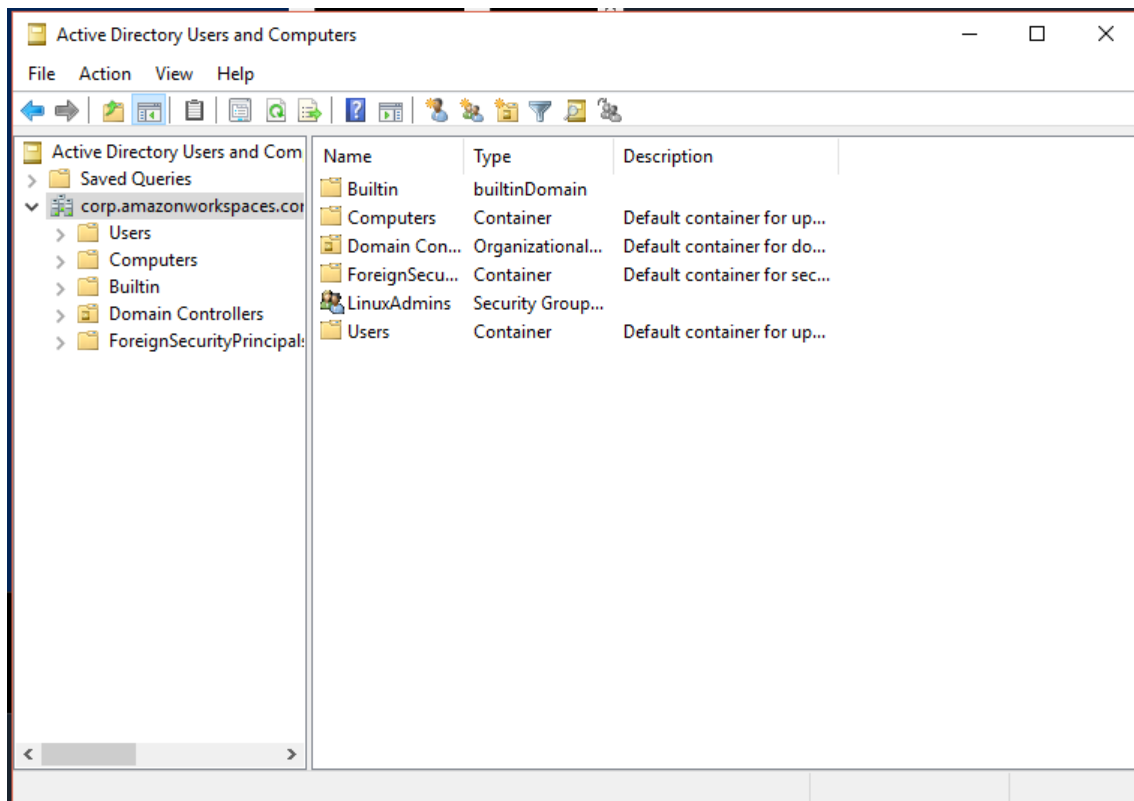
32. Select **Group**



33. Create a **LinuxAdmins** group and click OK



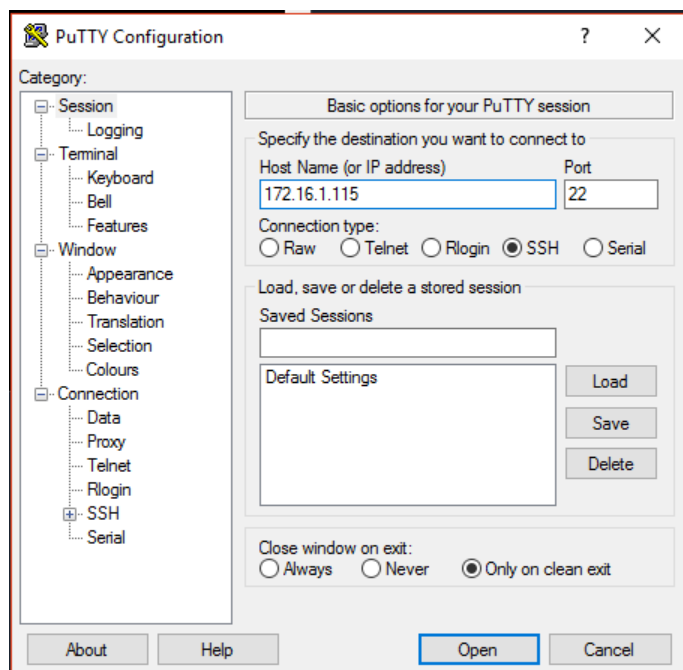
34. Double Click the newly created group in the DSA window



35. Select the **Members** Tab
36. Click **Add**
37. Enter the name of your Windows User
38. Click **Check Names**
39. Click **OK** twice
40. In the WorkSpaces **Connection** Menu, click **Disconnect**

Verify access

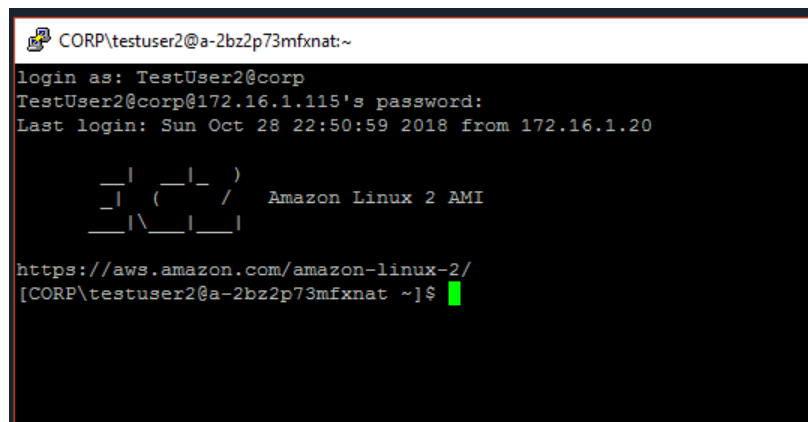
41. Disconnect from your Linux WorkSpace
42. Login as your Windows User again
43. Click Start
44. Type Putty
45. Click the match
46. Enter the IP you got in step 23, from the last section, in the **Host Name** field



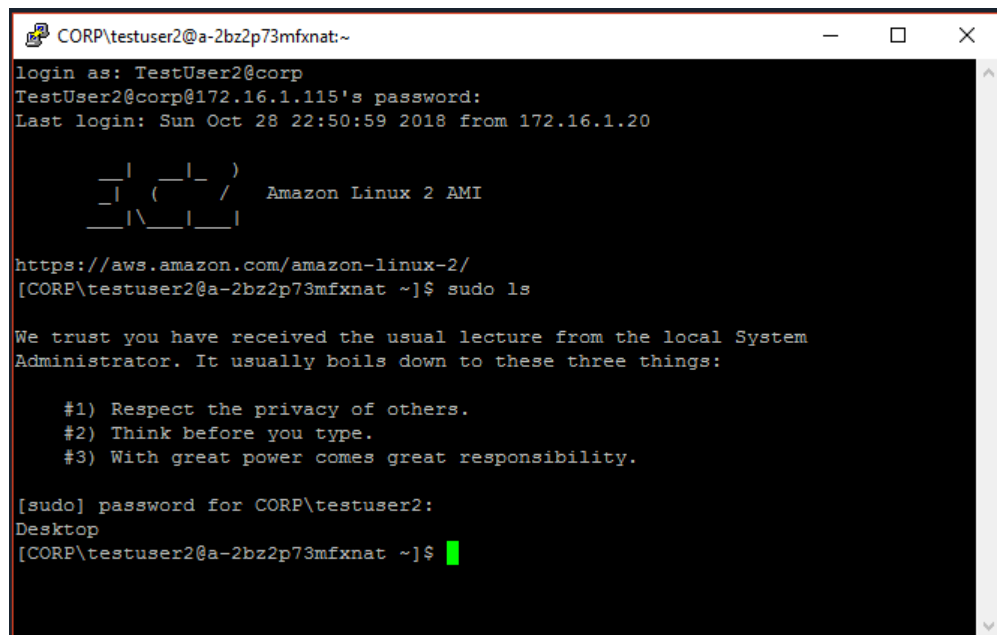
47. Click **Open**

48. Enter your Windows user's credentials in username@domain format

49. Enter your Windows user's password



50. Verify you have sudo access by typing **sudo ls**



Appendix 1: If you are using an Account that has already housed WorkSpaces in US-WEST-2

Note: Ensure you are using a VPC that has internet access. Several steps in this Lab require your WorkSpaces download items from the internet.

1. Browse to the Amazon Workspaces Service page, for Oregon, in your console
<https://us-west-2.console.aws.amazon.com/workspaces>
2. Select **Directories** from the left-hand menu
3. Click **Set up Directory**
4. Click **Create Simple AD**
5. Enter an **Organization name**, **Directory DNS**, and **Administrator password** (Make note of the Password. You will need it later)
6. Select a VPC and Subnets with Internet access (like your Default VPC) or create a new one
7. Click **Next Step**
8. Validate the details
9. Click **Create Simple AD** (This will take about 5 minutes)
10. Check the radio box next to your new directory
11. Click **Actions**
12. Select **Register**
13. Select **No** when prompted to enable WorkDocs
14. Select WorkSpaces from the left-hand menu
15. Click **Launch WorkSpaces**
16. Select your newly created Directory
17. Click Next Step
18. Create two user accounts

Create New Users and Add Them to Directory: corp.amazonworkspaces.com

Username	First Name	Last Name	Email	
<input type="text" value="linus"/>	<input type="text" value="Mr"/>	<input type="text" value="Linux"/>	<input type="text" value="email@email.com"/>	REMOVE
<input type="text" value="bill"/>	<input type="text" value="Mr"/>	<input type="text" value="Windows"/>	<input type="text" value="email@email.com"/>	REMOVE

19. Click **Create Users**
20. Click **Next Step**
21. Modify the Bundle for your Windows user to **Standard with Windows 10**
22. Modify the bundle for your Linux user to **Standard with Amazon Linux 2**
23. Click Next Step
24. Leave the Defaults and click **Next Step**
25. Verify your settings and click **Launch WorkSpaces**
26. Go to [Enable SSH between WorkSpaces](#)