

Install Kubernetes on AWS

Log into all servers

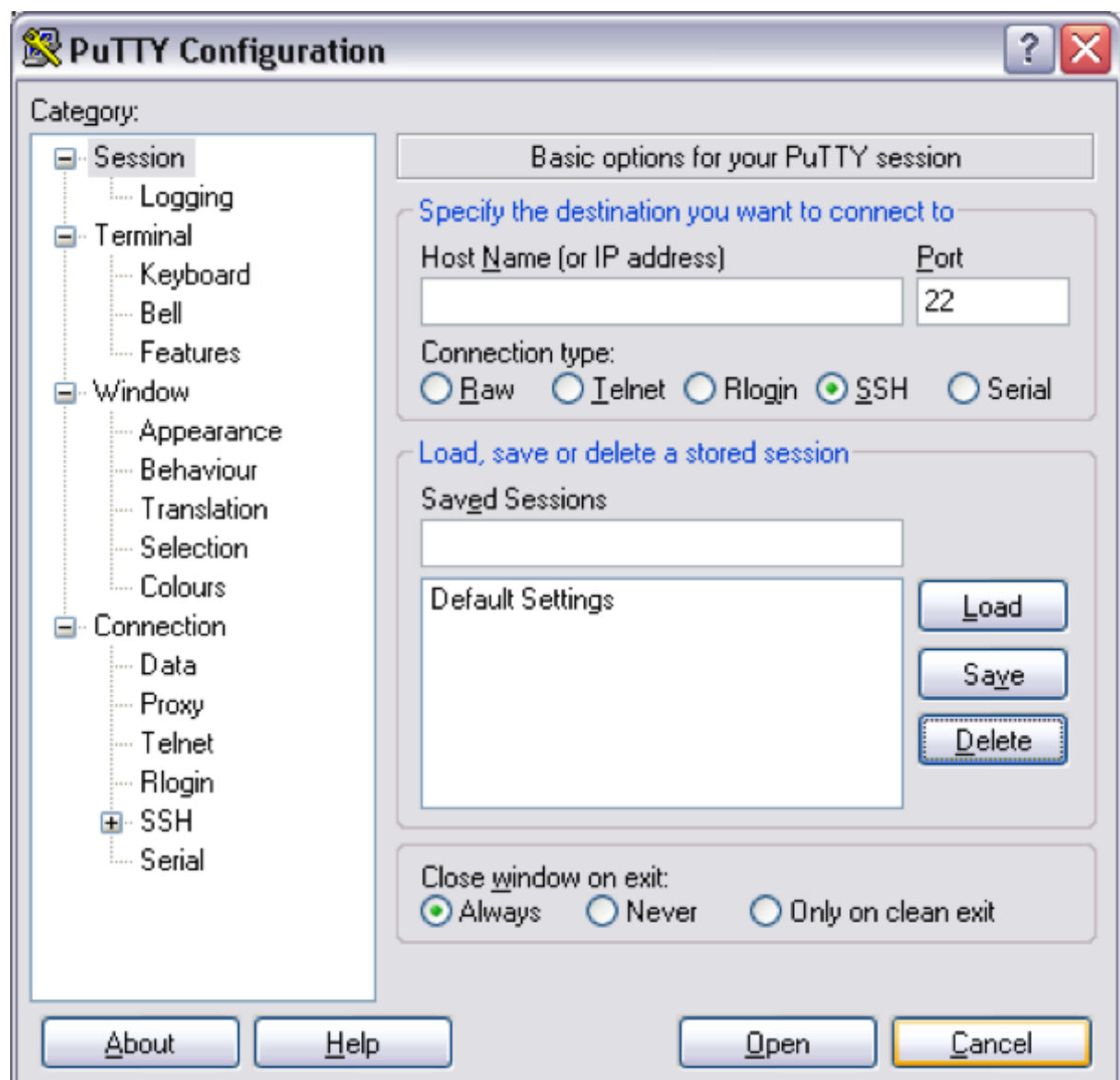
MacOS

Run the following commands in a terminal

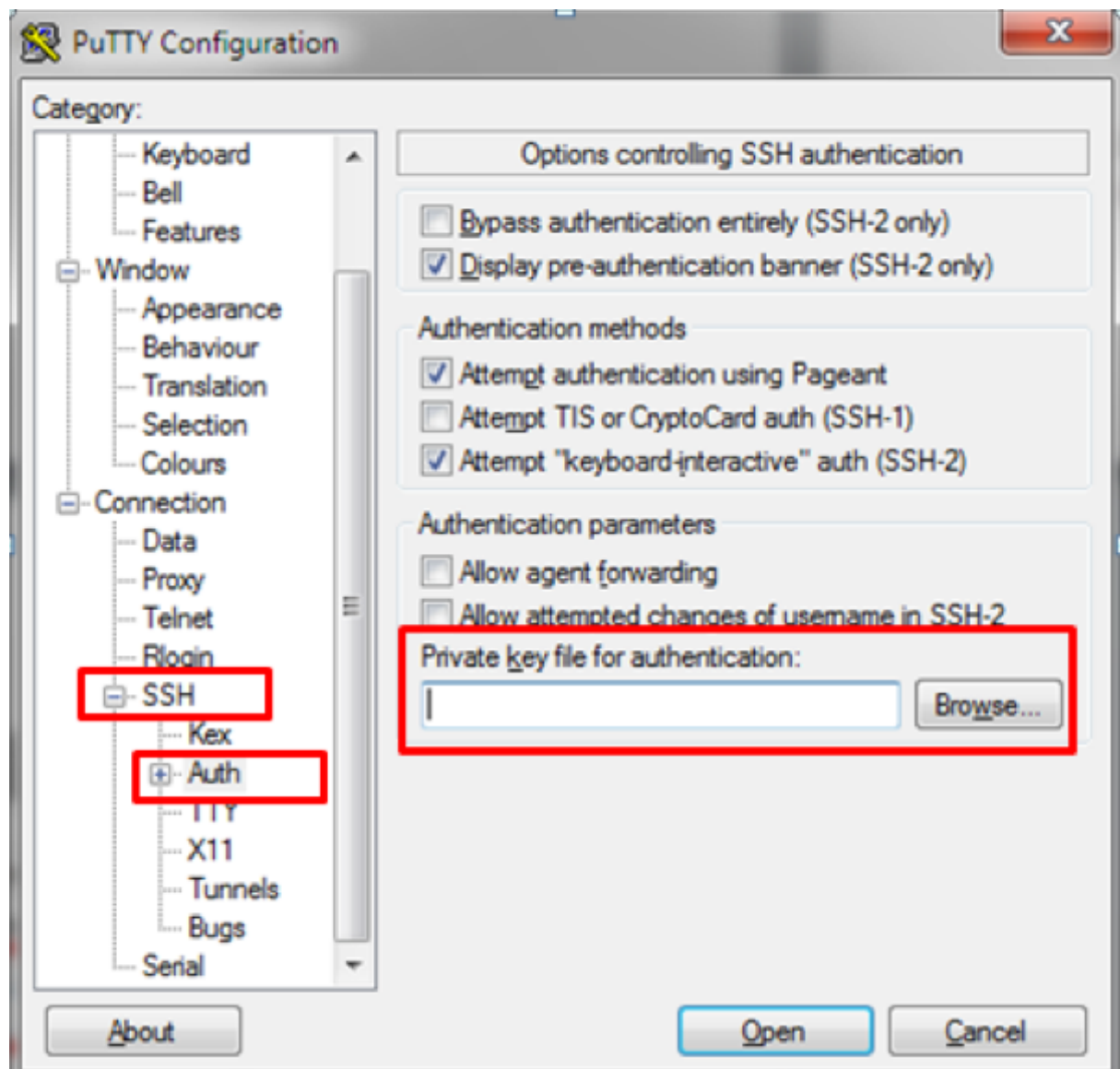
```
chmod 400 /path/to/k8s-lab  
ssh -i /path/to/k8s-lab ubuntu@<server IP>
```

Windows

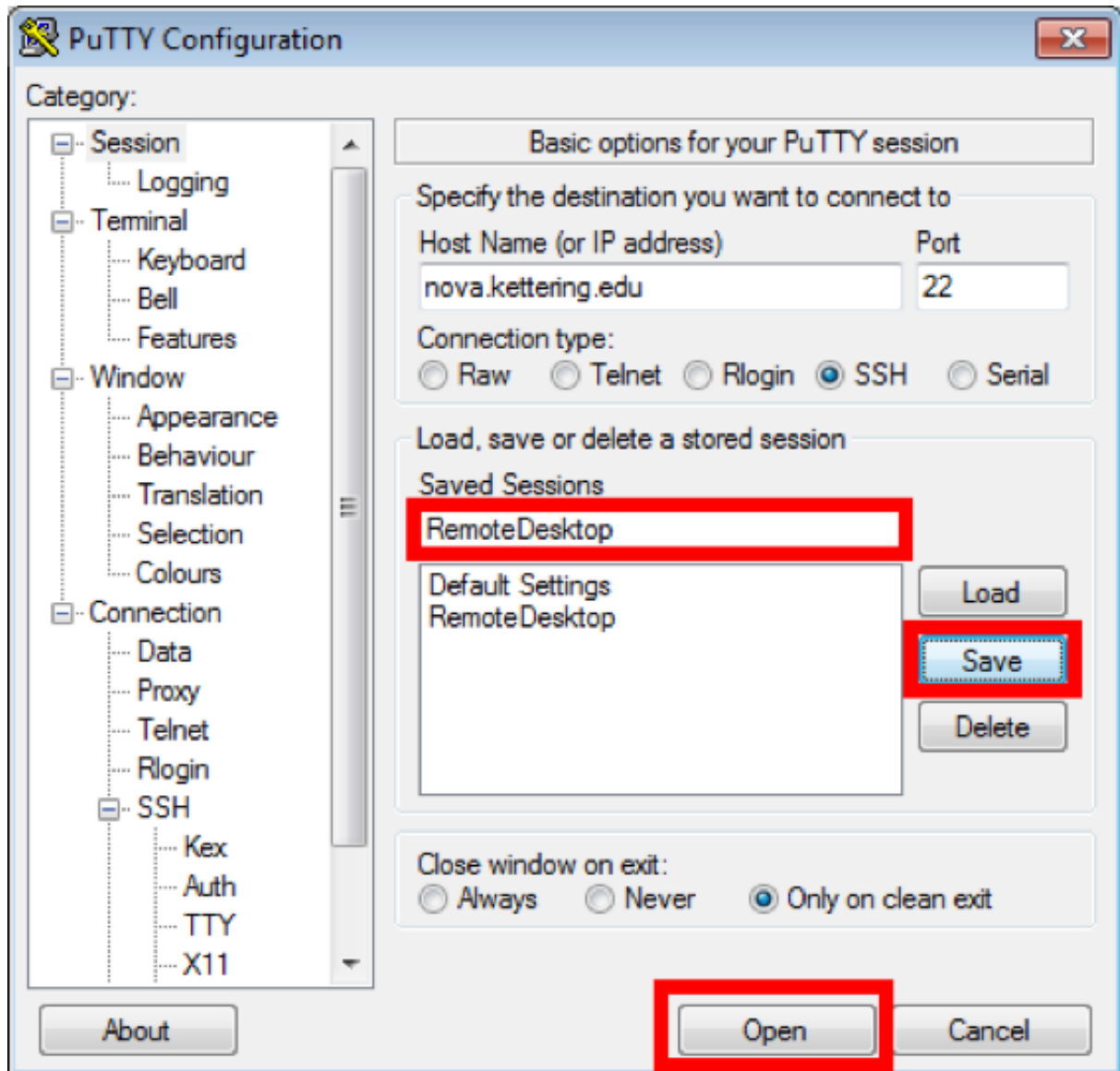
Open Putty and configure a new session.



Expand "Connection/SSH/Auth and then specify the PPK file



Now save your session



Install Kubernetes on all servers

Following commands must be run as the root user. To become root run:

```
sudo su -
```

Install packages required for Kubernetes on all servers as the root user

```
apt-get update && apt-get install -y apt-transport-https
curl -s https://packages.cloud.google.com/apt/doc/apt-key.gpg | apt-key add -
cat <<EOF >/etc/apt/sources.list.d/kubernetes.list
deb http://apt.kubernetes.io/ kubernetes-xenial main
```

```
EOF
```

```
apt-get update  
apt-get install -y kubelet kubeadm kubectl
```

The kubelet is now restarting every few seconds, as it waits in a crashloop for kubeadm to tell it what to do.

Initialize the Master

Run the following command to initialize the master

```
kubeadm init
```

If everything was successful output will contain

```
Your Kubernetes master has initialized successfully!
```

Note the `kubeadm join...` command, it will be needed later on.

Exit to ubuntu user

```
exit
```

Now configure server so you can interact with Kubernetes as the unprivileged user.

```
mkdir -p $HOME/.kube  
sudo cp -i /etc/kubernetes/admin.conf $HOME/.kube/config  
sudo chown $(id -u):$(id -g) $HOME/.kube/config
```

Run following to enable IP forwarding to IPTables.

```
sudo sysctl net.bridge.bridge-nf-call-iptables=1
```

Pod overlay network

Install a Pod network

```
export kubever=$(kubectl version | base64 | tr -d '\n')
kubectl apply -f "https://cloud.weave.works/k8s/net?k8s-version=$kubever"
```

Wait until `kube-dns` pod is in a `running` state

```
kubectl get pods -n kube-system
```

Join nodes to cluster

Log into each of the worker nodes and run the join command from master output.

```
kubeadm join --token <token> <masterIP>:6443 --discovery-token-ca-cert-hash
<hash>
```

To confirm nodes have join successfully log back into master and run

```
watch kubectl get nodes
```

When they are in a `Ready` state the cluster is online and nodes have been joined.

Congrats!