|  |  |
| --- | --- |
| **DOCUMENT RULES:** | |
| **Task Number / Name:** | **Task 1 / Local Kubernetes setup using minikube** |
| **Task name & column name should be written:** | **Bold (CTRL+B)** |
| **Commands should be written in the after # sign:** | *Italic (CTRL+I) #hostname* |
| **Output photo should be cropped or compressed:**  **Photo could be more than one:**  **If you need extra lines, add the line next after it:** | ***Description photo should be with title bar (CTRL + I + B)***  Text  Description automatically generated |
| **All other text should be written:** | Standard |
| **Font name and text size:** | Calibri and 9 |
| **Group name:** | Dev\_ops\_ |
| **Student name and surname:** | Isgəndərova Rəna |
| **E-mail:** | Isgandarova.rana.ir@asoiu.edu.az |
| **WhatsApp number:** |  |

|  |  |
| --- | --- |
| **Task names** | **Command steps and outputs** |
| 1. **Installation and configuration of Desktop Paravirtualization software on your Desktop:** 2. **Minimal installation of CentOS 7 or Ubuntu on the paravirtual software:** | **Info**: VMware Workstation is Installed with default configuration  **Info**: Guest OS version is Ubuntu 64 bit  **Info**: Installation media is mini-Ubuntu 18.04 Bionic Beaver.iso  ***Please, learn about an OS in lecture first.*** |
| 1. **Test internet access in the cli of Guest VM:** | *#ping 8.8.8.8* Text  Description automatically generated |
| 1. **Update** | #sudo apt-get updateText  Description automatically generated |
| 1. **and upgrade latest version:** | *#sudo apt-get upgrade*  Graphical user interface, application  Description automatically generated with medium confidence |
| 1. **Check status of firewall and take screenshot of the cli output:** | **For instance: start**, **stop**, **enable**, **disable, status**  *#* *firewall-cmd –state*  Text  Description automatically generated  Info: the minimal installation is not installed firewall by default |
| 1. **Check Guest OS IP address** | # ip addr  Text  Description automatically generated |
| 1. **Trouble shooting base command Ping the Guest VM from your desktop using CMD** | *#Ping 192.168.234.143*  *Text  Description automatically generated with medium confidence* |
|  | ***Install*** *#Sudo apt install openssh-server* |
| 1. **Trouble shooting base command check SSH port status:** | *#Telnet 192.168.234.143 22*  *Text  Description automatically generated*  *If command is not worked, please use appwiz.cpl in your desktop.* |
| 1. **Go to run in your windows desktop:** | *Appwiz.cpl*  *Graphical user interface  Description automatically generated*  Turn on windows fetures on or off -> tick the Telnet Client check box to be on  *A screenshot of a computer  Description automatically generated* |
| 1. **Take snapshoot of the Guest VM** | Take snapshoot -> Give a name = “Fresh Installation “  A screenshot of a computer  Description automatically generated  As you know there some limitations.  You can delete your unneeded snapshoot afterward. |
| **General Notes** | Follow the steps  Installation kubectl  Use docker |
| 1. **Download minikube, then click copy command and install**     **Installation 1** | <https://github.com/kubernetes/minikube>  See the [Getting Started Guide](https://minikube.sigs.k8s.io/docs/start/)  <https://minikube.sigs.k8s.io/docs/start/>  Graphical user interface, application  Description automatically generated  Use commands below to install minikube  #curl -LO https://storage.googleapis.com/minikube/releases/latest/minikube-linux-amd64  #sudo install minikube-linux-amd64 /usr/local/bin/minikube |
|  | If command not successful, try to install curl #sudo apt install curl -> hit enter button -> y -> hit enter then try previous command again to download minikube |
| **Start your cluster 2** | #minikube start -> hit enter -> If you fail look at below  Note 1: try to install container driver and go to driver page. (CTRL + Click <https://minikube.sigs.k8s.io/docs/drivers/>)  Note 2: From a terminal with administrator access (but not logged in as root), run:  Text  Description automatically generated  Note 3: If minikube fails to start, see the for help setting up a compatible container or virtual-machine manager. We must choose container “Docker” because, it is our scope learning.  Go Docker link <https://minikube.sigs.k8s.io/docs/drivers/docker/>  Requirement  - install docker using this command #docker pull ubuntu or #sudo docker pull ubuntu <https://hub.docker.com/search?q=&type=edition&offering=community&sort=updated_at&order=desc>  - amd64 or arm64  - if using WSL complete these steps first  Usage  Start a cluster using the docker driver:  #minikube start --driver=dockerA picture containing text  Description automatically generated  To make docker the default driver:  #minikube config set driver docker  Then follow the commands below  Then run to deletes images # minikube delete  Text  Description automatically generated  and then run to make images up # minikube start  Text, website  Description automatically generated  then run to see kube-systems’ running images list: # minikube kubectl -- get pods -A  ----------------note-----------------------------------------------  Special features  - no hypervisor required when run on linux  Known issues  Troubleshooting  Verify Docker container type is Linux  #docker info --format '{{.OSType}}'  Run with logs  #minikube options --alsologtostderr -v=1  -------additional commands---------------------------------  #docker info all about docker  -------permission—add current user to docker grp-------------  if you fail you need to set permission the current user: #sudo usermod -aG docker $USER && newgrp docker -> hit enter |

|  |  |
| --- | --- |
| **DOCUMENT RULES:** | |
| **Task number / name:** | **Task 2 / Installing Kubernetes using the Docker Client** |
| **Task name & column name should be written:** | **Bold (CTRL+B)** |
| **Commands should be written in the after # sign:** | *Italic (CTRL+I) #hostname* |
| **Output photo should be cropped or compressed:**  **Photo could be more than one:**  **If you need extra lines, add the line next after it:** | ***Description photo should be with title bar (CTRL + I + B)***  Text  Description automatically generated |
| **All other text should be written:** | Standard |
| **Font name and text size:** | Calibri and 9 |
| **Group name:** | Dev\_ops\_ |
| **Student name and surname:** | Rəna İsgəndərova |
| **E-mail:** | isgandarova.rana.ir@asoiu.edu.az |
| **WhatsApp number:** |  |

|  |  |
| --- | --- |
| **Task names** | **Command steps and outputs** |
| **Installing Kubernetes using the Docker Client:** | Newer edition of Docker allows you install Kubernetes to you PC/laptop.  Docker CE -Community Edition for windows suitable for you  Download stable version or edge version  From this link you can download  <https://docs.docker.com/desktop/windows/install/>Graphical user interface, text, application  Description automatically generated |
| **Install and configure it:** | Note: There is no kubernetes menu on stabile version please Install edge version.  1. There is Kubernetes menu please, enable it and apply.  2. Wait 1 minute, kubernetes will run on this machine  For Starting installation process please follow link belowGraphical user interface, text, application, email  Description automatically generated  <https://docs.docker.com/desktop/windows/install/#install-docker-desktop-on-windows> |
| **User manual:** | <https://docs.docker.com/desktop/windows/> |
| **You can use:** |  |
| **Usefull commands** | *#Kubectl get nodes*  *#Kubectl config get-contexts*  *#Kubectl config get-context NAME* Now switched to context “NAME”  Now you can run some servers  *#Kubectl run hello-kubernetes –-image=k8s.gcr.io/echoserver:1.4 –-port=8080 -> hit enter*  Deployment “hello-kubernetes” created  #kubectl expose deployment hello-kubernetes –type=NodePort  service “hello-kubernetes” exposed  #kubectl get service hello-kubernetes  This command for seeing services and you may see browsers  -> localhost:31453 -> enter you will see response  This your first app |
| *Kubectl get nodes* | Text  Description automatically generated |

|  |  |
| --- | --- |
| *Kubectl config get-contexts* | Graphical user interface  Description automatically generated with medium confidence |
| *Kubectl run hello-kubernetes –-image=k8s.gcr.io/echoserver:1.4 –-port=8080 -> hit enter* | Graphical user interface, text  Description automatically generated |