

CLOUD ORCHESTRATION AND INFRASTRUCTURE

AUTOMATION LAB

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BATCH- 05

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- **Create an Ubuntu container, install JDK on top of it. Write a program of Hello World, create an Image of the entire setup and push the image into Docker Hub. Then pull the same image and run this image as container**

```
Microsoft Windows [Version 10.0.22621.2134]
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C:\Users\admin>docker pull ubuntu
Using default tag: latest
latest: Pulling from library/ubuntu
Digest: sha256:aabed3296a3d45ceded1dc866a24476c4d7e093aa806263c27ddaadbdc3c1054
Status: Image is up to date for ubuntu:latest
docker.io/library/ubuntu:latest

What's Next?
View summary of image vulnerabilities and recommendations → docker scout quickview ubuntu

C:\Users\admin>docker run -it --name=jdktest ubuntu
root@00aed9d28e8f:/# apt update
Get:1 http://archive.ubuntu.com/ubuntu jammy InRelease [270 kB]
Get:2 http://archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Get:3 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:4 http://archive.ubuntu.com/ubuntu jammy-backports InRelease [109 kB]
Get:5 http://archive.ubuntu.com/ubuntu jammy/universe amd64 Packages [17.5 MB]
Get:6 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [966 kB]
Get:7 http://archive.ubuntu.com/ubuntu jammy/restricted amd64 Packages [164 kB]
Get:8 http://archive.ubuntu.com/ubuntu jammy/multiverse amd64 Packages [266 kB]
Get:9 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 Packages [44.0 kB]
Get:10 http://archive.ubuntu.com/ubuntu jammy/main amd64 Packages [1792 kB]
Get:11 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [993 kB]
Get:12 http://archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [1255 kB]
Get:13 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [1064 kB]
Get:14 http://archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 Packages [1085 kB]
Get:15 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [1235 kB]
Get:16 http://archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 Packages [49.8 kB]
Get:17 http://archive.ubuntu.com/ubuntu jammy-backports/main amd64 Packages [50.3 kB]
Get:18 http://archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [28.1 kB]
Fetched 27.1 MB in 28s (1329 kB/s)
Reading package lists... Done
```

```
Command Prompt
Get:17 http://archive.ubuntu.com/ubuntu jammy-backports/main amd64 Packages [50.3 kB]
Get:18 http://archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [28.1 kB]
Fetched 27.1 MB in 28s (1329 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
4 packages can be upgraded. Run 'apt list --upgradable' to see them.
root@00aed9d28e8f:/# apt install -y default-jdk
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  alsa-topology-conf alsa-ucm-conf at-spi2-core ca-certificates ca-certificates-java dbus dbus-user-session dconf-gsettings-backend dconf-service
  default-jdk-headless default-jre default-jre-headless dmsetup fontconfig-config fonts-dejavu-core fonts-dejavu-extra gir1.2-glib-2.0
  gsettings-desktop-schemas java-common libapparmor1 libargon2-1 libasound2 libasound2-data libatk-bridge2.0-0 libatk-wrapper-java
  libatk-wrapper-java-jni libatk1.0-0 libatk1.0-data libatspi2.0-0 libavahi-client3 libavahi-common-data libavahi-common3 libbrotli1 libbsd0
  libcryptsetup12 libcups2 libdbus-1-3 libdconf1 libdevmapper1.02.1 libdrm-amdgpu1 libdrm-common libdrm-intel1 libdrm-nouveau2 libdrm-radeon1
  libdrm2 libedit2 libelf1 libexpat1 libfontconfig1 libfontenc1 libfreebyte6 libgif7 libgirepository-1.0-1 libgl1 libgl1-amd64-dri libgl1-mesa-dri
  libglapi-mesa libglvnd0 libglvnd0-data libglvnd0 libglx-mesa0 libglx0 libgraphite2-3 libharfbuzz0b libice-dev libice6 libicu70 libip4tc2
  libjpeg-turbo8 libjpeg8 libjson-c5 libkmod2 liblcms2-2 libllvm15 libmd0 libmpdec3 libnspr4 libnss-systemd libnss3 libpam-systemd libpciaccess0
  libpcsclite1 libpng16-16 libpthread-stubs0-dev libpython3-stdlib libpython3.10-minimal libpython3.10-stdlib libreadline8 libsensors-config
  libsensors5 libsm-dev libsm6 libsqlite3-0 libsystemd0 libx11-6 libx11-data libx11-dev libx11-xcb1 libxau-dev libxau6 libxaw7 libxcb-dri2-0
  libxcb-dri3-0 libxcb-glx0 libxcb-present0 libxcb-randr0 libxcb-shape0 libxcb-shm0 libxcb-sync1 libxcb-xf86-dri3-0 libxcb1 libxcb1-dev libxcursor1
  libxdmcp-dev libxdmcp6 libxext6 libxfixes3 libxft2 libxi6 libxinerama1 libxmlb1 libxml2 libxmu6 libxmuu1 libxpm4 libxrandr2 libxrender1
  libxshmfence1 libxt-dev libxt6 libxtst6 libxv1 libxxf86dga1 libxxf86vm1 media-types networkd-dispatcher openjdk-11-jdk openjdk-11-jdk-headless
  openjdk-11-jre openjdk-11-jre-headless openssl python3 python3-dbus python3-gi python3-minimal python3.10 python3.10-minimal readline-common
  session-migration shared-mime-info systemd systemd-sysv systemd-timesyncd ucf x11-common x11-utils x11proto-dev xdg-user-dirs xorg-sgml-doctools
  xtrans-dev
Suggested packages:
  libasound2-plugins alsa-utils cups-common libice-doc liblcms2-utils pciutils pscd lm-sensors libsm-doc libx11-doc libxcb-doc libxt-doc iw
  | wireless-tools openjdk-11-demo openjdk-11-source visualvm libnss-mdns fonts-ipafont-gothic fonts-ipafont-mincho fonts-wqy-microhei
  | fonts-wqy-zenhei fonts-indic python3-doc python3-tk python3-venv python-dbus-doc python3.10-venv python3.10-doc binutils binfmt-support
  readline-doc systemd-container libfido2-1 libtss2-esys-3.0.2-0 libtss2-mu0 libtss2-rc0 policykit-1 mesa-utils
The following NEW packages will be installed:
  alsa-topology-conf alsa-ucm-conf at-spi2-core ca-certificates ca-certificates-java dbus dbus-user-session dconf-gsettings-backend dconf-service
```

```
Command Prompt
0 added, 0 removed; done.
Running hooks in /etc/ca-certificates/update.d...


done.
done.
root@00aed9d28e8f:/# cat>Hello.java
class Hello {
    public static void main(String args[]){
        System.out.println("Hello World");
    }
}
root@00aed9d28e8f:/# javac Hello.java
root@00aed9d28e8f:/# java Hello
Hello World
root@00aed9d28e8f:/# exit
exit

C:\Users\admin>docker commit jdktest shubhid/jdkrepo
sha256:5611093e5dd97238cb770c29285d50ee95c9a380c97584e2c5dfbecf110cc3cb


C:\Users\admin>docker push shubhid/jdkrepo
Using default tag: latest
The push refers to repository [docker.io/shubhid/jdkrepo]
500f4e4cc4c2: Pushed
dc0585a4b8b7: Mounted from shubhid/newrepo
latest: digest: sha256:4f784ebbe2d53f9caac204a691ff826803438fce96e1cd664cc6973db28bc8a4 size: 742

C:\Users\admin>docker run -it --name=jdk2 shubhid/jdkrepo
root@7f74dd7a4359:/# exit
exit
```

You can also check if the repository has been successfully created on your Docker Hub account.



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shubhid

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Create repository

shubhid / **jdkrepo**

Contains: Image | Last pushed: 2 minutes ago

 Inactive

 0

 0

 Public

shubhid / **newrepo**

Contains: Image | Last pushed: 2 hours ago

 Inactive

 0

 3

 Public