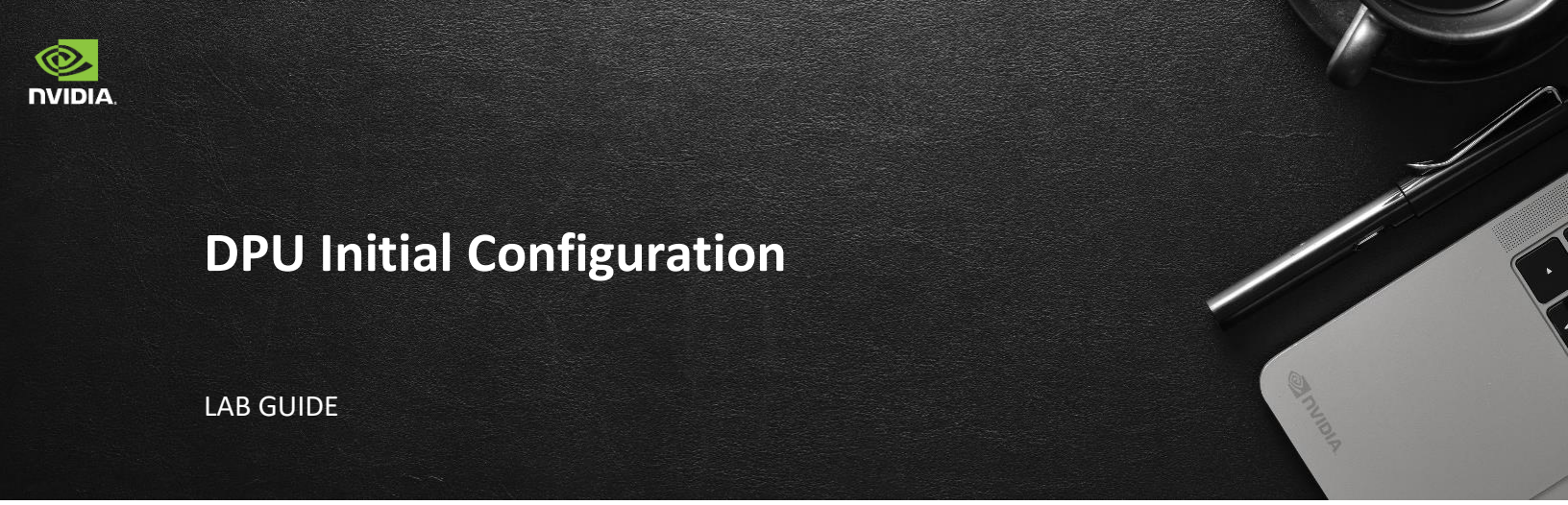

DPU Initial Configuration

LAB GUIDE

Audience

This workbook is intended for technical training students.

Objectives

- Install DOCA on the server
- Install BlueField Bundle on the DPU

Prerequisites and Guidelines

There are no prerequisites for this lab.

Good Luck,
NVIDIA Academy Team

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Install DOCA and BlueField Bundle

In this practice you will install DOCA on the host and BlueField Bundle on the DPU.

Task 1 – Download and Install DOCA on the Server

- Access the DOCA downloads page at the following URL and review the steps for downloading the appropriate DOCA package for your system: https://developer.nvidia.com/doca-downloads
- For this exercise, you do not need to download it yourself. The required package, doca-host_2.9.1-018000-24.10-ubuntu2204_amd64.deb, has already been downloaded and is available in the following directory:

```
/home/student/AI_Infra/module5/hands_on_1
```

- Enter root mode:

```
sudo –i
```

- Uninstall the current version of DOCA:

```
for f in $( dpkg --list | grep doca | awk '{print $2}' ); do echo $f ; apt remove --
purge $f -y ; done
```

If the output is empty, then DOCA is not installed, and you can proceed to the next step.

```
/usr/sbin/ofed_uninstall.sh --force
```

```
sudo apt-get autoremove
```

- Unpack the installation file:

```
dpkg -i <installation file name>
```

- Update package manager:

```
apt update
```

- Verify that **rshim** is installed:

```
systemctl status rshim
```

Example of a system where **rshim** is not installed:

```
root@acad09:/home/student/AI_Infra/module5/hands_on_1# systemctl status rshim

Unit rshim.service could not be found.
```

Example of a system where **rshim** is installed but not enabled:

```
root@acad14:~# systemctl status rshim

○ rshim.service - rshim driver for BlueField SoC

     Loaded: loaded (/lib/systemd/system/rshim.service; disabled; vendor preset:
enabled)

     Active: inactive (dead)

       Docs: man:rshim(8)
```

- If **rshim** is not installed, install it:

```
apt install rshim
```

- Start the rshim service:

```
sudo systemctl start rshim
```

- Install the **DOCA-All** package:

```
apt install -y doca-all mlnx-fw-updater
```

- Exit root shell:

```
exit
```

Task 2 – Download and Install BFB

- Install Minicom with the following command:

```
sudo apt install minicom
```

- Login to the BlueField DPU using the console:

```
sudo minicom -D /dev/rshim0/console
```

- Enter the default username / password:

```
ubuntu / ubuntu
```

- If prompted, change the default password to:

```
Nvidia_12345!
```

- Run the following command:

```
echo 172.0.0.1 $(hostname) >> /etc/hosts
```

  This command prevents name resolution errors.

- Check the BFB file installed on the BlueField DPU:

```
sudo bfver
```

- Return to the server.
  To exit minicom, press CTRL+A and then Q.

- The latest BFB file can be obtained from: https://developer.nvidia.com/doca-downloads. However, the file "bf-bundle-2.9.1-40_24.11_ubuntu-22.04_prod.bfb" has already been pre-downloaded for you and is available in the folder "/home/student/AI_Infra/module5/hands_on_1":

```
cd /home/student/AI_Infra/module5/hands_on_1
```

- Install the BlueField DPU BFB file using the following command on the host:

```
sudo bfb-install --bfb <bfb file name> --rshim /dev/rshim0/
```

- After the installation is complete, log in to the BlueField DPU.
  If prompted, change the default password (Default Username/Password: ubuntu/ubuntu) to "**Nvidia_12345!**"

Please note:

For production servers, it is recommended to power cycle the host (cold boot). However, this step can be skipped in the lab environment. Therefore, the following two commands are optional:

- If "**ipmitool**" is not installed, run the following command:

```
sudo apt install ipmitool -y
```

- Run the power cycle command:

```
sudo ipmitool power cycle
```

- Wait for the host to power up.
  If the MST service is not enabled, start it with the following command:

```
sudo mst start
```

- Login to the BlueField DPU using the console and verify the BFB file version:

```
sudo bfver
```