



## **Appendix - Building SNAP Container with Custom SPDK**

The SNAP source package contains the files necessary for building a container with a custom SPDK.

To build the container:

1. Download and install the SNAP sources package:

```
[dpu] # dpkg -i /path/snap-sources_<version>_arm64.deb
```

2. Navigate to the `src` folder and use it as the development environment:

```
[dpu] # cd /opt/nvidia/nvda_snap/src
```

3. Copy the following to the container folder:

- SNAP source package – required for installing SNAP inside the container
- Custom SPDK – to `container/spdk`. For example:

```
[dpu] # cp /path/snap-sources_<version>_arm64.deb  
container/  
[dpu] # git clone -b v23.01.1 --single-branch --depth 1  
--recursive --shallow-submodules  
https://github.com/spdk/spdk.git container/spdk
```

4. Modify the `spdk.sh` file if necessary as it is used to compile SDPK.

5. To build the container:

- For Ubuntu, run:

```
[dpu] # ./container/build_public.sh --snap-pkg-  
file=snap-sources_<version>_arm64.deb
```

- For CentOS, run:

```
[dpu] # rpm -i snap-sources-<version>.el8.aarch64.rpm  
[dpu] # cd /opt/nvidia/nvda_snap/src/  
[dpu] # cp /path/snap-sources_<version>_arm64.deb  
container/  
[dpu] # git clone -b v23.01.1 --single-branch --depth 1  
--recursive --shallow-submodules  
https://github.com/spdk/spdk.git container/spdk  
[dpu] # yum install docker-ce docker-ce-cli  
[dpu] # ./container/build_public.sh --snap-pkg-  
file=snap-sources_<version>_arm64.deb
```

6. Transfer the created image from the Docker tool to the crictl tool. Run:

```
[dpu] # docker save doca_snap:<version> doca_snap.tar  
[dpu] # ctr -n=k8s.io images import doca_snap.tar
```

### **Note**

To transfer the container image to other setups, refer to appendix "[Appendix - Deploying Container on Setups Without Internet Connectivity](#)".

7. To verify the image, run:

```
[DPU] # crictl images
IMAGE                                TAG
IMAGE ID                            SIZE
docker.io/library/doca_snap         <version>
79c503f0a2bd7                      284MB
```

8. Edit the image filed in the `container/doca_snap.yaml` file. Run:

```
image: doca_snap:<version>
```

9. Use the YAML file to deploy the container. Run:

```
[dpu] # cp doca_snap.yaml /etc/kubelet.d/
```

**Note**

The "[Container deployment preparation steps](#)" are required.

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