

# Using toolbox for SUSE Linux Micro debugging

## WHAT?

toolbox is a script that enables you to use and install debugging and administration tools without rebooting the system.

## WHY?

The article focuses on starting a toolbox container and its usage.

## EFFORT

It takes approximately 5 minutes to read the article.

## GOAL

You will have a running toolbox container to install debugging tools as needed.

## REQUIREMENTS

- Podman installed on your system.

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# 1 About toolbox

SUSE Linux Micro uses the **transactional-update** command to apply changes to the system, but the changes are applied only after reboot. That solution has several benefits, but it also has some disadvantages. If you need to debug your system and install a new tool, the tool will be available only after reboot. Therefore, you cannot debug the currently running system. For this reason, a utility called `toolbox` has been developed.

`toolbox` is a small script that pulls a container image and runs a privileged container based on that image. `toolbox` is stateful so if you exit the container and start it later, the environment is exactly the same.

The root file system of the container is mounted on `/media/root`.

## 2 Starting and removing toolbox

To start the `toolbox` container as a regular user with `root` rights, run the following command:

```
> toolbox --root
```

As `root`, you can omit the `--root` option:

```
# toolbox
```

If the script completes successfully, you can see the `toolbox` container prompt.

To remove the container, run the following command:

```
> sudo podman rm toolbox-USER
```

For example, for the `root` user:

```
# podman rm toolbox-root
```



### Note: Obtaining the toolbox image

You can also use Podman or Cockpit to pull the `toolbox` image and start a container based on that image.

## 3 Using toolbox


In the toolbox container, you can install any tool you want with zypper and then use the tool without rebooting your system.

To leave the container, just type exit. Remember that the container stays in the same state as you exit it. If you want a clean environment, you need to remove the toolbox container first. For the removal procedure, see *Section 2, “Starting and removing toolbox”*.

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