SUSE

SUSE Linux Enterprise Micro in Public Clouds

TOPIC

This article provides details about the SLE Micro images intended for use in public clouds. On top of that, it also provides information on creating new users of the system.

REQUIREMENTS

- Basic understanding of public clouds.

- `root` or sudo privileges.

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Contents

SUSE Linux Enterprise Micro in Public Clouds

1 Basic information about the SLE Micro public cloud images

SLE Micro uses several tools for its deployment in public clouds. This topic also describes required disk size and registration, and provides details about the default user.

1.1 Introduction

This article provides details specific to SLE Micro images that are intended for deployment in public cloud environments. The generic information about public cloud images is provided in the Public Cloud Guide (https://documentation.suse.com/sle-public-cloud/all/html/public-cloud/public-cloud.html) ↗. For more SLE Micro documentation, refer to the SUSE Linux Enterprise Micro documentation set (https://documentation.suse.com/sle-micro/) ↗.

1.2 Tools involved in initializing SLE Micro in public clouds

The instance initialization is performed using Ignition and Afterburn. In the default Ignition configuration, Ignition is responsible for creating the default user: `suse`. Ignition interacts with the instance metadata service of the cloud provider only to get the so-called user data. Other data, like the user specified in Azure or SSH key from the GCE, are not parsed from this metadata service.

Afterburn writes the SSH key to the `suse` home directory using the instance metadata service (IMDS). To transfer the SSH key from the IMDS, the `afterburn-sshkeys@suse` is used. The service is started automatically by `systemd`.

Ignition runs on the first boot only. To distinguish the first boot from succeeding boots, the flag file `/boot/writable/firstboot_happened` is created. Whenever you want to trigger Ignition again, you need to remove this file.

The default Ignition configuration is stored in the configuration file: `/usr/lib/ignition/base.d/base.ign`. You can modify this file to perform configuration changes. For details, refer to *Section 2, "Reconfiguring the system after first boot"*.

Note: Combustion not included in the SLE Micro public cloud images

To configure your instance with Combustion, you need to create a separate disk in the cloud framework. The disk must have the required directory structure. Then you need to create an instance with this configuration disk attached. If the use of Combustion is needed for integration into your environment, you can build your own images using keg and keg-recipes. The keg-recipes project contains the image description used by SUSE to build the images we publish. For details, refer to keg-recipes (https://github.com/SUSE-Enceladus/keg-recipes/) ↗.

1.3 Required and available disk size

The root volume is set to the size specified by the cloud vendors, for example, 10 GB in AWS and GCE and 30 GB in Azure.

The recommended size for SLE Micro is 12 GB. However, the size depends on the number and size of workloads you intend to run.

As with each run of the `transactional-update` command, a new snapshot is created. Keep in mind that these snapshots also take up some size, even though Btrfs snapshots are space-efficient.

The root volume automatically grows as you change the size of the underlying disk. When you are running low on disk space, you can always stop your instance and increase the size of the system disk, up to the limitation of individual disk sizes in each cloud framework.

1.4 Snapshotting

SLE Micro creates its own internal snapshots that are not related nor can interfere with the external snapshots of the disk. External snapshots can be created using the cloud framework tools for backup purposes or for making new images. For details about SLE Micro snapshots, refer to SLE Micro snapshotting (https://documentation.suse.com/sle-micro/html/SLE-Micro-all/cha-snapshots.html) ↗.

1.5 Registration

After you deploy the image, you need to register the system. In newer images, you can use the `registercloudguest` command to register the system. For details, refer to the Public Cloud Guide (https://documentation.suse.com/sle-public-cloud/all/html/public-cloud/cha-admin.html#sec-admin-register) ↗.

Alternatively, you can register your system as described in the SLE Micro registration (https://documentation.suse.com/sle-micro/5.3/html/SLE-Micro-all/cha-postintall-registration.html#sec-images-registration) ↗.

1.6 Default users of SLE Micro

SLE Micro images come with a predefined user `suse` that has **sudo** privileges assigned. Therefore, you can switch to the `root` using the **sudo -i** command.

As the default user possibly does not suit your needs, you have several options for adding users. You can either define users in the Ignition configuration file, or use the **useradd** command to add users to the running system.

For more details about adding users via Ignition, refer to the deployment guide (https://documentation.suse.com/sle-micro/html/SLE-Micro-all/cha-images-ignition.html#sec-ignition-examples) ↗ and *Section 2.2, "Modifying the default Ignition configuration"*. For more details about using the **useradd** command, see *Section 3, "Adding users with the* **useradd** *command"*.

2 Reconfiguring the system after first boot

2.1 Introduction

SLE Micro cloud images come with a default first-boot configuration that might not suit your needs. This article gives you instructions on how to proceed to reconfigure your system.

2.2   Modifying the default Ignition configuration

The default Ignition configuration is stored in `/usr/lib/ignition/base.d/base.ign` that is a part of the read-only file system. Therefore, direct changes to this file are not allowed. To modify this file, perform the following steps:

1. Remove the flag file `/boot/writable/firstboot_happened`.

2. Run the following command:

   ```
   # transactional-update shell
   ```

3. Edit the `/usr/lib/ignition/base.d/base.ign` file to suit your needs. For details about the Ignition configuration, refer to Ignition configuration examples (https://documentation.suse.com/sle-micro/html/SLE-Micro-all/cha-images-ignition.html#sec-ignition-examples) ↗.

4. Exit the **transactional-update** shell by entering **exit**.

5. As Ignition runs in the `initramfs`, you need to rebuild it by running the command:

   ```
   # transactional-update initrd
   ```

6. To grant the newly created user access rights using the SSH key provided by the cloud framework, ensure that the following `systemd` service is started:

   ```
   # systemctl start afterburn-sshkeys@USER_NAME
   ```

7. Reboot the system.

3   Adding users with the **useradd** command

3.1   Introduction

You can use the **useradd** command to add users to an already running system. However, as SLE Micro is Btrfs-based, the `/home` directory is mounted as a subvolume. Therefore, you must use the **useradd** command accordingly.

3.2 Adding users with **useradd**

The procedure of creating users in a running system differs according to the type of user you want to add.

To add a regular user without **sudo** privileges, proceed as described below:

1. Run the **useradd** command as follows:

   ```
   # useradd --btrfs-subvolume-home --create-home USER_NAME
   ```

   The `--btrfs-subvolume-home` option denotes that the `/home` directory is mounted as a subvolume. The `--create-home` option creates the `/home` under the particular subvolume. If you omit these options, the `/home` directory for the particular user will not be created.

2. Set a password for the new user:

   ```
   # passwd USER_NAME
   ```

To give the new user **sudo** privileges, add the user to the `wheel` group:

```
# usermod -aG wheel USER_NAME
```