Red Hat Enterprise Linux for SAP Solutions 9

Configuring RHEL 9 for SAP HANA2 installation

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Legal Notice

Abstract

This guide explains how to configure RHEL 9 for SAP Solutions for the installation of SAP HANA, SAP S/4HANA, or SAP ABAP Platform.

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MAKING OPEN SOURCE MORE INCLUSIVE

Red Hat is committed to replacing problematic language in our code and documentation. We are beginning with these four terms: master, slave, blacklist, and whitelist. Due to the enormity of this endeavor, these changes will be gradually implemented over upcoming releases. For more details on making our language more inclusive, see our CTO Chris Wright's message .

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We appreciate your feedback on our documentation. Let us know how we can improve it.

Submitting feedback through Jira (account required)

1. Make sure you are logged in to the Jira website.

2. Provide feedback by clicking on this link.

3. Enter a descriptive title in the **Summary** field.

4. Enter your suggestion for improvement in the **Description** field. Include links to the relevant parts of the documentation.

5. If you want to be notified about future updates, please make sure you are assigned as **Reporter**.

6. Click **Create** at the bottom of the dialogue.

CHAPTER 1. INSTALLING RHEL 9 FOR SAP SOLUTIONS

You can install RHEL 9 in interactive mode or you can perform an unattended installation using Kickstart. This document explains how to perform an interactive installation.

For Kickstart installation, use **Server** as your base environment and take into account the recommendations from SAP HANA Storage Requirements and Performing SAP HANA Sizing . For a test system, you can remove the default **/home** file system allocation and use a large root (/) file system.

Prerequisites

- You have downloaded the installation image for the desired and supported RHEL 9 minor release from the Red Hat Customer Portal .
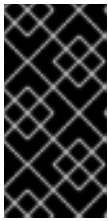
  > **IMPORTANT**
  >
  > SAP HANA is supported only for E4S minor releases of RHEL 9 (for example RHEL 9.0). For more information on which minor RHEL 9 releases are supported by SAP, see the SAP note 2235581. You can also refer to Red Hat Enterprise Linux Life Cycle.

- You have downloaded the installation media for the desired and supported SAP HANA 2 SPS05 or SPS06 revision from the SAP Software Download Center.

- You have verified that the desired hostname meets the requirements for SAP HANA database system or for SAP ABAP Platform systems.

Procedure

1. Boot your server from the RHEL 9 installation source. For more information on how to boot your server, see Performing a standard RHEL 9 installation .

2. The following screen appears:
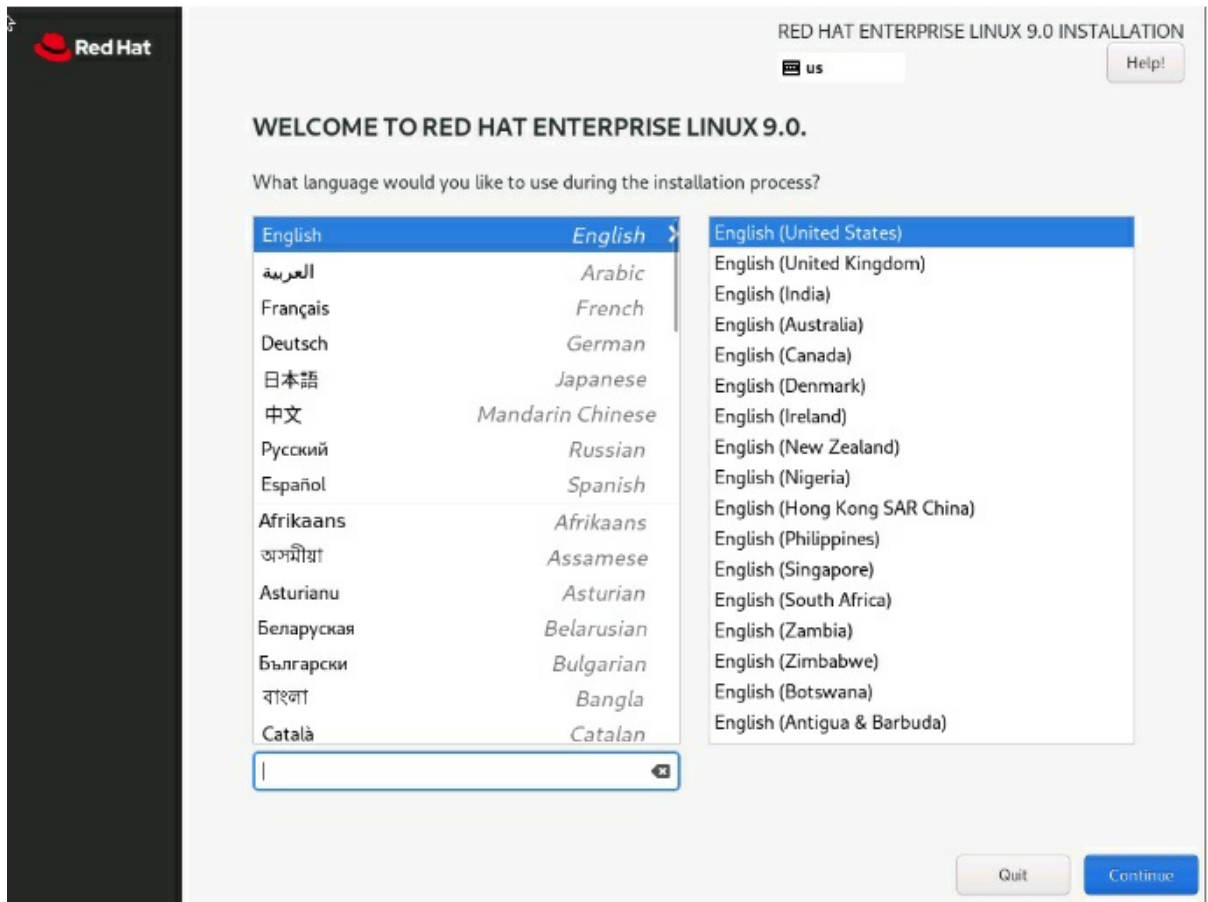
3. Select the language to be used during the installation process and click **Continue**. The following screen will appear:
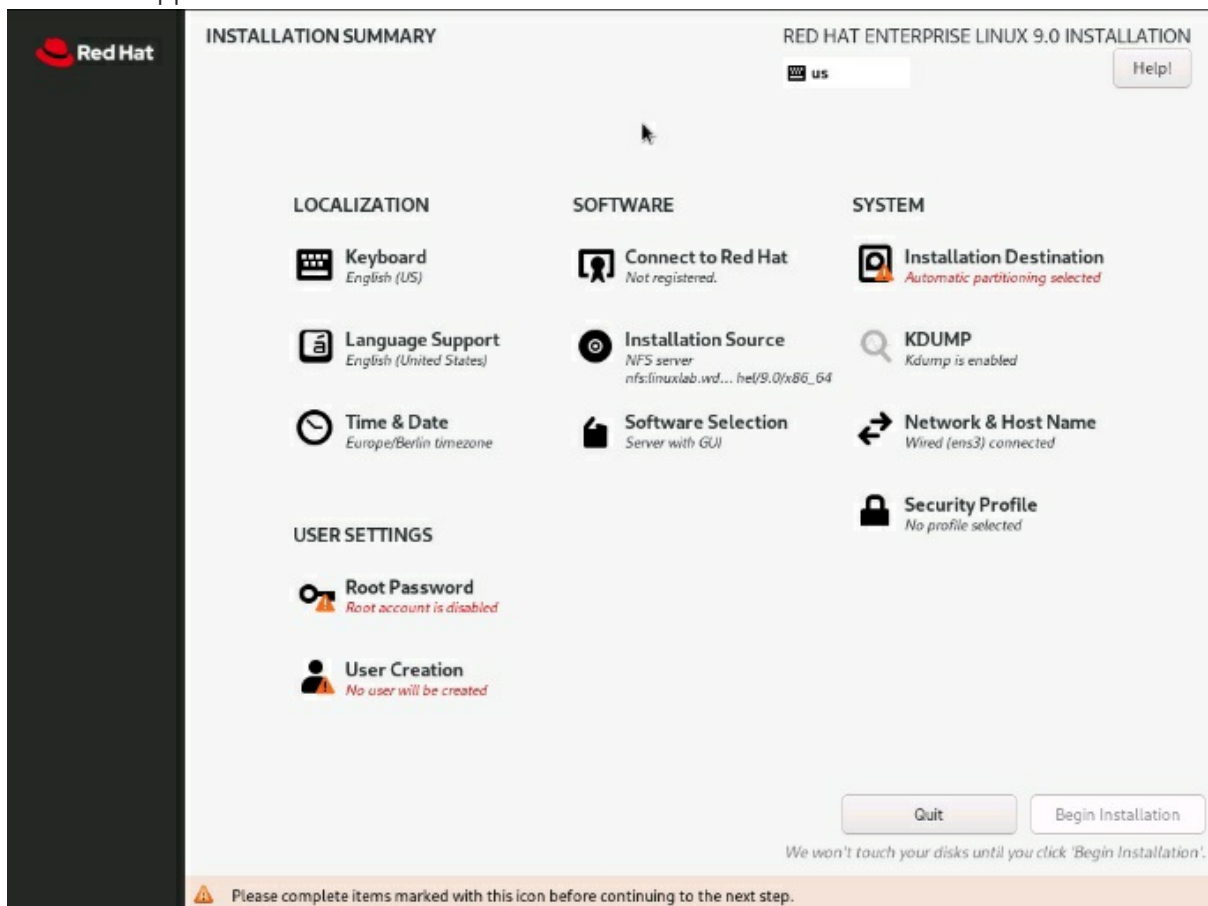
4. Under **LOCALIZATION**, select the desired keyboard layout, language(s) of the installed system, and time and date.

5. Under **SOFTWARE**, click **Software Selection**.

   - In the **Software Selection** window, select **Server** as your **Base Environment** and click **Done**.
     Do *not* select any additional software.

6. Under **SYSTEM**, click **Installation Destination**.

   - In the **Installation Destination** window, select the storage configuration according to your needs and click **Done**.
     Take into account the recommendations from SAP HANA Storage Requirements and Performing SAP HANA Sizing. For a test system, you can remove the default **/home** file system allocation and use a large root (/) file system.

7. Under **SYSTEM**, click **Network & Host Name**, and configure your network connection.

8. Under **USER SETTINGS**, click **Root Password** and/or **User Creation** to configure the initial user(s) for your system. In the screens which show up, click **Done** once you have entered the necessary user information to return to the main installation screen again.

9. Click **Begin Installation**. The following screen confirms that the installation is ongoing:
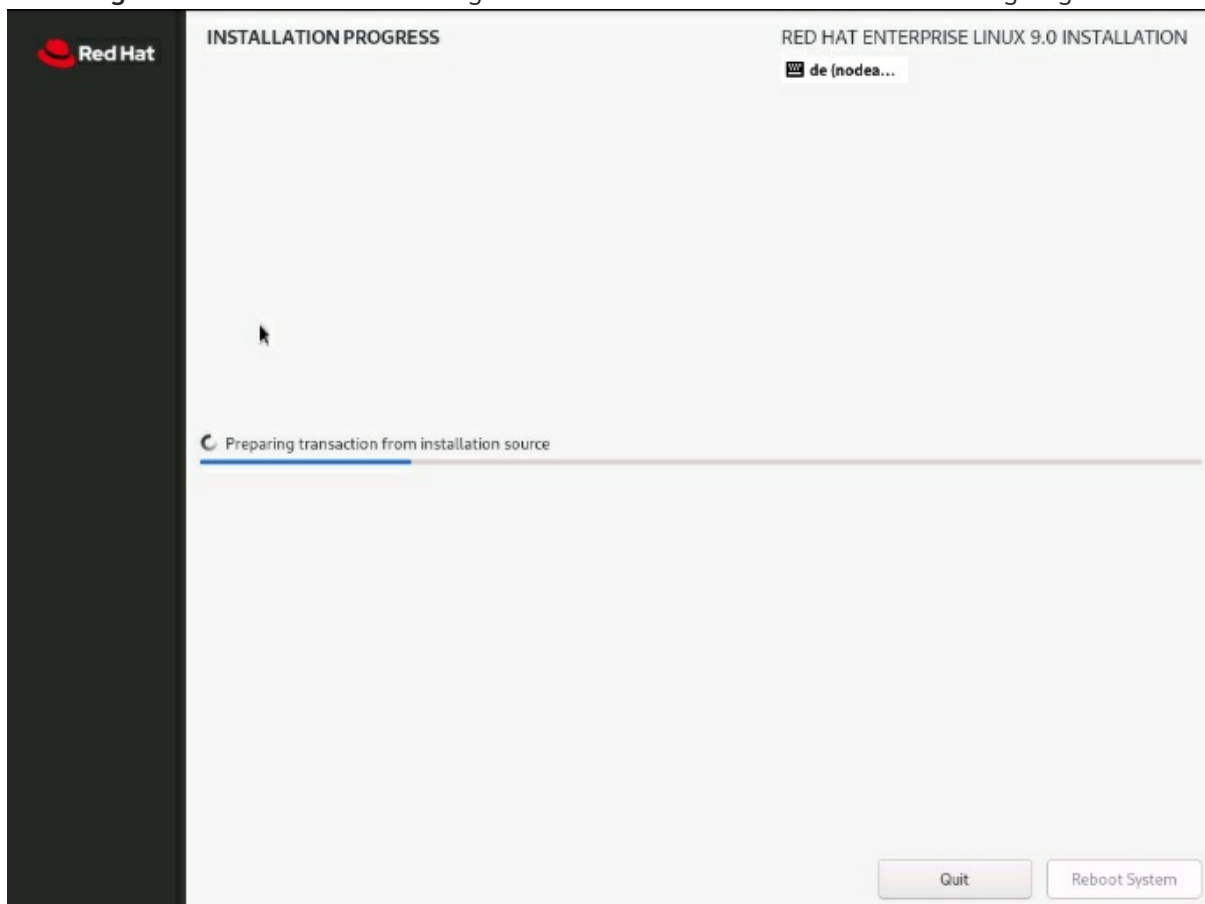
Once RHEL 9 is successfully installed, the screen will look like this:
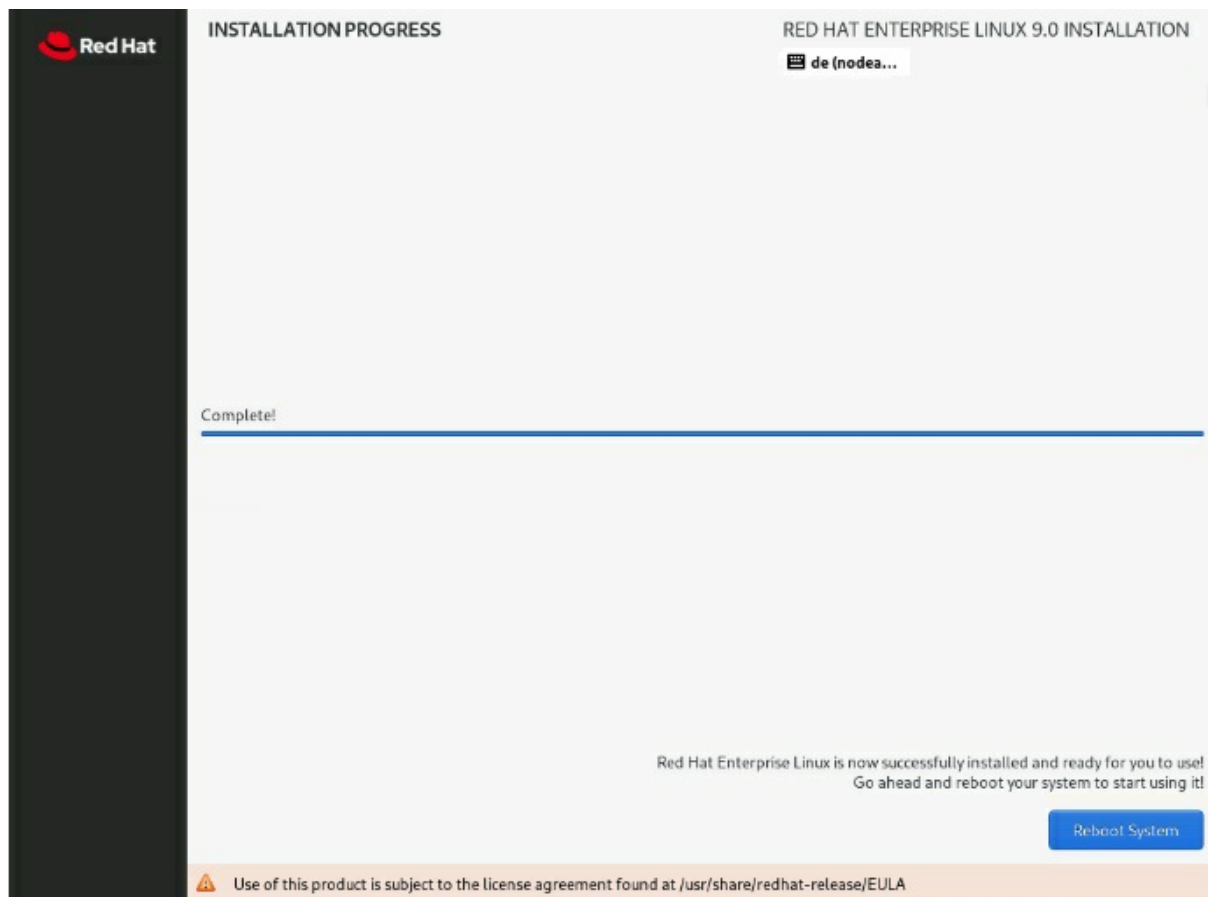
10. Click **Reboot System**.

Additional resources

- SAP note 3108316 – Red Hat Enterprise Linux 9.x: Installation and Configuration

- SAP note 3108302 – SAP HANA DB: Recommended OS Settings for RHEL 9

- SAP HANA Server Installation and Update Guide

CHAPTER 2. COMPLETING POST-INSTALLATION TASKS

This section describes how to complete the following post-installation tasks.

2.1. REGISTERING YOUR HOST

This section explains how to register your RHEL server to Red Hat Satellite.

> **NOTE**
>
> Different steps apply if your system is registered to the Red Hat Customer Portal or your Cloud provider.

Prerequisites

- You have a valid Red Hat Enterprise Linux for SAP Solutions subscription.
  You must have a valid RHEL for SAP Solutions subscription so your server has access to required packages via a Red Hat Satellite server, the Red Hat Customer Portal, or your Cloud provider.

- You have the following information provided to you by your Satellite administrator:

  - An activation key.

  - A string representing the name of the organization.

  - A URL for the Katello client package.
    This is required for attaching your server to a Satellite server.

- Your server meets the hardware requirements or Infrastructure as a Service (IaaS) configurations.
  For bare metal deployment, verify that your server type is mentioned in the SAP Certified and Supported SAP HANA Hardware Directory and that it matches the minimum hardware requirements in the SAP HANA Server Installation and Update Guide .

  For certified IaaS Platforms, see the Certified IaaS Platforms on the SAP Certified and Supported SAP HANA Hardware Directory.

- System administrator access.

Procedure

1. Download the Katello client rpm package:

   ```
   # wget
   https://sat.int.example.com/pub/katello-ca-consumer-latest.noarch.rpm
   ```

   Replace the URL with the URL provided by your Satellite administrator.

2. Install the Katello client rpm package:

   ```
   # dnf install -y katello-ca-consumer-latest.noarch.rpm
   ```

   Replace the package name with the name of the package you downloaded.

3. Register your system:

```
# subscription-manager register --org="your-organization-name" \
--activationkey="your-activation-key"
```

Replace *your-organization-name* with the string representing the name of the organization and replace *your-activation-key* with the activation key. Both are provided by your Satellite administrator.

2.2. APPLYING THE RHEL RELEASE LOCK

SAP supports SAP HANA with certain minor RHEL releases, for example RHEL 9.0. For more information on which minor RHEL 9 releases are supported by SAP, see the SAP note 2235581.

Before performing any software installation on the system, it is important that you set the RHEL release lock so that the system remains on the correct RHEL minor release even when doing package updates. Otherwise, the system might be updated to a RHEL release which is not supported by SAP.

Prerequisites

- System administrator access

Procedure

1. Clear the dnf cache:

```
# rm -rf /var/cache/dnf
```

2. Set the release lock:

```
# subscription-manager release --set=9.x
```

Replace **9.x** with the supported minor release of RHEL 9 (for example   **9.0**).

Additional resources

- How to tie a system to a specific update of RHEL

2.3. ENABLING REQUIRED REPOSITORIES

You need to enable certain RHEL repositories to have access to packages required for the SAP HANA installation. For more information on which repositories to enable, see RHEL for SAP Repositories and How to Enable Them.

Prerequisites

- System administrator access

Procedure

- Disable all repositories and enable the required ones:

```
# subscription-manager repos \
```

```
--disable="*" \
--enable="rhel-9-for-$(uname -m)-baseos-e4s-rpms" \
--enable="rhel-9-for-$(uname -m)-appstream-e4s-rpms" \
--enable="rhel-9-for-$(uname -m)-sap-solutions-e4s-rpms" \
--enable="rhel-9-for-$(uname -m)-sap-netweaver-e4s-rpms"
```

If you intend to use the server for the SAP HANA database only, enabling the **sap-netweaver-e4s-rpms** repository is not required.

Additional resources

- How to Subscribe to Update Services for SAP Solutions on RHEL 8 and RHEL 9

CHAPTER 3. RHEL SYSTEM ROLES FOR SAP

RHEL System Roles for SAP is a set of roles executable by Anisble that can assist you with configuring your local or remote hosts (managed nodes) for the installation of SAP HANA.

3.1. INSTALLING ANSIBLE CORE

RHEL subscriptions provide support for RHEL System Roles for SAP with Ansible Core, which is available in the RHEL 9 Appstream repository.

If you already have an Ansible Automation Platform or Ansible Core package installed, you can skip this step and proceed to Installing RHEL System Roles for SAP .

Prerequisites

- System administrator access

Procedure

- Install the ansible-core package:

  ```
  # dnf install ansible-core
  ```

3.2. INSTALLING RHEL SYSTEM ROLES FOR SAP

RHEL System Roles for SAP include **sap_general_preconfigure**,**sap_netweaver_preconfigure**, and **sap_hana_preconfigure**. These roles can be used to configure the local or remote managed nodes.

Prerequisites

- System administrator access

- You have installed the Ansible Core package or Ansible Automation Platform

Procedure

- Install RHEL System Roles for SAP and RHEL System Roles:

  ```
  # dnf install rhel-system-roles-sap rhel-system-roles
  ```

3.3. SYSTEM CONFIGURATION WITH RHEL SYSTEM ROLES FOR SAP

The RHEL System Roles for SAP provide a quick, easy, and consistent method for performing the configuration of your server according to applicable SAP notes for SAP HANA.

3.3.1. Configuring a local managed node

If the Ansible Engine is installed on the same host on which you want to install SAP HANA, perform the steps outlined in this procedure to configure your local managed node.

Prerequisites

- System administrator access

Procedure

1. Create a file named **sap-hana.yml** with the following content:

   ```
   ---

   - hosts: localhost
     vars:
       ansible_connection: local
       sap_general_preconfigure_max_hostname_length: 64
       sap_general_preconfigure_reboot_ok: false
       sap_general_preconfigure_fail_if_reboot_required: false
       sap_hana_preconfigure_reboot_ok: false
       sap_hana_preconfigure_fail_if_reboot_required: false
       sap_hana_preconfigure_update: true
     roles:
       - sap_general_preconfigure
       - sap_hana_preconfigure
   ```

   IMPORTANT

   The correct indentation and the use of spaces instead of tabs is essential for YAML files.

   NOTE

   The line **sap_general_preconfigure_max_hostname_length: 64** is only required if your hostname (**hostname -s**) is longer than 13 characters and if you are not using this system for an SAP ABAP Platform instance. Without this line, the role **sap_general_preconfigure** will fail its hostname check because a hostname with more than 13 characters is not allowed for an SAP ABAP Platform instance as per SAP note 611361.

2. Run the **sap-hana.yml** Ansible playbook:

   ```
   # ansible-playbook sap-hana.yml -e 'ansible_python_interpreter=/usr/libexec/platform-python'
   ```

   This will configure this system according to the applicable SAP notes for SAP HANA on RHEL 9.

3. After the ansible-playbook command has finished successfully, reboot the system:

   ```
   # reboot
   ```

Additional resources

- RHEL System Roles for SAP

CHAPTER 4. INSTALLING SAP HANA

After configuring your RHEL 9 for SAP Solutions system(s), you can install SAP HANA. For more information on the installation process, see the SAP HANA Server Installation and Update Guide .