

Introduction to RHEL

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Red Hat Enterprise Linux



Goals:

Reference:

- This system is not registered with an entitlement server
(<https://unix.stackexchange.com/questions/468629/yum-package-install-on-rhel-reports-this-system-is-not-registered-with-an-entit>).
- Register for a Red Hat account (https://sso.redhat.com/auth/realms/redhat-external/protocol/openid-connect/registrations?client_id=customer-portal&response_type=code&scope=openid&redirect_uri=https://access.redhat.com).
- 免費註冊 Redhat 開發者並且進行訂閱和激活 (<https://cloud.tencent.com/developer/article/1888123>).

- Module 1: Introduction
- Register for a Red Hat account
- Change kernel

Module 1: Introduction

紅帽企業Linux（Red Hat Enterprise Linux，簡稱 RHEL）是一個廣泛使用的商業級Linux作業系統，由紅帽公司（Red Hat, Inc.）開發和支援。它具有穩定性、安全性和可靠性等特點，被廣泛應用於企業和機構的伺服器環境中。


主要特點：

1. **穩定性與可靠性**：RHEL的主要特點之一是其穩定的版本釋出週期，確保在生產環境中運行的可靠性。每個主要版本都有長達10年的支援週期，包括安全更新和修補程式。
2. **安全性**：RHEL對於安全性的重視是它在企業環境中廣泛使用的原因之一。紅帽對於漏洞的快速修補和安全性更新，確保了系統的安全性和資料的保護。
3. **多架構支援**：RHEL支援多種硬體架構，包括x86、ARM、IBM Power等，使其適用於不同的硬體環境。
4. **容器技術支援**：RHEL整合了容器技術，如Docker和Kubernetes，這有助於開發和管理容器化應用程式，提高應用程式的可移植性和可擴展性。
5. **商業支援**：作為商業級作業系統，RHEL提供了完善的技術支援和諮詢服務。用戶可以通過紅帽的支援計劃獲得專業的幫助，解決任何技術問題。
6. **生態系統**：RHEL擁有龐大的軟體生態系統，包括各種應用程式、工具和軟體庫，可滿足企業不同的需求。

應用範疇：

- **伺服器環境**：RHEL廣泛應用於企業的伺服器環境，包括網站托管、資料庫服務、應用程式伺服器。
- **雲端計算**：RHEL能夠在各種雲端平台上運行，如Amazon Web Services、Microsoft Azure等，提供穩定的基礎設施。
- **大數據和分析**：由於其穩定性和性能，RHEL在大數據和數據分析領域也得到廣泛應用。

Register for a Red Hat account

 [Register for a Red Hat account](https://sso.redhat.com/auth/realms/redhat-external/login-actions/registration?client_id=customer-portal&tab_id=WFcj_mVUdvs) (https://sso.redhat.com/auth/realms/redhat-external/login-actions/registration?client_id=customer-portal&tab_id=WFcj_mVUdvs).

 [Apply for Email Verification](https://developers.redhat.com/auth/realms/rhd/account/) (<https://developers.redhat.com/auth/realms/rhd/account/>).



Email address verification

Verification email sent

An email with a link to verify your email address has been sent to you.

If you do not receive the email within a few minutes, check your spam folder or try one of the following:

- [Update your email address](#)
- [Resend the verification email](#)
- [Contact customer service](#)

- Command

```
subscription-manager register --username <YOUR_USERNAME> --password <YOUR_PASSWORD>
```



```
My userName: dong881
```

```
My passowrd: abcdefg1234567.
```

```
subscription-manager register --username dong881 --password abcdefg1234567. --  
auto-attach
```

- LOG

Registering to: subscription.rhsm.redhat.com:443/subscription

The system has been registered with ID: a24f2e36-7c2f-4104-8be8-43f81a71f610

The registered system name is: R740

Ignoring request to auto-attach. It is disabled for org "17203631" because of the co



Change kernel

Reference:

- RedHat 教學更換Kernel (https://access.redhat.com/documentation/en-us/red_hat_enterprise_linux_for_real_time/8/html-single/installing_rhel_8_for_real_time/index).
- [Note] CentOS 更換Kernel (<https://hackmd.io/OsPSqoVDRQS0hbrCjL85CQ?view#3-Install-the-kernel-rt>).

Reference download (RH8_kernel).rpm (https://access.redhat.com/downloads/content/rhel---8/x86_64/8084/kernel-rt/4.18.0-425.10.1.rt7.220.el8_7/x86_64/fd431d51/package).

Reference download (RH9_kernel).rpm (https://access.redhat.com/downloads/content/rhel---9/x86_64/11125/kernel-rt/5.14.0-284.18.1.rt14.303.el9_2/x86_64/fd431d51/package).

Red Hat Enterprise Linux for Real Time 的软件包 (用于 x86_64 的版本 9)

Show 25 entries

Search:

| 软件包 | 概述 | |
|--|---|-------------------------|
| Red Hat Enterprise Linux 9 for x86_64 - Real Time (RPMs) | | |
| kernel-rt | The Linux kernel | ↓ 下载最新的 |
| kernel-rt-core | The Linux kernel | ↓ 下载最新的 |
| kernel-rt-debug | kernel meta-package for the debug kernel | ↓ 下载最新的 |
| kernel-rt-debug-core | %{variant_summary} | ↓ 下载最新的 |
| kernel-rt-debug-devel | Development package for building kernel modules to match the kernel | ↓ 下载最新的 |
| kernel-rt-debug-modules | kernel modules to match the core kernel | ↓ 下载最新的 |
| kernel-rt-debug-modules-core | Core kernel modules to match the core kernel | ↓ 下载最新的 |
| kernel-rt-debug-modules-extra | Extra kernel modules to match the kernel | ↓ 下载最新的 |
| kernel-rt-devel | Development package for building kernel modules to match the kernel | ↓ 下载最新的 |
| kernel-rt-modules | kernel modules to match the core kernel | ↓ 下载最新的 |
| kernel-rt-modules-core | Core kernel modules to match the core kernel | ↓ 下载最新的 |
| kernel-rt-modules-extra | Extra kernel modules to match the kernel | ↓ 下载最新的 |
| realtime-setup | Setup RT/low-latency environment details | ↓ 下载最新的 |
| rteval | Utility to evaluate system suitability for RT Linux | ↓ 下载最新的 |
| rteval-loads | Source files for rteval loads | ↓ 下载最新的 |
| tuned-profiles-realtime | Additional tuned profile(s) targeted to realtime | ↓ 下载最新的 |

You need to have an account and be logged in to download.

| Name (.rpm) | Rel. |
|-------------------------|--------------------------------|
| kernel-rt | 5.14.0-284.18.1.rt14.303.el9_2 |
| realtime-setup | 2.2-6.el9 |
| tuned-profiles-realtime | 2.20.0-1.el9 |
| kernel-rt-core | 5.14.0-284.18.1.rt14.303.el9_2 |
| kernel-rt-modules | 5.14.0-284.18.1.rt14.303.el9_2 |
| kernel-rt-modules-core | 5.14.0-284.18.1.rt14.303.el9_2 |

Also you can download from my OneDrive (https://mailIntustedutw-my.sharepoint.com/:f:/g/personal/b10902214_ms_ntust_edu_tw/ErJblfDWvdNLsJRdf7t14XABvhAPmnes0VLdFCcW-DnciVg?e=haDBYM).

```
sudo yum install ./kernel-rt-5.14.0-284.18.1.rt14.303.el9_2.x86_64.rpm ./realtime-se
```

| Package | Architecture | Version | Repository | Size |
|--------------------------|--------------|--------------------------------|-------------------------------|-------|
| Installing: | | | | |
| kernel-rt | x86_64 | 5.14.0-284.18.1.rt14.303.el9_2 | @commandline | 3.6 M |
| kernel-rt-core | x86_64 | 5.14.0-284.18.1.rt14.303.el9_2 | @commandline | 17 M |
| kernel-rt-modules | x86_64 | 5.14.0-284.18.1.rt14.303.el9_2 | @commandline | 38 M |
| kernel-rt-modules-core | x86_64 | 5.14.0-284.18.1.rt14.303.el9_2 | @commandline | 37 M |
| realtime-setup | x86_64 | 2.2-6.el9 | @commandline | 27 k |
| tuned-profiles-realtime | noarch | 2.20.0-1.el9 | @commandline | 16 k |
| Installing dependencies: | | | | |
| tuna | noarch | 0.18-12.el9 | rhel-9-for-x86_64-baseos-rpms | 166 k |
| Transaction Summary | | | | |
| Install 7 Packages | | | | |

- To view the default kernel:

```
sudo grubby --default-kernel
```

If not you want kernel, you need to change default kernel

```
sudo grubby --set-default=/boot/vmlinuz-<YOUR_NEW_KERNEL>
sudo sed -i 's/UPDATEDEFAULT=.* /UPDATEDEFAULT=yes/g' /etc/sysconfig/kernel
sudo sed -i 's/DEFAULTKERNEL=.* /DEFAULTKERNEL=kernel-rt-core/g' /etc/sysconfig/kerne
```

Reboot than check it!

```
sudo reboot
uname -r
```