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| **DOCUMENT RULES:** | |
| **Task Number / Name:** | **Task / GitHub** |
| **Group name:** | Group\_2 |
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| **#** | **Task names** | **Command steps and outputs** |
| **1** | Best Linux Certifications | CompTIA Linux+  Red Hat Certified System Administrator (RHCSA)  Oracle Certifications  The Linux Foundation Certifications  The Linux Professional Institute (LPI) Certifications  GIAC Certified Unix Security Administrator (GCUX) |
| 2 | Why Get a Linux Certification? | As with any certification in the IT industry, the advantages of a Linux certification are well-established and myriad.Whether a system engineer, a sysadmin or a cybersecurity pro, working competently on a Linux system requires serious technological expertise. Given the level of skill required and the trust placed on IT pros to keep Linux machines up and running, it’s not a stretch to say that a Linux certification may be even more valuable than in other areas of IT. |
| 3 | Which Linux Certification to Choose? | An analysis of Emsi Burning Glass data finds nearly 10,000 job postings where employers require or request Linux-certified candidates (9,639 job ads in the United States from November 2020 to October 2021).  CompTIA Linux+ is one of the top Linux-focused certifications requested (3,787 ads), following only RHCE, which was cited in 4,122 job ads. Other top citations include RHCSA, LPI and RHCA. |
| 4 | What Are the Advantages of Linux Certification? | On the business side, the global Linux OS market is projected to grow to $15.6 billion by 2027, up from only $3.89 billion in 2019. That means more companies are using one Linux distribution or another to power their business.With more employers needing to bring on Linux-proficient tech pros to keep their operations running reliably and securely, certification will only grow in importance. |
| 5 | What is Linux ? | Linux is an open-source Unix-like operating system based on the Linux kernel,an operating system kernel first realeased on September 17, 1991, by Linus Torvalds. Linux is typically packaged as a Linux distribution.  Distributions include the Linux kernel and supporting system software and libraries, many of which are provided by the GNU Project. Many Linux distributions use the word "Linux" in their name, but the Free Software Foundation uses the name "GNU/Linux" to emphasize the importance of GNU software, causing some controversy.  Popular Linux distributions include Debian, Fedora Linux, and Ubuntu, which in itself has many different distributions and modifications, including Lubuntu and Xubuntu. Commercial distributions include Red Hat Enterprise Linux and SUSE Linux Enterprise. Desktop Linux distributions include a windowing system such as X11 or Wayland, and a desktop environment such as GNOME or KDE Plasma. Distributions intended for servers may omit graphics altogether, or include a solution stack such as LAMP. Because Linux is freely redistributable, anyone may create a distribution for any purpose |
| 6 | CompTIA Linux+ | The CompTIA Linux+ certification confirms a high level of proficiency in the use of Linux in a business environment. This highly respected professional certification, like all of CompTIA’s certification offerings, is vendor neutral – meaning it is not tied to one particular product or company. In the open-source world of Linux this can provide a huge benefit.  CompTIA Linux+ tests your ability on the fundamentals of the most popular Linux distributions. You’ll learn everything from a basic understanding of a UNIX-like filesystem and command life to core skills for managing a Linux environment like package management and shell scripting.  That means, no matter what type of workplace you find yourself in or what specialized distribution of Linux you find yourself working on, a CompTIA Linux+ certification proves you have the base level of competence to understand and manage it.  Whether faced with a distribution like CentOS or Suse, or a version with a suite of major security add-ons like Selinux, CompTIA Linux+ can act as your general foundation on which you can build your knowledge of specialized, system-specific details.  While there are no prerequisites for the CompTIA Linux+ exam, CompTIA recommends that candidates have 12 months of experience with the Linux operating system as well as CompTIA A+ and CompTIA Network+ before taking the test.The exam consists of both multiple choice and performance-based questions. The latest iteration of the exam has an enhanced focus on topics like kernel modules, security and virtualization. |
| 7 | Red Hat Certified System Administrator (RHCSA) | The RHCSA certification is a credential awarded by Red Hat, one of the major players creating open-source, Linux-based products for enterprises. Red Hat Enterprise Linux is the most popular paid version of Linux built specifically for enterprise-level use. In 2018 the product made up almost 34% of paid operating systems in use at the enterprise level. This was second only to Microsoft.  Red Hat Certified Engineer  **A Red Hat® Certified Engineer (RHCE®) is a Red Hat Certified System Administrator (RHCSA) who is ready to automate Red Hat® Enterprise Linux® tasks, integrate Red Hat emerging technologies, and apply automation for efficiency and innovation.**  You might also recognize the name Fedora. Fedora is Red Hat’s end-user OS which is built on Red Hat Linux. Holding an RHCSA certification confirms your ability to manage all the core tasks in a Red Hat Linux environment.  Red Hat also has two more advanced certifications:  1) Red Hat Certified Engineer (RHCE): The RHCE certification is a higher-level Linux credential specifically geared toward managing DevOps environments and automation.  2) Red Hat Certified Architect (RHCA): The RHCA certification is the highest level of Red Hat certification. It requires a holder to maintain five other current Red Hat certifications for developers and system administrators. |
| 8 | **Oracle Certifications** | Computing corporation Oracle has its own version of Linux, built on the Red Hat Linux platform and available for free. Small- and medium-sized businesses often run Oracle Linux on their servers rather than running the paid, uptime-oriented Red Hat Enterprise Linux OS. Oracle also has its own certification program.  The Oracle Certified Associate (OCA) Linux 5 and 6 System Administrator certification certifies competence administrating systems that run Oracle’s Linux 5 and Linux 6 distributions, but it retired at the end of November 2021.  The Oracle Certified Professional (OCP), or Linux 8 Certified System Administrator credential, confirms knowledge of all skills, including the most advanced, required for administrating Oracle Linux, and includes features added to the latest distribution. |
| 9 | * The Linux Foundation Certifications | The Linux Foundation is a long-standing nonprofit organization that supports and promotes the use of Linux. It has its own line of certifications, including the following:  Linux Foundation Certified System Administrator (LFCS): A certification for Linux system administrators early in their career.  Linux Foundation Certified Engineer (LFCE): A certification for Linux professionals with three to five years of experience. |
| 10 | Linux Foundation Certified System Administrator (LFCS) | LFCS is ideal for candidates early in their Linux system administration or open source career. Candidates should have completed training in Linux system administration. |
| 11 | Linux Foundation Certified Engineer (LFCE) | The Linux Foundation Certified Engineer is the ideal certification for the Linux engineer with at least three to five years of Linux experience. It designed for the engineer looking to demonstrate a higher level of skill set to help qualify for a promotion or land a new, more advanced job. The exam is performance-based on the command-line and includes items simulating on-the-job scenarios. |
| The Linux Professional Institute (LPI) Certifications | The LPI is another Linux-focused nonprofit organization and certification body. Its LPIC-1 and LPIC-2 certifications allow Linux beginners to demonstrate competence with the networking basics, and then move up to higher levels.  The LPIC-3 certification is broken into three subcategories, with different versions of the cert for security, mixed environments and virtualization and high availability. IT pros who want to build their Linux knowledge can use the tiered LPI certifications to improve and specialize as they grow professionally. A holder of any of LPIC-3 certifications qualifies as a Linux Enterprise Professional. |
|  | * GIAC Certified Unix Security Administrator (GCUX) | The GCUX certification is a high-level certification for cybersecurity. It confirms the ability to secure UNIX systems through digital forensics, and to utilize common tools for the identification and remediation of cybersecurity incidents while maintaining security on UNIX and Linux systems |