



Exam Tips for Certified Hyperledger Sawtooth Administrator (CHSA)

Exam Details

- You can take the CHSA exam from any qualifying computer, anywhere there is internet, almost any time. No need to go to a test center. (see Hardware Compatibility Check below)
- The online exams consists of a set of performance-based items (problems) to be solved on the command line. CHSA exam consists of 26 problems,
- The exam is expected to take 2 hours to complete.

What You Need For Your Exam

- Candidates are required to provide a non-expired Primary ID (see table below) containing Candidate's photo and full name.
If the Primary ID contains non-latin characters, then the Candidate must also provide a non-expired Secondary ID containing their full name in Latin Characters OR a notarized English translation of their Primary ID along with the non-latin character Primary ID.

Primary ID (not expired and including photograph)	<i>IF Primary ID has non-Latin characters then: Secondary ID (not expired and Candidate name in Latin characters)</i>
Passport Government-issued driver's license/permit Government-Issued local language ID (plastic card with photo and signature) National Identity card State or province-issued identity card	Debit (ATM) Card Credit Card Health Insurance Card U.S. Social Security Card

Exams may be administered to citizens of a sanctioned country listed below PROVIDED the citizens are tested OUTSIDE the sanctioned country and their exam registration and current ID show an address OUTSIDE the sanctioned country.

- Cuba
- Iran
- Syria
- Sudan
- North Korea
- Crimea Section of Ukraine

- Exams are delivered online and closely monitored by proctors via webcam, audio, and remote screen viewing.
- Candidates must provide their own front-end hardware to take exams, including a computer with:
 - Chrome or Chromium browser
 - reliable internet access
 - webcam & microphone

Hardware Compatibility Check

- Candidates should run the compatibility check tool provided by the Exam Proctoring Partner to verify that their hardware meets the minimum requirements.
- The tool is located at <https://www.examslocal.com/ScheduleExam/Home/CompatibilityCheck>. Select “Linux Foundation” as the Exam Sponsor and “CHSA” as the Exam.
- At this time, only Chrome and Chromium browsers are supported and candidates need a functioning webcam so that the proctor can see them.

Exam Results

- Results will be emailed 36 hours from the time that the exam was completed.
- Results will also be made available on My Portal.

Resources allowed during exam

- Candidates may use their Chrome or Chromium browser to open one additional tab in order to access assets at <https://sawtooth.hyperledger.org/docs/core/releases/1.0.5/> and its subdomains. No other tabs may be opened and no other sites may be navigated to.
The allowed site above may contain links that point to external sites. It is the responsibility of the candidate not to click on any links that cause them to navigate to a domain that is not allowed.
- Please see the [Candidate Handbook](#) for additional information covering policies, procedures and rules during the exam..
- Answers to Frequently Asked Questions (FAQ) can be [found here](#).
- If you cannot find an answer to your question in the Candidate Handbook or FAQ, you may contact Customer Support at certificationsupport@hyperledger.org.

Technical Instructions

You may access these instructions at any time while taking the exam by typing 'man lf_exam'.

1. Root privileges can be obtained by running 'sudo -i'.
2. You should avoid rebooting node-1, as the supporting infrastructure will take around 15 minutes to start, and stabilize. You are free to reboot any node other than node-1 at any time.
3. Do not stop or tamper with the certterminal or sshd configuration and process on node-1 as this will END YOUR EXAM SESSION.
4. Do not block incoming ports 8080/tcp, 4505/tcp and 4506/tcp. This includes firewall rules that are found within the distribution's default firewall configuration files as well as interactive firewall commands.
5. Use Ctrl+Alt+W instead of Ctrl+W.
Ctrl+W is a keyboard shortcut that will close the current tab in Google Chrome.
6. Ctrl+C and Ctrl+V are not supported in your exam terminal, nor is copy and pasting large amounts of text. To copy and paste limited amounts of text (1-2 lines) please use;
For Linux: select text for copy and middle button for paste (or both left and right simultaneously if you have no middle button).
For Mac: ⌘+C to copy and ⌘+V to paste.
For Windows: Ctrl+Insert to copy and Shift+Insert to paste.
7. Installation of services and applications included in this exam may require modification of system security policies to successfully complete.

8. Only a single terminal console is available during the exam. Terminal multiplexers such as GNU Screen and tmux can be used to create virtual consoles.
9. To change font size in the terminal please use the native Chrome keys: Ctrl and '+' or Ctrl and '-'.
10. You should avoid changing the locale of the system during your exam.
11. You should not manipulate the firewall of node-1, or tamper with any of the running lxd or dnsmasq processes.

General Notes

- The first exam item contains instructions and notes on the exam environment. Ensure you read this item thoroughly before commencing your exam.
- You can use the question navigation features to return to the first exam item at any time.
- The exam is based on Sawtooth v1.0.5

CHSA Environment

Each question on this exam must be completed on a designated Sawtooth node.

- This exam comprises a number of single, two and three-node Sawtooth networks, with each peer running on separate machines.
- At the start of each question, you will be directed to which Sawtooth node(s) you should ssh to in order to complete the item.
- You can ssh to a Sawtooth node with a command such as: `ssh sawadm@<node>`
- You can ssh between machines in a network comprising more than one node, unless where otherwise noted.
- The sawadm user should be used for all items, unless otherwise indicated.
- You can assume elevated privileges on any node by issuing the following command: `sudo -i`
- You should return to the base node (hostname node-1) after completing each item.
- Further instructions for connecting to nodes will be provided in the appropriate questions, and certain hints may be provided where required on specific items.