

# Linux Foundation Certification Exams: Candidate Handbook

The Linux Foundation is a non-profit consortium dedicated to fostering the growth of Linux. Founded in 2007, The Linux Foundation sponsors the work of Linux creator Linus Torvalds and is supported by leading Linux and open source companies and developers from around the world.

The Linux Foundation works closely with open source project communities to deliver relevant, respected, hands-on certifications to technology professionals around the world. The Linux Foundation is unique in that we don't just provide the certifications for today's most in-demand technologies; our involvement goes far beyond that. We host the projects developing these technologies and provide resources and staffing to help keep these development communities healthy and thriving. So when it comes right down to it, no one is closer to these technologies than The Linux Foundation.

## **Candidate Requirements**

Linux Foundation Certification Exams are delivered online and are closely monitored by a proctor during the exam session via streaming audio, video and screensharing feeds. The screensharing feed allows proctors to view candidates' desktops (including all monitors). The audio, video, and screen sharing feeds will be stored for a limited period of time in the event that there is a subsequent need for review.

#### **System Requirements**

Candidates must provide their own computer with:

- Current version of Chrome or Chromium
  - you don't need to install a virtual machine, use a client machine, or anything beyond a Chrome or Chromium browser
  - Make sure you have third party cookies turned on for the duration of the exam.
- Reliable internet access
  - Turn off bandwidth-intensive services (e.g. file sync, dropbox, BitTorrent)
  - Ask others who may be sharing your Internet connection not to stream video or download large files.
- Microphone
  - Please check to make sure it is working before you start your exam session.
- Webcam
  - Ensure the webcam is capable of being moved as the proctor may ask you to pan your surroundings to check for potential violations of exam policy.
  - Try holding up your ID while viewing your webcam feed to ensure your placement and resolution are sufficient for the person viewing your feed to read your ID.
  - If you will be testing from an employer-provide ISP or will use an employer provided machine, please ensure that streaming will be allowed using WebRTC.

#### **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 select your Exam Code (e.g. CKA, LFCS, JSNAD etc)

#### **LF Account**

Candidate should have their own LF account. For more details on how to create LF account, please refer to Creating LF Account.

## **Testing Environment Requirements**

Below are the expectations for an acceptable testing location::

- Clutter-free work area
  - No objects such as paper, writing implements, electronic devices, or other objects on top of surface
  - No objects such as paper, trash bins, or other objects below the testing surface
- Clear walls
  - No paper/print outs hanging on walls
  - Paintings and other wall décor is acceptable
  - Candidates will be asked to remove non-décor items prior to the exam being released
- Lighting
  - Space must be well lit so that proctor is able to see candidate's face, hands, and surrounding work area
  - No bright lights or windows behind the candidate
- Other
  - o Candidate must remain within the camera frame during the examination
  - Space must be private where there is no excessive noise. Public spaces such as coffee shops, stores, open office environments, etc. are not allowed.

#### **Co Located Exams**

If multiple Candidates are taking an exam at the same time in one location, then at least four feet (1.2 meters) of empty space on all sides must be enforced or privacy partitions must be installed.

## **Certification and Confidentiality Agreement**

Candidates must accept the terms and conditions of the Linux Foundation Global Certification and Confidentiality Agreement during the registration process and again prior to testing.

The agreement is located at https://docs.linuxfoundation.org/tc-docs/certification/lf-cert-agreement

This is a legally-binding agreement that applies to all exams.

Acceptance and adherence to this agreement is required in order to be exposed to the exam and to be officially certified.

Failure to accept the terms of this agreement will result in a terminated exam and forfeiture of the entire exam fee.

## **Exam Registration**

Registering for an exam gives the candidate an eligibility to *schedule* and then *take* the exam. Registering for an exam is not the same as "Scheduling" an exam. When the candidate *registers* for an exam they will have 12 months to *schedule* and *take* the exam. That means they must schedule an exam reservation date to occur within 12 months of purchase. After 12 months, the exam registration expires and the candidate will no longer be eligible to schedule or sit for the exam.

#### **Exam Fees & Payment**

The cost per Exam is \$300 USD. Only credit card payments can be used for payment and all major credit cards are accepted.

Volume discounts are available for companies with multiple candidates. Please click on the "Get a Quote" link on our certification product page(s).

#### **Register for an Exam**

To register for an exam the candidate will go to The Certification Catalog, select the Certification Exam they wish to purchase and click the "Enroll Today" button.

Candidates will be redirected to The Linux Foundation LMS where they can

(a) Sign in with an existing LF Account and proceed to the secure checkout to complete the transaction or (b) Create a new LF Account by providing a Username, First/Last name and Email address, and proceed to the secure checkout to complete the transaction.

A request to "Verify your Email" will be sent to the email address provided when creating a new LF Account. When the candidate has completed their purchase, they must follow the instructions in the email to "Verify Email" in order to gain access to their Certification Exam.

#### **Secure Checkout**

To complete the checkout process, candidates will click "Enter Payment Information" and enter their Credit Card information. Prior to completing their order, candidates will be prompted to read and accept The Linux Foundation Terms and Conditions.

#### **Returning Customers**

If the candidate is a returning customer and a credit card has been saved to their account, the system will display the last 4 digits of the credit card on file, and advise that this card will be charged.

If the candidate wants to use a different credit card to complete the purchase, they must:

- 1. login to My Portal and click on "Account" (click the down arrow beside their profile name to see the link to your "Account" )
- 2. Click "Update Credit Card Info" and enter the details of their credit card
- 3. Click "Save Credit Card" to update the Credit Card details on file.

#### **Purchase History / Receipt for your purchase**

Candidates can login to My Portal and click on the Purchase History option to view all their transactions and print a receipt.

If candidates need to print a receipt for for purchases completed **BEFORE** June 20, 2020, they can:

- login to identity.linuxfoundation.org with your LFID
- Click on the "Orders" tab to view a list of purchases completed
- Click on the order you wish to use and click on the "Printable Invoice" Tab

## How to Purchase an Exam Eligibility as a Gift (Purchase for someone else)

To make a purchase on behalf of someone else, select the Certification Exam Product from our Certification Catalog and click on the "Buy as a Gift" option.

You will be prompted to enter the recipient's First and Last Name, and their Email Address. Clicking on "Enter Payment Information" will redirect you to the Secure Checkout page to complete your order.

The recipient of the "Gift" will receive an email with instructions on how to Redeem a Code provided for the Certification Exam purchased on their behalf.

## **Candidate Identification & Authentication**

Candidates are required to provide a non-expired Primary ID that contains Candidate's photograph, signature and full name (see acceptable forms of ID in the table below).

The name on your Primary ID **must exactly match** the verified name on your exam checklist.

If the Candidate's full name on their Primary ID contains non-latin characters, then the Candidate must ALSO provide a non-expired Secondary ID containing their full name in Latin Characters and signature, OR a notarized English translation of their Primary ID along with the non-latin character Primary ID

## Primary ID (non-expired and including photograph and signature)

Secondary ID
(non-expired and including
signature
with Candidate name in Latin
characters)

#### **Passport**

Government-issued driver's license/permit
Government-Issued local language ID (with photo
and signature)
National Identity card
State or province-issued identity card
住民基本台帳 (Basic resident register with Photo)

Debit (ATM) Card
Credit Card
Health Insurance Card
U.S. Social Security Card
Employee ID Card
Student ID Card

#### Additional Allowances:

 Some government issued ID such as a passport, driver's license, military ID or state/country card may be a biometric type and may or may not contain a signature. In these cases Primary ID will be accepted without a signature on condition that you also present a Secondary ID which does contain your signature (e.g. bank, credit or debit card)

- For candidates testing in Japan, a Driver's License (with name and recent recognizable photo) is acceptable as a primary ID as long as it is accompanied with a valid Blue Japanese Health Card. In Japan, the Blue Japanese Health Card is an acceptable form of secondary ID.
- Minors, between the age of 16-18, are permitted to take an online proctored exam with PSI, provided they complete the following requirements:
  - A Parent/Guardian must complete the Parental Release for Testing of Minors form, and submit it to trainingsupport.linuxfoundation.org, at least 2 weeks prior to the scheduled date of the exam
  - At check in, the minor candidate must present a valid student ID as a form of identification
  - During the PSI check-in process, the candidate's guardian must also present a valid
     ID and must provide verbal consent during the PSI check-in process.

#### **Sanctioned Countries**

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 Region of Ukraine

If you need additional help, please login to trainingsupport.linuxfoundation.org and use the search bar to find an answer to your question, or select your request type from the categories provided.

## **Exam Refund Policy**

You have up to three (3) business days following payment of exam registration fees to request a full refund on the exam registration fees.

If you have *not yet scheduled an exam reservation*, you may request a refund of exam registration fees by contacting Customer Support and providing your LF Account and the email address used to complete the purchase.

No refunds will be given for any requests made within 24 hours of a scheduled exam reservation. If you have a pending exam reservation, you must cancel the reservation at least 24 hours prior to the scheduled start time.

Once you have canceled the reservation, you will need to contact Customer Support to request a refund on the exam registration fees, and provide your LF Account and the email address used to complete the purchase.

Refunds will not be given and exam rescheduling will not be permitted in the event of a noshow or if the Exam is terminated early or could not be started on time due to Exam Misconduct

#### **Refund Procedure**

If you are eligible for a refund (per the Exam Refund Policy) and you have not yet scheduled an exam reservation, you may request a refund of exam registration fees by logging in with your LF Account to <a href="https://trainingsupport.linuxfoundation.org">https://trainingsupport.linuxfoundation.org</a> and select your request type from the categories provided.

If you are eligible for a refund (per the Exam Refund Policy) and you have a pending exam reservation, you must cancel the reservation at least 24 hours prior to the scheduled start time. Once you have canceled the reservation, you will need login with your LF Account to <a href="https://trainingsupport.linuxfoundation.org">https://trainingsupport.linuxfoundation.org</a> to request a refund on the exam registration fees.

## My Portal

Candidates can access My Portal at any time by going to

https://trainingportal.linuxfoundation.org/learn/dashboard or by clicking on the My Portal Menu item from https://training.linuxfoundation.org/.

Candidate can login into My Portal when they have the LF account. On how to create LF account, please refer Creating LF Account.

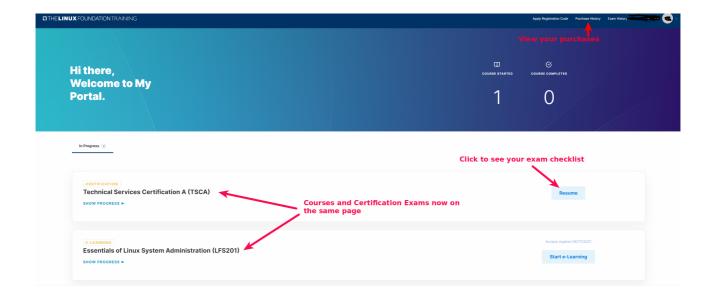
(i) Candidates can use latest version of Chrome, Firefox, and Microsoft browsers to access My Portal.

When a new browser version is released, we support the latest version and we stop supporting the third most recent version of such browser.

Once a candidate has logged into My Portal, they will be able to view the status of their Certification Exams and their courses.

The main page of the Portal also includes a link to:

- View your purchase history (for orders completed after June 20, 2020) The purchase history section reflects only paid transactions. Products which are \$0 or paid for using 100% prepaid codes are not displayed here
- View your exam results
- Update your account information (e.g. Credit Card on file)
- Manage your profile



Unused Certification Registrations (eligibilities) or Certifications in progress, will be shown in the "In Progress" tab of the Portal. If this is your first visit to "My Portal" the "Start Certification" button will be displayed beside your Certification Exam name, after that, the button will display "Resume" (as shown above).

Click on the button displayed to get to your exam checklist.

## My Profile

Candidates can access My Profile page at any time by going to https://trainingportal.linuxfoundation.org/learn/dashboard.

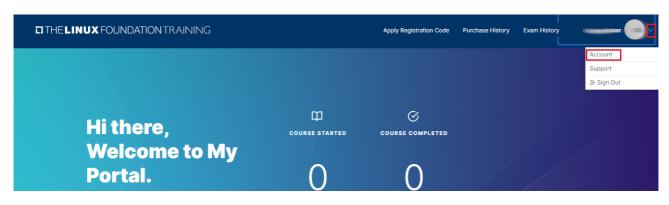
Once a candidate has logged into My Portal, they will be able to view My Profile.

My Profile page allows candidates to:

- · View your certification badges.
- · Change account password
- · Add alternative emails
- · Link account to social media accounts
- Purchase Linux.com alias email
- · View your training and certifications
- View events
- View your transactions

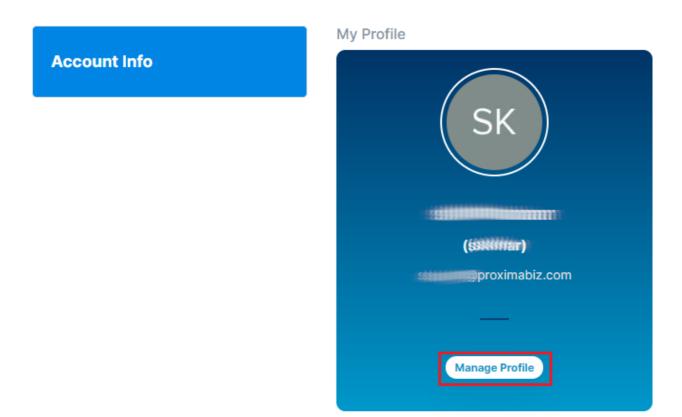
To access My Profile page, perform the following:

1.Login to My Portal. Click the icon and select **Account**.



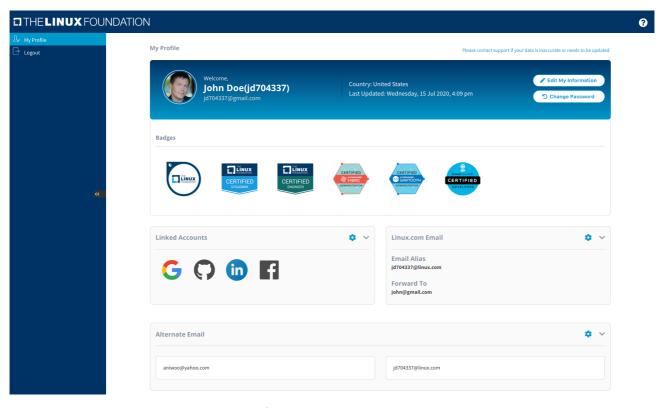
Account

2. The Account Info page appears. Click Manage Profile.

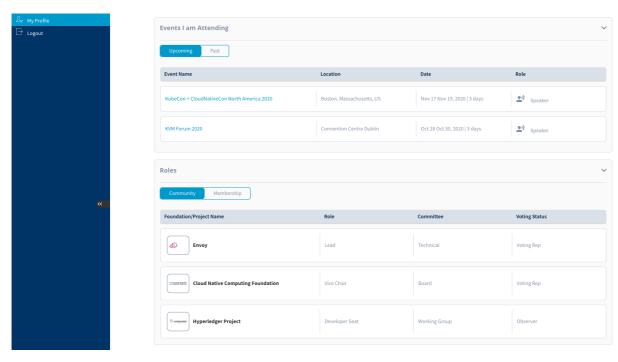


Manage Profile

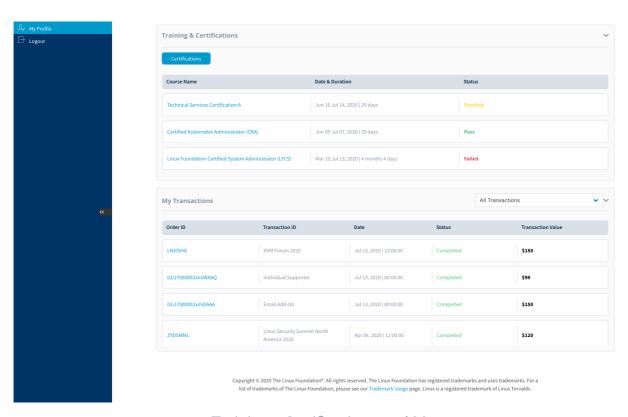
3. You will be navigated to My Profile page. For more information, refer My Profile.



MyProfile - Identities and Badges



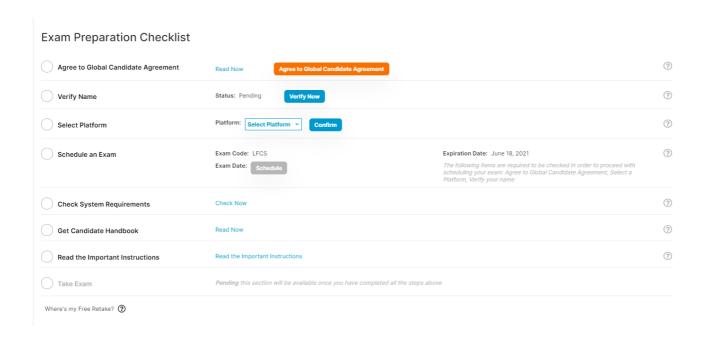
MyProfile - Events and Community Participation



Trainings, Certifications and More...

## **Exam Preparation Checklist**

#### **Checklist Items**



Candidates should use the exam checklist to review and complete the steps necessary to *schedule* and *take* the exam. When items in the checklist have been completed, a green check mark will appear next to the item.

**Please Note**: The "Schedule" Button will become active, and the Candidate will be able to proceed to schedule an exam, only after they complete the first 3 checklist items:

- Agree to Global Candidate Agreement
- · Verify Name
- Select Platform

Checklist Item	Action Required
Agree to Global Candidate Agreement	Candidates must click on the "Agree to Global Candidate Agreement" to indicate they agree to the "Linux Foundation Global Certification and Candidate Agreement" (available for review by clicking on the "Read Now" button.

Candidates must click on "Verify Now" to confirm that the First and Last name displayed in this field matches the Government-Issued Photo ID that they will present to the Exam Proctor, at the time of their exam, to verify Verify Name their identity. Click in the field to edit the First or Last name displayed. Click "Accept" to confirm. The candidate's exam will be provisioned on the Platform displayed. Select To select a different platform, and if this is an available option, click on Platform the Platform drop down list and select a preferred platform. Click "Confirm" when done. The Schedule button will become available, approximately 30 mins AFTER the candidate has completed the first 3 checklist items. Clicking on "Schedule" will redirect the candidate to our scheduling partner's site (PSI). Candidates will login to the PSI site with their LF Account, and search for Schedule an their exam by exam code (e.g. LFCS, CKA), Exam Title or Sponsor Name Exam (The Linux Foundation). Candidates will select from available dates and times for an examreservation. The Candidate must select a date and time that falls before the expiration date of their exam.

Check System Requirements	The Candidate must check that the system they will use to take the exam meets the minimum requirements. Clicking on the "Check Now" button will direct the Candidate to a Compatibility Check Tool.  Candidates should select "Linux Foundation" as the sponsor, and select their exam code (e.g. LFCS, CKA) and click go to run the Compatibility Check.  Candidates should review the results of the check.  If Prompted, You must install the PSI Google Chrome Extension
	in Frompted, rod must mistan the FSI Google Chrome Extension
Get Candidate Handbook	Candidates should click on the "Read Now" button to familiarize themselves with the Candidate Handbook prior to taking the exam.
	Candidates must complete all checklist items before their scheduled  Exam time
Take Exam	The "Take Exam" button will become available 15 minutes prior to the scheduled exam time.
	Clicking on "Take Exam" will redirect candidates to the proctoring partner's site, where they will login with their LFID and launch the exam.

## **Verify Your Name**

Before the candidate schedules the exam, they must click on the "Verify Now" link to ensure that the First and Last Name listed on their Linux Foundation ID account matches the government-issued photo ID that will be presented to the Exam Proctor, at the time of their exam, to verify their identity.

This will be the same name printed on your certificate, should you pass the exam and become certified.

- Click within the field to edit the First or Last name displayed.
- Click "Accept" to confirm.

#### **Platform Selection**

The candidate's exam will be provisioned on the Platform displayed in the "Select Platform" field. To select a different platform, *and if this is an available option*, candidates may click on the Platform drop down list and select their preferred platform.

The Candidate may change their selected platform as often as they wish, and up to 24 hrs prior to their scheduled exam date and time. Platform selection options for Linux Foundation Certification Exams are as follows:

Linux Foundation Certification Exam Name	Platform Option Available
LFCA	No Platform
LFCS	CentOS 7 Ubuntu 18.04
LFCE	CentOS 7 Ubuntu 18.04
CKA	Ubuntu 18.04
CKAD	Ubuntu 18.04
CKS	Ubuntu 18.04
CFCD	Ubuntu 18.04
JSNAD	CentOS 7
JSNSD	CentOS 7
CHFA	Ubuntu 16
CHSA	Ubuntu 16
CHFD	nodejs_nodejs nodejs_go java_java java_go

COP Ubuntu 18.04

## **Accommodations for Special Needs**

If a candidate has special needs that need to be taken into account during exam administration, they must return the Linux Foundation Certification Program Special Accommodation Request Form to trainingsupport.linuxfoundation.org.

The completed form must be submitted at least two (2) weeks before the candidate's scheduled exam.

## Scheduling or Rescheduling an Exam

#### **Choosing a Date and Time for your Exam**

Candidate's have 12 months, from the date of exam registration, to *schedule* and *take* their exam (plus their free retake if eligible). The Expiration Date displayed in My Portal is the last date on which the exam can be taken. After this date, the candidate's exam eligibility will be marked expired.

Candidates will click the "Schedule" button to be directed to the Exam Proctoring Partner's scheduling site. Candidates will login, using their LF Account, and then can search for their exam eligibility by:

- Exam title (e.g. Linux Foundation Systems Administrator)
- Exam code (e.g. LFCS, CKA)
- Sponsor Name (The Linux Foundation)

Candidates will then be prompted to select their preferred date and the timezone in which they will be taking the exam.

Exams require a 24-hour lead time to allow for the preparation of the virtual machines, so the earliest possible reservation date will be the following day. Additionally, the latest possible date presented in the scheduling calendar is 60 days out.

#### **Cancelling or Rescheduling Your Exam**

Candidates may cancel or reschedule their exam reservation up to 24 hours before the scheduled start time of their exam. Reservation changes are NOT POSSIBLE when 24 hours or less remain before the exam start time.

If a candidate is a "No-Show" for their scheduled exam reservation, they forfeit the exam registration fees (no refund) and they will not be eligible for a free retake.

If the candidate needs to cancel or reschedule their exam, they may do so by logging into My Portal and selecting the "Cancel or Reschedule" option. They will be redirected to our Proctoring Partner's Scheduling site.

Click on "My Exams"

Click on the Scheduled exam and then click on Cancel or Reschedule Button

The candidate will receive an email from our Proctoring Partner (PSI) confirming that their reservation has been cancelled.

The "Schedule" button will become available again in the Exam Preparation Checklist, and the candidate can commence the Schedule Exam process again.

Candidates will not be able to make changes to the exam reservation when 24 hours or less remain before the start time of the exam.

## **Exam Rules and Policies**

Candidates must start their exam no later than 15 minutes after the scheduled start time. If a candidate does not start their exam within 15 minutes of the scheduled start time, they will be automatically marked as a no-show and no refund or rescheduling will be allowed.

Candidates must also comply with the following rules and policies during the Exam, and the Proctor cannot release the Exam until the Candidate has indicated that they have read, understood and accept these rules and policies as presented in the The Linux Foundation Global Candidate Certification and Confidentiality Agreement.

#### **Testing Location Rules**

- Room must be quiet, private and well lit
- Bright lights or windows should not be positioned behind the Candidate
- Testing from public spaces such as coffee shops, stores, etc. is not allowed
- No one other than the Candidate can be present in the room
- Desk must be clear of all notes and electronics.

#### **Candidate Conduct Rules During Exam**

- Candidate is not allowed to communicate with anyone other than the Proctor during the Exam
- Candidate is not allowed to read the questions out loud, to themselves, during the exam
- Candidate is not allowed to leave their desk or step out of view of the webcam, unless they have been granted specific permission by the Proctor
- Candidate is not allowed to eat, drink (except clear liquids as per rule below), or chew gum
- Candidate is permitted to drink clear liquids from a label-free clear bottle or a clear glass
- Candidate is not allowed to wear any electronic device in their ears, on their face or on their body unless medically necessary

- Candidate must refrain from making excessive and/or repetitive noise
- · Candidate must refrain from covering their mouth and/or face
- Candidate is not allowed to write or enter input on anything (whether paper, electronic device, etc.) outside of the Exam console screen
- Candidates must comply with any requests from the Proctor. If Candidate fails to comply, the Exam will be terminated

## Policy on Tools and Resources Allowed during Exam

Click on your exam title to see the resources allowed during your exam:

- Linux Foundation Certified System Administrator (LFCS)
- Linux Foundation Certified Engineer (LFCE)
- Cloud Foundry Certified Developer (CFCD)
- Certified Kubernetes Administrator (CKA)
- Certified Kubernetes Application Developer (CKAD)
- Certified Kubernetes Security Specialist (CKS)
- Certified Hyperledger Sawtooth Administrator (CHSA)
- Certified Hyperledger Fabric Administrator (CHFA)
- Certified Hyperledger Fabric Developer (CHFD)
- OpenJS Node.js Application Developer (JSNAD)
- OpenJS Node.js Services Developer (JSNSD)
- Certified ONAP Professional (COP)

The following resources are forbidden during the Exam:

- Use of devices other than the exam desktop
- Notes
- Notepads
- Course manuals
- Devices external to computer on which they are taking the exam, including but not limited to: mobile phones, PDAs, wearable computers, smart glasses, smart watches
- Desk must be clear of all notes and electronics

## Taking the Exam

#### **Launching the Exam**

Candidates can click on the "Take Exam" button, located in My Portal, up to 15 minutes prior to the scheduled start time of their Exam, and will be redirected to the Exam Proctoring Partner's site.

Candidates will be prompted to Login to the Exam Proctoring Partner's site, with their LF Account. Once authenticated to PSI, candidate's can select "My Exams" and click the "Launch Exam" Button to open the Exam Console in a new browser tab.

If The Candidate has an issue with the "Take Exam" Button in the Exam in the Exam Preparation Checklist, they can connect directly to

https://www.examslocal.com/linuxfoundation and login with their LF Account, select "My Exams" and click the "Launch Exam" Button to open the Exam Console in a new browser tab.

Once in the Exam Console, the Proctor Admission Process will begin.

## **Reporting Issues with Launching the Exam**

If the Launch Exam button is not accessible, the Candidate should contact the Exam Proctoring Partner's Support team, within 15 minutes of the scheduled start time, using one of the following options:

- Click on the "Online- Click here to get help" button this opens the chat support function
- Click on the Support Menu item in the top navigation bar to view the support numbers

#### **Proctor Admission Process**

The proctor admission process can take up to 15-20 mins to complete. **The Exam** countdown timer does not start until the proctor releases the Exam.

The Admission process includes the following:

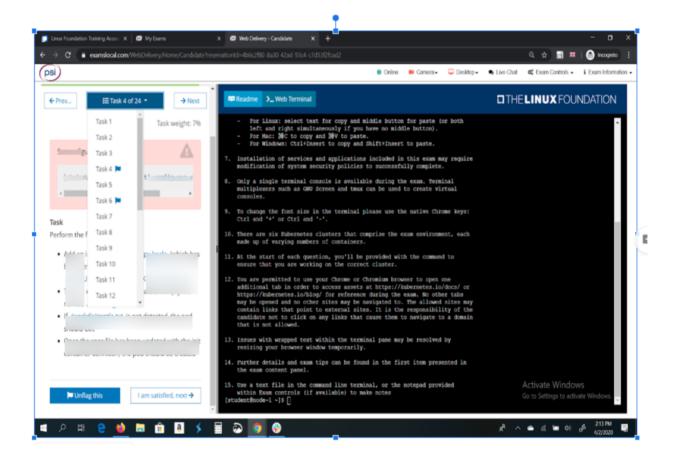
- Share screen, Webcam and microphone
  - Ensure the webcam is capable of being moved as the proctor may ask you to pan your surroundings to check for potential violations of exam policy
- ID Verification and authentication process
  - the candidate must present valid Government-issued photo ID that matches the name listed on the Exam Reservation
  - If the name on the Exam Reservation does not match the name on the candidate's
     Government Issued Photo ID, the candidate will be instructed to:
    - Logoff the PSI Site
    - Login to "My Portal" (https://trainingportal.linuxfoundation.org/learn/dashboard)
    - Click "Verify Again" in the Verify name field of the Exam Prep Checklist and edit their First and Last Name to match their photo ID
    - Log back into www.examslocal.com/linuxfoundation with your LF Account
- Reading and accepting the Exam Rules and terms and conditions of The Linux
   Foundation Global Certification and Confidentiality Agreement Document.

During the admission process, the proctor may ask to review the applications and services running on the candidate's machine to detect Remote Access Software (e.g. LiteManager) which violates the Certification and Confidentiality agreement.

If Remote Access Software is detected and running on your machine, your exam session will be terminated immediately and your exam registration will be cancelled without a refund in accordance with the Exam Misconduct policy

Upon completing the admission process and when the proctor has verified that the Candidate's testing environment and surrounding area meets the testing requirements, the Proctor will release the exam.

## **Exam User Interface**



Linux Foundation Certification Exams User Interface

The Exam User Interface for all Certification exams *except JSNAD and JSNSD*, is composed of Three main areas:

- Exam Console Functions
- Content Panel
- Linux Server Terminal

The JSNAD, JSNSD and COP Exam User Interface is composed of two main areas:

- Exam Console Functions
- Virtual Machine

#### **Exam Console Functions in Top Menu Bar**

The menu bar across the top of the exam console contains the Exam Console Tools.

- To turn on webcam-sharing, click Camera from top menu.
- To turn on screensharing, click Desktop from top menu.
- To ask the proctor a question during the exam, select Live Chat from top menu.
- Clicking Exam Controls from top menu offers the following choices:
  - Show Testing Rules: select this to review the exam rules during an exam.
  - Refresh Exam Window: use to refresh the Linux Server Terminal without reloading the entire web page.
  - Reset Console: use to reset the HTML terminal application and to flush all firewall settings on the candidate's server.
  - Pause Exam: use to request break from proctor. (Note: the exam timer continues to run through even if proctor approves break request.)
  - End Exam: Candidate can use this to indicate to proctor they are ready to end the exam.
  - Notepad: use this to make notes during the exam, e.g. keeping a list of items to revisit. Please note that notes entered here will not be retained or accessible after the exam has ended.

#### **Content Panel**

The Content Panel (left pane) contains the exam tasks, describes the point value of a task and displays a timer for the exam.

- Exam tasks instruct you to complete a step, or a series of steps.
- Candidates can navigate between exam tasks by clicking on the Previous or Next button, or they can jump to a specific exam task by selecting the task number from the drop-down list.
- Candidates can flag an exam task by clicking the Flag this to return box, to remind them to finish/review the task. The task dropdown list will indicate the task you have flagged. When you have revisited this task, you can click Unflag
- Exam tasks contain text that is formatted as copyable values (e.g. file names, port numbers, etc). The copyable values highlight when a Candidate's cursor hovers over formatted text. Candidates can click on the highlighted value within the Content panel to Copy the value & then Paste it directly into the terminal window.

- Candidates may switch between languages (if available) during the exam by clicking on the Select Language drop down list
- The timer bar is set to run for the duration of the exam. Please note:
  - Requesting a break via the Pause Exam function will not stop the timer.
  - The Proctor keeps the ultimate timer for the exam.
  - The Candidate should check with the Proctor for a true reading of time remaining in the exam if there is any doubt or in cases where the timer has been reset.

#### **Linux Server Terminal**

The Linux Server Terminal (on right) displays the terminal of a Linux Server.

- 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 certerminal 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.
  - o 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 To copy and paste 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:  $\mathbb{H}+C$  to copy and  $\mathbb{H}+V$  to paste.
  - o 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 the 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.

#### **Virtual Machine (JSNAD and JSNSD Exams ONLY)**

The workstation is CentOS 7 based and configured with all the tools and software needed to complete the tasks. This includes:

- GNOME Desktop Environment Code Editing Software (VSCode, Vim, WebStorm)
- Node.js version 12 LTS

#### **Virtual Machine (COP ONLY)**

A dedicated environment will be provisioned for your assessment, which includes a desktop workstation (VM based on Ubuntu 18.04) and nested virtualized infrastructure to support a limited ONAP Deployment.

In addition to the GUI the following terminal access may be available:

- KubeCTL
- Openstack CLI

## Guidelines and Tips for Use of the Virtual Machine (JSNAD and JSNSD Exams Only)

- Clicking "Start Assessment" (in the top right-hand corner of the Assessment Introduction page) will launch the COP, JSNAD or JSNSD Application (the exam)
- JSNAD & JSNSD Exam tasks instruct you to complete a step, or a series of steps, which may be answered with Node.js core API's or with any Node.js libraries/frameworks of the candidates choosing.

- Instructions for each task, presented in the UI, are also made available in a readme.md file in each project folder.
- The terminal provided by the environment is GNOME Terminal, but the Visual Studio Code Terminal or WebStorm may also be used.
- Candidates can navigate between exam tasks by clicking on the "Previous" or "Continue/Next Task" button.
- Candidates can skip an exam task using the "Skip" button, and return to it later, by navigating to any task in the left column.
- Candidates can click on "Assessment Review" to identify tasks that have been:
   Completed

Not Viewed

Skipped

 Once all the tasks have been completed and you are ready to end the exam, select "End Exam" from the Exam Controls dropdown, located in the exam console Menu Bar.

#### **Guidelines and Tips for Use of the Virtual Machine (COP Exam Only)**

- Clicking "Start Assessment" (in the top right-hand corner of the Assessment Introduction page) will launch the COP Application (the exam)
- COP Exam tasks instruct you to complete a step, or a series of steps
- Candidates can navigate between exam tasks by clicking on the "Previous" or "Continue/Next Task" button.
- Candidates can skip an exam task using the "Skip" button, and return to it later, by navigating to any task in the left column.
- Candidates can click on "Assessment Review" to identify tasks that have been:

Completed

Not Viewed

Skipped

• Once all the tasks have been completed and you are ready to end the exam, select "End Exam" from the Exam Controls dropdown, located in the exam console Menu Bar.

## Language

Exam objectives (i.e. exam tasks) for our LFCS, LFCE, CKA and CKAD are available in English, Simplified Chinese, and Japanese.

A *Chinese-only* version of the JSNAD and JSNSD Exam is also available in our certification catalog.

All other exams are available in English Only.

When an exam is launched, the exam objectives (i.e. exam tasks) will default to the preferred language setting detected in the Candidate's browser.

If the preferred language **is not available for that exam** then the exam objectives default to English.

If exam objectives are available in multiple languages, the candidate may switch between available languages during the exam by clicking on the "Language Control Dropdown List" in the Content Panel of the exam console.

The following grid outlines the languages available in our Certification Exams:

Exam Title	English (EN)	Japanese (JP)	Simplified Chinese (ZH)
Linux Foundation Systems Administrator	V	V	V
Linux Foundation Certified Engineer	<b>~</b>	<b>✓</b>	<b>✓</b>
Certified Kubernetes Administrator	<b>✓</b>	<b>✓</b>	<b>✓</b>
Certified Kubernetes Application Developer	V	V	<b>✓</b>
Certified Kubernetes Security Specialist	<b>✓</b>		
Cloud Foundry Certified Developer	<b>✓</b>		

Certified Hyperledger Sawtooth Administrator	~		
Certified Hyperledger Fabric Administrator	V		
Certified Hyperledger Fabric Developer	<b>✓</b>	<b>✓</b>	
Certified ONAP Professional	<b>✓</b>		
OpenJS Node.js Application Developer	~		<b>✓</b> **
OpenJS Node.js Services Developer	~		<b>✓</b> **

<sup>\*\*</sup> Must register for the Chinese-Only version of the JSNAD and JSNSD Exam

## **Duration of the Exam**

The exam duration for LF Exams is outlined below:

Exam Name	Duration (hrs)
LFCS	2
LFCE	2
LFCA	1.5
CKA	2
CKAD	2
CKS	2
CFCD	3
COP	3
CHFA	2
CHFD	2
CHSA	2
JSNAD	2
JSNSD	2

The countdown timer does not start until the proctor has released the exam to the candidate.

As Candidates proceed through the Exam, a timer bar is displayed at the top of the Content Panel, giving an indication of how much time is remaining.

### Please note:

- Requesting a break via the Pause Exam function will not stop the timer.
- The Proctor keeps the ultimate timer for the exam.
- The Candidate should check with the Proctor for a true reading of time remaining in the exam if there is any doubt or in cases where the timer has been reset.

# Policy on Warnings and Exam Terminations

# **Warnings**

Certain kinds of violations will result in a warning from the Proctor, while certain other violations result in IMMEDIATE TERMINATION OF THE EXAM WITHOUT WARNING.

- If a warning is issued by the Proctor, the Exam will be paused until the Candidate is able to amend or resolve the observed violation.
- If a Candidate is found to be in violation of the same rule more than twice or is found to be in violation more than four times on any combination of rules, the Exam will be terminated immediately.

### **Exam Terminations**

The following actions result in IMMEDIATE TERMINATION OF THE EXAM WITHOUT WARNING:

- Candidate refuses to comply with a Proctor request
- Candidate is observed to be copying Exam content, whether with software, external device(s), manual transcription, or other means
- Candidate steps out of view of the webcam for extended amount of time without the Proctor's permission
- Someone other than the Candidate is observed to complete or assist with any part of the Exam (e.g. by using Remote Access Software such as LiteManager)
- A discrepancy exists between the input on a Candidate's screen and the Candidate's observed activity

# **Exam Misconduct**

Candidates engaging in Exam Misconduct, as defined below, will not be allowed to complete the Exam or receive an exam result. Such candidates will also be barred from taking any other LF Certification Exam and if applicable, will have any active LF Certification(s) withdrawn.

Refunds will not be given and rescheduling will not be allowed in the event of early termination of an exam due to misconduct. Misconduct may, at any time, result in application of the sanctions specified in Section 7. You shall adhere to all Program rules and shall not engage in any action to subvert, or attempt to subvert, the examination process ("Exam Misconduct") including but not limited to:

- Failing to comply with the Exam Rules and Policies as listed in Section 4.2
- Disseminating actual exam content by any means, including, but not limited to, web
  postings, formal or informal test preparation or discussion groups, chat rooms,
  reconstruction through memorization, study guides, or any other method, as well as
  providing exam content or information to any person not expressly authorized by LF to
  receive such content or information (including but not limited to an LF employee who is
  not part of the Certification Program staff)
- Copying or otherwise transferring, modifying, making derivative works of, reverse engineering, decompiling, disassembling, or translating any Exam or any part thereof
- Seeking and/or obtaining unauthorized access to examination materials (this includes
  using recollections of others of materials from previous administration of any Exam,
  a.k.a. braindump material, and/or any unauthorized publication of Exam questions
  with or without answers)
- Using falsified or altered certificates, score reports, or other documents or electronic media to misrepresent Certification status
- Allowing another person, or an organization in which you are not actively involved, to use your certification credentials to obtain employment or promotions
- Providing falsified information, documentation or statements as a means of a false identity, false address or solicitation of someone to take a test on another's behalf
- Giving, receiving, or obtaining unauthorized assistance during the examination or attempting to do so
- Making notes of any kind during the Exam, whether on paper or via digital means (other than using the notepad provided within the exam browser tab)

- Possession of non-authorized items during the Exam
- Accepting or providing improper assistance on your Exam or Exams taken by others
   (e.g. by using Remote Access Software such as LiteManager)
- Removing or attempting to remove Exam material (in any format)
- Intentionally or otherwise repeatedly causing a disturbance of any kind during the Exam
- Tampering with the exam server and its environment or attempting to use it for any function other than taking an LF Exam
- Modifying and/or altering the results and/or score report for this Exam or any other
   Exam record
- Using computer scripts to register for Exams
- Misconduct as determined by Data Forensics as defined in Section 4.4
- Failing to adhere to any LF or Exam Proctoring Partner policy, procedure, rule, or instruction
- Using profanity, threatening to harm, bully or in any way harass any LF or Exam
   Proctoring Partner employee or contractor (whether verbally or in writing, including
   through electronic communications or external web postings)
- Otherwise violating the terms of LF's Certification and Confidentiality Agreement

# **Exam Scoring and Notification**

Upon completion, exams are scored automatically and a score report will be sent to the candidate via email within 36 hours from the time that the exam was completed.

Results will also be made available on the Portal.

Exams are graded for results. There may be more than one way to perform a task on an Exam and unless otherwise specified, the candidate can pick any available path to perform the task as long as it produces the correct result. The Linux Foundation (LF) and/or the Exam Proctoring Partner will review your exam record for scoring accuracy, for evidence of possible misconduct, and for response patterns that may suggest that your scores do not represent a valid measure of your knowledge or competence as sampled by the examination (measurement error).

LF will use statistical analyses of exam data ("Data Forensics") to identify patterns indicative of test fraud, including cheating and piracy.

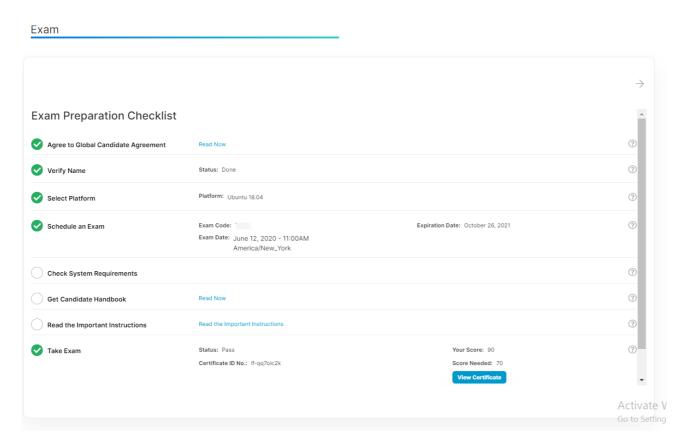
LF reserves the right to invalidate your exam score and certification result if review of your exam record reveals scoring inaccuracies (attributable to LF or the Exam Proctoring Partner) or response patterns indicative of possible misconduct or measurement error. If LF determines that an Exam score is invalid due to issues that are beyond the control of the candidate, the candidate will be advised of options to retake the Exam at no charge.

## **Exam Results - Pass**

Upon passing an exam and if all other requirements for certification have been met, candidates will be granted the certification relevant to the Exam.

Formal notice of successful certification from The Linux Foundation will be emailed within 3 business days of meeting program requirements.

The email notification(s) will include a notice providing the candidate's Certificate ID number and how to access and download a pdf copy of their certificate, and instructions on accessing additional Certification Marks.



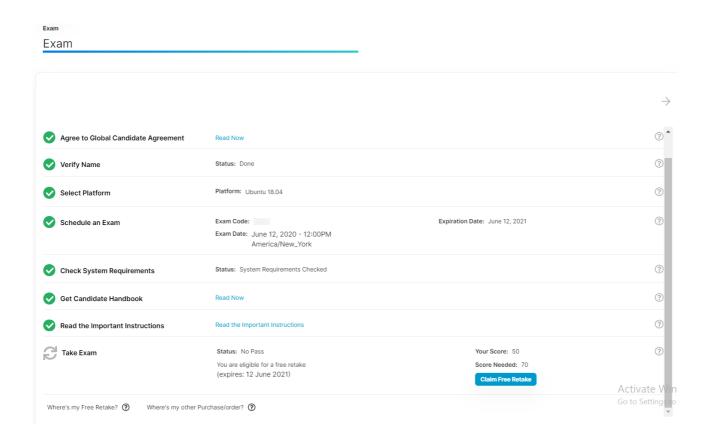
Exam Checklist - Score available and View Certificate

The Exam Preparation checklist in the portal will also display the candidate's achieved score and includes a "View Certificate" option, that the candidate can click to view and/or download their certificate (.pdf file)

## **Exam Results - No Pass**

If eligible per the Retake Policy, candidates who do not achieve a passing score on their first attempt will be granted a free retake.

Be sure sure to review the Retake Policy in full to understand eligibility and deadlines for the free retake. Instructions will be provided in the Exam Results notification on how candidates can Claim their free retake.



The Exam Preparation Checklist will display the No-Pass score, and if eligible the candidate can click the "Claim Free Retake" button which will activate a new Checklist and a new exam eligibility.

The candidate will be advised that their current exam data will be stores as Exam History, and they will be taken to the beginning of the exam scheduling process.

If the free retake has been exhausted for this order, and if an additional order is available (if the candidate purchased the certification exam more than once) then they will be prompted to "Claim their next order from this screen.

## **Exam Rescoring Requests**

### \*\* NOTE\*\*

### **Exam Rescoring is NOT available for the LFCA Exam**

Though we cannot guarantee the availability of rescoring for an exam server, candidates who did not earn a passing score may submit a request for an exam to be rescored, up to 2 days following the date on which the exam was taken. (Please note there is a fee involved, which must be paid via credit card.)

To request a rescore, you may submit a request to training support. linux foundation.org within 2 days following the date on which the exam was taken.

If your exam is eligible for a rescore, you will be provided with information on rescore fees and instructions on how to submit payment.

If the rescoring results in a change from No Pass to Pass on the exam, the rescoring fee will be refunded.

# **Retake Policy**

For certification exams purchased directly from The Linux Foundation and not marked as SINGLE-ATTEMPT or SINGLE, one (1) free retake per exam purchase will be granted in the event that a passing score is not achieved and Candidate has not otherwise been deemed ineligible for certification or retake.

Unless otherwise indicated in the exam order, the free retake must be completed within 12 months of the date of the original exam purchase.

After the free retake has been exhausted or the deadline to complete the free retake has passed, Candidates may register and pay to take the exam again, with no discount given for such additional retakes.

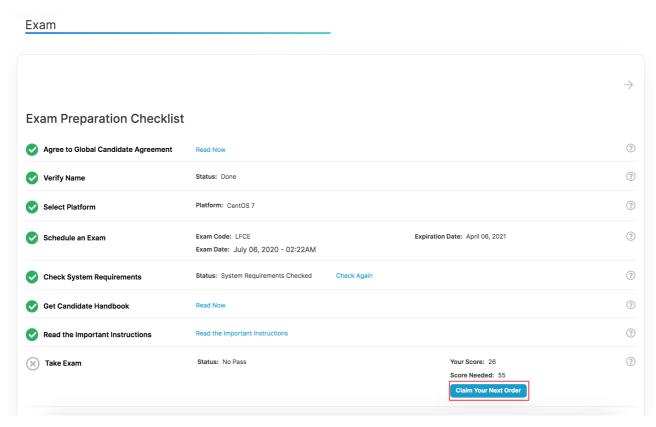
For purchases made through an Authorized Training Partner (ATP), please contact the ATP regarding eligibility for a free retake

# Repurchasing the Exam

Candidates have the option to repurchase the exam when they do not pass the examination. When a candidate purchases a course and takes the scheduled exam, in case the candidate has failed to pass the exam, they will be entitled with a free retake. Even in free retake, if the candidates fails the exam, in such scenario the candidate has the option to repurchase the exam again.

When the candidate repurchases the exam again by the through the course catalog and purchase the course again. When the candidate repurchases the course again, the **Claim Your Next Order** button will be enabled in the exam checklist.

When you click the Claim Your Next Order button, the current exam data will be stored as a history and the candidate has to begin the exam registration from start.



**Exam Checklist** 

# **Certificates and Certification**

Certified Candidates ("Certificants") receive a Certificate ID number and a certificate indicating the successful completion of the requirements necessary to achieve the title indicated on their certificate.

Certifications expire 36\* months from the date that a certificant successfully passes their certification exam, unless revoked earlier for cause or certificant successfully completes certification renewal requirements.

\* **NOTE:** CKS Certifications expire 24 months from the date that certificant successfully passes their certification exam, unless revoked earlier for cause or certificant successfully completes certification renewal requirements

The primary method for confirming the status of a certification is to use The Linux Foundation's Certification Verification Tool.

### Certificate

The Linux Foundation Exam Certificates lists the following information:

- Name of the Candidate who obtained the certificate
  - Title of Certification (e.g. Linux Foundation Certified System Administrator)
  - Certificate ID number
  - Achievement Date (i.e. date Exam was passed)

# **Certification Expiration**

Certifications expire 36\*\* months from the date that the Program Certification requirements are met by a candidate.

# \*\*NOTE THE SPECIFIC EXPIRATION POLICY FOR CKS, LFCS, LFCE AND CFCD CERTIFICATIONS \*\*

### **LFCS**

LFCS Certifications awarded on or after April 10, 2018 (based on LFCS v3 release) will expire 36 months from the date that the program Certification requirements were met by the candidate. All other LFCS Certifications will expire 24 months from the date that the Program Certification Requirements were met.

#### **LFCE**

LFCE Certifications awarded on or after June 10, 2018 (based on LFCS v3 release) will expire 36 months from the date the Program Certification requirements were met by the candidate. All other LFCE Certifications will expire 24 months from the date that the Program Certification Requirements were met.

### **CFCD**

CFCD Certifications awarded on or after September 05, 2019 will expire 36 months from the date that the Program certification requirements are met by a candidate, all other CFCD Certifications will expire 24 months from the date that the Program certification requirements are met, unless revoked earlier for cause of Certificant successfully completes Certification renewal

Certificants must meet renewal requirements prior to the expiration date of their current certification in order to maintain active certification. If certification renewal requirements are not completed before the expiration date, certification will be revoked.

### **CKS**

CKS Certifications will expire 24 months from the date that the Program certification requirements are met, unless revoked earlier for cause of Certificant successfully completes Certification renewal

## **Certification Renewal Requirements**

Exam **Renewal** requirements must be completed prior to the expiration of the Certification.

Candidates may keep their Certification valid by retaking and passing the same exam, prior to the expiration of their certification.

The Certification will become valid for 3 years (2 years for CKS) starting on the date the exam is retaken and passed.

### **LFCS Renewal (Additional Option)**

LFCS candidates can also renew their certification by passing a higher-level Certification (LFCE).

On the date that a Candidate with an active LFCS Certification achieves LFCE Certification, the expiration of their LFCS Certification will be extended for 3 years so that both their LFCE and LFCS Certifications expire on the same date.

The date on which their LFCS Certification expiration is extended (i.e. renewed) becomes the Renewal Date.

For example, a Certificant holds an active LFCS Certification expiring on August 20, 2019. The Certificant then achieves LFCE Certification on March 1, 2020.

Their lower-level LFCS Certification will be extended (i.e. renewed) for 3 years effective March 1, 2020 and both their newly achieved LFCE and renewed LFCS Certifications will have the same expiration date of March 1, 2023.

# **Digital Badges**

The Linux Foundation has partnered with Credly's Acclaim platform to provide candidates with a digital version of their credentials. Badges will be issued to everyone who passes one of our certification exams and can be used in email signatures or digital resumes, as well as on social media sites such as LinkedIn, Facebook, and Twitter.

Further details of our Certification Badges are available here.

# **Certification Verification Tool**

The Linux Foundation provides a verification tool that allows users (e.g. potential employers or clients) to validate the status of an individual's certification. To submit a query on this verification tool, a user must enter the Certificate ID number and the Last Name listed on the certificate of a successfully certified individual. (The Last Name must be entered exactly as listed on the Certificate, including any special characters.) The result for a successfully submitted query will include the full name of certificant, certification title and status (active/inactive), and the date that the certification was achieved.

# **Certification Revocation**

The Linux Foundation (LF) will revoke Certification if the candidate fails to comply with Certification renewal requirements. In addition, LF may, in its sole discretion, revoke any and all Certifications the candidate may have earned and permanently ban them from earning future Certifications under any of the following circumstances:

- If the candidate uses profanity, threaten to harm, bully or in any way harass any LF or Exam Proctoring Partner employee or contractor (whether verbally or in writing, including through electronic communications or external web postings);
- If the candidate breaches the terms and conditions of The Linux Foundation Global Certification and Confidentiality Agreement;
- If LF determines, in its sole discretion pursuant to the Exam Misconduct and Professional Code of Conduct Violations, that the candidate has undertaken or participated in Exam Misconduct as defined in the Exam Misconduct Policy, or violated the Professional Code of Conduct.
- If you have been convicted of a crime that LF deems, in its sole discretion, in any way harms or affects LF's or the Program's reputation, goodwill or security; or
- If you have lost or settled a civil case in which LF is the plaintiff and the claim arose from any alleged damage to LF, its brand, goodwill or reputation.

## **Professional Code of Conduct**

Candidates, before and after Certification, shall:

- Perform duties with objectivity, due diligence and professional care.
- Access private information on computer systems only when it is necessary in the
  course of technical duties. Maintain the privacy and confidentiality of information
  obtained in the course of your activities unless disclosure is required by legal authority.
  Such information shall not be used for personal benefit or released to inappropriate
  parties.
- Provide service in your areas of competence, being honest and forthright about any limitations of your experience and education. Maintain competency in your respective fields and agree to undertake only those activities you can reasonably expect to complete with the necessary skills, knowledge and competence.
- Strive to ensure the necessary integrity, reliability, and availability of the systems for which you are responsible.
- Design and maintain each system in a manner consistent with the purpose of the system to the organization.
- Inform appropriate parties of the results of work performed including the disclosure of all significant facts known to you that, if not disclosed, may distort the reporting of the results.
- Not engage in deceptive financial practices such as bribery, double billing, or other improper financial practices.
- Obey all laws governing your work, unless, in exceptional circumstances, such compliance is inconsistent with the public interest.
- Promote no interest adverse to your employer or client, unless a higher ethical concern is being compromised; in that case, inform the employer or another appropriate authority of the ethical concern.
- Avoid entering into conflicting obligations with one client, such as obligations of confidentiality, availability for work, or otherwise, which conflict with obligations to another client.
- Not unlawfully discriminate or knowingly permit unlawful discrimination on the basis
  of race, national origin, sex, sexual orientation, religion, age or disability in: (1) hiring,
  promoting, discharging, or otherwise determining the conditions of employment of any
  person; or (2) accepting or terminating representation of any client.

- Identify, document, and report significant issues of social concern, of which you are aware, in software or related documents, to the employer or the client.
- Ensure that you have no other professional or contractual obligations that are inconsistent with this Code of Conduct.
- Participate in any investigation of exam irregularities. Refusal to co-operate can be the basis for revocation of certification or cancellation of eligibility.
- Notify LF if they are unable to continue to perform the skills and competencies prior to their certification expiration.

# **Appeals**

In the event that sanctions are imposed pursuant to the Exam Misconduct and Professional Code of Conduct Violations, or your exam score is invalidated pursuant to the Exam Misconduct Policy, you will have thirty (30) calendar days from the date of your notification letter to file an appeal. If you believe you have valid grounds for an appeal, please contact The Linux Foundation (LF) within the appeals period and submit a Certification Appeals Submission Form as instructed in the notification letter. Incomplete submissions will not be considered nor will requests be received after the thirty (30) calendar day period.

If The Linux Foundation determines that a request for appeal is filed within the allowable time, the submission follows required guidelines for consideration and the original sanction and invalidation decision is upheld by LF, such appeal and the information submitted by you will be forwarded to the LF Certifications Appeals Committee for consideration. You may expect to receive a written response from LF within approximately ninety (90) calendar days after the Appeals Committee meets. Decisions rendered by the Appeals Committee are final.

# **Appeals Decision**

You may expect to receive a written response from The Linux Foundation within ninety (90) calendar days after the Appeals Committee meets. Decisions rendered by the Appeals Committee are final.

## Copyright

All exam questions are the property of The Linux Foundation and are protected by copyright. Most national laws provide severe civil and criminal penalties for the unauthorized reproduction, distribution, or exhibition of copyrighted materials.