

**The OpenStack Foundation**  
**Certification Candidate Handbook**

*for*

**OpenStack Foundation Certified OpenStack Administrator (COA)**

*Version 3.0*

*Effective October 17, 2019*

Email: [cert@openstack.org](mailto:cert@openstack.org)

Web: <https://openstack.org/coa>

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Table of Contents

**OVERVIEW 4**

ABOUT THE OPENSTACK FOUNDATION CERTIFICATION PROGRAM 4  
SCOPE OF CERTIFICATION 4

**CANDIDATE REQUIREMENTS 5**

TESTING EQUIPMENT: HARDWARE AND ENVIRONMENT 5

*Hardware Compatibility Check 5*

CANDIDATE IDENTIFICATION AND AUTHENTICATION 5 ELIGIBILITY 6

AGE 6

ACCOMMODATIONS FOR SPECIAL NEEDS 6

STATEMENT OF NON-DISCRIMINATION 6 CERTIFICATION AND  
CONFIDENTIALITY AGREEMENT 6

**EXAM REGISTRATION 7**

EXAM FEES 7

REFUND POLICY 7

*Refund Process.....8*

**MY PORTAL 8**

STATUS SETTINGS FOR CERTIFICATION 8 EXAM PREP CHECKLIST 9

*Register for Exam 9*

*Check System Requirements 9*

*Schedule Exam 10*

Canceling or Rescheduling 10

*Get Candidate Handbook 11*

*Verify Name 11*

*Important Tips 11*

*Take Exam 11*

EXAM INFO PANEL 12

CERTIFICATION INFO PANEL 12

**TAKING THE EXAM 13**

LAUNCHING EXAM 13

*Reporting Issues with Launching Exam 14*

EXAM CONSOLE FORMAT 14

*Guidelines and Tips for Use of the Help Center 14*

*Guidelines and Tips for Use of the Content Panel 15*

*Guidelines and Tips for Use of the OpenStack server terminal 15*

DURATION OF EXAM 15

LANGUAGE 16

EXAM QUESTIONS ARE AVAILABLE IN ENGLISH ONLY. 16

EXAM RULES AND POLICIES 16

*Testing Location Policy 16<sub>2</sub>*

*Rules During Exam 16*

*Policy on Warnings and Exam Terminations 16*

*Policy on Tools and Resources during Exams 17*

EXAM MISCONDUCT 18

EXAM SCORING AND NOTIFICATION **19**

*Exam Results - Pass 19*

*Exam Results - No Pass 19*

*Retake Policy 20*

**CERTIFICATES AND CERTIFICATION 19**

CERTIFICATE 21

CERTIFICATION VERIFICATION TOOL 21

CERTIFICATION EXPIRATION 22

CERTIFICATION REVOCATION 22

CERTIFICATION RENEWAL 22

**PROFESSIONAL CODE OF CONDUCT 23**

**EXAM PREPARATION 24**

STUDYING FOR THE EXAM 24

**APPEALS 24**

APPEALS POLICY 24

APPEALS DECISIONS 24

**COPYRIGHT 25**

**CUSTOMER SUPPORT 25** <sub>3</sub>

## **Overview About The OpenStack Foundation Certification Program**

The OpenStack Foundation's Certification Program was created in response to a need in the marketplace for OpenStack certification that is performance-based, available anywhere in the world, and vendor neutral. With these as its guiding principles, The OpenStack Foundation developed exams intended to certify the foundational skills of a Candidate and allow them to build on that foundation with additional credentials for the particular implementations they find themselves using.

### **Scope of Certification**

The OpenStack Foundation offers a performance based certification program that allows users to demonstrate their competence in a hands-on, command-line environment. The purpose of the OpenStack Foundation Certified OpenStack Administrator (COA) Certification is to provide assurance that Certificate holders have the skills, knowledge and competency to perform the responsibilities of OpenStack system administrators.

To achieve Certification, a Candidate will need to pass a performance-based Exam. For exam security, candidates need to verify their identity and are 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). Certification is issued upon a Candidate passing the required Exam.

OpenStack Foundation Certified OpenStack Administrators have the skills required to provide day-to-day operation and management of an OpenStack cloud. Candidates who pursue this Certification are required to be proficient in the content domains and competencies listed at <https://openstack.org/coa/requirements>.

### **Candidate Requirements Testing Equipment: Hardware and Environment**

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:

- Up to date Chrome Web Browser
- Internet Access with at least 15Mbps Up/Down
- Webcam & Microphone

The workstation on which the hardware (i.e. desktop or laptop) is placed must, aside from the required hardware, reveal a clean surface with no obstructions overhead or underneath. Candidates should ensure that their webcam is capable of being moved in case the proctor requests that the Candidate pan their surroundings to check for potential violations of exam policy.

- 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.

**Hardware Compatibility Check** Candidates should run the port compatibility check tool provided below to verify that their hardware meets the minimum requirements. The tool is located at: <http://ports.edu.mirantis.com/>

### **Candidate Identification and Authentication**

Candidates are required to provide government-issued photo identification before the Exam can be launched (see section on Exam Experience). Any current, non-expired government ID containing Candidate's photo and full name of Candidate in the Latin alphabet may be used for identity verification. Examples of acceptable forms of government-issued photo ID include, but are not limited to:

- passport
- government-issued driver's license/permit
- national identity card
- state- or province-issued identity card

If you have questions about whether your photo ID is acceptable please

contact: cert@openstack.org.

5

## **Eligibility**

Candidates must test as an individual. Certification is only available for natural persons, not corporations or other legal entities.

## **Age**

Candidates must be 18 years of age or older to be eligible for testing or Certification. Candidates under the age of 18 years old are considered underage minors and are not eligible for testing or Certification even with parental consent. The OpenStack Foundation reserves the right to impose additional restrictions to comply with local data protection laws.

## **Statement of Non-Discrimination**

The OpenStack Foundation endorses the principles of equal opportunity. Eligibility criteria for Certification as an OpenStack Foundation Certified OpenStack Administrator (COA) are applied equally to all individuals regardless of age, race, religion, gender, national origin, veteran status, or disability.

## **Certification and Confidentiality Agreement**

Candidates are required to accept the terms of The OpenStack Foundation Certification and Confidentiality Agreement located at <http://www.openstack.org/coa/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. Candidates must first accept the terms and conditions of The OpenStack Foundation Certification and Confidentiality Agreement **during the registration process** and **again prior to testing**. Failure to accept the terms of this Agreement will result in a terminated Exam and forfeiture of the entire Exam fee.

## Exam Registration

### Exam Fees

The cost per Exam is \$400 USD. Only credit card payment can be used for payment of Exam fees. All major credit cards will be accepted.

### Refund Policy

Once Candidates have scheduled an Exam reservation, they may cancel up to 72 hours before the start of the session or reschedule the reservation up to 24 hours before the start time of the reservation.

Reservation changes are not possible when less than 24 hours remain before the start time. No-shows forfeit the money paid for an Exam registration.

Candidates should contact [cert@openstack.org](mailto:cert@openstack.org) directly to process your cancellation or reschedule request.

**Get Candidate Handbook** All Candidates are expected to read and familiarize themselves with the Candidate Handbook. Click on Get Candidate Handbook to access the Handbook. Once the link is clicked on, the item is marked as completed. Candidates may access the Download Candidate Handbook link even after it has been marked as completed. This allows Candidates to re-download or review the Candidate Handbook at later dates if needed.

11

## Taking The Exam

Certifications from the OpenStack Foundation require the Candidate to use a combination of Horizon interface commands as well as the command line to demonstrate their competencies across the specific domains.

Exams are delivered entirely online and closely monitored by proctors via webcam, audio, and remote screen viewing. This gives Candidates the

freedom to take their exam at the place and time of their choosing (subject to meeting the conditions stipulated in Candidate Requirements section of this document).

## **Entering Your Exam Session**

All of our exams are virtual and hosted through Zoom. Candidates exam connection details will be shared with them by email 7 days before the start of their session. A secondary reminder with identical information will also be sent 24 hours before the start of the scheduled exam session. This email will contain a confirmation of your exam details (exam type, date, time, etc) along with the necessary Zoom connection details required to join the session.

Upon successfully connecting to the session candidates will be required to carefully review the instructions being presented on the screen. There will be a set of necessary numbered steps that each candidate will have to follow & execute to be able to successfully begin their exam:

1. Confirm that you have shared your screen with the Proctor
2. Confirm that you have turned on your Webcam & Microphone, this is required for the duration of the exam.
3. Prepare a valid government-issued photo ID that matches the name listed on your reservation. Before the examination begins the Proctor will request you to present your ID on webcam for verification.
4. Head to the control panel link that will be shared on the screen to register for your lab environment. Ensure that you leave this control panel web page open for the duration of the exam, as it will populate with your lab information.
5. Read and accept the exam rules and the terms and conditions of the OpenStack Foundation Certification and Confidentiality Agreement.

After all of the candidates in the session have successfully completed the steps, the Proctor will be able to initiate the launch of the exam. The proctor will ask all attendees in the session to bring up their ID to present on webcam before initiating the launch of the exam. Once all ID's have been reviewed, the proctor will share the set of exam tasks with the candidates and begin the exam. As soon as the Proctor provides notification that the exam has begun all candidates may start. The countdown timer for the Exam does not start until the Proctor initiates the exam start.

## Reporting Issues with your Exam Registration

If you require assistance with your exam registration before the start of your exam, whether it be for cancellation, rescheduling, clarification or any other purpose please contact us directly at [training@mirantis.com](mailto:training@mirantis.com) and we will get back to you within 24 hours.

## Reporting Issues with your Exam/Lab During The Exam

If you are experiencing issues with your lab environment make sure that you ***do not shut down, restart or restack*** your environment as that will result in permanent data-loss and you will be required to restart from the beginning on a fresh environment with the time remaining. Instead if you experience an issue, you can privately message your Proctor in the Zoom session by:

1. Navigate to the Zoom session dashboard and find the “More” section



2. From here select “Chat” and you will be able to privately send the Proctor a message

Keep in mind that the Proctor is unable to answer any specific questions in regards to the exam tasks, however they will be able to investigate & identify if there is an actual issue within your lab or if there maybe something you are missing. If an issue is identified with the lab that is outside of the candidates control, the Proctor will be able to assist in resolving the issue. If the Proctor finds that the lab environment is fine, the candidate will be notified and asked to take a closer look to try and solve the problem themselves.

## Navigating The Exam Instructions

Before the beginning of the examination the proctor will share a link with the candidates to their exam instructions. This will be a private web link requiring a login & password to access, these details will be provided by the proctor.

Upon receiving the credentials and logging in, you will be presented with a digital copy of the exam tasks. You can navigate it as you would any regular web page or PDF document, however please keep in mind that selection & copying and pasting is disabled, this is on purpose.

All of the requested tasks listed must be completed exactly as the instructions described, failing to do so can result in point loss.

### **Duration of the Exam**

Candidates will have 3 hours to complete their exam. When the proctor begins your exam a countdown will appear in the candidates control panel. The countdown timer does not begin until the proctor has confirmed everybody's credentials and initiated the exam. Candidates can always confirm the time remaining by either reviewing their control panel, or directly asking the proctor.

### **Language**

Exam questions are available in English only.

### **Testing Location Policy**

- 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 unless the exam is being taken at an OpenStack Summit or other OpenStack organized event.
  
- Desk must be clear of all notes and electronics

### **Rules During Exam**

- Candidate should review the Exam content instructions that are presented in the command line terminal.
- Candidate is not allowed to communicate with anyone other than the Proctor 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, or chew

gum

- Candidate is not allowed to wear any electronic device in their ears, on their face or on their body\*
- Candidate is not allowed to navigate away from the Exam console screen
- Candidate is not allowed to have other applications or browser tabs/windows running except the one on which the Exam is being shown
- Candidate is not allowed to look away from their Exam console screen for extended periods of time
- Candidate must refrain from making excessive and/or repetitive noise
- 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 Warnings and Exam Terminations** Certain kinds of violations will result in a warning from the Proctor, while certain other

16

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.

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

- Candidate refuses to comply with a Proctor request
- Candidate uses profanity at, or threatens to harm, bully or in any way harass the proctor.

- 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
- A discrepancy exists between the input on a Candidate's screen and the Candidate's observed activity

### **Policy on Tools and Resources during Exams**

No external tools or resources are to be allowed during the duration of the examination, this includes:

- External web pages
- Text-based email clients
- Browsing the Internet using installed tools such as Vim or Emacs
- Communications with other Candidates or outside resources
- Use of devices other than the Exam desktop
- Notes
- Documentation
- 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

### **Exam Misconduct**

Candidates engaging in Exam Misconduct will not be allowed to complete the

Exam or receive an Exam result. Such Candidates may also be barred from taking any other OpenStack Foundation Certification Exam and if applicable, may have their OpenStack Foundation Certification withdrawn. Refunds will not be given and rescheduling will not be allowed if an Exam is terminated early or could not be started on time due to Exam misconduct. Misconduct may, at any time, result in application of sanctions.

Examples of Exam Misconduct include but are not limited to:

- Failing to comply with the Exam Rules and Policies
- 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 OpenStack Foundation to receive such content or information (including but not limited to a OpenStack Foundation 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 administrations 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

- Possession of non-authorized items during the Exam
- Providing or accepting improper assistance on your Exam or Exams taken by others
- 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 a OpenStack Foundation Exam
- Modifying and/or altering the results and/or score report for this Exam or any other Exam record
- Violating the Exam retake policy described on the OpenStack website
- Using computer scripts to register for Exams
- Misconduct as determined by Data Forensics (see “Exam Scoring and Notification”)
- Failing to adhere to any OpenStack Foundation or Exam Provider policy, procedure, rule, or instruction
- Otherwise violating the terms of The OpenStack Foundation Certification and Confidentiality Agreement

### **Exam Scoring and Notification**

Exams are scored automatically, usually within 24 hours of completion. Results will be emailed 72-75 hours from the time the Exam was *completed*. Results will also be made available on My Portal.

Exams are graded for results. There may be more than one way to perform an objective on an Exam and unless otherwise specified, the Candidate can pick any available path to perform the objective as long as it produces the correct result.

The OpenStack Foundation will use statistical analyses of Exam data (“Data

Forensics”) to identify patterns indicative of test fraud including cheating and piracy. The OpenStack Foundation reserves the right to invalidate an Exam score and Certification result if review of an Exam record reveals scoring inaccuracies (attributable to The OpenStack Foundation or the Exam Proctoring Partner) or response patterns indicative of possible misconduct or measurement error. If The OpenStack Foundation 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. For Example, passing the COA Exam means a Candidate will be granted COA Certification.

Formal notice of successful Certification from The OpenStack Foundation will be emailed within 3 business days of meeting program requirements. The notice will provide a Certificate ID number and include a pdf copy of the Certificate, in addition to instructions on accessing additional Certification Marks.

**Exam Results - No Pass** A retake can be purchased in the event that a passing score is not achieved and Candidate has not otherwise been deemed ineligible for Certification or retake (see **Retake Policy**). Instructions will be provided in the Exam Results notification on how to register for your retake.

### **Retake Policy**

Candidates who have not been deemed ineligible for Certification may retake an exam as soon as they wish, with or without corresponding training. Students may register for a retake exam (\$400 USD) directly on: <https://coa.arlo.co/w/events/1-coa-certified-openstack-administrator>

### **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. (See Reporting Issues with Launching Exam)

Before the Exam can be released, Candidates are presented with rules regarding their testing location and candidate conduct during the Exam, and with the policy on warnings and Exam terminations. The Proctor cannot release the Exam until the Candidate has indicated that they have read, understood and accept these rules.

20

## **Certificates and Certification**

Certified Candidates (“Certificants”) receive a Certificate ID number and a Certificate indicating their successful completion of the requirements necessary to achieve the COA designation. 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. The primary method for confirming the status of a Certification is to use The OpenStack Foundation’s Certification Verification Tool <http://www.openstack.org/coa/coa-verify/>

While their Certification status is active,

- COA Certificants may use the term OpenStack Foundation Certified OpenStack Administrator to refer to themselves
- Certificants may use the Marks (e.g. badges) applicable to their Certification on their stationery, business card, personal Website, etc., to indicate their status

## **Certificate**

The COA Certificate lists the following information:

- Name of the Candidate who obtained the Certificate
- Title of Certification

- Certificate ID number
- Date of Completion (i.e. date Exam was passed)

### **Certification Verification Tool**

The OpenStack Foundation provides a verification tool on its website 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.

21

### **Certification Expiration**

Certifications expire 36 months from the date that the Program Certification requirements are met by a Candidate. Certificants must retake the exam 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.

### **Certification Revocation**

The OpenStack Foundation will revoke Certification if you fail to comply with Certification renewal requirements. In addition, The OpenStack Foundation may, in its sole discretion, revoke any and all Certifications you may have earned, and permanently ban you from earning future Certifications, under any of the following circumstances:

- Threatens to harm, bully or in any way harass any OpenStack Foundation or Exam Proctoring Partner employee or contractor (whether verbally or in writing, including through electronic communications or external web

postings);

- Breaches the terms and conditions of The OpenStack Foundation Certification and Confidentiality Agreement;
- Is determined by The OpenStack Foundation to have undertaken or participated in Exam Misconduct or violated the Professional Code of Conduct;
- Has been convicted of a crime that The OpenStack Foundation deems, in its sole discretion, in any way harms or affects The OpenStack Foundation's or the Program's reputation, goodwill or security; or
- Has lost or settled a civil case in which The OpenStack Foundation is the plaintiff and the claim arose from any alleged damage to The OpenStack Foundation, its brand, goodwill or reputation.

### **Certification Renewal**

In order to keep your certification current and prevent a lapse in certification you must retake and pass the certification test prior to 36 months from the date your Certificate was awarded. If this does not happen and your certification lapses it will be reinstated upon passing the current version of the exam.

22

### **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 their 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.

The OpenStack Foundation's Certification Exams are performance-based, which means the only way to 'study' for them is to practice, practice, practice. The overview of domains and competencies listed for each Certification Exam provides guidance on the topics covered in an Exam. Candidates are encouraged to gain as much hands-on experience as possible in order to build mastery using the command line (since the Exam terminal does not use the Graphical Interface). There are many forums, both online and offline, which prospective Candidates may find useful in building skills on OpenStack.

Some Candidates, especially those who are newer to OpenStack, may also find it valuable to complete a formal training course. Candidates may choose training from 3rd-party training providers from the OpenStack Foundation Training Marketplace at [www.openstack.org/marketplace/training](http://www.openstack.org/marketplace/training).

24

### **Questions about your exam?**

If you have taken an exam with us in the last 30 days and have any questions or concerns regarding your results, please don't hesitate to contact us at [cert@openstack.org](mailto:cert@openstack.org)

Please note that due to the confidential nature of these exams, we are unable to disclose any specifics regarding grades aside from a candidate's total score and their pass/fail results. Releasing specific details regarding grading and point distribution could degrade the integrity and real world value that the exam achieves.

### **Customer Support**

For questions regarding The OpenStack Foundation's Certification Program, please visit the support page at [www.openstack.org/COA](http://www.openstack.org/COA) If your question is not answered there, you may submit a support ticket by sending an email to [cert@openstack.org](mailto:cert@openstack.org)

