

# AVID LEARNING SERVICES

## Certification Exam Study Guide



## Avid Certified Support Representative MediaCentral | Cloud UX

Exam	MediaCentral   Cloud UX System Support
Exam Code	CX454
Type of Exam	Multiple choice
Certification Level	Avid Certified Support Representative (ACSR)
Duration	60 minutes
No. of Questions	50
Passing Score	80% (40 correct answers)
Exam Language	English

### Target Audience

Technical support staff, technical managers, installers, advanced administrators and others who need to install, maintain, or support Avid MediaCentral Cloud UX systems.

### Exam Preparation

Successful candidates will have extensive experience on the Avid MediaCentral Cloud UX platform. Although course attendance is not required to take the certification exam, Avid highly recommends candidates attend the course:

- CX454 ACSR MediaCentral | Cloud UX System Support

The CX454 class will help candidates build the skills and competencies required for certification.

Successful candidates must understand the terminology used with the involved Avid products, as well as a thorough understanding of the system's architecture and how the required hardware components and software configurations are integrated.



This includes:

- MediaCentral | Cloud UX
- MediaCentral | Production Management
- MediaCentral | Asset Management
- MediaCentral | Newsroom Management
- Avid NEXIS

Previous Linux, specifically Ubuntu Server experience and comfort with command line interfaces is highly recommended. The Linux based servers do not use a graphical user interface.

During the class, participants learn to install, configure, and troubleshoot a MediaCentral Cloud UX system. After completing the class, participants will be able to provide first-line support to the MediaCentral Cloud UX customers.

## Certification



The certification process provides a defined means by which individuals can prepare for the certification exam and, by extension, the role of MediaCentral | Cloud UX Support Representative. It is designed to ensure that candidates have sufficient knowledge of and experience with the client and storage systems that will be connected to the MediaCentral | Cloud UX systems they will be supporting.

The following prerequisites are recommended:

1. [WG433 ACSR MediaCentral | Production Management course](#)
2. [CX454 ACSR MediaCentral | Cloud UX course](#)
3. Sufficient experience to acquire an in-depth working knowledge of the concepts and workflows associated with large format mixing consoles and work surfaces.

Completing the recommended course(s) will help you build the skills and competencies needed to pass the exam. You are not required, however, to complete the training courses prior to taking the certification exam. If you feel you have considerable, real-world experience implementing, installing, administering and troubleshooting Avid MediaCentral Production Management and Avid MediaCentral Cloud UX systems, then you may register and take the exam at any time.

## Certification Topics

The following topics are included in the certification exam. You should be well-versed in the technical and operational details of the following:

1. **What is MediaCentral | Cloud UX?**
  - 1.1. MC | Cloud UX Introduction
  - 1.2. MC | Cloud UX Built-In Apps
  - 1.3. MC | Cloud UX Platform
2. **Introduction to Container Environments**
  - 2.1. Container
  - 2.2. Dockerd
  - 2.3. Kubernetes
  - 2.4. Kubernetes Objects
  - 2.5. Kubernetes Nodes & Roles
  - 2.6. K3S Server Node (Control & Data Plane)
  - 2.7. K3S Agent Node (Worker Plane)
  - 2.8. Kubernetes Networking
3. **MediaCentral | Cloud UX Infrastructure**
  - 3.1. Hardware Requirements
  - 3.2. MC | Private Cloud Requirements
  - 3.3. MC | Cloud UX Dependencies
4. **Platform Service Host**
  - 4.1. What is the Platform Service Host
  - 4.2. Platform Service Host - Infrastructure View
  - 4.3. Platform Service Host - Pod View
5. **MediaCentral | Cloud UX Operating System**
  - 5.1. Ubuntu Enterprise Linux
  - 5.2. Working with Ubuntu
6. **Service Host Installation**
  - 6.1. Setting up the Service Host
  - 6.2. Installing a Service Host
7. **Feature Pack Deployment**
  - 7.1. Feature Packs
  - 7.2. Site Specific Key & Certificate
  - 7.3. Deploying Feature Packs
8. **Single Node to Cluster Upgrade**
  - 8.1. High Availability
  - 8.2. MCUX Cluster Build
  - 8.3. Single Node to Cluster Upgrade
9. **Service Host Upgrade**
  - 9.1. Upgrade Paths
  - 9.2. Data Migration
  - 9.3. Upgrading a Service Host

- 10. Deploying Optional Features**
  - 10.1. Deploying Optional Feature Packs
- 11. Working with Kubernetes**
  - 11.1. Working with the Kubernetes
  - 11.2. Kubernetes Dashboard Views
- 12. MediaCentral | Cloud UX Licensing**
  - 12.1. MCUX Licensing
  - 12.2. Perpetual (& offline Subscription) Licensing
  - 12.3. Subscription Licensing
  - 12.4. MCUX Licensing Types
  - 12.5. User License Quotas
- 13. MediaCentral | Cloud UX User Authentication**
  - 13.1. User Authentication Options
  - 13.2. LDAP Authentication Configuration
  - 13.3. OpenID Authentication Configuration
  - 13.4. Single Sign-On
  - 13.5. Permissions & Entitlements
  - 13.6. Product Management Configuration
- 14. MediaCentral | Cloud UX Media Playback**
  - 14.1. Playback Functionality
  - 14.2. What happens when the user hits Play?
  - 14.3. Playback Modes
  - 14.4. Bandwidth Requirements
  - 14.5. Hoverscrub
- 15. MediaCentral | Cloud UX Troubleshooting**
  - 15.1. Verify System Status
  - 15.2. kubectl Commands
  - 15.3. Working without the Kubernetes Dashboard
  - 15.4. avidctl
  - 15.5. Viewing & Collecting Log Files
  - 15.6. Monitoring
  - 15.7. Troubleshooting Utilities
  - 15.8. Additional Troubleshooting
- 16. MediaCentral | Cloud UX Maintenance**
  - 16.1. Power Cycling & Reboot Guidelines
  - 16.2. Maintenance Mode
  - 16.3. Power Cycling Nodes
  - 16.4. Working with mongodb
  - 16.5. Cleanup Cache Files

## Practice Questions

The following questions are not part of the current CX454 exam but are similar to the questions likely to be asked. Successful completion of these questions does not guarantee a passing score on the exam.

**1 Avid's MCUX does not support a HA cluster using two Kubernetes nodes. Why?**

- A** A High-Availability Kubernetes needs a minimum of three control planes.
- B** Two MCUX nodes do not provide enough bandwidth for playback.
- C** Ubuntu does not support clustering with 2 nodes.
- D** Media Playback requires a minimum of 3 nodes for load balancing.

**2 Which nodes require GlusterFS to run on?**

- A** On all nodes providing the Cache volume
- B** Only on the Master/Worker nodes providing the registry volume
- C** Only on the Master nodes
- D** On the Worker nodes providing the registry volume

**3 How do Pods communicate with each other?**

- A** They have to use Network Address Translation.
- B** Network traffic between Pods is handled by the service network using kube-proxy.
- C** According to RFC1149.
- D** Pods communicate with Pods without NAT (Network Address Translation)

**4 Which of the following commands can be used to display the version of an installed feature?**

- A** `sudo kubectl get features`
- B** `sudo avidctl feature-pack ls`
- C** `sudo helm ls`
- D** `ls /opt/avid/packages | grep <feature>`

**5 How can you see if your MediaCentral server is configured for using LDAP?**

- A** You can check the groups in your MCUX admin interface.
- B** You check for the `auth_config.json` file in `/etc/avid/config/`
- C** You can use any domain user account to log into the MediaCentral Web interface.
- D** You check `/avid/config/` for the presence of `ldap.yaml`

6 Which statement about hoverscrub is true?

- A Hoverscrub creates mp4 files in the same duration of the source file.
- B Hoverscrub creates an mp4 file of a limited duration.
- C Hoverscrub files can be used for proxy editing.
- D The Hoverscrub pod runs on demand when a user requests playable thumbnails.

7 Please select the correct statement(s) about MediaCentral Cloud UX and Multi-Resolution workflows with the browser player (not the mobile app).

- A The player will by default use media in its highest available resolution for best picture quality.
- B The player will by default use the highest compressed resolution available.
- C It decreases the load on media storage.
- D Only H.264 proxies are supported.

8 NEXIS / ISIS workspaces are mounted on the Playback Pod at...

- A /mnt/ICS\_Avid\_Isis/<NEXIS or ISIS name>
- B /mnt/media/<NEXIS or ISIS name>

9 What affects the bandwidth requirement between client and MCUX playback server?

- A The size of your playback canvas
- B The JPEG compression quality of your player settings
- C HD source material requires more bandwidth than proxy material
- D The connection, whether you use WiFi, Copper cable or Fibre cable

10 You just (re)booted a single Kubernetes Node. Error messages in the Kubernetes Dashboard indicate that pods cannot be created. What would you check?

- A The directory "/feature", to see if the images for the pod have been installed.
- B All answers listed here are correct
- C The log file of the affected pod(s).
- D kubelet - is it running?

11 How can you collect kubernetes logs?

- A Use the command "sudo avidctl collect-logs all"
- B Download pod logs in the Kubernetes dashboard
- C journalctl -u k3s
- D sudo kubectl logs <pod name> [-c <container name> ] > logfile.txt

12 Which of these namespaces are used for core Kubernetes components?

- A mon
- B avid
- C registry
- D kube-system

13 To unmount the Feature-Pack mount point use

- A `sudo umount /features`
- B `sudo umount /sysinstall`
- C `sudo umount /features`
- D `sudo umount /sysinstall`

14 How can you find out what version of NEXIS client is installed?

- A `rpm -qa | grep NEXIS`
- B `sudo apt list --installed | grep nexis`
- C `sudo avidctl version | grep nexis`
- D `sudo avidctl nexis version`

15 You are in command mode in vi. How do you close a file without changing its content?

- A `!wq`
- B `:wq`
- C `:q!`
- D `:w!`

16 You need to re-deploy and re-import the feature packs when

- A When you upgrade a MCUX system
- B When you need to activate Asset Management if it was previously not deployed.
- C When you change the LDAP server settings.
- D When you change NEXIS settings.

17 Which ones of these are MCUX installation prerequisite(s)?

- A Microsoft AD
- B SMTP
- C DNS
- D NTP

18 How can you read a log of a deleted pod?

- A Using the "sudo kubectl logs -p <pod name>" command
- B Using the "sudo kubectl logs <pod name>" command
- C The log is saved to the /var/log/containers directory
- D Only if it had been saved before it was deleted.

19 Hoverscrub isn't working. How do you know it is installed?

- A Use "sudo kubectl get feature=Hoverscrub"
- B Check for hoverscrub pods in Kubernetes Dashboard
- C In the Administration pages of MCUX on the Features tab
- D run "sudo kubectl feature version Hoverscrub"

20 How do you recover from a deleted DaemonSet?

- A Kubernetes cannot recreate DaemonSets. You need to redeploy the system.
- B Run the "kubectl daemonsets recreate -i" command.
- C Reboot the node where the pod was running.
- D Do Nothing. DaemonSets automatically recreate themselves.

21 Which of these are Kubernetes Control Plane components?

- A kubelet + container runtime
- B etcd + kubelet
- C kube-apiserver + etcd
- D container runtime + kube-apiserver

22 You need a Kubernetes token. Complete this command "sudo kubectl extra dashboard \_\_\_\_\_" to do so.

- A token-create
- B create-token
- C setup-token
- D configure token --admin

23 You ran the feature deployment command but selected the incorrect features. How do you fix that?

- A run "sudo kubectl platform deploy -i" again and select the features you need
- B run "sudo kubectl platform deploy -r" to repair the feature deployment
- C run "sudo kubectl teardown" to start again
- D Re-install the system



24 User Jane needs to work in MCUX accessing MediaCentral | Production Management. Which of these permissions does her account NOT need.

- A User account Jane needs read permission in MediaCentral Production Management
- B User account Jane needs read permission on the NEXIS workspace
- C User account Jane needs to have a valid domain account
- D User account Jane needs to be added to a group in the BaseDN

25 Which of these components can you find on a Kubernetes Worker Plane Node?

- A kube-scheduler + etcd
- B kube-proxy + kube-scheduler
- C etcd + kubelet
- D kubelet + kube-proxy

## Answers to Practice Questions

Use the answers below to check your knowledge on the practice questions.

- 1      A      A High-Availability Kubernetes needs a minimum of three control planes.
- 2      A      On all nodes providing the Cache volume
- 3      D      Pods communicate with Pods without NAT (Network Address Translation)
- 4      C      `sudo helm ls`
- 5      A      You can check the groups in your MCUX admin interface.
- 6      B      Hoverscrub creates an mp4 file of a limited duration.
- 7      B+C      - The player will by default use the highest compressed resolution available.  
                 - It decreases the load on media storage.
- 8      A      `/mnt/ICS_Avid_Isis/<NEXIS or ISIS name>`
- 9      A+B      - The size of your playback canvas.  
                 - The JPEG compression quality of your player settings.
- 10     D      `kubelet - is it running?`
- 11     A+B+D    Answer C collects system service logs and is therefor incorrect
- 12     C+D      - registry  
                 - kube-system
- 13     C      `sudo umount /features`
- 14     B      `sudo apt list --installed | grep nexis`
- 15     C      `:q!`
- 16     A      When you upgrade a MCUX system.
- 17     A+C+D    Microsoft AD, DNS and NTP are required.
- 18     D      Only if it had been saved before it was deleted.
- 19     B      Check for hoverscrub pods in Kubernetes Dashboard.
- 20     A      Kubernetes cannot recreate DaemonSets. You need to redeploy the system.
- 21     C      `kube-apiserver + ectd`
- 22     B      `create-token`
- 23     A      run "`sudo avidctl platform deploy -i`" again and select the features you need
- 24     B      User account Jane needs read permission on the NEXIS workspace
- 25     D      `kubelet + kube-proxy`