



NETAPP UNIVERSITY

# NetApp Certified Storage Associate – Hybrid Cloud

Preparing you to manage data in today's cloud environments

The NetApp Certified Storage Associate – Hybrid Cloud (NCSA-HC) curriculum is designed to introduce learners to the foundational technologies in storage and data management, both on-premises and in a hybrid cloud environment.

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## STEP 1: Create your NetApp student account

To access the NetApp curriculum, you will need to create a student user account. Make sure to keep your username and password secure – you will need it each time you log in to complete a course.

- a) **To start**, connect to the [Academic Alliances Student Registration and Log-in](#) page:

**NetApp University**  
Academic Alliances Student Registration & Login

**Sign In**

[Forgot Password?](#)

**New to NetApp?**

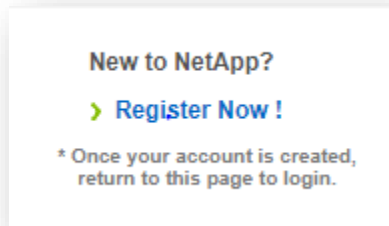
[Register Now!](#)

\* Once your account is created, return to this page to login.

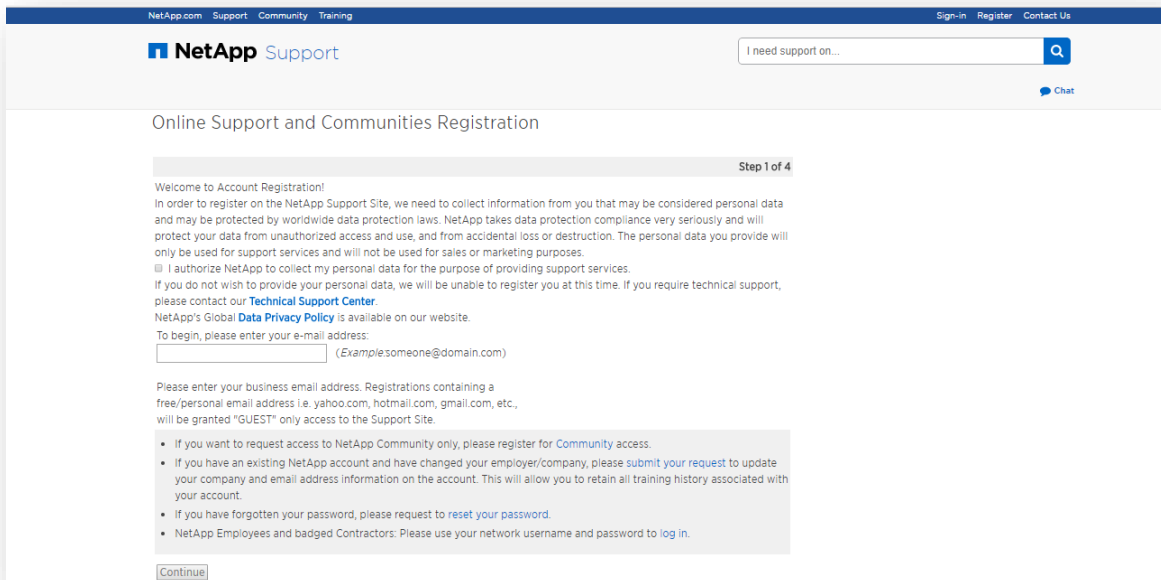
**Supporting Documents**

- Account Creation Directions
- Curriculum Navigation Guides
- Contact Support

- b) On the right of the Student Registration and Log-in page, click **Register Now**:



- c) Clicking will take you to the [NetApp Support site](#) where you will create your **NetApp student account**:



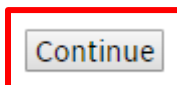
- d) On this page, please review the **NetApp Data Privacy Policy**. To proceed with account creation, you must click to **authorize NetApp** to collect your personal data as requested:



- e) Also on this page, enter the **email address** you will use to create your NetApp student account:



- f) Click **CONTINUE** to submit your request:



- g) You will see the following message **confirming your account creation request** and advising you to complete the process within 24 hours:

Online Support and Communities Registration

Step 1 of 4

Thanks for providing your email address for validation

An activation link has been emailed to your  account. You need to verify your email address within 24 hours.

**What you should do next?**

- 1) Check your  email account for a welcome email from "nss@netapp.com".
- 2) Open the email and click the link provided for validate your email address within 24 hours of the receipt of the email.
- 3) You will be redirected to NetApp Support Site to complete the registration process.

- h) **Check your email** account and **click the confirmation link** in the email message that was sent from [NSS@NetApp.com](mailto:NSS@NetApp.com). If you do not see the email within 5 minutes, check your spam mailbox. **After clicking the link**, you should see the following confirmation. Click **CONTINUE** to proceed.

Online Support and Communities Registration

Welcome back!

Your email address  has been successfully verified.

- i) On the next page, **select the first option, GUEST USER** as the account type. This will allow you to access all the NCSA-HC curriculum. Click **CONTINUE** at the bottom of the page.

Online Support and Communities Registration

Request Access Level Step 2 of 4

Select the level below which best suits your needs...

Guest User

This level allows access to:

- join a community on our public Web site "I would like to participate in NetApp's communities at <http://communities.netapp.com>."
- general information from our support Web site (Support Site) "I do not currently own a NetApp product but would like access to basic NetApp Product Documentation."
- NetApp training, purchasable by credit card. For any related inquiries, please contact [NetApp University support](#)

- j) At step 3 of 4, you will enter your contact information. Please take a moment to confirm your email address is correct (see top of the page) and then complete the name, company, and phone data fields. **As a student, you will not add a COMPANY name.** Instead, you will need to enter “**STUDENT**” in the company (licensee) field on the registration page.

### Online Support and Communities Registration

Step 3 of 4

The e-mail address you entered is:

\*If this isn't your e-mail address, [click here](#).

**Note:** An asterisk (\*) indicates a required field.

**Your Contact Info:**

To expedite your new account set-up, please enter your contact information in English.

First Name \*:

Last Name \*:

Company (licensee) \*:  Enter the complete company name without abbreviations. Consultants: Enter name of company that owns the NetApp products that you are consulting for.

Job Title:

Office Phone \*:  Phone\*  Ext.

Alternate Phone:  Phone

You will not have a product location, so enter your own address in the location section (this can be the college address, your home address, or any address you receive mail):

**Address/Product Location:**

- If you will be providing a Serial Number below, enter the physical location of the NetApp product in these address fields.
- If you do not own a NetApp product, enter your own office address here.

Address \*:

City \*:

State/Province:  (\* For US & Canada)

Postal Code:  (\* For US, Canada & Australia)

Country \*:

The last section, Product Information, should remain empty. Please skip the serial number and system ID boxes and **click CONTINUE** to move to step 4 of the registration process.

- k) In the final step of the account creation process, you will request a **username and password**. Please note the recommendations on account naming and passwords. You do not need to authorize NetApp to share product updates and other information, but you may do so if you wish to receive such updates. Click **SUBMIT** to finish the account creation process.

Online Support and Communities Registration Step 4 of 4

**Your Support Site Login Info:**

**Note: An asterisk (\*) indicates a required field.**

Username:\*   
 Username must be between 9 and 20 characters

NOTE: Your Username is the default display name in the NetApp forums and will be visible on the internet should you choose to join a NetApp forum. To protect your privacy of your personal data, please do not use your email address or any personally identifiable information (e.g., *firstnamelastname* combination) as your Username.

Password:\*   
 Password must be between 6 and 20 characters

Re-Enter Password:\*

Yes, I authorize NetApp and its selected partners to use my personal data in order to get updated on NetApp products, services, promotions, news, surveys and events from the marketing and sales organizations.

In submitting my application for Support Site User access, I understand and agree that the purpose of Support Site access is to facilitate the support of products purchased from or provided by NetApp, Inc. and certified resellers. Access is granted solely on this premise and may be rescinded at any time by NetApp.

[NetApp Privacy Policy](#)

- l) You have now completed your account set up and will see the following confirmation message. Please note that full account privileges may take up to 24 hours.

**NetApp Registration Form**

Thank you!

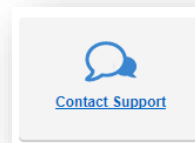
Your web registration request for access to our support website and/or our online user community has been successfully processed.

Go to NetApp user community now!  
<http://communities.netapp.com/>

Note: Complete access to <http://mysupport.netapp.com> will be available within one (1) business day of this request. Please visit our Web site <http://www.netapp.com/> in the meantime to learn more about our products and services.

[NetApp Privacy Policy](#)

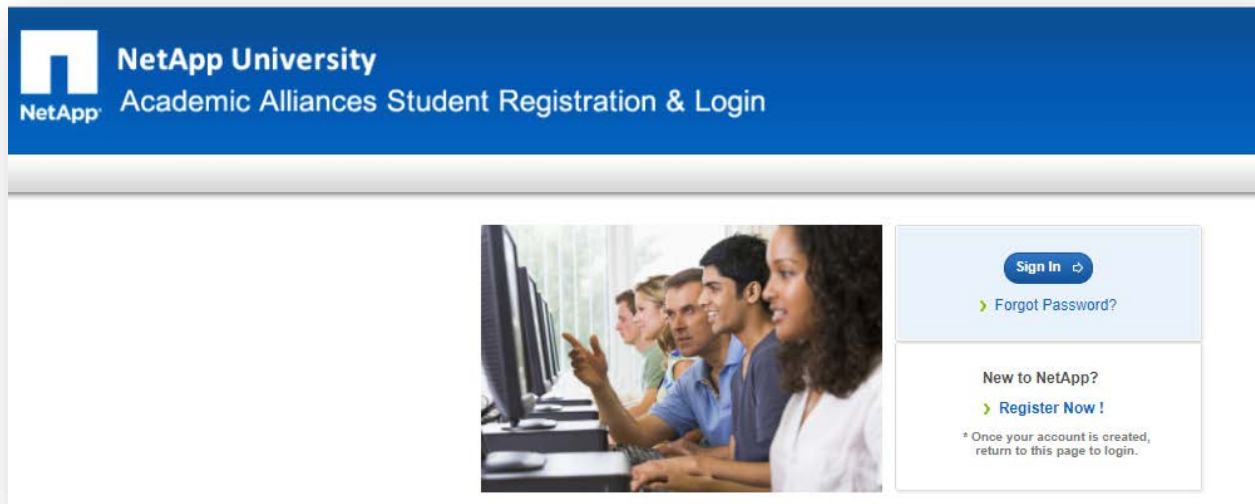
If you experience any issues in creating your account, please visit the **NetApp Support site** by clicking on the **CONTACT SUPPORT** button on the [STUDENT PORTAL](#)



## STEP 2: Enrolling in and launching NetApp courses via the student portal

### Logging into the student portal for the first time:

Once you have your STUDENT username and password set-up you will be able to **SIGN IN** on the NetApp Learning Portal on the [Academic Alliances Student Registration and Log-in](#) page.



- i. The first time you SIGN IN via the student portal, you will need to take a moment to identify which learning institution you are associated with (a college, university, special scholarship program, veteran, or continuing intern). If you are taking a class with a specific instructor, you will also select your teacher name.

**Select Instructor**

**School :**  ▼

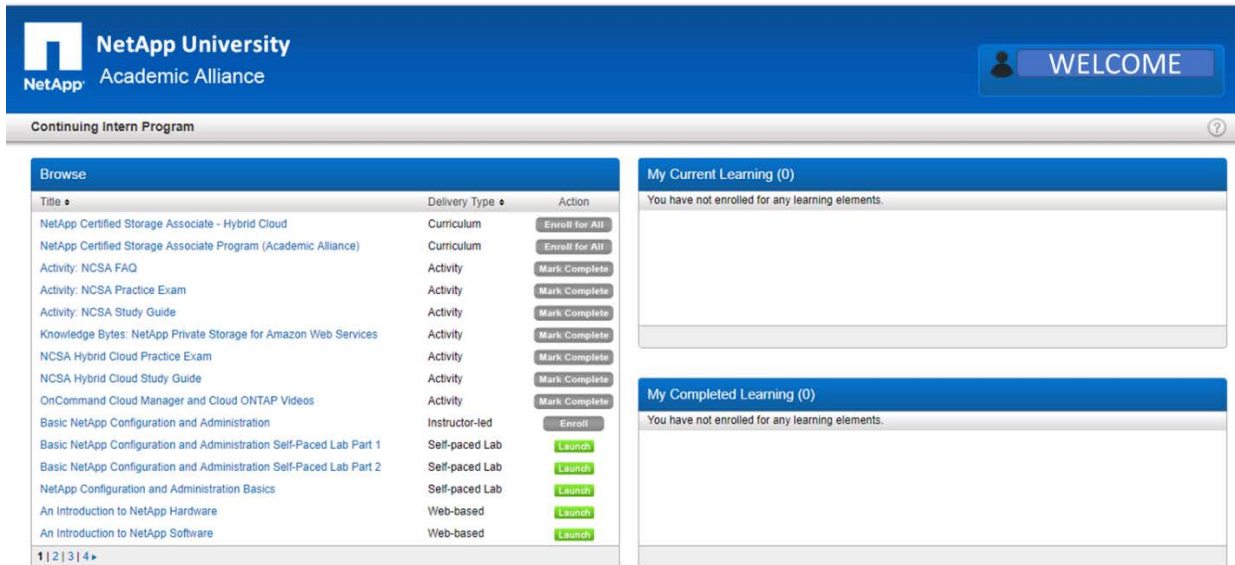
**Instructor :**  ▼

- ii. This selection process only happens the first time you log in. Once you make this selection, you will not be able to change it. Selecting the right program will help your instructor track your progress and allow NetApp to measure usage for scholarships and other programs.

### Enrolling in the NCSA-HC curriculum:

**Once you have logged in**, you will need to **select the NCSA-Hybrid Cloud link** in the portal window and then enroll in and launch the actual courses and labs per the following instructions.

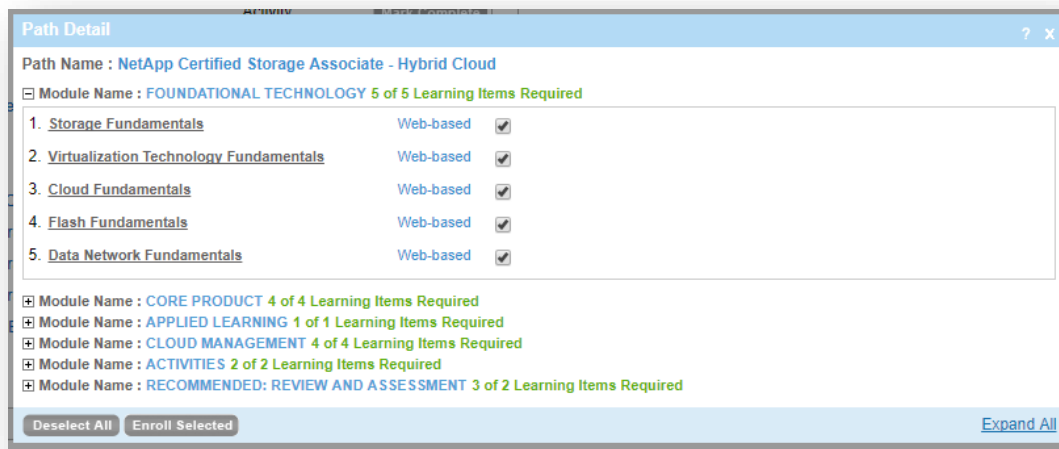
Student Portal:



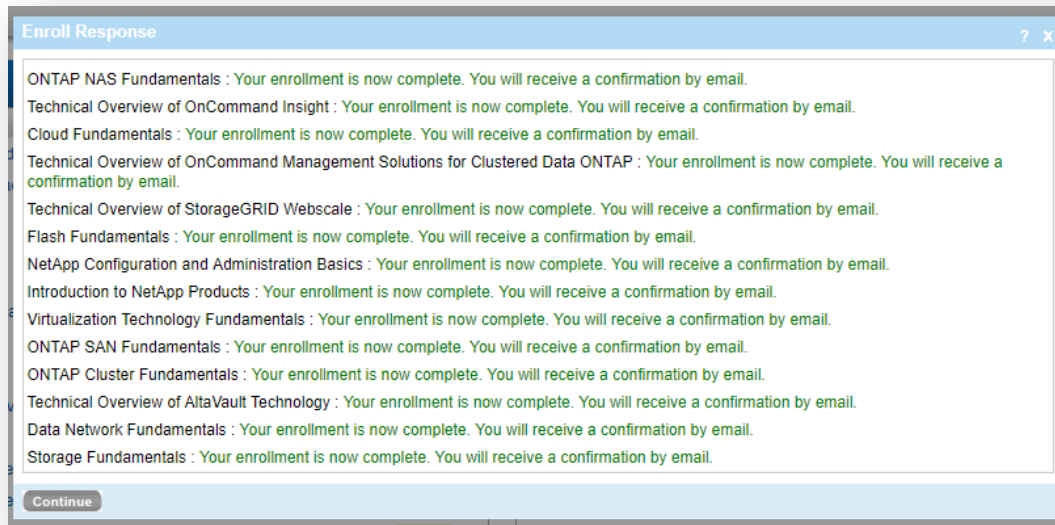
- i. To enroll, look for the **NETAPP CERTIFIED STORAGE ASSOCIATE – HYBRID CLOUD** from the list in the **Browse** section. Click on **ENROLL FOR ALL** in the Action column:



- ii. This will launch a dialog box that shows the NCSA-HC curriculum courses. There are six Learning Modules. Click on **SELECT ALL** at the bottom of the window. Check marks will appear in the course boxes. Then click **ENROLL SELECTED** at the bottom of the window:



- iii. After enrolling, a dialog box indicating that you have enrolled will pop up:



Click **CONTINUE** to close the dialog box. Confirmation e-mails will also be sent to the email address you used to register. You will see one email for each course you have enrolled in (there are many courses in the full curriculum, so expect to see many emails).

- iv. Once you completed the enrollment steps, you will note that the courses have moved from **Browse** box on the left, to **My Current Learning** on the right:

My Current Learning (15)		
Title ↕	Delivery Type ↕	Action
NetApp Certified Storage Associate - Hybrid Cloud	Curriculum	» Progress Detail
NetApp Configuration and Administration Basics	Self-paced Lab	Launch
Cloud Fundamentals	Web-based	Launch
Data Network Fundamentals	Web-based	Launch
Flash Fundamentals	Web-based	Launch

1 | 2 | 3 ▶

You are then ready to **LAUNCH** each of the individual courses in which you have enrolled.



### Launching courses in the NCSA-HC curriculum:

Once the courses have been added to the **MY CURRENT LEARNING** section, they will no longer be sorted by module. To find the courses you want to launch, use the page numbers at the bottom of the **MY CURRENT LEARNING** dialog box to scroll through and find the desired course. Storage Fundamentals is the first course in the Technology Foundation module, but it will now be on the second page.

My Current Learning (15)		
Title ↕	Delivery Type ↕	Action
<a href="#">Introduction to NetApp Products</a>	Web-based	<a href="#">Launch</a>
<a href="#">ONTAP Cluster Fundamentals</a>	Web-based	<a href="#">Launch</a>
<a href="#">ONTAP NAS Fundamentals</a>	Web-based	<a href="#">Launch</a>
<a href="#">ONTAP SAN Fundamentals</a>	Web-based	<a href="#">Launch</a>
<a href="#">Storage Fundamentals</a>	Web-based	<a href="#">Launch</a>

◀ 1 | 2 | 3 ▶

Clicking the **blue course title** in the curriculum list will open a dialog box with course details:

**Offering Detail** ? x

**Storage Fundamentals**

This web-based course provides an introduction to the storage industry and an overview of the different storage architectures. Using a scenario, it explains how storage needs in an organization grow and evolve. This course also introduces the trends in storage technology, such as storage virtualization and cloud.

This course will help new-to-storage sales people understand the foundational basics of storage.

Web Based Training | [Detailed Description \(PDF\)](#)

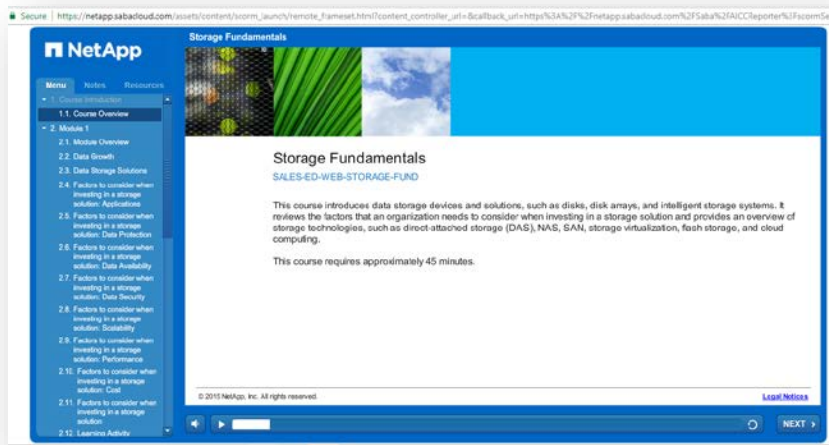
**Delivery Type** Web-based  
**Language** English

[Back](#)

Clicking the green **LAUNCH** button from the curriculum list will launch the corresponding course:

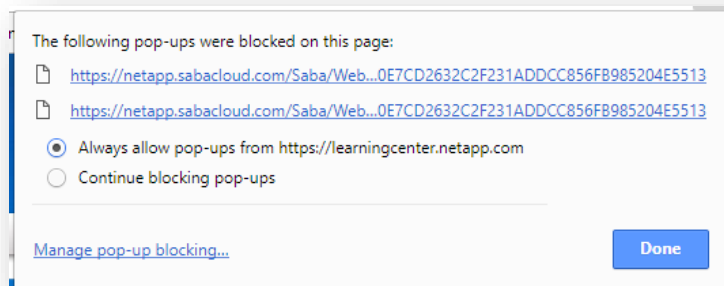


Courses launch by **popping up in a new window**:

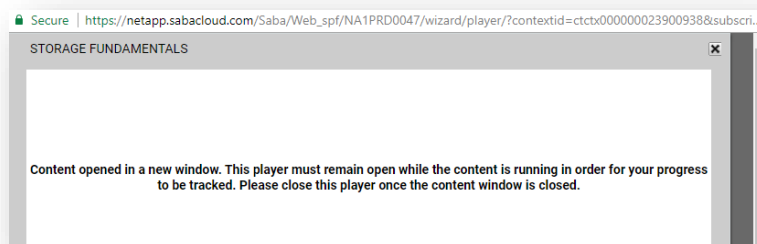


Three items to note about running your courses:

1. You may need to **disable pop blockers** in your browser:



2. A browser window should be running in the background when your courses launch. If you see this window and your course does not launch, it is probably due to pop up blockers. Please disable pop up blockers and then relaunch the course.



3. **Do not close the background window** while you are taking your course or your progress in the course will be lost.



## Launching *OnCommand Cloud Manager and Cloud ONTAP* videos

To view the videos included in this part of the curriculum, find the OnCommand Cloud Manager and Cloud ONTAP videos course link. It may be in the BROWSE section on the left:

Title	Delivery Type	Action
NetApp Certified Storage Associate Program (Academic Alliance)	Curriculum	Enroll for All
Activity: NCSA FAQ	Activity	Mark Complete
Activity: NCSA Practice Exam	Activity	Mark Complete
Activity: NCSA Study Guide	Activity	Mark Complete
Knowledge Bytes: NetApp Private Storage for Amazon Web Services	Activity	Mark Complete
NCSA Hybrid Cloud Practice Exam	Activity	Mark Complete
NCSA Hybrid Cloud Study Guide	Activity	Mark Complete
<b>OnCommand Cloud Manager and Cloud ONTAP Videos</b>	Activity	Mark Complete

Click on the **blue course title** in the course list to open the detailed course view. Then, **click the blue link** in this dialog box to view the videos that are part of this section:

**Offering Detail**

**OnCommand Cloud Manager and Cloud ONTAP Videos**

null This "how to" video series shows you how to deploy and use OnCommand Cloud Manager. It includes videos for launching and managing Cloud ONTAP in Amazon Web Services (AWS) and replicating data to and from the cloud.

OnCommand Cloud Manager and Cloud ONTAP Videos

**Delivery Type** Activity

**Language** English

Back

The complete list of ten videos will **open in a new window as a PDF list** with a link to ten YouTube videos that cover the course material:

**Course Name:** OnCommand Cloud Manager and Cloud ONTAP Videos

**CourseID:** 00003883

**Objectives:** This "how to" video series shows you how to deploy and use OnCommand Cloud Manager. It includes videos for launching and managing Cloud ONTAP in Amazon Web Services (AWS) and replicating data to and from the cloud. Once you are done watching these videos, please go ahead and mark the activity "OnCommand Cloud Manager and Cloud ONTAP Videos" completed in Academics Alliance portal.

[Running MSFT SQL Servers on Cloud INTAP in AWS](#)

[Provisioning Volumes in OnCommand Cloud Manager using the Volume View](#)

[Deploying OnCommand Cloud Manager and Cloud ONTAP in AWS](#)

[Launching Cloud ONTAP instances using OnCommand Cloud Manager 3.1 \(and later\)](#)

**Launching *NetApp Configuration & Administration Basics (NCAB) Self-Paced Lab***

Please review this entire section before attempting to launch your virtual lab. The instructions below will help you navigate to the **Lab on Demand** platform, launch the NCAB Self-Paced Lab (SPL), troubleshoot any issues, provide steps to ensure you can come back to the SPL if you need more time finish, and show you how to mark your lab as complete when you are finished.

**First time lab users (if you previously opened LoD labs, skip to the ALL LAB USERS steps below):**

If this is your first time launching the NCAB SPL, we recommend you first visit the **Lab on Demand (LoD)** website to log in with your NetApp Student account.

This will allow the systems to recognize your account credentials when you access the lab. After you have logged into the **LoD** environment, you will go back to the [Student Portal](#) to launch the lab.

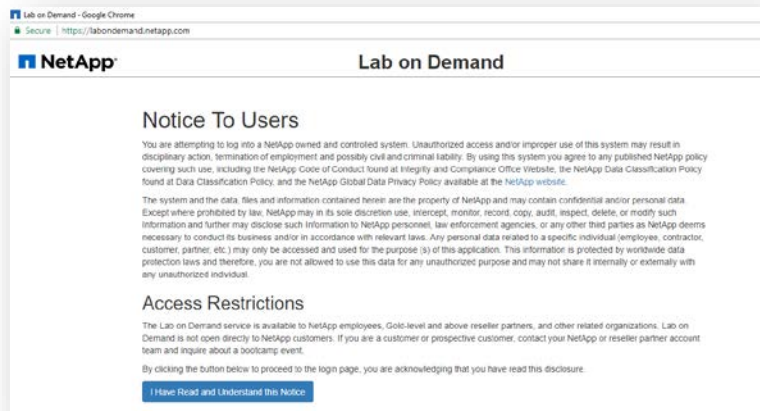
Recommended browsers for **Lab on Demand**:

BROWSER	MINIMUM VERSION	COMMENTS
MOZILLA FIREFOX	11.0	Good
GOOGLE CHROME	16.0	<b>Recommended</b>
APPLE SAFARI	6.0	<b>Recommended</b>
MICROSOFT INTERNET EXPLORER	10.0	Good, <b>must disable Compatibility Mode</b>
OPERA	12.10	Good, occasional screen artifacts

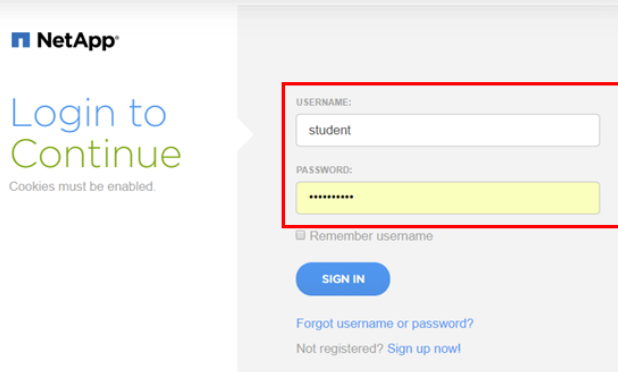
**START** by opening a new browser window to log into the **LoD** site:

- <https://labondemand.netapp.com/>

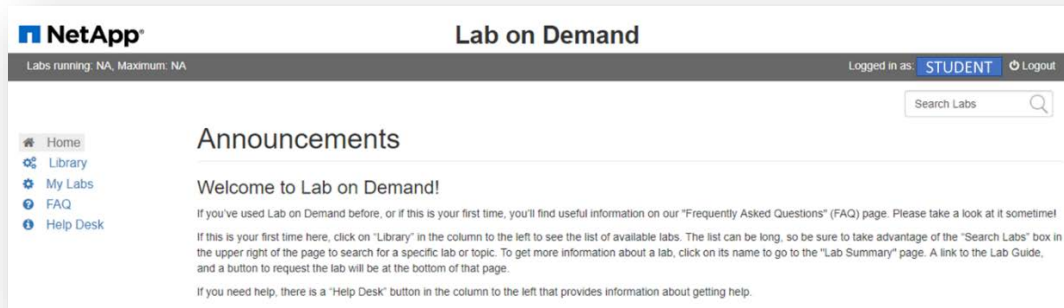
Click the blue **“I Have Read and Understand this Notice”** button at the bottom of that site to proceed:



The next screen you see will be a **NetApp Login page** where you will enter you're the same **student account information** you have for the NetApp Learning Portal:



Once you click **Sign In** to enter the LoD portal, you will see the following welcome page:



At this point, you have successfully logged into the LoD platform. The announcements and other information here is not part of the NCSA-HC curriculum. To launch your lab, you will need to go back to your [Student Portal](#) to complete the SPL launch process. Follow the instructions to continue.

#### All lab users:

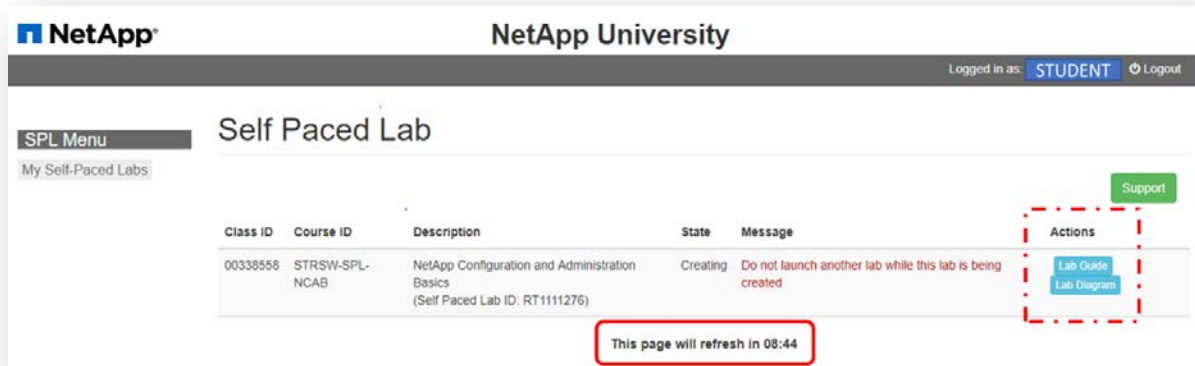
Look for the **NetApp Configuration and Administration Basics - Self Paced Lab** on your My Current Learning window. Click the green LAUNCH button to begin.

My Current Learning (15)		
Title	Delivery Type	Action
NetApp Certified Storage Associate - Hybrid Cloud	Curriculum	>> Progress Detail
NetApp Configuration and Administration Basics	Self-paced Lab	Launch
Cloud Fundamentals	Web-based	Launch

Clicking launch will open the NCAB SPL within the **Lab on Demand** environment.

The Self Paced Lab will take between **5 – 20 minutes** to provision. During this time, you will see a countdown timer at the bottom of the screen (circled below) giving you an estimated time until the lab environment is ready.

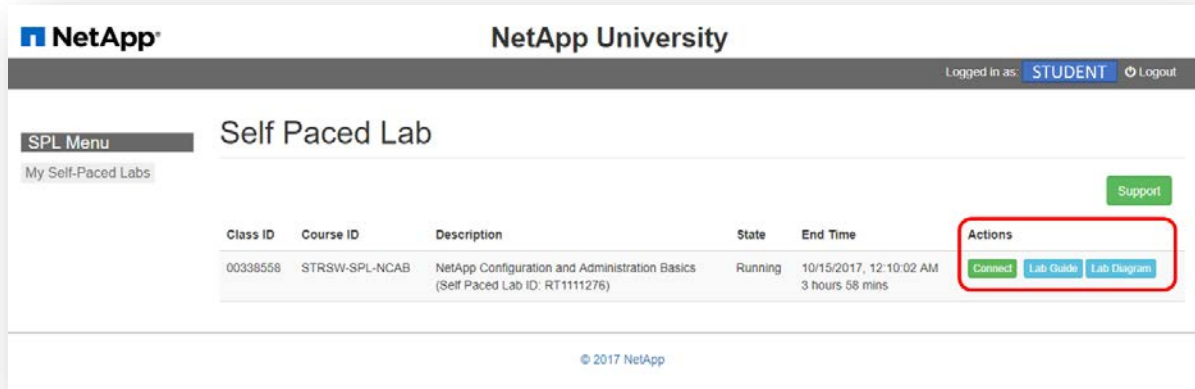
While you wait for the lab to generate, **click on the blue buttons** under the ACTION column to **review the Lab Diagram and to download the Lab Guide**. You must have the Lab Guide available in either print or soft copy in order to follow the instructions to complete the lab.



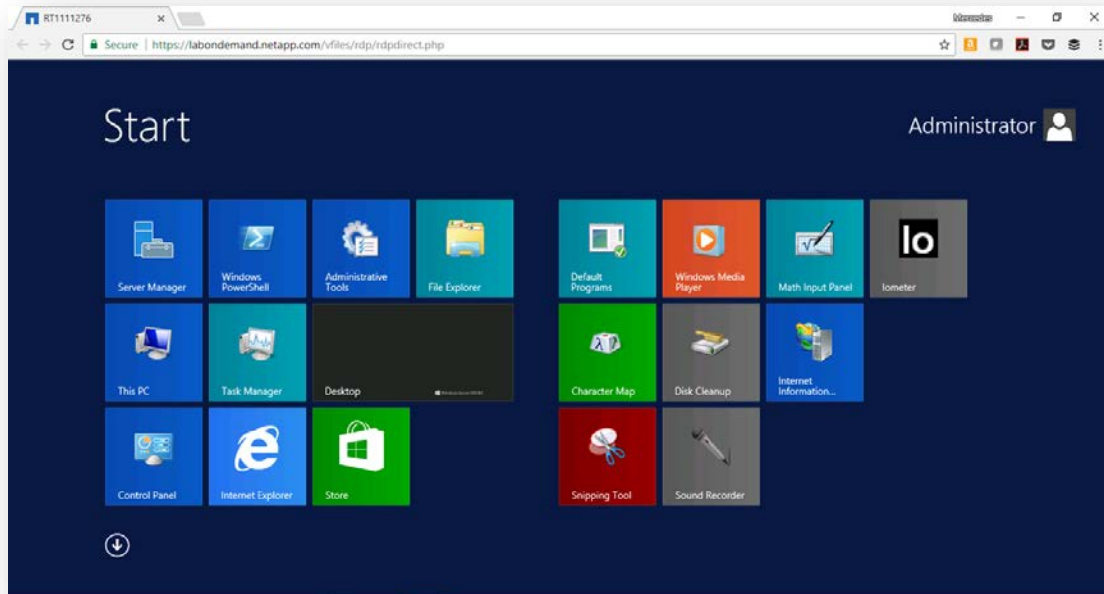
Watch for the countdown on the bottom of the page to reach 0.

At that point, your **virtual lab environment has been provisioned** and a green button that says **CONNECT** will appear in the Actions column. You will have about 4 hours of lab time to work on the exercises from the Lab Guide.

Once the lab is ready to launch, click the green **CONNECT** button under the **ACTIONS** column:

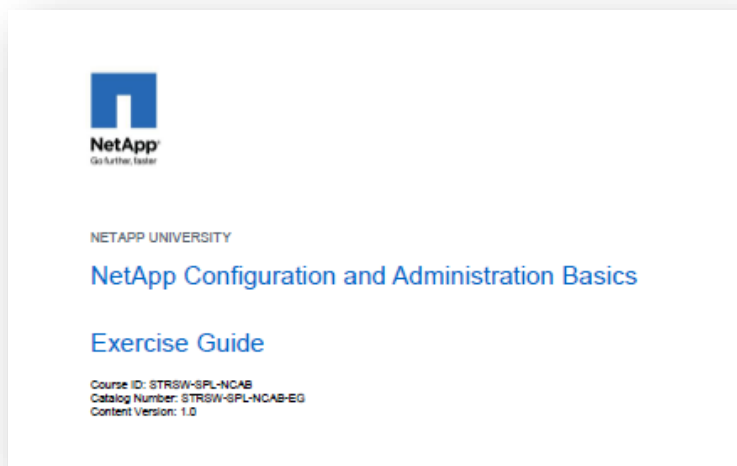


The lab will launch as a **new tab** in your default web browser. This is the **Windows virtual desktop** referenced in the Lab Diagram:



Once you are connected to this page, you are ready to begin the lab.

The NetApp Configuration & Administration Basics lab runs approximately 3 hours. It is designed to demonstrate and reinforce many of the concepts that you covered in the ONTAP Fundamentals course.

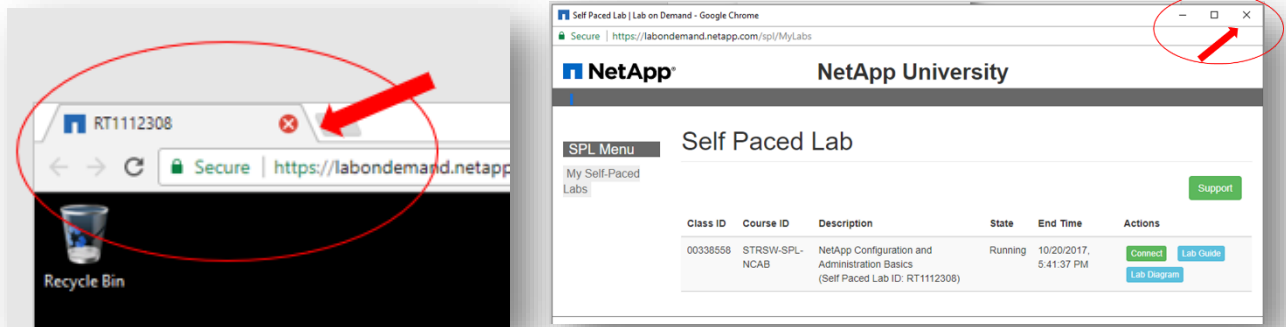


Follow the steps from the **Lab Guide**. It contains step by step instructions, screenshots, and exercises for you to complete.

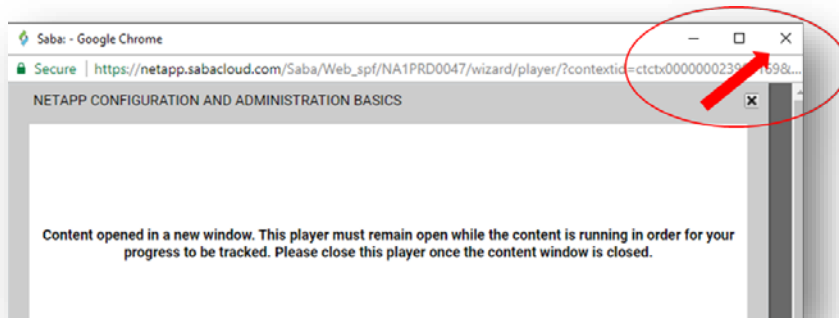


The entire lab does not need to be completed all at once. If you do not finish your lab exercises, you can return to the lab later to finish the exercises.

To exit the lab, close the browser tabs for your virtual machine (left) and for the LoD (right):



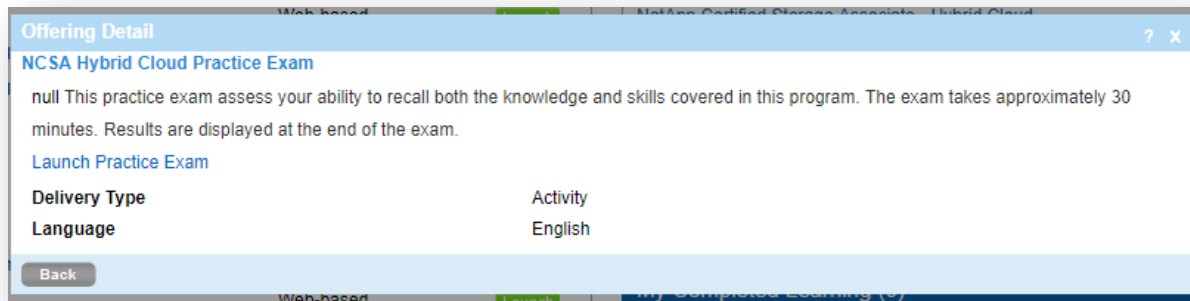
Close the background window that tracks your progress:



If you have not finished the lab and want to return, you can relaunch the lab by following these instructions to return to the virtual lab environment.

## Completion of NCSA-HC Practice Exam and Certification Testing

After completing all courses, videos, labs, and activities, you will be prepared to complete the NCSA-HC practice exam. Taking the Practice Exam will be very helpful in preparing you to successfully take the NS0-146 NCSA- HC certification exam. The practice exam is included in your curriculum:



When you are ready to sit for the certification exam at a Pearson testing center or online, NetApp will provide you a voucher to take the exam at no charge.

- If you are enrolled as part of a college or university class, please work through your professor for the vouchers.
- If you are a veteran or taking the NCSA-HC through a special program or scholarship, you can send mail to [academic@netapp.com](mailto:academic@netapp.com) to request a voucher.



### Complete the curriculum and pass the certification exam to be industry ready and prepared to:

1. Describe NetApp technologies and explain the NetApp approach for data management in the cloud
2. Understand products used to manage the cloud environment
3. Manage data in the cloud using NetApp solutions in conjunction with hyperscaler cloud providers like Amazon Web Services
4. Perform basic storage administration activities
5. Configure and manage the basic storage administration features in the world's #1 branded storage operating system, ONTAP

### Want to learn more?

- For more information about the NCSA-HC offerings as part of the NetApp Academic Alliances Program, or to request your free enrollment instructions, contact [academic@netapp.com](mailto:academic@netapp.com).
- For more information about the NCSA-HC or our other certification offerings, please visit the [NetApp Certification Program website](#).

If you experience any issues you can access an FAQ from the **Contact Support** button inside the portal, or you can e-mail to NetApp University Support ([NetAppUSupport@netapp.com](mailto:NetAppUSupport@netapp.com)).

## NetApp Certified Storage Associate – Hybrid Cloud

The NCSA-HC program combines innovative curricula to deliver approximately 30 hours of instruction. It includes 13 web-based courses that deliver approximately 20 hours of training on NetApp systems, solutions, and storage, with an additional 3-to-4 hours of hands-on, lab-based experiential learning.



### TECHNOLOGY COMPONENT

### TOPICS COVERED

#### Technology Foundation

- Storage Fundamentals
- Virtualization Fundamentals
- Data Networks Fundamentals
- Cloud Fundamentals
- Flash Fundamentals
- Overview of the storage industry and architectures
- Trends in storage technology
- How storage needs in an organization grow and evolve
- SAN and NAS systems and data network concepts
- Flash-accelerated storage solution basics
- Characteristics of cloud computing

#### Product Foundation

- Introduction to NetApp Products
- ONTAP Fundamentals
- ONTAP NAS Fundamentals
- ONTAP SAN Fundamentals
- Overview of NetApp products and the foundation for shared IT infrastructures, dedicated application storage, and web-scale object storage
- Features and functions of ONTAP and basic administration tasks to manage and protect data on a NetApp storage system
- Architecture, functionality and basic administration, configuration, and management of NAS protocols
- SAN concepts, terminology, and operations for ONTAP implementations; multipathing options for FC and iSCSI

#### Cloud Management Technologies

- Technical Overview of AltaVault
- Technical Overview of StorageGRID Webscale
- Technical Overview of OnCommand Management Solutions
- Technical Overview of OnCommand Insight
- Deploying NetApp Private Storage for Amazon Web Services
- How to Deploy the NetApp AltaVault Appliance in Amazon Web Services
- OnCommand Cloud Manager and Cloud ONTAP video series
- How to deploy NetApp® AltaVault® cloud-integrated storage as a physical or virtual appliance in the data center or as a cloud-based appliance
- Object storage, grid deployment topologies, and key concepts of data management: storage pools, link cost groups, and information lifecycle management (ILM), data flow processes
- OnCommand Unified Manager and OnCommand Workflow Automation
- OnCommand Insight architecture, reporting and OnCommand data warehouse architecture, components, and features
- NetApp enterprise storage and data management with public cloud compute
- Secure multitenancy and NetApp Private Storage for AWS architecture
- Using the AWS Management console to deploy AltaVault appliance
- How to use OnCommand Cloud Manager to launch and manage ONTAP Cloud in Amazon Web Services (AWS) and to replicate data across your hybrid cloud

#### Applied Learning & Assessment

- NetApp Configuration and Administration Basics (NCAB) lab
- NCSA-HC practice exam
- Hands-on experience performing basic administration tasks: creating aggregates, volumes, qtrees: managing NAS & SAN client access, volumes, Snapshot copies
- Formal, in-depth practice certification exam that prepares learners for the types of questions and technical depth of the NSO-146 certification exam