

ASSOCIATE EXAM GUIDE

Architect Associate

Exam Number: PCARA_001

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About Pure Storage® Certified Exams

To be a Pure Storage Certified Architect Associate is to demonstrate foundational-level knowledge of how to plan and design Pure Storage solutions. Pure Storage's Certification exams have been developed following industry best practices to strive for reliable and valid test score interpretations.

This guide has two purposes:

- to provide you with the recommended preparations for the Pure Storage Architect Associate Exam, and
- to help you determine if you are ready to sit for the exam.

This guide outlines the knowledge, skills, and abilities required of a “minimally qualified candidate” for a specific job role, which will be evaluated in the exam.

Section 1: Exam Registration Instructions

1.1. Exam Information

- Exam name: Pure Storage Architect Associate
- Exam number: PCARA_001
- Exam cost: \$129 (US Dollars)
- Number of questions: 60
- Question types: Multiple Choice (four or five options; one, two, or three correct answers)
- Time limit: 120 minutes

1.2. Creating an Online Account

1. Go to the [ExamStudio Storefront](#).
2. Select "Pure Storage Architect Associate".
3. Either confirm the scheduling process or log in. The system will automatically recognize if you are eligible and will allow you to move forward.
4. Log in to your candidate dashboard and click "Schedule" under the Actions tab.
5. Select the appropriate time zone; then, select the date and time you want to take the exam. Please note that exams require a 24-hour lead time to schedule. The earliest date on which you can make a reservation is the next business day.
6. Complete a technical compatibility check by visiting <https://go.proctoru.com/testitout>

1.3. Online Exam Computer Requirements

Your computer must meet the minimum requirements of ProctorU, including:

- A stable broadband internet service with a download speed of at least 12Mbps down and 3Mbps up
- Chrome or Firefox web browser. Download ProctorU extensions: [Chrome](#) or [Firefox](#)
- Webcam
- Microphone

To check if your computer meets the minimum requirements of the exam provider, visit <https://go.proctoru.com/testitout>. To watch a video on how ProctorU works, please click [here](#).

You will be prompted to download and run a LogMeIn Rescue applet file that will bring up a chat box to allow you to text with your proctor. If prompted, be sure to click "Open" or "Allow" to give the file permission to run. When the chat box says "Waiting," it means that you are in the queue waiting for your proctor.

TIP: If your status shows "Waiting," do not re-download the applet file. You will be put back at the end of the queue. For more information on what to expect on the day of the exam, please visit this [link](#).

1.4. Day of the Exam

Requirements:

- You must provide one form of government-issued photo ID (e.g., driver's license, passport).
- If you do not provide acceptable proof of identification via webcam to the proctor prior to the exam, you will not be allowed to take the exam. No refund or rescheduling is provided when an exam cannot be started due to failure to provide proper identification.
- You must also consent to have your photo taken. The ID will be used for identity verification only and will not be stored.
- You must be in a private, well-lit environment such as a conference room or home office.
- You must close all third-party programs and unplug any secondary monitors.
- The proctor will ask you to show your desk and surroundings before your exam can start.
- You cannot consult notes or books during the exam. The proctor will not allow the use of documents, materials, or websites during the exam.
- Make sure you have downloaded the ProctorU extension for either [Chrome](#) or [Firefox](#).

Log in to Launch the Exam

To launch the exam, log in to your [ExamStudio account](#).

1. Enter your login credentials.
2. Click "Start Exam" under the Actions tab on your dashboard.

NOTE: The timer for your exam does not start until the proctor launches the exam. You will have 120 minutes to complete the exam. You may start your exam once the countdown timer reaches 0:00:00. If you do not start your exam within 15 minutes of this time frame, the system will automatically mark you as a No-Show and you will not be able to take your exam.

Special Considerations

- To reset a forgotten password, visit <https://portal2.examstudio.com/ResetPassword.aspx?id=100106>. Once you reset your password, you can log in via your [candidate portal](#).
- For additional questions regarding ProctorU, please visit this [link](#).
- For any other additional questions or concerns, please contact the Pure Storage certification team at certadmin@purestorage.com.

1.5. Exam Scoring

- One point is awarded for each correct answer to a single-response or multi-response question.
- No points are awarded for either incorrectly answered or unanswered single-response or multi-response questions.

1.6. After the Exam

Your candidate record will be updated with the results of your exam 24-48 hours following the exam. Please see Section 1.7 of this exam guide for instructions on how to review your candidate record.

If You Pass:

Your candidate record will have an eCertificate when you achieve a certification, as well as a Pure Storage certification logo for this exam. A certification is valid for 2 years, and, upon expiration, you will need to take the exam again.

If You Fail:

You will need to wait 72 hours to re-schedule the exam.

1.7. Your Candidate Record

To access your candidate record, visit <https://www.certmetrics.com/purestorage/login.aspx>. From here, you will be able to access your score report(s).

The first time you log in, you will need to create an account.

To create an account:

1. Click "Never logged in before?" on the landing page.
2. Enter either your email address or data from your score report, as shown below.

The screenshot shows the 'CANDIDATE LOGIN' page for Pure Storage. At the top left is the Pure Storage logo with the tagline 'Helps Provision'. Below the logo is a note: 'The system will send an email that includes a link which will allow you to set your password and obtain your login ID. The email address we have on file is most commonly the same one you supplied the last time you took an exam.' There are two main sections for account creation:

- By email address:** This section has a text input field labeled 'Email address' and a red 'SUBMIT' button below it.
- By score report:** This section has a text input field for 'Last name *', a dropdown menu for 'Registration number', and a text input field for 'New email address'. A red 'SUBMIT' button is located below these fields.

3. You will receive an email with instructions on how to access your account.

Once you create your account, you will be able to log in with your login ID and password.

Section 2: Pure Storage Architect Associate Exam Topics

2.1. Domain Names

The job tasks measured on the exam are grouped into the following domains of practice:

- Administration
- Design
- Key Features

2.2. Task Information

Within each domain, you will be asked about specific tasks you should be able to perform as a Pure Storage Certified Architect Associate, including but not limited to:

Administration

- Demonstrate common management tasks in the GUI.
- Configure a host in Pure with volumes and place them in a protection group.
- Use Pure1 to monitor capacity and performance of arrays.
- Explain capacity usage in the GUI.

Design

- Align customer requirements to suitable Pure products, features, and solutions.
- Size an appropriate solution based on customer capacity needs.
- Describe the requirements for a fully redundant solution.

Key Features

- Describe Pure's storage solutions.
- Describe the benefits of Evergreen Technology.

2.3. Domain Distribution

The questions on the exam are distributed as follows for each domain.

NOTE: Each question carries the same weight, and there is no partial credit for any question.

Domain	Percent of Exam
Administration	28%
Design	36%
Key Features	36%

Section 3: The Pure Storage Certified Architect Associate Job Role

This exam is designed for individuals who are currently performing or have previous work experience with the job responsibilities of a Pure Storage Certified Architect Associate.

3.1. The Minimally Qualified Candidate (MQC)

To pass the exam, you must possess at least the minimum level of knowledge, skills, and abilities required of a Pure Storage Certified Architect Associate. The MQC is a Pure Storage employee, partner, or customer solution architect or system engineer who has between 1 and 3 years of storage industry experience and 3 and 12 months of Pure Storage experience. The MQC has a general knowledge of Pure Storage products and its associated market differentiation. The MQC understands the design principles related to an advanced All-Flash Array (AFA), Evergreen™, Pure1®, and is proficient in demoing the Pure GUI.

The Pure Storage Certified Architect Associate should be able to perform the following tasks without any assistance:

- Differentiate between use cases for FlashArray™ and FlashBlade™ on premises and in the cloud
- Describe available Pure Storage Platforms and Services
- Describe the Pure Storage Evergreen story
- Describe the high-level upgrade process and impact on the environment
- Describe the value proposition of PURE1
- Demo the Pure GUI (i.e., creation and deletion of volumes in presenting them to a host)
- Understand the design principles shared and unique Pure Storage Platforms and Services
- Understand why a FlashArray does not require extensive design of backend storage (RAID layout, queue depth considerations) compared to a traditional disk-based array
- Identify the operational efficiencies of Pure Storage versus legacy storage options

3.2. MQC Work Experience

A minimally qualified Pure Storage Certified Architect Associate typically has the following work experience:

- Associate-level role
- Between 1 and 3 years of storage industry experience
- Between 3 and 12 months of Pure Storage experience

Section 4: Determine Exam Readiness

Nothing can guarantee that you will pass your test; however, the more practical work experience you have, the better your chances are to pass the test. Use the self-assessment preparation worksheet (below) to evaluate your level of readiness.

4.1. Exam Prerequisites

There are no prerequisites for the Pure Storage Architect Associate Examination.

4.2. On-the-Job Experience

Since Pure Storage exams measure knowledge, skills, and abilities for a specific job role, one of the best ways to prepare for the exam is to make sure you have the minimum work experience, as described in this guide.

4.3. Self-Assessment Preparation Worksheet

Use the following worksheet to review the exam topics and assess your own readiness. If you need to prepare more for a certain topic, determine if you need training, on-the-job experience, or both.

I can:

Topic	Yes	No
Administration		
Create a volume and present it to a host		
Resize a volume		
Restore a snapshot		
Place a volume into a protection group and create a schedule from a given criteria		
Explain the difference between "Data Reduction" and "Total Reduction"		
Show how capacity planning is done in Pure1 and how many months of data is kept		
Demonstrate how to log in to Dashboard and point out its properties around capacity		
Design		
Explain the offerings in the Pure product portfolio		
Determine usable capacity		
Identify the need for host-based multi-pathing software		
Identify the need for redundant networking components		
Key Features		
Describe the Pure Storage options available on the AWS marketplace		
Describe the options for backing up for longer retention		
Describe All-Inclusive Array Software		
Describe Guaranteed Effective Capacity		

Section 5: Pure Storage Architect Associate Exam Sample Questions

Review and practice taking exam questions to get a sense for the types of questions on the exam. Please note that **your performance here does not indicate how you will do on the actual exam**. To fully prepare for the exam, closely review the topic areas and objectives in this Exam Guide.

The correct answers are at the end of the exam guide.

1. An architect has an application on a VM that depends on three other VMs to run correctly. Each of these VMs is stored as VVols on your FlashArray. All VMs must be on the same snapshot schedule.

How should this task be completed using the GUI?

- a. Create a protection group with the appropriate schedule and add the VM volumes to that protection group
- b. Create a POD with the appropriate schedule and add the VM volumes to that POD
- c. Create a Host Group for all your Host servers and take manually created snapshots at the Host Group level
- d. Create a replication group with the appropriate schedule and add all created volumes to that replication group

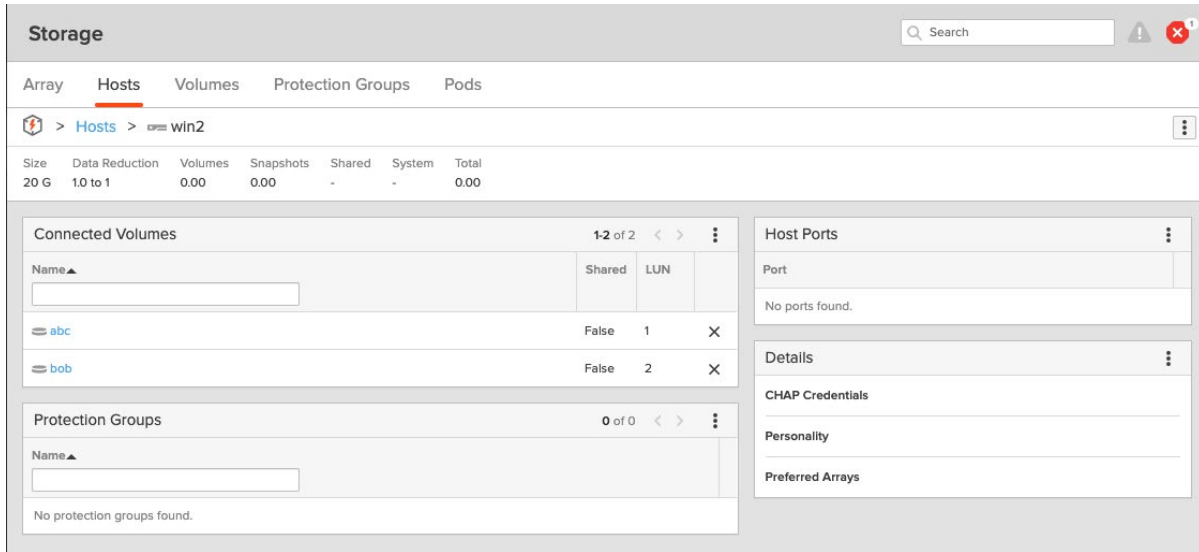
2. While monitoring a FlashArray, an architect sees that system space is growing at a steady pace.

What could this indicate?

- a. The snapshots are increasing in size.
 - b. The system needs additional capacity.
 - c. The performance capabilities of the array are being exceeded.
 - d. An NVRAM module has failed.
3. Which of the following data type has the highest overall Data Reduction ratio on FlashArray?
 - a. PACS and other medical image archives
 - b. Encrypted text files
 - c. Video and Audio files
 - d. Virtual Desktop Infrastructure environments
 4. What Pure Storage feature allows for consistent management and automation of storage resources in a hybrid cloud?
 - a. VVols
 - b. Purity REST API
 - c. Pure Service Orchestrator
 - d. Pure1 REST API

5. Which design principle enables Pure's Evergreen Storage Model?
 - a. Non-disruptive operations
 - b. RAID-HA software
 - c. Traditional RAID
 - d. Stateful controllers

6. Refer to the exhibit.



While configuring a FlashArray, a customer reports that the Win2 host does not show any FA volumes.

How should the customer resolve this problem?

- a. Define the Host Win2
 - b. Create volumes
 - c. Configure host ports
 - d. Configure a protection group
7. A customer needs to set up phonehome on a FlashArray so that Pure1 can be accessed.

What network settings need to be configured to enable this?

 - a. Open outbound connections on TCP port 443.
 - b. In the FlashArray GUI under System, add the Pure Support Server IP address.
 - c. Open outbound connections on TCP port 25.
 - d. Open inbound and outbound connections on TCP ports 22 and 443.
 8. What is the minimum usable capacity required for this database?

- 140TB SQL Server Database
- 4:1 Data Reduction Ratio for SQL
- 10% data growth total
- VMware environment
 - a. 28 TB
 - b. 35 TB
 - c. 175 TB
 - d. 200 TB

9. A customer connects half of their VMware hosts only to CT0 and half of the hosts to CT1 for "load balancing".

What would happen during a controller failure?

- a. Connections on the failed controller will move to the failover controller.
- b. Connections on the failed controller will time out.
- c. VMware will migrate the paths to the other controller.
- d. VMware will create new connections to the other controller.

10. Which feature listed below is part of Evergreen Storage?

- a. Professional services consulting
- b. Instant L3 support access
- c. Capacity Consolidation
- d. License Audits

Section 6: Answer Key

Correct answers are shown below in *bold italics*.

1. An architect has an application on a VM that depends on three other VMs to run correctly. Each of these VMs is stored as VVols on your FlashArray. All VMs must be on the same snapshot schedule.

How should this task be completed using the GUI?

- a. **Create a protection group with the appropriate schedule and add the VM volumes to that protection group**
- b. Create a POD with the appropriate schedule and add the VM volumes to that POD
- c. Create a Host Group for all your Host servers and take manually created snapshots at the Host Group level
- d. Create a replication group with the appropriate schedule and add all created volumes to that replication group

2. While monitoring a FlashArray, an architect sees that system space is growing at a steady pace.

What could this indicate?

- a. The snapshots are increasing in size.
 - b. The system needs additional capacity.
 - c. **The performance capabilities of the array are being exceeded.**
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 - d. **Virtual Desktop Infrastructure environments**
4. What Pure Storage feature allows for consistent management and automation of storage resources in a hybrid cloud?
- a. VVols
 - b. **Purity REST API**
 - c. Pure Service Orchestrator
 - d. Pure1 REST API

5. Which design principle enables Pure's Evergreen Storage Model?
- a. *Non-disruptive operations*
 - b. RAID-HA software
 - c. Traditional RAID
 - d. Stateful controllers

6. Refer to the exhibit.

The screenshot shows the Pure Storage GUI for a host named 'win2'. The 'Connected Volumes' section displays a table with the following data:

Name	Shared	LUN
abc	False	1
bob	False	2

The 'Host Ports' section shows 'No ports found.' The 'Protection Groups' section shows 'No protection groups found.' The 'Details' section includes fields for 'CHAP Credentials', 'Personality', and 'Preferred Arrays'.

While configuring a FlashArray, a customer reports that the Win2 host does not show any FA volumes.

How should the customer resolve this problem?

- a. Define the Host Win2
 - b. Create volumes
 - c. *Configure host ports*
 - d. Configure a protection group
7. A customer needs to set up phonehome on a FlashArray so that Pure1 can be accessed. What network settings need to be configured to enable this?
- a. *Open outbound connections on TCP port 443.*
 - b. In the FlashArray GUI under System, add the Pure Support Server IP address.
 - c. Open outbound connections on TCP port 25.
 - d. Open inbound and outbound connections on TCP ports 22 and 443.

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- 140TB SQL Server Database
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10. Which feature listed below is part of Evergreen Storage?
- a. Professional services consulting
 - b. Instant L3 support access
 - c. Capacity Consolidation**
 - d. License Audits

Support

For information on Pure Storage's certification programs, visit [this link](#). To contact us, please send an email to certadmin@purestorage.com.

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