

PROFESSIONAL EXAM GUIDE

# FlashArray™ Implementation Professional

Exam Number: FAIP\_002

# Contents

- About Pure Storage® Certified Exams..... 3**
- Section 1: Exam Registration Instructions..... 4**
  - 1.1. Exam Information.....4
  - 1.2. Creating an Online Account.....4
  - 1.3. Online Exam Computer Requirements .....4
  - 1.4. Day of the Exam.....5
  - 1.5. Exam Scoring.....5
  - 1.6. After the Exam.....5
  - 1.7. Your Candidate Record .....6
- Section 2: Pure Storage FlashArray Implementation Professional Exam Topics .....7**
  - 2.1. Domain Names .....7
  - 2.2. Task Information.....7
  - 2.3. Domain Distribution.....8
- Section 3: The Pure Storage Certified FlashArray Implementation Professional Job Role ..... 9**
  - 3.1. The Minimally Qualified Candidate (MQC).....9
  - 3.2. MQC Work Experience.....9
- Section 4: Determine Exam Readiness .....10**
  - 4.1. Exam Prerequisites .....10
  - 4.2. On-the-Job Experience .....10
  - 4.3. Self-Assessment Preparation Worksheet .....10
- Section 5: Pure Storage FlashArray Implementation Professional Exam Sample Questions.....12**
- Section 6: Answer Key.....14**
- Support .....16**

## About Pure Storage® Certified Exams

To be a Pure Storage Certified FlashArray™ Implementation Professional is to demonstrate expertise in delivering fast and reliable solutions that unlock business value and eliminate deployment risk. 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 FlashArray Implementation Professional 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.

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## Section 1: Exam Registration Instructions

### 1.1. Exam Information

- Exam name: Pure Storage FlashArray™ Implementation Professional
- Exam number: FAIP\_002
- Exam cost: \$129 (US Dollars)
- Number of questions: 75
- Question types: Multiple Choice (three or four options, one to two correct answers)
- Time limit: 120 minutes

### 1.2. Creating an Online Account

1. Go to the [ExamStudio Storefront](#).
2. Select “Pure Storage FlashArray™ Implementation Professional”.
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](mailto: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'. At the top right is the text 'CANDIDATE LOGIN'. Below the header, a small note states: '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 includes a text input field labeled 'Email address' and an orange 'SUBMIT' button below it.
- By score report:** This section includes a text input field for 'Last name \*', a dropdown menu for 'Registration number', and a text input field for 'New email address'. An orange '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 FlashArray Implementation Professional Exam Topics

### 2.1. Domain Names

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

- Pre-Install
- Pre-Upgrade
- Install
- Upgrade
- Post-Install/Upgrade

### 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 FlashArray Implementation Professional, including but not limited to:

#### Pre-Install

- Validate the implementation workbook data
- Verify the configuration and environment pre-requisites for installation
- Verify correct equipment is on-site

#### Pre-Upgrade

- Verify correct hardware is on-site
- Verify environment for cabling

#### Install

- Configure software for install
- Perform hardware installs

#### Upgrade

- Perform hardware upgrades
- Given a set of requirements, perform software-related tasks
- Perform capacity consolidations

#### Post-Install/Upgrade

- Verify successful install/upgrade
- Perform a high-level product and GUI walkthrough

### 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
Pre-Install	17%
Pre-Upgrade	13%
Install	18%
Upgrade	33%
Post-Install/Upgrade	19%



## Section 3: The Pure Storage Certified FlashArray Implementation Professional 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 FlashArray Implementation Professional.

### 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 FlashArray Implementation Professional. The MQC is either a partner or employee who has 3-5 years of system administration and/or data center operation experience and 6-12 months of Pure Storage experience.

The Pure Storage Certified FlashArray Implementation Professional should be able to perform the following tasks without any assistance:

- Prepare and confirm the content for the site preparation survey prior to installation or upgrade
- Install Purity software and FlashArray hardware
- Confirm multipathing and/or I/O balance
- Validate software capabilities/basic knowledge transfer for customers
- Run initial configuration and upgrade commands in the CLI
- Installation of FlashArray: new, upgrades, generational NDU, capacity upgrades, and evacuations

The Pure Storage Certified Implementation Professional - FlashArray should be able to participate in the following task with substantial guidance, mentoring, or instruction:

- Assess and configure ActiveCluster
- Understand capacity requirements and limitations

### 3.2. MQC Work Experience

A minimally qualified Pure Storage Certified FlashArray Implementation Professional typically has the following work experience:

- Intermediate level role
- 3-5 years of system administration and/or data center operations experience
- 6-12 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 FlashArray Implementation Professional 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
<b>Pre-Install</b>		
Given a scenario, determine errors in configuration information from workbook (e.g., determine if required parameters are available for installation)		
Calculate adequate rack space for hardware installation		
Distinguish if a customer's, power, network and SAN cabling is compatible and suitable to enable installation of FA according to best practices and given connectivity requirements		
Identify hardware mismatches or damage that will prevent a FlashArray install from being completed		
<b>Pre-Upgrade</b>		
Verify correct hardware was ordered and on-site		
Run the fuse hwndu_simulate tool to ensure correct hw SKUs are ordered		
Use cabling guide to verify cabling is correct		
Complete cable labeling process		
<b>Install</b>		
Determine appropriate troubleshooting steps during a failure		
Upgrade from external media		
Verify the correct datapacks are installed based on the array being configured		
Confirm DirectMemory modules are inserted in the correct slots		
<b>Upgrade</b>		
Determine whether a component is field upgradeable without interruption to service		
Demonstrate the required steps and commands for upgrading various components including: NVRAM modules, Controllers, Power Supply		
Upgrade/Downgrade Purity as necessary		
Demonstrate the steps and use commands involved in performing a shelf or data pack evacuation		
Identify possible failures that may occur during an evacuation and the effect they will have on the array		
<b>Post-Install/Upgrade</b>		
Verify proper operation once installed		
Determine/Set the required tunables		
Perform knowledge transfer of GUI operations		
Describe available resources		

## Section 5: Pure Storage FlashArray Implementation Professional 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. A FlashArray//X has 3 iSCSI cards in each controller.

What is the maximum number of Ethernet cables that the customer needs to provide for the iSCSI initiators to be connected utilizing all of the ports on both controllers, including the on-board iSCSI ports?

- a. 12
- b. 16
- c. 20
- d. 24

2. Which upgrade is included in an Evergreen™ Gold Subscription after 3 years?

- a. Capacity
- b. Controllers
- c. 32Gb FC card
- d. 100Gb Ethernet card

3. A customer has purchased a new //X20R3 array and would like to use existing 1g Ethernet switches.

Which additional components are required to continue using the existing switches and CAT-6 cables on the new array?

- a. 1Gb/s SFP Transceivers
- b. Copper 1Gb/s Transceivers
- c. OM3 cabling
- d. qSFP adapters.

4. A customer sees a performance impact to their host environment during a shelf evacuation. Which action should an Implementation Engineer take to identify the cause of this issue?

- a. Check if capacity is above 100%
- b. Check Pure1® to see if the load percentage is above 80%
- c. Check if capacity is above 80%
- d. Check Pure1 to see if the load percentage is above 60%

5. During the upgrade to a FlashArray//X70R3, power feed is discovered to be 120VAC. Which step should an Implementation Engineer perform next to complete this upgrade?
  - a. Call Support and request a step-up transformer
  - b. Continue with the upgrade as planned, ensuring both power supplies are connected
  - c. Use the 1600W power supply provided in the NDU kit
  - d. Advise the client that the FlashArray//X70R3 must use 208VAC
  
6. How much rack space is required for a FlashArray chassis install?
  - a. 3U
  - b. 4U
  - c. 7U
  - d. 2U
  
7. Which procedure should an Implementation Engineer follow when a hardware NDU pre-upgrade check shows SAS chains miscabled?
  - a. Continue as normal if the array has no other issues
  - b. Follow the installation guide to re-cable the array
  - c. Contact Support for a re-cabling procedure
  - d. Power off the array and re-cable
  
8. Which step should the Implementation Engineer take to perform firmware component updates and complete the Purity upgrade?
  - a. Run command `pureboot reboot —offline`
  - b. Run command `pureboot reboot —secondary`
  - c. Run command `hardware_check.py`
  - d. Run command `get_hardware_check.py`
  
9. When creating a volume in Purity GUI, which two options are available? (Choose two.)
  - a. Volume name
  - b. Thin provisioned
  - c. Snapshot schedule
  - d. RAID type
  - e. Volume size

## Section 6: Answer Key

Correct answers are shown below in *bold italics*.

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## Support

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

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