

The ACT[®] Test Technical Guide

State Testing
District Testing

 **Online Testing**

The **ACT**[®]

www.act.org

Contact Information

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Frequently Used Links

Technical Requirements and Technical Guide webpage <http://www.act.org/stateanddistrict/onlinetesting>

TestNav Online Support..... <https://support.assessment.pearson.com/display/TN/TestNav+8+Online+Support>

PearsonAccess^{next} <https://testadmin.act.org>

PearsonAccess^{next} Mock Administration..... <https://training.testadmin.act.org>

Download TestNav, ProctorCache Software <http://download.testnav.com>

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Overview

This guide will help technical staff configure an organization's systems for the ACT test taken online.

This section includes information on:

- PearsonAccess^{next}™ and TestNav™
- Requirements for an online administration
- Site readiness
- Administrative monitoring in each room
- Test content security
- Disabling automatic application launching

PearsonAccess^{next} and TestNav

PearsonAccess^{next} is the web application used by testing staff (i.e., test coordinators, room supervisors) to start and monitor tests. It is located at <https://testadmin.act.org>.

TestNav is the secure test delivery engine used by examinees to take the tests. The instructions to download the TestNav application are discussed in a later section of this document.

Requirements for an Online Administration

To test online, your organization must meet the following requirements:

- Site readiness must be completed to ensure the equipment meets hardware, software, and other technical requirements defined by ACT. Site readiness also includes performing an app check to ensure that the device is running a supported operating system (OS) and OS version.
- The proctor caching process must be followed as defined by ACT in this guide. Proctor caching is the process of storing encrypted test content on a local computer. This stored or cached test content is distributed to the examinee computers during a testing session. It accelerates the delivery of test content to examinees and reduces the amount of bandwidth required for online testing.

Note: Uninstall any previous versions of ProctorCache software that may be installed on the computer before installing the updated version.

Note: Using proctor caching does not require special hardware, equipment, or an underlying server-based operating system.

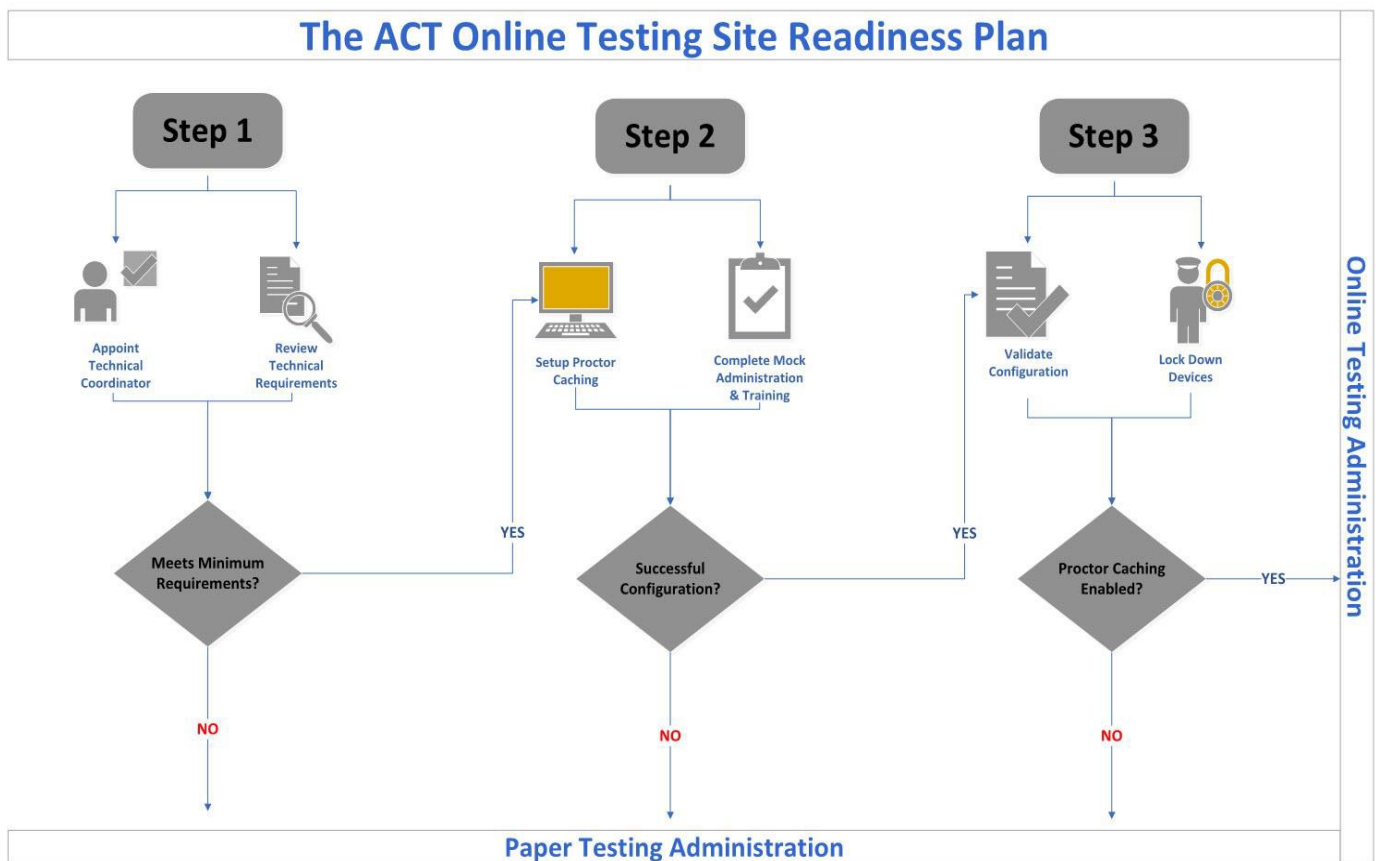
Important! If your organization does not complete ProctorCache setup including entering TestNav Configurations in PearsonAccess^{next}, ACT will switch your organization from online to paper.

Site Readiness

To ensure technical readiness, the test coordinator and technical coordinator should work together to gather the following information.

| Category | Information You'll Need to Know |
|-------------------------------------|--|
| Internet Connection | <ul style="list-style-type: none"> Type of internet connection at your organization Internet bandwidth/speed |
| Devices | <ul style="list-style-type: none"> Number of devices available for examinees to use Number of devices to be used for administrative access Types of devices Device owner/administrator |
| Operating System, Processor, Memory | <ul style="list-style-type: none"> Operating system for each device Processor for each device Memory for each device |
| Monitors | <ul style="list-style-type: none"> Screen resolution for each device Display size of each device |
| Browsers | <ul style="list-style-type: none"> Beginning with the 2018-2019 school year, browser based-testing is no longer supported. |

The [ACT Online Testing Site Readiness Plan](#) can be found on your state's ACT website under *Configuration*. This plan will provide a process to help determine what testing format your organization should use. The specific tasks for each of these steps are outlined in this guide.



| Step | Action |
|------|--|
| 1 | <p>Appointed Technical Coordinator Reviews Technical Requirements</p> <p>Technical coordinators are responsible for the tasks listed below:</p> <ul style="list-style-type: none"> • Ensure the school's computers and infrastructure meet online testing requirements. • Read and follow the procedures listed in this guide. • Create the TestNav™ configuration in PearsonAccess^{next} at both https://training.testadmin.act.org/ and https://testadmin.act.org. • Install ProctorCache software on the proctor cache computer. • Precache before testing and purge test content after testing. • Help the test coordinator and other staff set up for test day (includes examinee and administrative computers and test rooms). • Troubleshoot technical issues staff or examinees may have on test day. |
| 2 | <p>Setup Proctor Caching and Complete Mock Administration and Training</p> <p>Once the technical coordinator has set up proctor caching, your organization will need to perform a mock administration using all testing computers to confirm that they meet technical requirements.</p> <p>A mock administration is done at https://training.testadmin.act.org. You will need to set up your organization's TestNav Configuration(s), create sessions, and launch mock administration tests to confirm that the technical requirements are met for online administration of the ACT. Refer to The ACT Test Mock Administration Guide for Online Testing for additional information. The guide is located on your state's ACT website under section 3, <i>The ACT: Verification – Ensure nothing was missed</i>.</p> |
| 3 | <p>Validate Configuration and Lock Down Devices</p> <p>After you have successfully performed a mock administration, the technical coordinator must confirm that the system is properly configured and freeze the testing environment.</p> |

Administrative Monitoring in Each Room

Each test room must have a separate computer that the room supervisor will use to access PearsonAccess^{next} to start and stop test sessions, and monitor testing progress. This computer must meet the requirements listed at <https://support.assessment.pearson.com/display/PAsup/System+Requirements> and reside in an area where the room supervisor can see all examinees in the room.

Test Content Security

The ACT® test online must be given using **TestNav**, a “locked down” testing application. To help ensure test security, all software applications, internet browsers, cameras (still and video), screen capture programs (live and recorded, such as Skype), email, instant messaging, application switching, media players (such as iTunes), and printing must be closed before testing begins.

Administrative devices must also be configured prior to testing to ensure content security. Turn off or disable any management software that would allow secure test content on examinee testing devices to be viewed on any other device; e.g., LanSchool, NetopVision, Hapara, or similar applications.

Disabling Automatic Application Launching

You must configure any applications that may automatically launch on a computer to **disable automatic launch** during testing sessions. Such launches commonly occur when:

- Anti-virus software performs automatic updates
- Power management software on laptops warns of low battery power
- Screensavers start or go into sleep mode
- Email notifications appear

- Calendar notifications appear
- Sticky keys – Shift key is pressed 5 times (Windows only)
- Laptops prompt for automatic software updates

Important! TestNav must be the **only** application running on the computer during testing. If an application launches during an examinee's test session, TestNav will exit the examinee from their test session.

Disable the screensaver. If active, it may cause TestNav to remove the examinee from their test session and result in the need for the room supervisor to resume their test.

Proctor Caching Overview

This section includes information on:

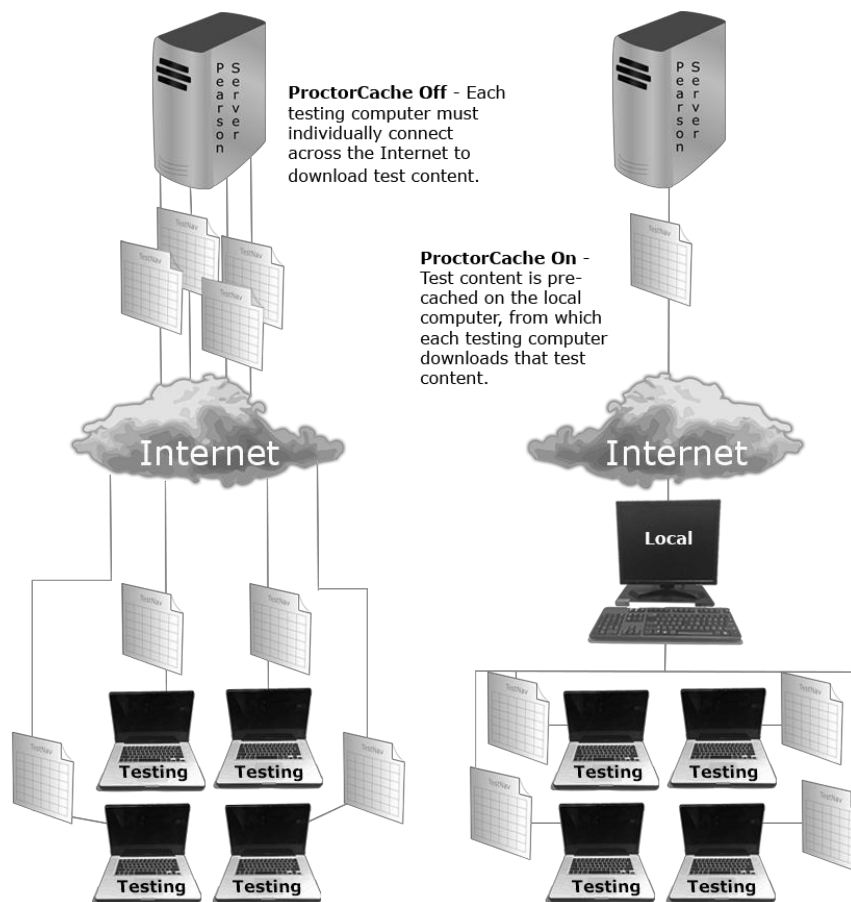
- Proctor caching and its benefits
- Process overview

Proctor Caching and its Benefits

Proctor caching is the process of storing encrypted test content on a local computer using software called ProctorCache. This stored or cached test content is distributed to examinee devices during a testing session. Proctor caching improves the online testing experience for examinees and testing staff by:

- Allowing examinees to complete the tests even if the internet connection fails (unless the examinee has not yet logged in and started testing)
- Reducing delays caused by network congestion
- Reducing the amount of bandwidth required for online testing by reducing the download redundancy caused by each examinee downloading an independent copy of the test

The following diagram illustrates the technical benefit of using proctor caching.



Important! You must install and use ProctorCache software as defined. If you do not, ACT will switch your organization from online to paper.

Process Overview

The table below provides an overview of the process of installing and using ProctorCache.

| Stage | Description |
|-------|--|
| 1 | Prepare network environment. See TestNav System Requirements . |
| 2 | Identify proctor caching computer(s) and verify that identified computer(s) meet(s) minimum system requirements. <i>IMPORTANT! For an optimal proctor caching experience, the ProctorCache computer must be in the same building where testing will occur.</i> |
| 3 | Install ProctorCache software on all proctor caching computers. |
| 4 | Add default proctor caching settings to each organization in PearsonAccess ^{next} . |
| 5 | Use App Check to verify connectivity between testing computers and proctor caching computers. See How to Run App Check . |
| 6 | Precache the test content from PearsonAccess ^{next} no sooner than two business days before testing begins. |
| 7 | Verify that all test content was successfully cached. |
| 8 | Have test coordinator create and prepare test sessions the day before testing. Refer to “How to Prepare a Test Session” section in <i>The ACT Administration Manual – Online Testing</i> . |
| 9 | Monitor cached content and connections to the proctor caching computers. |
| 10 | At the end of the testing window, purge content from proctor caching computers. |

*Note: Proctor caching is not complete until you reach the “**SUCCESS!**” message in this document.*

For additional information regarding proctor caching, visit <https://support.assessment.pearson.com/display/TN/ProctorCache+System+Requirements>.

ProctorCache System Requirements

This section includes information on:

- Hardware requirements
- Software requirements
- Whitelisting

Hardware Requirements

Below are the minimum hardware requirements for devices used for proctor caching.

| | Windows |
|------------------|---------------------------------|
| Processor | x86/x32 and x64 Minimum 2GHz |
| Memory | 2GB RAM |

Software Requirements

Supported Operating Systems for the use of the ProctorCache software include Windows Server 2008, Windows 7, Windows Server 2012, Windows 8, Windows 10, or Windows Server 2016.

Whitelisting

The following URLs and ports must be whitelisted or opened in any firewalls, proxy servers, or software used for internet content filtering or SSL inspection:

URL:Port

- .act.org:80
- .act.org:443
- .pearsonusercontent.com
- .thawte.com
- .usertrust.com
- .comodoca.com
- .googleanalytics.com

Default Port Settings for ProctorCache: port 4480 and port 4481 (pertains to LAN traffic only).

Installing ProctorCache Software

This section provides the instructions for installing the ProctorCache software. The technical coordinator will find information on:

- System and staff prerequisites
- Choosing proctor caching computers
- How to install the software
- Updating files if using an upstream proxy server

Tip: Uninstall any previous versions of ProctorCache software that may be installed on the computer before installing the updated version.

System and Staff Prerequisites

Before installing and using ProctorCache, you must meet the following requirements.

The technical coordinator must have:

- Full local administrator permissions
- Working knowledge of your network
- A user account for PearsonAccess^{next} with a technical coordinator role (the test coordinator creates the account)

The organization system must have:

- Fixed internal IP addresses
- A network connection of 100 Mbps full-duplex or higher (the minimum is 10/100)
- A network set up to use IPv4 DNS (Domain Name System) servers

Note: If you have not made any explicit changes to use only IPv6 for DNS, you should meet all of the system prerequisites. You will know if this is properly configured because TestNav and ProctorCache computers will communicate properly with one another.

- TCP Ports open:
 - 80 (Internet); 443
 - 4480 and 4481 (Local Network)

Note: Using proctor caching does not require special hardware, equipment, or an underlying server-based operating system.

Choosing Proctor Caching Computers

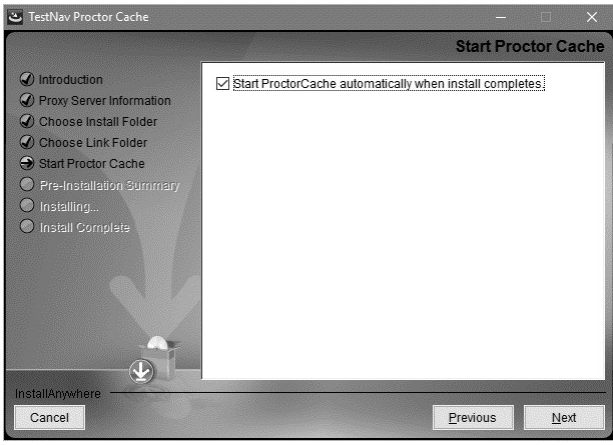
When choosing proctor caching computers:

- Choose computers on the same network as the examinees' testing computers.
- Choose computers that are in the same building as the examinees' testing computers.
- Choose computers that do not need to run anything other than the proctor cache software on test day.
- Choose computers that will quickly boot up.
- Do not choose the same computers used for testing examinees.
- Do not choose a computer that is tasked with network services such as a domain controller (i.e. Active Directory Server, Print Server, etc.).

Important! ProctorCache runs on Windows only. Devices running other operating systems cannot be used as ProctorCache computers.

The ProctorCache computer must remain on during testing and during precaching test content.

How to Install the ProctorCache Software

| Step | Action |
|------|--|
| 1 | Go to the intended proctor caching computer. |
| 2 | Go to http://download.testnav.com . |
| 3 | Select Download ProctorCache . |
| 4 | Open the file you downloaded to open the installer screen. A security message appears. Select the Run or Yes button as needed to launch the installer. |
| 5 | After the software loads, read the introduction, and then select the Next button. |
| 6 | Proxy information displays. The Server Name will default to the computer name. If your site is using a proxy server, verify that the proxy server information is correct or enter the correct value. Select the Next button. |
| 7 | Accept the default destination folder and select the Next button. <i>Note: If the computer uses an upstream proxy computer to access the internet, see Updating Files If Using Upstream Proxy Server.</i> |
| 8 | Select the location to create the ProctorCache icon(s). Select the Create icons for all users check box, and then select the Next button. <i>Note: If the ProctorCache computer uses an upstream proxy computer to access the internet, refer to Updating Files If Using Upstream Proxy Server.</i> |
| 9 | On the Start ProctorCache page, check the box next to Start ProctorCache automatically when install completes .  |
| 10 | Review the pre-installation summary, and then select the Install button. ProctorCache begins installing. |
| 11 | When the software is installed, select the Done button to close the installation. |
| 12 | Restart your computer. |
| 13 | Go to the Configuring Proctor Caching Computers section to complete ProctorCache set up. |

Updating Files If Using Upstream Proxy Server

ProctorCache computers using an upstream proxy computer to access the internet require additional changes to the original proctor caching files. Use the appropriate set of instructions below to make those changes.

| If the upstream proxy is ... | Then find this file ... | And change the value of ... | To the new value of ... |
|------------------------------|------------------------------------|--|---|
| Authenticated | <install_dir> squid\etc\squid.conf | ##cache_peer address parent port 0 login=user:pass default no- query http11 | cache_peer <proxy server IP address> parent <proxy server port number> 0 login=<user ID>:<password> default no-query http11 |
| | | ##never_direct allow all | never_direct allow all |
| Unauthenticated | <install_dir> squid\etc\squid.conf | ##cache_peer address parent port 0 login=user:pass default no- query http11 | cache_peer <proxy server IP address> parent <proxy server port number> 0 default no-query http11 |
| | | ##never_direct allow all | never_direct allow all |

Using Saved Response File (SRF) and Log Files

This section includes information on:

- Understanding SRF and log files
- Configurations and primary save locations on Windows and Mac OS X
- Configurations and primary save location on Chromebooks
- Secondary save location
- Storing this information in PearsonAccess^{next}

Understanding SRF and Log Files

When an examinee responds to a test question, TestNav saves the response in a saved response file (SRF) and sends these responses to the Pearson server. After the responses successfully save to the server, TestNav deletes the SRF.

TestNav also writes to a log file during the testing session. These files help to troubleshoot issues, if they occur. You cannot configure the log file save location.

Configurations and Primary Save Locations for TestNav—Windows and Mac OS X

For Windows and Mac OS X, you must:

1. Configure a primary and an optional secondary save location then enter this information in the TestNav Configurations screen within PearsonAccess^{next}.
Note: When nothing is designated for the primary save location, the SRF file will automatically save to the default primary save locations.
2. Configure examinee user accounts to have complete read, write, and delete access in all save locations.

If using a secondary save location, it is strongly recommended that you configure a shared network folder that can be accessed from all testing devices for SRFs to ensure that you do not lose responses, even if an examinee cannot continue to test on the same device. You must verify that you can access the location from multiple testing devices.

The default primary save location is described below.

| Operating System | SRF Location | Log File Location |
|------------------|--------------------------|---------------------------|
| Windows | {USER.HOME}\Pearson\srf\ | {USER.HOME}\Pearson\logs\ |
| Mac OS X | {USER.HOME}\Pearson\srf\ | {USER.HOME}\Pearson\logs\ |

Configurations and Primary Save Location for TestNav—Chromebooks

On Chromebooks, the SRF default primary save location is not customizable. The primary save location will be on the local device and the secondary save location can be customized to use a SFTP server path, if necessary.

To find files, take these steps.

| Step | Action |
|------|---|
| 1 | Launch the TestNav app. |
| 2 | Focus your cursor in the username or password field. |
| 3 | Press <ctrl><shift>z, and the File Viewer box appears. <i>Note: If the File Viewer does not display, select on the window and then press <ctrl><shift>z again.</i> |
| 4 | Plug in a USB memory stick. |

| Step | Action |
|------|--|
| 5 | Select the download button next to the SRF and log file(s) you want to download. |
| 6 | When the window opens, select the USB memory stick, and select Save . |

Secondary Save Location

You can place backup SRFs in a directory on the network file server, on the examinee's testing device, or on a secure file transfer protocol (SFTP) site. The following table outlines the pros and cons of each option; however, as a best practice, we recommend using both a primary save location and a secondary save location:

| Back up Location Options | Pros | Cons |
|--|--|---|
| Directory on network computer | Backup file is accessible from other computers. | <ul style="list-style-type: none"> • Uses more internal network bandwidth. • Responses save to the network drive more slowly than to the local directory. As a result, test items take more time to load. • Does not provide secondary save for Chromebooks. |
| Local directory on testing computer (TestNav client) | <ul style="list-style-type: none"> • Uses less internal network bandwidth. • Responses save to local directory more quickly than to the network drive. As a result, test items take less time to load. | <ul style="list-style-type: none"> • Backup file is not accessible from any other computer. • Does not provide secondary save for Chromebooks. |
| SFTP | <ul style="list-style-type: none"> • Provides secondary save location for all supported testing computers and devices. • Chromebooks can only use SFTP as a secondary save location. | <ul style="list-style-type: none"> • Requires SFTP site setup. |

Note: You should familiarize yourself with default response file backup locations. Some save locations are configurable. If you set a network file server as a primary or secondary backup location, do not use:

- Spaces in the save location path.
- A location that requires authentication. If authentication is required, TestNav cannot access the shared location.
- A Windows Uniform Naming Convention (UNC) or network path on a device with macOS or Linux, such as `\\ComputerName\SharedFolder\Resource`. It's recommended that you specify a mapped drive location such as `D:\TopDirectory\NextDirectory\SaveLocation`.

Storing This Information in PearsonAccess^{next}

Once you have determined your SRF locations, you will enter that information when you enter your TestNav configurations. See [Configuring Proctor Caching Computers](#).

Configuring Proctor Caching Computers

This section includes information on:

- When to set defaults
- How to set defaults
- Using default proctor caching settings

When to Set Defaults

You can specify a default proctor caching computer that will automatically be associated with new test sessions.

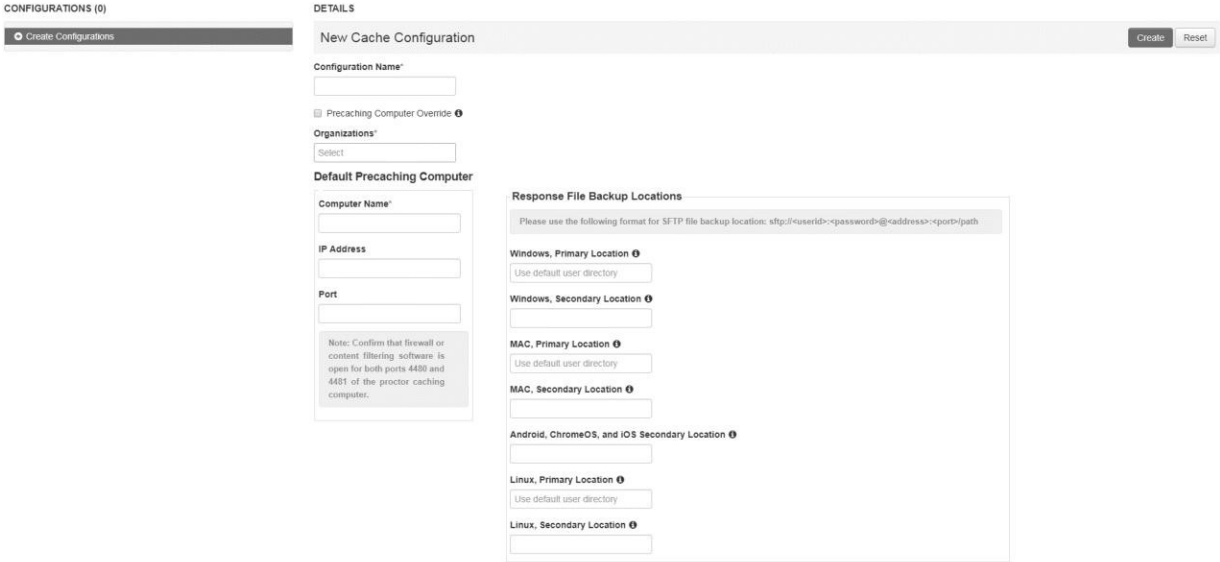
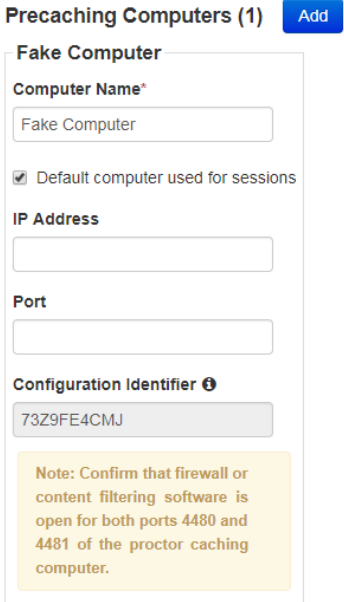
Important! You should create default proctor caching settings **before** online test sessions are created. You need to perform these tasks just one time per test administration, unless a change is required.

How to Set Defaults

Take the following steps to set default ProctorCache settings.

Note: You must have the technical coordinator role in PearsonAccess^{next} to set default ProctorCache settings.

| Step | Action | | | | |
|--------------------------------|---|--------------------------------|-----------------------------------|---------|--|
| 1 | Log in to PearsonAccess ^{next} at https://testadmin.act.org . | | | | |
| 2 | In the upper right hand corner of your screen, make sure your correct test administration and organization are selected. If not, select the correct ones from the drop-downs. | | | | |
| 3 | Select the Setup icon. | | | | |
| 4 | Select the TestNav Configurations title from the drop-down. | | | | |
| 5 | In the Tasks window, under Select Tasks , select the checkbox for the Create / Edit TestNav Configurations title. | | | | |
| 6 | Select the Start button. | | | | |
| 7 | Create a name for your configuration settings and enter it for your organization. <i>Note: If the TestNav Configurations are being set up at the district level you will want to make sure you choose all organizations testing online from the Organizations drop-down. If this is not done, the organizations will not be set up correctly for proctor caching and will be switched to paper testing.</i> | | | | |
| 8 | Locate the IP address on the proctor caching computer. Use the following table to determine your next step. <table border="1" data-bbox="261 1486 1403 1633" style="margin-left: 20px;"> <thead> <tr> <th>If the Operating System is ...</th> <th>Then locate the IP address by ...</th> </tr> </thead> <tbody> <tr> <td>Windows</td> <td> <ul style="list-style-type: none"> • Opening the Command Prompt • Typing IPCONFIG for the IP address to display </td> </tr> </tbody> </table> | If the Operating System is ... | Then locate the IP address by ... | Windows | <ul style="list-style-type: none"> • Opening the Command Prompt • Typing IPCONFIG for the IP address to display |
| If the Operating System is ... | Then locate the IP address by ... | | | | |
| Windows | <ul style="list-style-type: none"> • Opening the Command Prompt • Typing IPCONFIG for the IP address to display | | | | |
| 9 | Enter the details of the proctor caching computer that you will use to precache tests, using port 4480 in the Port field. | | | | |

| Step | Action |
|------|--|
| 10 | <p>In the Response File Backup Locations fields, enter the locations determined. See Using Saved Response File (SRF) and Log Files.</p>  |
| 11 | <p>Do not check the Precaching Computer Override checkbox.</p> |
| 12 | <p>Select the Create button.</p> <p><i>Note: Test content is not yet downloaded and precached. Precaching is something you must perform manually. See the section on Working with Precached Test Content.</i></p> |
| 13 | <p>If more than one proctor caching computer will be used, select the configuration from the list on the left side of the screen. Select the Add button and complete the precaching computer configuration as many times as needed.</p>  |
| 14. | <p>Verify the connection to the precaching computer by opening a new browser window and navigating to <code>http://<ip-address>:<port></code>. If the ProctorCache interface does not appear, reference the setup instructions.</p> <p><i>Note: If you still cannot install proctor caching, contact ACT for assistance.</i></p> |

Using Default ProctorCache Settings

Once you have entered default ProctorCache settings, the IP address and port you saved will automatically populate for each test session created when you select the precaching computer during setup. Initial settings can be changed later.

SUCCESS! You have successfully set up proctor caching.

TestNav Information

This section includes information on:

- New version of TestNav
- Conducting a mock administration
- Understanding Chromebooks
- Understanding App Check with TestNav

New Version of TestNav

As of July 2018, TestNav app version 1.7.x is required. You will receive an error message if you do not have the updated version installed. For more information regarding app updates, go to:

<https://support.assessment.pearson.com/x/HgACAQ>.

Conducting a Mock Administration

A mock administration is **strongly recommended** to verify the technology setup is complete and to familiarize test coordinators, room supervisors, and proctors with the testing process. Refer to [The ACT Test Mock Administration Guide](#) and use the training site found at <https://training.testadmin.act.org> to complete the mock administration **before** the actual test day.

Note: Live tests must not be accessed via TestNav by anyone other than the examinees testing on test day.

Important! The mock administration is not to be used as a practice test for students. It is simply a process used to verify that your testing environment is working correctly.

Understanding Chromebooks

As of Spring 2019, ACT only supports managed Chromebooks.

To set up TestNav on Chromebooks, you should first ensure the Chromebooks used for testing are managed. You can manage your organization's Chrome devices from a single place using Chrome device management. To confirm that a Chromebook is managed, view the **Check if your Chromebook is managed** section at: <https://support.google.com/chromebook/answer/1331549?hl=en>.

Understanding App Check with TestNav

Running App Check **without** a Configuration Identifier will confirm TestNav's ability to enter full screen or "kiosk" mode as well as checking connectivity to Pearson's servers. It also checks for whether the following features that should be disabled are enabled on the testing computer:

- The ability to save multiple items in the Cloud Clipboard
- Being able to sync across devices in the Cloud Clipboard
- Airplay screen-sharing

Running App Check **with** a Configuration Identifier will also check the application's ability to communicate with the organization's defined ProctorCache server and SRF save locations.

You must run App Check on every device running TestNav in your testing environment.

TestNav System Requirements

This section includes information on:

- Hardware requirements
- Software requirements
- Whitelisting
- Wireless network best practices

Note: Technical requirements may change on a quarterly basis.

Tip: For an optimal testing experience, avoid testing on any computer that takes 10 seconds or more to start and run applications.

To determine if your test site has enough computers to test all examinees, use this formula:

[number of devices] x [number of days you plan to test in the window] = examinee capacity

Note: There are 6 days available in the online testing window.

Hardware Requirements

Below are the minimum hardware requirements for devices used for testing.

| | Windows | macOS | Chrome OS |
|--------------------------|--|--|---|
| Supported Devices | Desktop Laptop | Desktop Laptop | Chromebook |
| Processor | x86/x32 and x64 | only Intel-based™ | Any |
| Memory | 2GB RAM | 2GB RAM | 2GB RAM |
| Screen Size | 9.5 inch | 9.5 inch | 9.5 inch |
| Screen Resolution | 1024x768 | 1024x768 | 1024x768 |
| Other | <ul style="list-style-type: none"> • External keyboard and mouse (or touchpad) for touchscreen devices required • Wired hardware is recommended • Local File access to home directory | <ul style="list-style-type: none"> • Local File access to home directory • Wired hardware is recommended | <ul style="list-style-type: none"> • Convertible Chromebooks cannot be used in tablet mode* • Touchscreen not supported |

*In order for Chromebooks to be used, they must be used with a keyboard and mouse/touchpad. **Tablet mode** refers to using the device as a touchscreen device without a keyboard and mouse/touchpad attached.

Important! iPads and Linux devices are not supported at this time. An examinee's score will be canceled if an iPad or Linux device is used for testing.

Software Requirements

Use the links below to download and set up the TestNav app for your supported operating system:

| Operating System | Download TestNav | Setup Instructions |
|--|--|---|
| Chrome OS 66, 67, 68, 69, 70+ | From Chrome Web Store | Set Up TestNav on Chromebook |
| OS X: 10.11, 10.12, 10.13, 10.14+ | From TestNav Downloads | Set Up TestNav on OS X, macOS |
| Windows: 7, 8.1, 10 (includes Windows Store App) | From TestNav Downloads | Set Up TestNav on Windows |

Whitelisting

The following URLs and ports must be whitelisted or opened in any firewalls, proxy servers, or software used for internet content filtering or inspection:

URL:Port

- *.testnav.com:80
- *.testnav.com:443
- *.act.org:80
- *.act.org:443
- *.pearsonusercontent.com
- *.thawte.com
- *.usertrust.com
- *.comodoca.com
- .googleanalytics.com

Wireless Network Best Practices

The increase in devices accessing organization networks increases the need for stable WiFi networks, daily monitoring, and maintenance. To help network admins stabilize WiFi for online testing, take the following steps:

- Minimize impact
 - Prior to Test Day
 - Disable low-end wireless protocols not being used
 - Disable WiFi on mobile devices to avoid potential interference
 - On Test Day
 - Ask classrooms to stagger logins to minimize initial loading time.
- Conduct a site survey to evaluate infrastructure, network design, and WiFi to determine how many wireless access points each organization will need.
 - A site survey should include:
 - Evaluating the existing infrastructure
 - Counting the number of user devices
 - Examining the type of user traffic and interference
- Design for density
 - Install access points more densely to decrease potential for overload with too many examinee devices.
 - Reduce WiFi interference from solid materials such as brick, concrete, metal, bookshelves, and cabinets.
 - If your WiFi access points have adjustable antennas, point the antenna to aim the signal at the examinee devices or move the examinee devices directly under the access point.
 - Reduce interference from other WiFi networks by ensuring that no other WiFi networks are on the same channel.
 - Check your access point user guide to determine whether your access points can detect the least congested WiFi channel.
 - Reduce interference from devices that may not be on the WiFi network but may still use the same frequencies to connect (e.g., cordless phones, Bluetooth-enabled devices, and examinee mobile devices).
 - Temporarily turn off or unplug electronics to reduce wireless interference during testing.

Installing TestNav

This section includes information on:

- How to download TestNav on Windows or Mac OS X
- How to download TestNav on Chromebooks
- How to run App Check
- Freezing the test environment

How to Download TestNav on Windows or Mac OS X

Follow the steps below to download TestNav on Windows or Mac OS X.

| Step | Action | | | | |
|--------------------------------|--|--------------------------------|----------|---------|---|
| 1 | Go to http://download.testnav.com . | | | | |
| 2 | Use the following table to determine your next step. <table border="1" data-bbox="344 722 1427 1782"> <thead> <tr> <th>If the Operating System is ...</th> <th>Then ...</th> </tr> </thead> <tbody> <tr> <td>Windows</td> <td> <ol style="list-style-type: none"> 1. Select Windows .msi installer or .exe installer. <i>Note: The .msi installer (Microsoft installer) file contains explicit instructions about installing and removing an application. The .exe installer file provides a built-in installation wizard. You can choose program file locations using this type of installation.</i> 2. Select the file you downloaded or save and open if required by your browser. 3. The Open File—Security Warning appears and asks if you want to run the TestNav file. Select Run. 4. If you downloaded the .msi installer, the installer window appears and automatically installs TestNav. 5. If you downloaded the .exe installer: <ol style="list-style-type: none"> a. The Setup—TestNav window appears and asks if you want to continue installing TestNav. Select Yes. b. The TestNav Setup Wizard appears. Select Next. c. The Select Destination Location window appears. By default, TestNav program files save in C:\Program Files (x86)\TestNav. You can keep the default setting, or select Browse to choose another location. Then select Next. d. The Select Start Menu Folder window appears. By default, the setup wizard also stores program shortcuts in a Pearson folder in the Start menu folder. You can keep the default setting or select Browse to choose another location. Then select Next. e. Select Install. f. By default, the Launch TestNav checkbox is selected. If you do not want to immediately launch TestNav, deselect the checkbox, then select Finish. </td> </tr> </tbody> </table> | If the Operating System is ... | Then ... | Windows | <ol style="list-style-type: none"> 1. Select Windows .msi installer or .exe installer. <i>Note: The .msi installer (Microsoft installer) file contains explicit instructions about installing and removing an application. The .exe installer file provides a built-in installation wizard. You can choose program file locations using this type of installation.</i> 2. Select the file you downloaded or save and open if required by your browser. 3. The Open File—Security Warning appears and asks if you want to run the TestNav file. Select Run. 4. If you downloaded the .msi installer, the installer window appears and automatically installs TestNav. 5. If you downloaded the .exe installer: <ol style="list-style-type: none"> a. The Setup—TestNav window appears and asks if you want to continue installing TestNav. Select Yes. b. The TestNav Setup Wizard appears. Select Next. c. The Select Destination Location window appears. By default, TestNav program files save in C:\Program Files (x86)\TestNav. You can keep the default setting, or select Browse to choose another location. Then select Next. d. The Select Start Menu Folder window appears. By default, the setup wizard also stores program shortcuts in a Pearson folder in the Start menu folder. You can keep the default setting or select Browse to choose another location. Then select Next. e. Select Install. f. By default, the Launch TestNav checkbox is selected. If you do not want to immediately launch TestNav, deselect the checkbox, then select Finish. |
| If the Operating System is ... | Then ... | | | | |
| Windows | <ol style="list-style-type: none"> 1. Select Windows .msi installer or .exe installer. <i>Note: The .msi installer (Microsoft installer) file contains explicit instructions about installing and removing an application. The .exe installer file provides a built-in installation wizard. You can choose program file locations using this type of installation.</i> 2. Select the file you downloaded or save and open if required by your browser. 3. The Open File—Security Warning appears and asks if you want to run the TestNav file. Select Run. 4. If you downloaded the .msi installer, the installer window appears and automatically installs TestNav. 5. If you downloaded the .exe installer: <ol style="list-style-type: none"> a. The Setup—TestNav window appears and asks if you want to continue installing TestNav. Select Yes. b. The TestNav Setup Wizard appears. Select Next. c. The Select Destination Location window appears. By default, TestNav program files save in C:\Program Files (x86)\TestNav. You can keep the default setting, or select Browse to choose another location. Then select Next. d. The Select Start Menu Folder window appears. By default, the setup wizard also stores program shortcuts in a Pearson folder in the Start menu folder. You can keep the default setting or select Browse to choose another location. Then select Next. e. Select Install. f. By default, the Launch TestNav checkbox is selected. If you do not want to immediately launch TestNav, deselect the checkbox, then select Finish. | | | | |

| Step | Action |
|------|--|
| | <p>Mac OS X</p> <ol style="list-style-type: none"> 1. Select Download TestNav for another platform. 2. Select macOS. 3. Select the file you downloaded. The TestNav install window appears. 4. Drag the TestNav icon into the Applications folder. 5. Eject the TestNav installer from Devices in the Finder sidebar. <p><i>Note: You can also eject it from the Desktop.</i></p> |
| 3 | Run App Check. See How to Run App Check. |


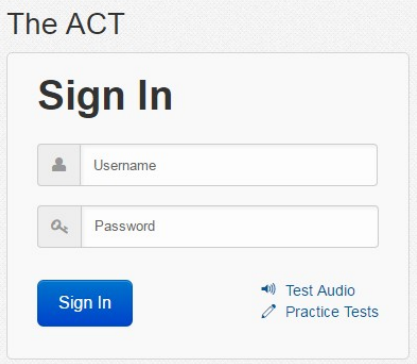

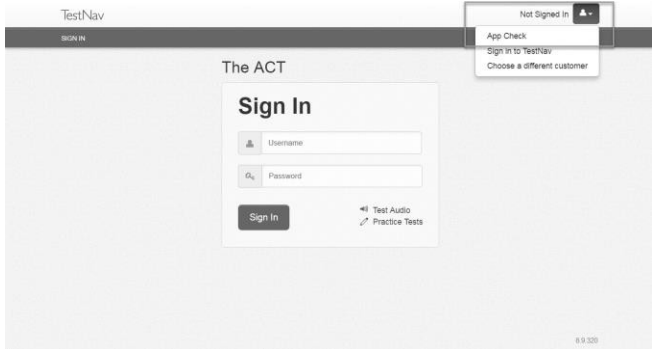
How to Download TestNav on Chromebooks

Follow the steps below to download TestNav on Chromebooks. Setup instructions can be found at: <https://support.assessment.pearson.com/display/TN/Set+Up+TestNav+on+Chrome+OS>

| Step | Action |
|------|---|
| 1 | <ol style="list-style-type: none"> 1. Log into the Admin console for your domain. 2. From the Admin console, select Device Management > Chrome devices. 3. Select the icon at the top right of the page for Chrome device settings. 4. IMPORTANT! Scroll down to find the User Data section. If Do not erase all local user data is not currently selected, select it. 5. Above the Kiosk Apps section, you see the Kiosk Settings section. If not already selected, ensure that the Auto-Launch Kiosk App drop-down is set to None. <p><i>Note: Make sure the devices you want to administer the test with are under the organizational unit you select for TestNav.</i></p> <ol style="list-style-type: none"> 6. Scroll down to Kiosk Apps and select Manage Kiosk Applications. 7. The Kiosk Apps dialog appears and you should see TestNav in the Total to Install column. <ol style="list-style-type: none"> a. If TestNav does not appear in that column, select Chrome Web Store, and search for TestNav in the search field. b. Select Add. Then select Save. <p>Select Save at the bottom of the page.</p> |
| 2 | Run App Check. See How to Run App Check. |

How to Run App Check

Follow the steps below to run App Check on each device.

| Step | Action |
|------|--|
| 1 | <p>TestNav automatically creates a shortcut on the Desktop. Find the icon on your Desktop and select it, or from the Start menu, select All Programs>Pearson>TestNav. When TestNav opens for the first time on the device, the Customer Selection screen is displayed. Select The ACT from the list.</p>   <p><i>Note: If a test other than the ACT is taken in TestNav, you will need to select Choose a different customer from the User drop-down menu.</i></p>  <p><i>Note: For Chromebooks, you will need to open the app in kiosk mode (open TestNav app without logging into the Chromebook).</i></p> |
| 2 | <p>Select the user drop-down menu and select App Check.</p>  |

- 3 Enter the Configuration Identifier (optional) that was generated when you set up TestNav Configuration(s) in PearsonAccess^{next}. Select **Run App Check**.

Note: The Configuration Identifier is found on the Create/Edit TestNav Configurations screen in PearsonAccess^{next} once a Proctor Caching computer is established.

Note: While optional, it is highly recommended you run App Check with Configuration Identifier. If you do not have TestNav Configuration(s) set up at the time of the initial App Check, rerun App Check with the Configuration Identifier once TestNav Configuration(s) are completed.

The screenshot shows the TestNav 'App Check' interface. At the top, it says 'TestNav' and 'Not Signed In'. Below that, there's a 'SIGN IN - APP CHECK' header and a 'Back to Sign In' button. The main heading is 'App Check'. Below this, there's a prompt: 'Enter a configuration identifier or click "Run App Check" to run the default app check.' There's a text input field labeled 'Configuration Identifier (optional):' with the placeholder text 'Configuration Identifier'. Below the input field is a dark button labeled 'Run App Check'.

If you enter an invalid Configuration Identifier, an error message will appear.

This screenshot shows the same 'App Check' interface as the previous one, but with an error. The 'Configuration Identifier (optional):' input field now contains the text 'Config-ABC-123'. To the right of the input field is a red information icon. Below the input field, there's a red error message: 'Error: Config-ABC-123 is invalid'. The 'Run App Check' button is still visible below the error message.

- 4 If the user does not enter a Configuration Identifier, only Kiosk Mode Pass/Fail and Connectivity Pass/Fail will be displayed.

Note: Passing systems display a green success message; failing systems display a red failure message.

This screenshot shows the 'App Check' results. The 'Configuration Identifier (optional):' input field contains the text 'Sample2'. Below the input field is the 'Run App Check' button. Below the button, there's a section titled 'App Check is complete but one or more issues require your attention:'. This section contains three items:

- A green checkmark followed by 'Kiosk Mode Passed.'
- A green checkmark followed by 'Connectivity to TestNav Passed.'
- A red circle with an exclamation mark followed by 'Proctor Cache Failed: Check your ProctorCache settings and network.' Below this, there's a bullet point: 'Refer to the Set Up and Use ProctorCache section in TestNav Online Support: <https://support.assessment.pearson.com/X/HAACAQ>

Freezing the Test Environment

Once you have configured the testing environment for TestNav, you should freeze the configuration until online testing is finished at your organization. This includes not accepting operating system updates.

Important! All devices that will be used for testing must be administrator controlled. No software of any sort should be downloaded or updated on any computer that will be used for testing after the set up above has been completed.

Note: Test coordinators can verify that the TestNav Configurations have been configured within PearsonAccess^{next} by going to Reports > Operational Reports > Online Testing > Organizations that have Precaching Server Configuration.

Working with Precached Test Content

In this section, you will find information on:

- Precaching before test day
- How to precache test content
- How to verify the status of cached test content
- Monitoring ProctorCache activity during testing
- How to purge cached test (or client) content

Precaching before Test Day

Test content should be precached:

1. After you have created all test sessions
2. Within two business days before testing begins

This prevents delays in administering the test on test day.

How to Precache Test Content

Take the following steps to precache the test content.

Important! Browser pop-ups must be allowed in order to start the precaching process.

| Step | Action |
|------|---|
| 1 | Turn on the proctor caching computer. |
| 2 | Log in to PearsonAccess ^{next} at https://testadmin.act.org from a device other than the proctor caching computer. |
| 3 | Select the Setup button. |
| 4 | Select the Precache By Test button. |
| 5 | Select the tests you wish to precache. Select the Precache Server. |
| 6 | Select the Precache button. A pop-up window opens. Select Precache again. <i>Note: Verify the connection to the Precaching Computer by opening a new browser window and navigating to <code>http://<ip-address>:<port></code>. If the ProctorCache interface does not appear, reference the setup instructions or contact customer support.</i> |
| 7 | Once content has been cached, you can monitor ProctorCache activity from the Test and Clients screens of TestNav ProctorCache to verify the status of cached content. |

Note: ProctorCache must be running for content to successfully precache. If either of the services are stopped, content will not precache.

How to Verify the Status of Precached Test Content

Two business days before testing begins, verify test content has been cached. To view and verify that test content has been cached and is current before the assessment window, take the following steps.

| Step | Action |
|------|--|
| 1 | Go to the proctor caching computer. |
| 2 | Open ProctorCache. |
| 3 | Select the Tests tab. A list of all tests will display. |
| 4 | <p>Review the caching status of all items in the test form.</p> <p>Test Status options are as follows:</p> <ul style="list-style-type: none"> Green OK—content is successfully cached Yellow not loaded—content is not cached Yellow waiting...—content is waiting to be loaded Yellow loading...—content is currently loading Red Failed to load content—caching content failed Red MD5 check invalid—MD5 comparison failed* Red MD5 Mismatch—MD5 comparison succeeded, but files did not match* <p>*— If you see this option, call ACT.</p> |

Monitoring ProctorCache Activity during Testing

During testing, you can monitor ProctorCache activity from the Tests and Clients screens of TestNav ProctorCache.

The **Tests** tab provides a high level view of the test content downloaded by test form and last cache date. The Status column indicates whether the test content was successfully cached for the test form. The number of content entries successfully cached is also displayed with the date the content was last cached. If test content is successfully cached, a green status icon displays. If test content is not successfully cached, a yellow or red icon displays.

Note: Each URL represents item content, along with the number of hits, which indicates the number of examinees who have accessed the item.

The screenshot shows the TestNav ProctorCache interface. At the top, there is a navigation menu with 'Tests', 'Clients', 'Settings', and 'Help'. Below the menu, there is a 'Tests' tab selected. The main area contains a search bar with a 'Test' dropdown, 'Search', and 'Clear' buttons. Below the search bar is a table with the following data:

| TEST | FORM | STATUS | ENTRIES | CACHE DATE |
|---|---|--------------|---------|-----------------------|
| <input type="checkbox"/> The ACT with Writing | The ACT with Writing - 234567 | ● OK | 371 | Nov 28, 2017 4:16 PM |
| <input type="checkbox"/> The ACT | The ACT - 123456 | ● OK | 368 | Nov 28, 2017 4:16 PM |
| <input type="checkbox"/> Shared Content | Shared Content | ● OK | 167 | Feb 12, 2018 10:21 AM |
| <input type="checkbox"/> aitup9msec-tts-asp2 | aitup9msec-tts-asp2 - aitup9msec-tts-asp2 | ● Loading... | 1404 | Sep 27, 2017 1:25 PM |

The **Clients** tab provides a list of all clients (testing computers) by name, IP address, and platform that have recently requested test content.

How to Purge Cached Test (or Client) Content

Take the following steps to purge cached content from a proctor caching computer.

Important! For test security reasons, test content must be purged from the proctor caching computers at the end of the testing window.

| Step | Action |
|------|--|
| 1 | Go to a proctor caching computer. |
| 2 | Open the shortcut to ProctorCache. |
| 3 | Select the Tests (or Clients) tab. <i>Note: To filter your list, enter search criteria and select a value from the drop-down list. Select the Clear button to reset your search criteria.</i> |
| 4 | Check the box next to the test (or client) to purge. |
| 5 | Select the Purge (or Purge Client) button. |
| 6 | Enter the following proctor password in the popup window: t35t1n6 |
| 7 | Repeat these steps on each proctor caching computer. |

Note: Do not purge content until the end of the testing window unless otherwise directed by ACT or Pearson. Purging cached content during a test may impede or prevent examinees' access to cached test content.

