MASSACHUSETTS
Department of Elementary
and Secondary Education

Infrastructure Trial Readiness Guide for 2023–24 MCAS Computer-Based Testing
Including App Check and Preliminary System Test

September 2023

Massachusetts Department of Elementary and Secondary Education
75 Pleasant Street, Malden, MA 02148-4906
Phone 781-338-3000 TTY: N.E.T. Relay 800-439-2370
www.doe.mass.edu

This document was prepared by the
Massachusetts Department of Elementary and Secondary Education
Jeffrey C. Riley
Commissioner

Massachusetts Department of Elementary and Secondary Education 75 Pleasant Street, Malden, MA 02148-4906 Phone 781-338-3000 TTY: N.E.T. Relay 800-439-2370 www.doe.mass.edu

Important Contact Information and Resources

Contact:	**MCAS Service Center**

For questions on:	• general test administration support
	• PearsonAccess^{next} and TestNav such as
	  ○ user accounts
	  ○ technology support and readiness
	  ○ Infrastructure Trials and ProctorCache
	  ○ viewing student records and organizations
	  ○ the SR/PNP process and loading files
	• logistical support, including filling out the Materials Summary and the PCPA
	• locating resources
	• shipments of materials

Hours:	7:00 a.m.–5:00 p.m., Monday–Friday
Web:	mcas.pearsonsupport.com
Email:	mcas@cognia.org
Telephone:	800-737-5103

Contact:	**ESE Office of Student Assessment Services**
For questions on:	• policy, such as assigning accessibility features and accommodations • student participation • testing irregularities, including test security incidents and technology failures • undoing test submissions for CBT • student data and SIMS (See note below regarding SIMS.) Questions regarding SIMS data should be directed to the district's SIMS contact (go to profiles.doe.mass.edu/search/search.aspx?leftNavID=11239, select **SIMS Contact** from the **Function** menu, and click **Get Results**).
Hours:	8:00 a.m.–5:00 p.m., Monday–Friday during test administration windows Between 7:00 a.m. and 8:00 a.m. during the test administration windows, MCAS Service Center representatives will receive calls to 781-338-3625, answer questions regarding logistics, and take messages for Department staff, which will be returned during our regular business hours.
Web:	www.doe.mass.edu/mcas/admin.html
Email:	mcas@doe.mass.edu
Telephone:	781-338-3625
Fax:	781-338-3630

Contact:	**Pearson Technology Support Specialists**
For questions on:	• Technology set-up and site readiness • Questions about TestNav • ProctorCache set-up • TestNav Configurations in PearsonAccess^{next} • Error messages or questions on TestNav Configurations • Infrastructure Trials (set-up as well as debriefing)
Hours:	10:00 a.m.–5:30 p.m., Monday–Friday Available beginning in late September. Schools that need support during test administration should contact the MCAS Service Center using the contact information above.
Web:	http://mcas.pearsonsupport.com/technology-setup/ *Use the link above to schedule one-on-one support from Pearson's support specialists (i.e., Field Services Engineering). Technology coordinators may schedule a 15-, 30-, or 60-minute phone meeting with the Field Services Engineering team for "office hours" support.*

Table of Contents

I. Determining How to Check Your Technology Infrastructure

A. Overview

App Check

As a first step to ensuring that devices and networks are set up correctly to use TestNav for CBT, **all schools** should complete the App Check in TestNav on a small sample of student testing devices. Running App Check in TestNav takes only a few seconds per device and should be completed after configuring the network and downloading TestNav onto student devices as described in this guide. Instructions for running App Check begin in Section IV, step 4.

Preliminary System Test

It is recommended that all schools run a Preliminary System Test prior to testing (or prior to the Infrastructure Trial if your school is conducting one). Especially if your school does not administer a full-scale Infrastructure Trial with students, DESE strongly recommends running a Preliminary System Test. A Preliminary System Test is a small-scale Infrastructure Trial during which several technology or other school staff members log in to TestNav and click through practice tests (instead of students doing so). Conducting a Preliminary System Test will help ensure that secure test content will be accessed on test day, that local device security settings are correct, and that TestNav can run successfully on student devices.

Infrastructure Trial

An Infrastructure Trial is an opportunity for districts, schools, and students to prepare for CBT by simulating test-day network utilization. This "dress rehearsal" will help to confirm that all testing devices are properly configured, that school and district networks can handle online testing, and that staff members are familiar with their role in administering an online test. During an Infrastructure Trial, students sign in to TestNav with sample student testing tickets and complete a practice test session.

B. Determine whether to run an Infrastructure Trial

Steps to Check Technology Infrastructure for Computer-Based MCAS Testing

All schools run App Check.
Resolve any error messages that occur.

Determine whether to run an Infrastructure Trial:

1. Did your school successfully complete computer-based testing last year?
2. Has your school had minimal changes to student devices, network, and/or security settings since the last CBT administration?
3. Can you confirm the following:
   - TestNav is configured correctly
   - If precaching, the ProctorCache machine is properly configured to deliver test content to devices
   - Devices can successfully run TestNav
   - Participating staff know how to monitor and manage a computer-based MCAS test
   - Students are familiar with the computer-based tools and format

If you answered "Yes" to the questions above:

Conduct a Preliminary System Test

Small-scale Infrastructure Trial that only includes technology or other staff, not students.

It may not be necessary to also conduct a separate Infrastructure Trial.

If you answered "No" to one or more of the questions above:

Conduct a Preliminary System Test AND an Infrastructure Trial

An Infrastructure Trial is a dress rehearsal of computer-based MCAS testing that includes students, test administrators, test coordinators, and technology staff.

It is recommended to conduct a Preliminary System Test before conducting a full-scale Infrastructure Trial.

The following icons are included in the margins of this guide to designate which tasks correspond with a Preliminary System Test, an Infrastructure Trial, or both.

PT	Preliminary System Test
IT	Infrastructure Trial
PT/IT	Both Preliminary System Test and Infrastructure Trial

The  icon is used in this manual to indicate information related to accessibility, accommodations, students with disabilities, and EL students.

PT

C. Preliminary System Test

A Preliminary System Test is **strongly recommended for schools not conducting an Infrastructure Trial**, and is also recommended prior to conducting an Infrastructure Trial.

The Preliminary System Test is an informal, small-scale Infrastructure Trial to help ensure that systems are set up and in place before students participate in online testing. Technology coordinators should work with the principal or school test coordinator to follow the steps below to create sample student records and PAN Sessions, and to prepare, start, and unlock the test sessions. Then, technology coordinators or other school staff members should sign in to several student devices and access practice tests to confirm that the devices are able to use TestNav, that secure content can be accessed, and that local device security settings are set up correctly.

Steps to Prepare for the Preliminary System Test

Technology coordinators should complete the following tasks prior to the Preliminary System Test:

1. Access the PAN Training site. (Section III)
2. Configure Internet firewalls, content filters, and spam filters. (Section IV, step 2)
3. Download the device-specific TestNav app onto student testing devices. (Section IV, step 3)
4. Test the "lock down" settings by running App Check. (Section IV, step 4)
5. Review Appendix A: ProctorCache Recommendation for MCAS Computer-Based Testing (Section IV, step 5)
6. Create the TestNav Configuration. (Section IV, step 6)
7. If using ProctorCache, precache test content by using the "Precache by Test" function. (Section IV, step 7)

Technology coordinators should work with the principal or school test coordinator to complete the following tasks:

- Generate sample students. (Section V)
- Create PAN Sessions. (Section VII)
- Prepare PAN Sessions. (Section VIII, step 1)
- Print student testing tickets. (Section VIII, step 2)
- Start PAN Sessions. (Section X, step 1)
- Unlock test sessions. (Section XI, Part B, step 3)

Once the devices and network have been set up and sample students have been assigned to PAN Sessions, technology or other school staff should sign in to TestNav on student devices using the sample student testing tickets and click through each practice test that students will take during operational testing.

During the Preliminary System Test, take note of any issues that arise, including TestNav error codes. Refer to the TestNav 8 User Guide for a full list of error codes and explanations. If applicable, ensure ProctorCache software is running (see Section IV, step 8).

Best Practices for Conducting a Preliminary System Test:

- Use the same devices students will use during operational testing. Sign in to the devices using a student login.
- Use each type of device that will be used during operational testing (e.g. Chromebooks, Windows, Mac).
- Use the same network that will be used by students during operational testing.
- Navigate through the entire test to load all secure test content.
- Navigate through each grade and subject test that will be tested in your school (e.g. Grade 3 Math, Grade 3 ELA, Grade 4 Math, Grade 4 ELA, Grade 5 STE, including accommodated tests in the bullets below.
    - Note: If students will be using the following accommodated test forms, navigate through one of each form type at each grade level tested:
        - Text-to-speech for all grades and subjects
        - Grade 10 Math: Spanish/English, American Sign Language (ASL)
        - Screen reader: only available for grade 3 Math
        - Assistive Technology: only available for grade 3 ELA

After the Preliminary System Test, debrief with your testing team, including the school test coordinator and technology coordinator. Contact the MCAS Service Center or set up a call with Pearson's Technology Support Specialists to resolve any questions (contact information is on pages i and ii of this guide). If you experience issues and/or error codes during the Preliminary System Test, it is recommended to conduct a second Preliminary System Test once changes have been made to avoid experiencing these issues during operational testing.

Note that a Preliminary System Test will not stress test the school's network to see if the network is able to handle many students testing online at one time. If you are concerned about your network's ability to handle a large number of students accessing TestNav at once, DESE recommends scheduling an Infrastructure Trial.

IT II. Infrastructure Trial Overview

A. Purpose and General Overview

An Infrastructure Trial is an opportunity for districts, schools, and students to prepare for MCAS computer-based testing (CBT) by simulating test-day network utilization.

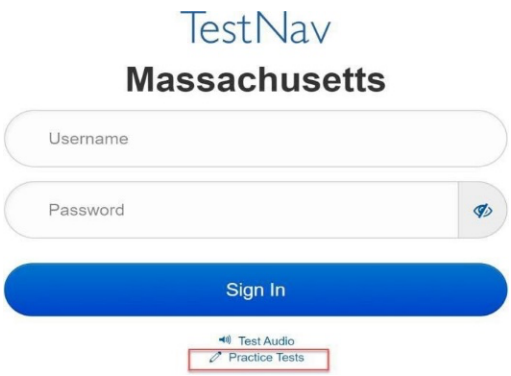
Conducting an Infrastructure Trial provides the school with a scheduled opportunity to practice administering a test in a low-stakes environment that can identify possible problems with technology and communication. This process will help avoid delays or issues during operational testing. Unlike during an operational administration, this trial will not use real student information (sample students will be created in the PearsonAccess^{next} training site), but many of the other steps for an operational administration will be followed.

The Infrastructure Trial confirms:

- TestNav is configured correctly
- If precaching, the ProctorCache machine is properly configured to deliver test content to devices

- Devices can successfully run TestNav
- Participating staff know how to monitor and manage a computer-based MCAS test
- Students are familiar with the computer-based tools and format

Note that students participating in the Infrastructure Trial practice test will not receive a score at the end of the session; if schools would like for students' practice tests to receive a score, schools should also administer the practice tests outside of the Infrastructure Trial. Scorable practice tests are available in the MCAS Resource Center and by accessing the TestNav Application login screen under the **Sign In** button as shown below.



B. Scheduling the Infrastructure Trial

An Infrastructure Trial should take approximately 60 minutes to administer. However, additional time is needed for the following set-up tasks prior to administration: training staff, creating sample student records, creating PAN Sessions, and configuring the network. The time involved will vary depending on the size of the school and the number of students testing at a given time.

See the testing schedule and administration deadlines for the recommended windows for conducting an Infrastructure Trial.

Please note the number of test sessions available for each practice test for the Infrastructure Trial below:

Grades/Subjects	Test sessions shown in PAN:	Students will take:
ELA (grades 3–8 and 10)	2 sessions*	1 session
STE (grades 5 and 8)	3 sessions**	1 session
Mathematics (grades 3 and 5–8)	2 sessions	2 sessions
Mathematics (grade 4)	3 sessions**	2 sessions
Mathematics (grade 10)	3 sessions**	2 sessions
High School Science (Biology and Introductory Physics)	2 sessions*	1 session

*Ignore the second session in the Infrastructure Trial. In operational testing, the second session will consist of additional testing content.

**Ignore the third session in the Infrastructure Trial. In operational testing, the third session will consist of the questionnaire.

C. Individuals to Include in the Infrastructure Trial

Everyone who will be involved in operational testing should be involved in the Infrastructure Trial. This may include the following:

- District test coordinator
- Principal/school test coordinator
- Test administrators
- Technology coordinator
- Technology staff members
- Students

D. Planning an Infrastructure Trial

Steps for the district test coordinator or principal/school test coordinator

1. **Create a communication plan for the Infrastructure Trial.**
   A best practice is developing a communication plan for all of the staff members who have a role in administering computer-based tests.

   Principals or test coordinators should establish communication with technology staff before the test schedule is set. The plan should document how to reach technology staff during operational testing as well as which individual (the technology coordinator or designee) will be designated to contact the MCAS Service Center in case of technology issues.

2. **Schedule the Infrastructure Trial.**
   Schedule the following activities as part of the Infrastructure Trial:
   - Consult with the technology coordinator, and confirm that all of the student testing devices meet the technical specifications.
   - Designate appropriate testing locations (see guidance in the *Principal's Administration Manual*).
   - Ensure technology staff have set up, installed, and configured all necessary software.
   - Train all staff involved in the Infrastructure Trial. There are two Infrastructure Trial training modules: one for technology coordinators and one for test coordinators and test administrators. The modules are located on the MCAS Resource Center and can be used in conjunction with this guide to prepare staff for the Infrastructure Trial.
   - Identify all students who will participate in the Infrastructure Trial. A trial can be conducted with any number of students, but it is recommended to include the maximum number of students expected to be testing at the same time so that the trial approximates the anticipated load on the school's network.
   - Have students practice TestNav navigation and tools by using the tutorial found at mcas.pearsonsupport.com/student/.
   - Districts should inform their schools whether there will be a district schedule for administering the Infrastructure Trial.

PT/IT

III. Using the PearsonAccess^{next} Training Site

Steps for the district test coordinator, principal/school test coordinator, test administrators, and the technology coordinator

The PearsonAccess^{next} (PAN) training site is used for the Infrastructure Trial (instead of the live site) to create sample students, create PAN Sessions, set up TestNav Configurations, and monitor student test progress.

Schools should create accounts for test administrators, as well as any other necessary staff members, following instructions in the *Guide to Managing User Accounts in PearsonAccess^{next}*, available online in the MCAS Resource Center under the PearsonAccess^{next} Guidance drop-down. New users who need access to multiple schools in a district, such as technology coordinators, should contact a district user for a PAN account. The MCAS Service Center can provide support if there are questions about adding new users. Please note that schools will need to create user accounts for both the training and the live sites. Schools are encouraged to set up accounts in the live site first, and then use the same user IDs to create accounts in the training site.

Confirm that all staff members participating in the Infrastructure Trial have a user account for the training site and for the live site and have been assigned their appropriate roles. To find a user in PearsonAccess^{next}, select **Users** from the **Setup** drop-down menu. Here, search by last name or select **Show All** (the button next to the **search** button). To see a user's assigned role, click on the ℹ icon and select the **Roles** tab. Refer to the *User Role Matrix* and the *Guide to Managing User Accounts* on the MCAS Resource Center for more information about creating users and assigning roles.

Note that user accounts from last school year may have been disabled due to inactivity or because the accounts were created with an "Active End Date." Test coordinators should edit these accounts through the user interface or a file upload to restore access to PAN. Once this is completed, users should update their passwords.

To log in to the training site for the first time (if you received an email notifying you of a new PAN account):

- Click on the link in the email.
- Create a password. You will be prompted to enter it twice; then, click **Set Password**; and then, click **OK**.
- To return to the training site, go to **https://trng-mcas.pearsonaccessnext.com/**.
- Click **Sign In** and enter your username and password on the next screen. Then select **Login**. Read the Privacy Policy and Terms and Conditions of Use and click **Accept**.

To log in to the training site for the first time (if you received an email notifying you of updated permissions to your PAN account):

- Go to **https://trng-mcas.pearsonaccessnext.com/**.
- Click **Sign In** and on the next screen enter your username and password from the live site. Then select **Login**.

To reset your password (if needed):

- Go to **https://trng-mcas.pearsonaccessnext.com/**.
- Click on the **Forgot Password** link.
- Enter your username and email address (typically these will be the same), and then click **Request Password Reset**.

Notes on logging in:

- If you reset your password to the training site, you will automatically reset your password for the live site, since usernames and passwords for both sites will always match.
- Users have five opportunities to log in correctly. After five unsuccessful attempts, the account will be locked, and the user will need to click **Forgot Password** on the home screen to reset the account password.

Note: The training site can be distinguished from the live site by its brown banner at the top of most screens in PAN:

PT/IT

IV. Technology Set-Up

Steps for the technology coordinator before, during, and after the Infrastructure Trial

1. **Review responsibilities for the Infrastructure Trial.**
   The technology coordinator and technology staff will need to review roles and responsibilities for preparing schools to conduct the Infrastructure Trial and inform principals in the district. The technology coordinator and technology staff will need to determine local responsibilities, including configuring devices and how information will be shared across the team for preparing the school to conduct the Infrastructure Trial. Once these roles and responsibilities have been established, they need to be shared with the principal.

2. **Configure Internet firewalls, content filters, and spam filters.**
   - Configure Internet firewalls, content filters, or spam filters to allow access to the Pearson domain. Verify content filter/firewalls and allow the appropriate sites, including:
     - *.testnav.com:80
     - *.testnav.com:443
     - *. pearsontestcontent.com
     - *. usertrust.com
     - *. comodoca.com
     - *. thawte.com
     - *. google-analytics.com (recommended, but not required)
   - For a complete list of allowed URLs: https://support.assessment.pearson.com/TN/network-requirements-and-guidelines-23074307.html
   - Allow local file access to the home directory.
   - Configure the common applications listed below so that they will **not** launch on any student testing devices during the Infrastructure Trial or during operational testing:
     - Anti-virus software performing automatic updates
     - Power management software on laptops warning of low battery levels
     - Screen savers and sleep mode
     - Email with auto message notification
     - Calendar applications with notifications, such as Google Calendar
     - Pop-up blockers
     - Set automatic updates (iTunes)
     - Windows Accelerator

- Mac OS three-finger tap gesture on Macintosh computers with trackpads
- Siri and Dictation (Mac OS)
- Cloud clipboard, Cortana, and Game bar (Windows)
- Any other application that could have a popup message

3. **Download the device-specific TestNav app.**
   For desktop computers, laptops, iPads, Chromebooks, or Androids, download a device-specific TestNav application from the Apple Store, the Google Chrome Web Store, Google Play, or go to http://mcas.pearsonsupport.com/technology-setup/. Instructions on setting up and managing devices are available at https://support.assessment.pearson.com/x/HgACAQ.

4. **Test the "lock down" settings.**
   Student testing devices must be able to operate in a "lock down" state that temporarily disables features and applications that could present a security risk to operating TestNav.

   Schools can test the security lock-down settings by following these steps:
   - Open the TestNav app and navigate to the Massachusetts sign in page, and then click the user icon in the top right and choose "App Check" from the menu.
   - A success message should display within a few seconds.
   - If there is an error message, review the TestNav 8 User Guide for device setup instructions for the TestNav app and App Check error messages. Contact the MCAS Service Center with any questions.
   - If the Configuration Identifier is entered, the App Check will also verify that the device has the appropriate permissions to the primary and, if specified, the secondary save locations. The identifier can be found in PAN on the **Create/Edit TestNav Configuration** page (Setup>TestNav Configurations>Create/Edit TestNav Configurations).

   Note: ChromeOS devices: Peer-to-peer (P2P) networking should be disabled on ChromeOS devices. If it is enabled, devices can automatically update Chrome from nearby devices of the same model, resulting in an interruption in testing. Turn off this option in the Google Admin Console to help reduce errors and interruptions during testing. See Appendix B, section 1 (Technology Set-Up) for instructions on how to disable P2P networking on Chromebooks.

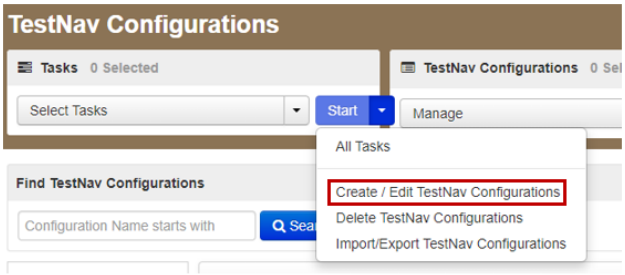
   Note: ChromeOS devices should also have accessibility features disabled prior to testing.

5. **Review Appendix A: ProctorCache Recommendation for MCAS Computer-Based Testing.**
   For schools with low bandwidth, ProctorCache software allows your school to preload the MCAS test content into a local caching computer to reduce issues with internet connectivity during testing. Follow the instructions in Appendix A to run the Network Check in TestNav and install, disable, or re-enable ProctorCache depending on the result of the Network Check.

6. **Create the TestNav Configuration.**
   Use the TestNav Configuration to set up response file backup locations. If ProctorCache is used, the TestNav Configuration will notify the student device where to access test content from the precaching machine once content becomes available.

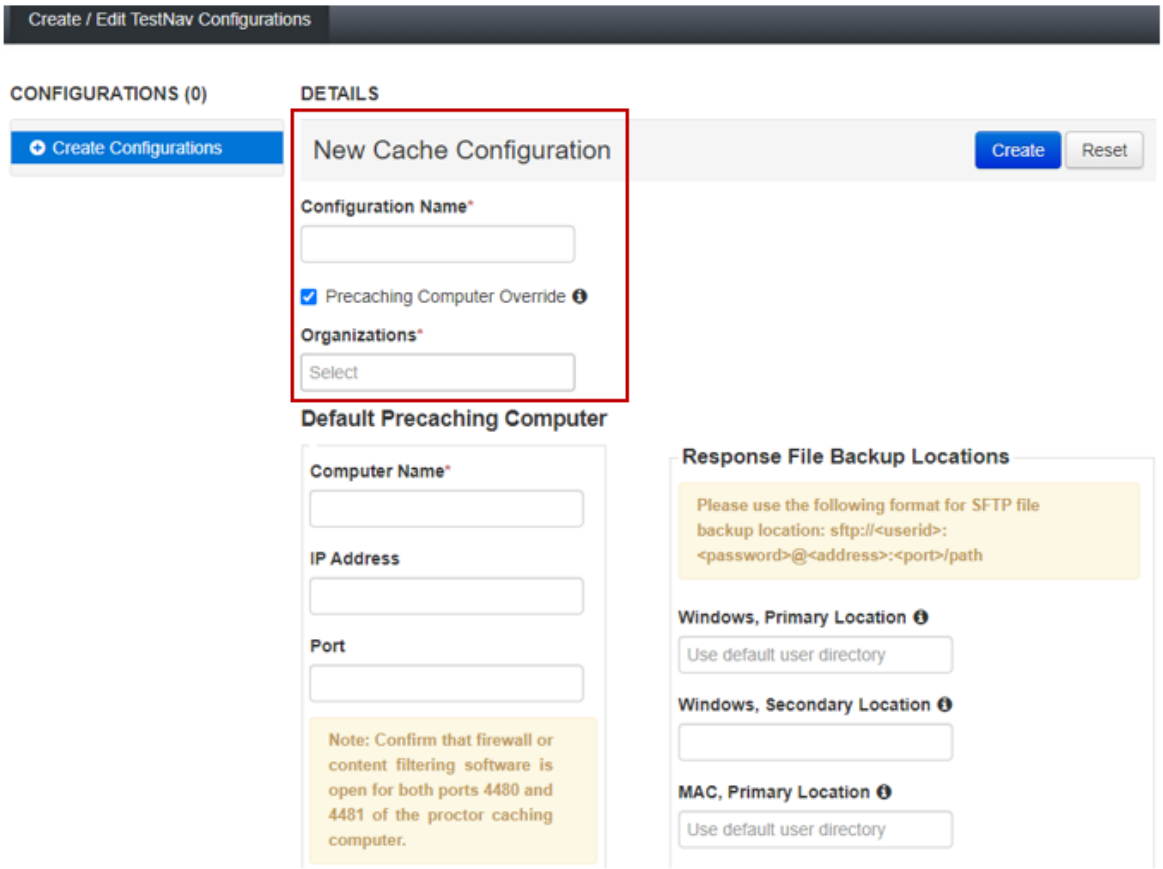
   To create a TestNav Configuration for your organization, select **TestNav Configurations** from the **Setup** menu on the PearsonAccess^{next} homepage, select **Create/Edit TestNav Configurations**

from the **Select Tasks** drop-down menu, click the blue **Start** button, and complete the following steps.



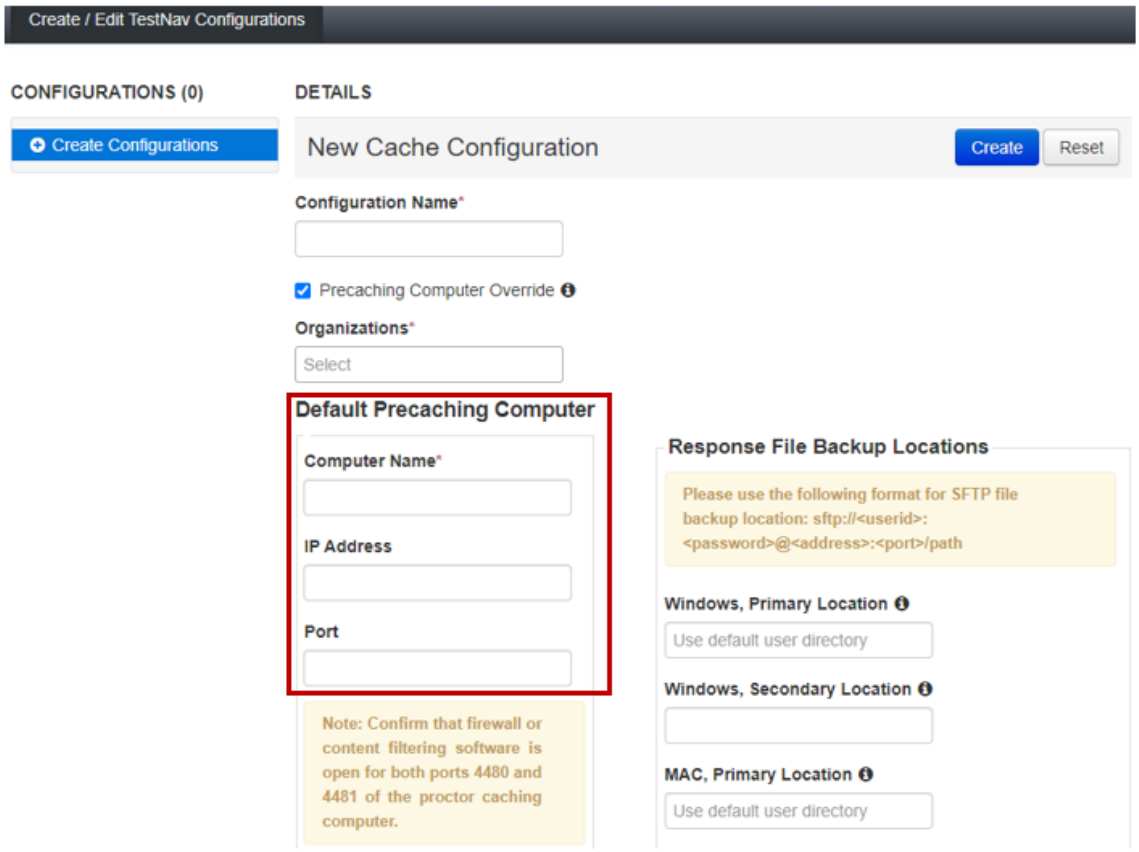
a. Complete the "Details" fields.

- Enter a Configuration Name.
- If using ProctorCache, select the Precaching Computer Override option (recommended for most devices/configurations). If selected, this will allow students to continue testing, even if they lose connection to the ProctorCache computer. This may slow the loading time of the tests as the testing devices will no longer be getting content from a local device, but there will be no testing disruption.
- Select the school/organization that will use this configuration from the **Organizations** drop-down menu.



b. If using ProctorCache, complete the "Default Precaching Computer" fields.

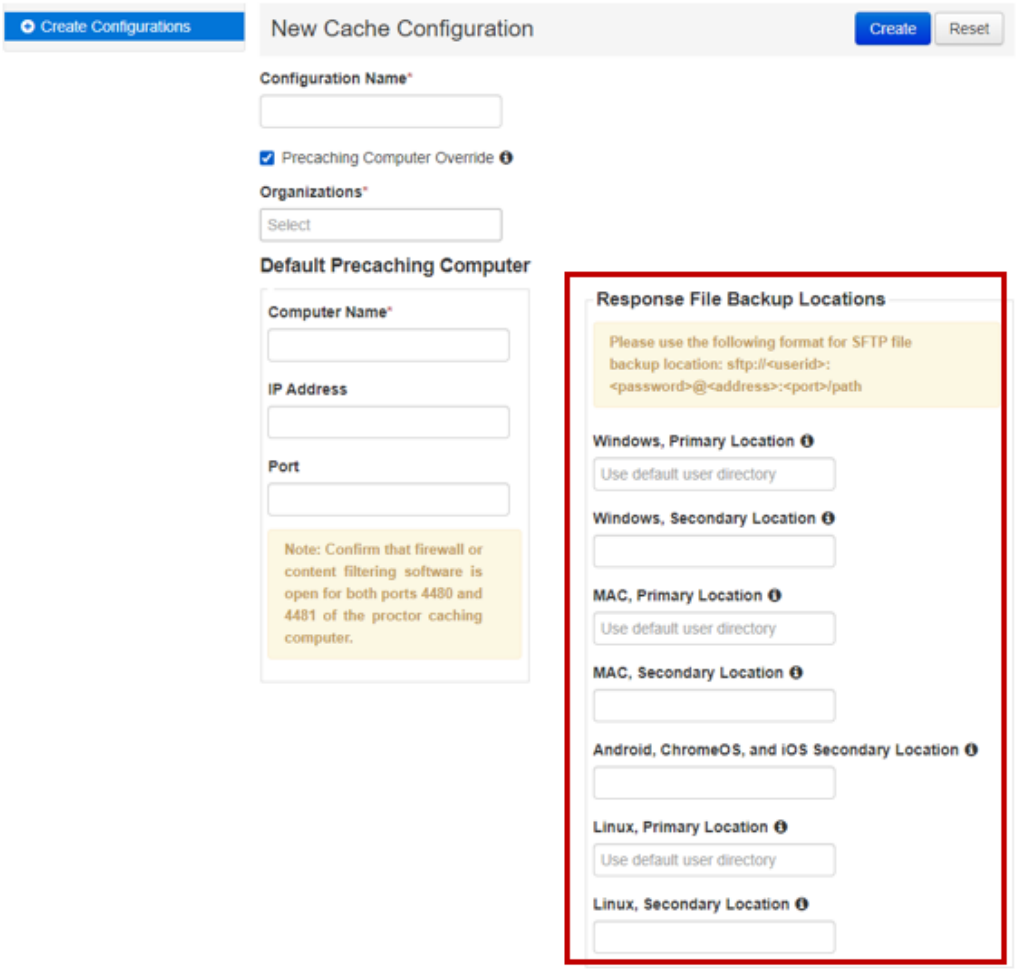
- Enter a **Computer Name** for the precaching machine.
- Enter an internal network IP Address of the precaching machine.
- Enter the Port number for the precaching machine, which will be 4480 for Pearson-supplied ProctorCache software.



c. Complete the "Response File Backup Locations" fields.

Note: Whether or not you are using ProctorCache, DESE **strongly recommends** setting up a secondary save location as a backup for student responses in the event they become lost due to testing device problems or interruptions in connectivity.

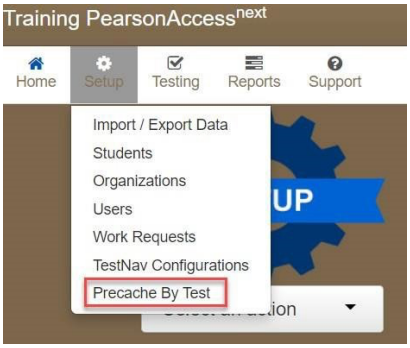
- Enter a Configuration Name, Organization, and Computer Name for the locations to save student response files.
- For the primary location, leave this field blank so that the default remains the device the student is using to test. DESE recommends that a secondary save location also be designated on an internal network location.
- Enter the secondary save locations for the students' response files, which will be encrypted. There are options for Windows, Mac, and Linux devices, and there is an option to use an SFTP file backup location for mobile devices. See https://support.assessment.pearson.com/display/TN/Set+up+and+Use+TestNav for information about setting up secondary save locations.
- Check that the secondary save location is configured correctly by running an App Check in TestNav. Visit the TestNav support page for step-by-step instructions on ensuring the configured file path is valid, and refer to the App Check Error Messages page if the App Check returns any error messages.



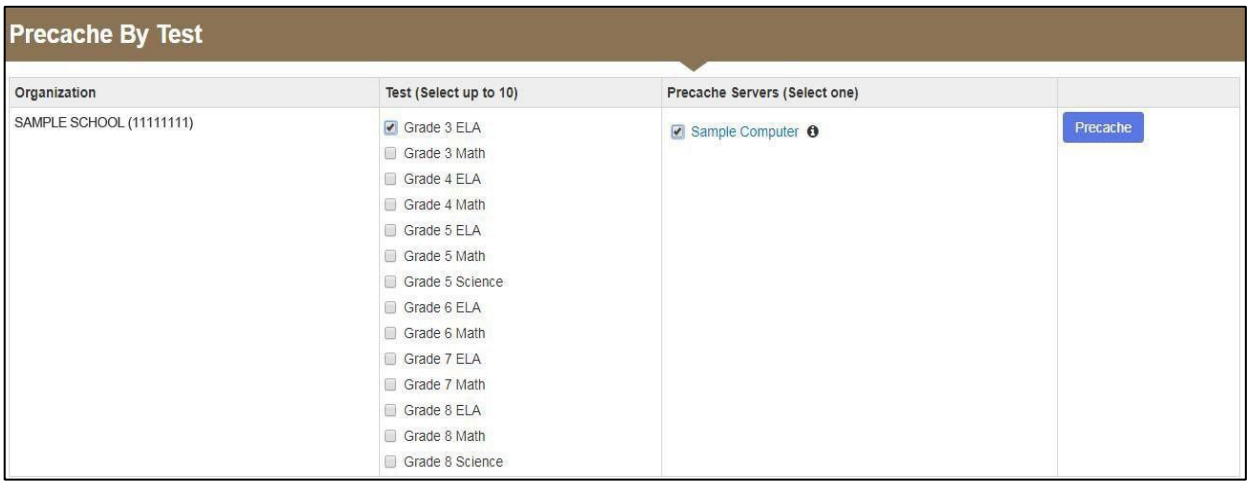
d. Click "Create" to complete the configuration.

7. If using ProctorCache, precache test content by using the "Precache by Test" function.

a. Select "Precache by Test" from the "Setup" drop-down menu.



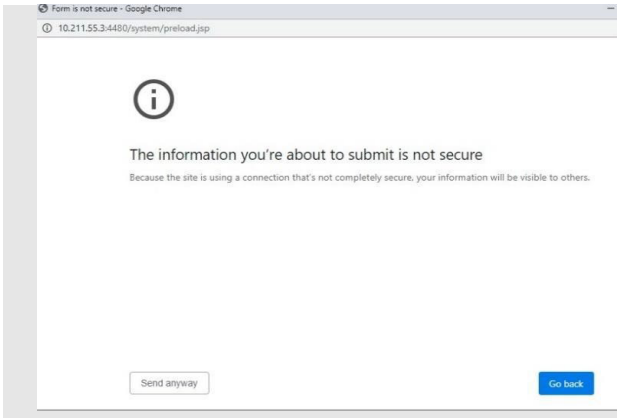
b. Select the test(s) to cache and the "Precache Server" and then click "Precache."



c. Click "Precache" in the pop-up message confirming the precaching computer.

While precaching test content, you may see an **additional prompt** depending on the browser that is being used. **If you do not confirm, the content will not be cached.** More information can be found on the Pearson Support Site. ***Note:*** *If using Google Chrome, you may need to select the pop-up window from your task bar, as it may be minimized.*

Google Chrome



d. A new window will open the ProctorCache diagnostic screen showing the precaching status.
You may need to enable pop-ups in your browser for PearsonAccess^{next} to see this screen.

8. Perform the following steps during the Infrastructure Trial.

a. If applicable, ensure ProctorCache software is running.
Locate the caching computer's IP address and type in your browser**: http://<IP address>:4480,** and then press **Enter** to view the ProctorCache interface. View three tabs: Tests, Clients, and Help.

- Select the **Tests** tab for information about test content and caching status. Select the **Clients** tab to monitor client connectivity.

b. Monitor network performance for slowdowns or ISP bandwidth usage.

- If testing devices are using a wireless connection, monitor the connections and verify whether the Wi-Fi access point placement is sufficient for online testing.
- Provide technology support as needed to the principal or school test coordinator and to test administrators.

9. Perform the following steps after the Infrastructure Trial.

a. If you used ProctorCache, purge cached test content (recommended).
Note that if content is not purged, it will show in the caching interface in the next CBT administration.

In your browser, type **http://<IP address>:4480** and press **Enter** to view the ProctorCache interface. Choose the **Tests** tab to select the content to purge. A password is required to purge; the default password is **t35t1n6**.

b. Follow up on any issues that were identified.
Following the Infrastructure Trial, there may be a need for technical follow-up and resolution prior to the operational test administration. Feedback from staff and students regarding TestNav performance, device connectivity, network performance, and access point placement should be used to conduct follow-up activities with the Infrastructure Trial team.

PT/IT

V. Generating Sample Student Records

Steps for the district test coordinator or principal/school test coordinator

DESE does not recommend using live student SR/PNP data for the Infrastructure Trial. Instead, DESE recommends using sample student data to avoid potential confusion of multiple versions of live data during operational testing. (Generating sample student records is available only on the PearsonAccess^{next} training site, and cannot be done in the live site.)

Schools should determine the maximum number of expected concurrent students testing during operational testing (e.g., 300 students testing on one day at 10:00 a.m.) and conduct their Infrastructure Trial with the same number of concurrent testers.

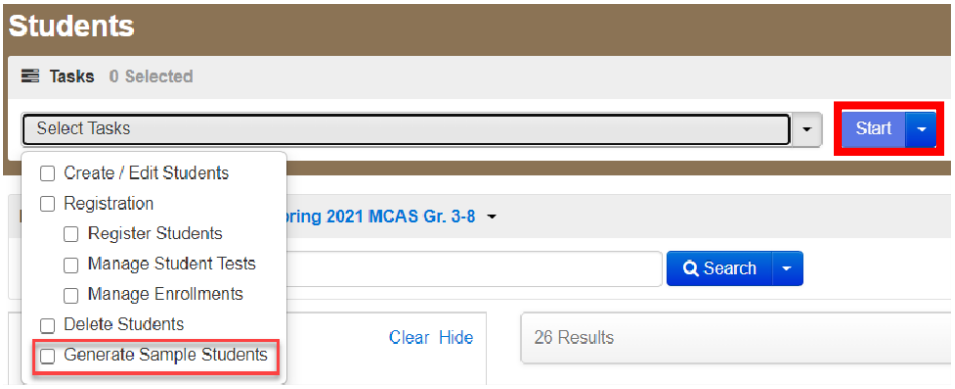
The principal or test coordinator will need to create sample student records in the training site, creating as many sample records as the number of students expected to participate in the Infrastructure Trial, as well as a 10 percent overage in case of login complications.

To create sample student records:

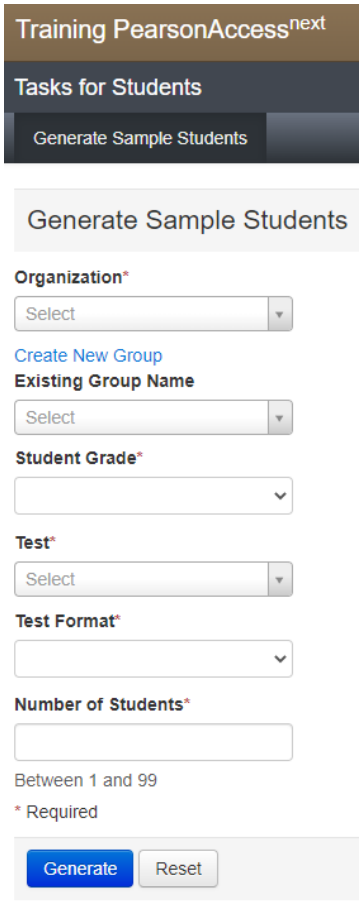
1. **Log in to the MCAS training site.**
   Confirm that the correct administration is selected in the top right-hand corner of PearsonAccess^{next}.

2. **Click "Setup" and select "Students" from the drop-down menu.**

3. **Select "Generate Sample Students" from the "Select Tasks" drop-down menu and click "Start."**



4. **Populate the following fields in the "Generate Sample Students" screen and then click "Generate."**



- **Organization**: Select your school/organization.
- **Group**: Select **Create New Group** and enter a group name that is easy to find (e.g., grade, subject, and location). This will be used later to add students to a PearsonAccess^{next} Session (see Section VII on pages 19–21).

  Note: Creating groups is only available in the training site to facilitate adding sample students to test sessions. Student groups are not available for operational testing.
- **Student Grade**: Select the grade in which the students are reported in SIMS.
- **Test**: Select the appropriate subject area test from the drop-down menu.
- **Test Format**: Select **Online.**
- **Number of Students**: Enter the number of students, up to a maximum of 99. It is recommended that you create at least 10 percent more students than needed, in case additional student testing tickets are needed.

  Note: For students testing with accommodations, follow the additional steps in Part VI: Administering Accommodated Practice Tests.

  Note: For schools with more than 99 students participating in the trial, repeat these steps as needed.
- Repeat steps 2–4 for each grade/subject for each group of sample students to be created.
- For spring MCAS testing, upon request, DESE can place a pre-populated .CSV file of sample students in schools' **MCAS 2024 Data** folder in DropBox Central.
  - Records are representative of students in each school and include some pre-populated accommodations available in the Infrastructure Trial.
  - After accessing the .CSV file from DropBox, schools can assign appropriate Session names and then import the file into the PAN Training Site.
  - Contact DESE's Office of Student Assessment Services at mcas@doe.mass.edu to make this request.
  - Note: this option is not available for the November or March retests.

PT/IT

VI. Administering Accommodated Practice Tests

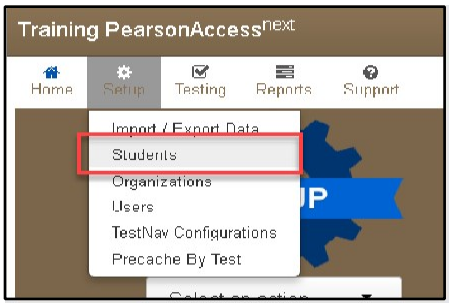
Steps for the district test coordinator or principal/school test coordinator

Most accessibility features and accommodations are available for the practice tests administered as part of the Infrastructure Trial. DESE strongly recommends administering accommodated practice tests during the Preliminary System Test and/or the Infrastructure Trial for all accommodations that will be utilized by students during operational testing.

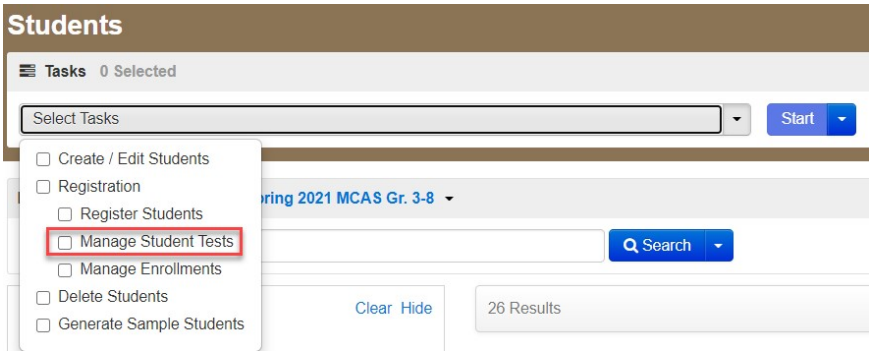
For more information about accessibility features and accommodations, refer to the *Guide to the Student Registration/Personal Needs Profile (SR/PNP) Process*. For information about assistive technology, refer to the *Guidelines for Using Assistive Technology as an MCAS Test Accommodation*.

Accessibility features and accommodations, including accommodated test forms, **must be assigned prior to preparing and starting a PearsonAccess^{next} Session**. Use the following steps to assign accessibility features and accommodations.

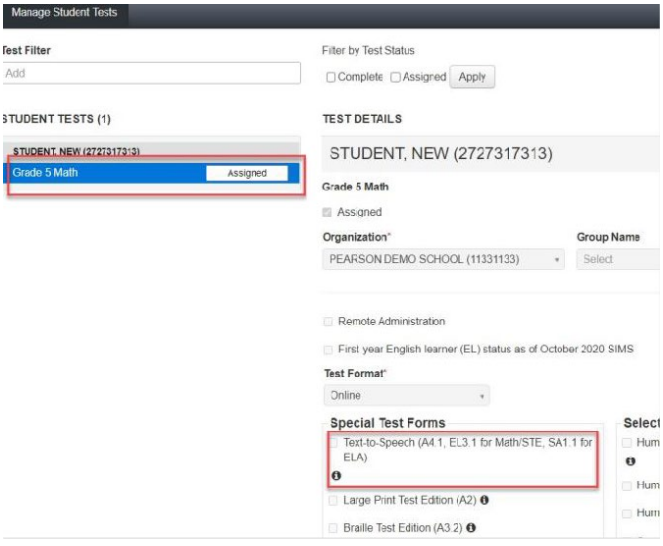
1. **Click "Setup" and select "Students" from the drop-down menu.**



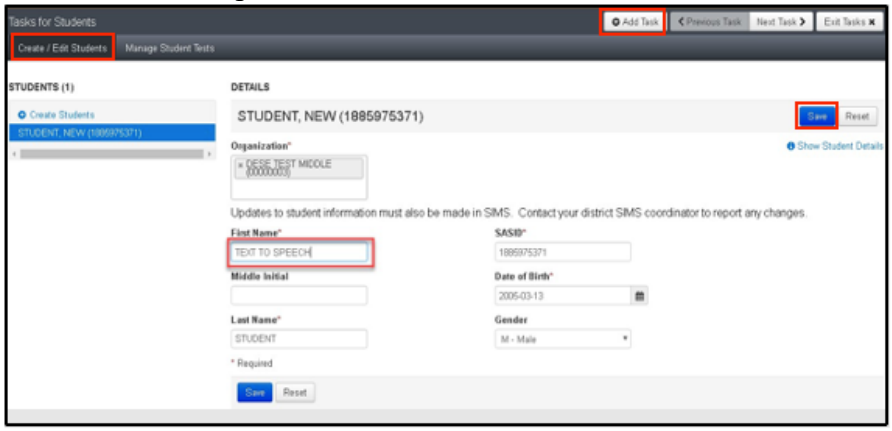
2. **Select the student whose test will be assigned an accommodation and select "Manage Student Tests" from the "Select Tasks" drop-down menu.**



3. **Select the subject area test on the left-hand side of the screen, and select the appropriate accessibility features and/or accommodations.**



4. **Recommended: Change the sample student name so that the accommodated test is easier to find. Select the "Add Task" button on the top black bar and select "Create/Edit Student." Select the student record on the left to update the name and click "Save."**
    - Note the example below, in which the First Name field has been populated with "Text to Speech" for a student who uses that accommodation.



It is **highly recommended** to test assistive technology prior to live testing to ensure compatibility with the app.

The following accommodations are available for practice tests **only** in the Infrastructure Trial and not via the app or in the MCAS Resource Center.

- **Compatible Assistive Technology**: The Compatible Assistive Technology accommodated test form is available **only for the grade 3 ELA practice test**; it is meant to be a sample for school staff to ensure that students' external AT software/hardware function as expected with TestNav prior to operational testing.
- **Screen Reader**: The Screen Reader accommodation is available **only for the grade 3 Mathematics practice test**; it is meant to be a sample for school staff to ensure that students' external Screen Readers (e.g., JAWS) function as expected with TestNav prior to operational testing.

To test the compatible assistive technology or screen reader form, create a student and assign the test:

a. In PAN, click the **Setup** drop-down and select **Students**.
b. Select **Create / Edit Students**, **Register Students**, and **Manage Student Tests** from the **Select Tasks** drop-down, and click **Start**.
c. Complete the student's demographic information on the **Create / Edit Students** tab, and click **Create**.
d. Select the **Register Students** tab at the top of the screen. Click the **Registered** checkbox, under **Student Grade**, choose **Grade 3** and click **Save**.
e. Select the **Manage Student Test** tab, and complete the information for all required fields. Under the test drop-down, select:
    - **Grade 3 ELA** to test the Compatible Assistive Technology edition
    - **Grade 3 Math** to test the Screen Reader edition

Ensure that the **test format** is **online**; and add the **appropriate accommodations**. When finished, click **Create**. When you see the green "**Success**" notification, click **Exit Tasks** in the top right.

PT/IT

VII. Creating PearsonAccess^{next} Sessions

Steps for the district test coordinator or principal/school test coordinator

After sample student records have been created, the district test coordinator, principal, or school test coordinator will need to create online PAN Sessions for the sample student practice tests, which are grade- and subject-specific.

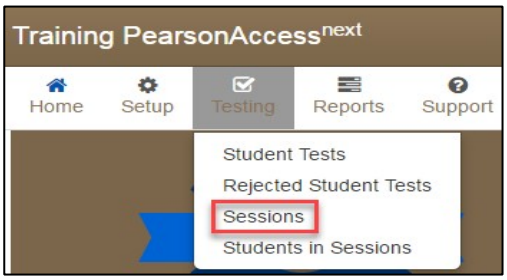
"PAN Sessions" are separate groupings in PearsonAccess^{next} of the students who will take a test at the same time and in the same testing location. PAN Sessions are used when printing student testing tickets. The principal/school test coordinator and the technology coordinator have the permissions in PAN to create Sessions. A PAN Session name may contain up to 50 characters. The Department recommends that schools use a naming convention for PAN Sessions that will help test administrators quickly and easily find the test they are administering including the following items:

- test administrator name
- testing location
- grade
- subject area test

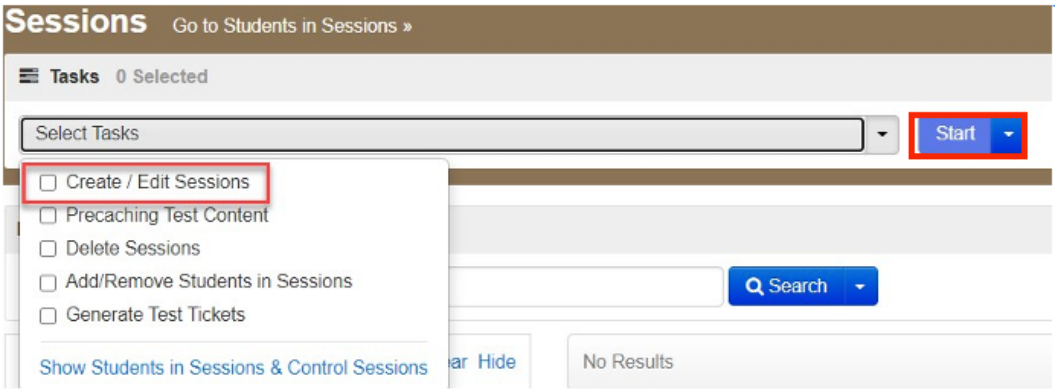
Note that PAN Sessions are different from subject test sessions, which is a term used for administration.

During operational testing, it is recommended to create PAN Sessions approximately two weeks prior to testing, to minimize changes needed after Session creation and assignment.

1. **Create PAN Sessions.**
   a. **Click "Testing" and select "Sessions" from the drop-down menu.**

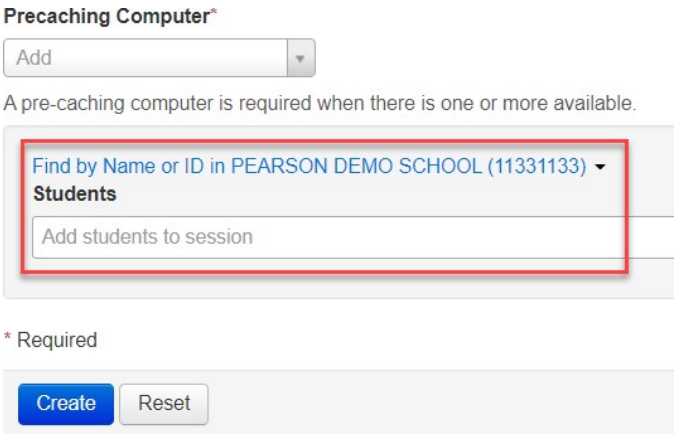


   b. **Click "Select Tasks," select "Create/Edit Sessions," and click the blue "Start" button.**

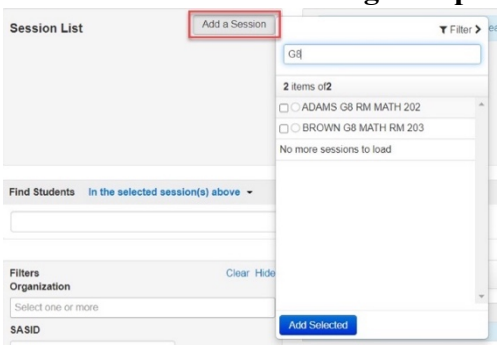


   c. **Complete the "Details" screen.**

- Enter the **Session Name**, and then select the **Organization** from the drop-down menu.
- Complete the **Test & Form** section by selecting the **Test Assigned** drop-down menu and choosing the appropriate practice test from the drop-down.
- Set **Form Group Type** to **Standard** from the **Form Group Type** drop-down.
- **If using ProctorCache**, select the **Precaching Computer** from the drop-down menu.
- Enter the **Scheduled Start Date** and the **Scheduled Start Time**. (These are meant to be used for planning purposes only; entering incorrect information will not have an effect on when the practice tests can actually be administered.)
- Click in the box underneath "Students" to add individual students or click on the drop-down arrow next to the school code to instead find by group name created in section V above (as shown in the following step).



d. When selecting the option to find groups, the screen will change as shown below:



e. Click "Create."

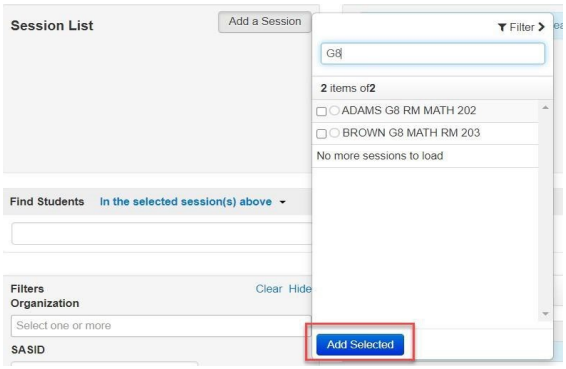
2. Add additional sample student records to a PAN Session that has already been created (if necessary).

Follow the steps below to add student records to PAN Sessions if the students were not included in the Session when it was created.

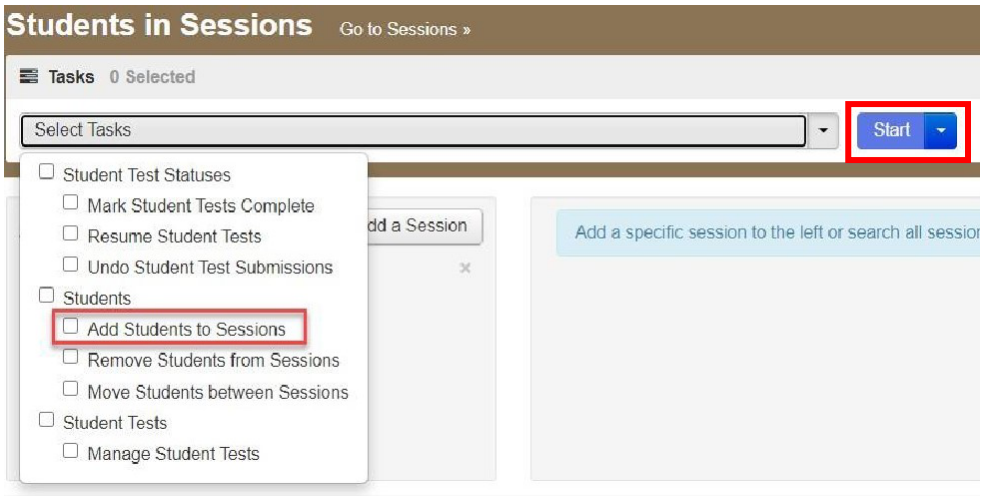
a. Click "Testing" and select "Students in Sessions" from the drop-down menu.

b. Select "Add a Session" and search for the name of the Session to which you will add students.

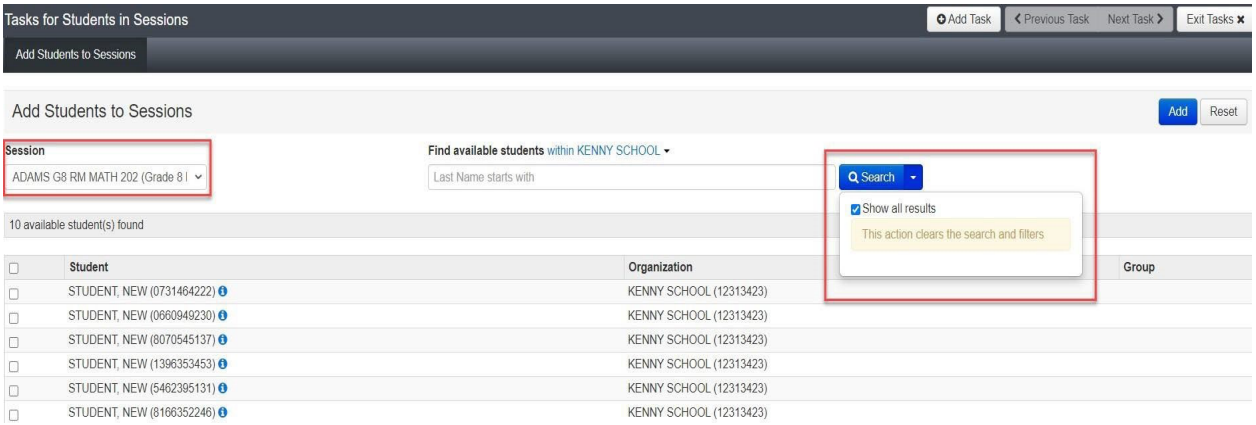
c. Select the checkbox next to the name of the Session and click "Add Selected."



d. Click on the "Tasks" menu and select "Add Students to Sessions." Then click "Start."



e. In the "Find Available Students" box, find students to add to the Session.
Search for students by last name or select the "Show all Results" checkbox to see all available students. To add students from a previously created group, select the blue drop-down and select the "by Group" option.



f. Select the student(s) to be added and click the "Add" button.

VIII. Preparing and Administering the Infrastructure Trial

Steps for the district test coordinator or principal/school test coordinator

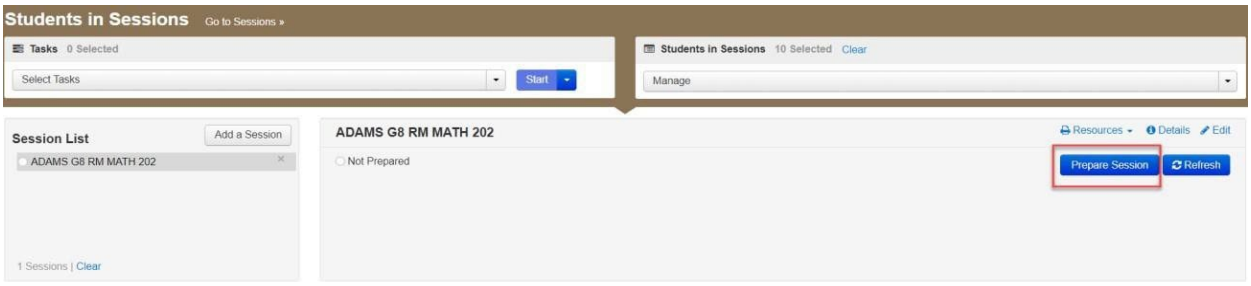
1. Prepare each PAN Session.

PAN Sessions must be prepared by the principal or school test coordinator before they can be started. It is important to make sure all appropriate accommodations have been assigned correctly prior to preparing the PAN Session so that students receive the correct test forms. Preparing a PAN Session assigns a test form to each student.

Preparing a PAN Session may take a few minutes depending on the number of students in the Session; preparing multiple PAN Sessions may take a longer time.

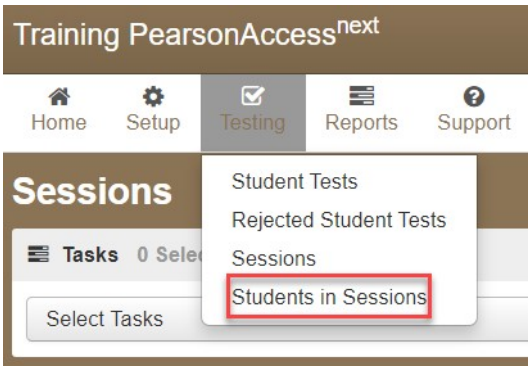
It is recommended to prepare Sessions the day before the trial to ensure that all forms are assigned correctly. For operational testing, PAN Sessions can be prepared up to two days before testing. PAN Sessions must be prepared by the principal or test coordinator before they can be started.

a. **Go to the "Testing" tab and click "Students in Sessions."**
b. **Locate and click the Session name from the Session List.**
   The **Sessions Details** screen will appear for the PAN Session selected. If multiple PAN Sessions are selected, the option to **Combine View** and **Prepare All Sessions** appears.
c. **Click the blue "Prepare Session" or "Prepare All Sessions" button**.

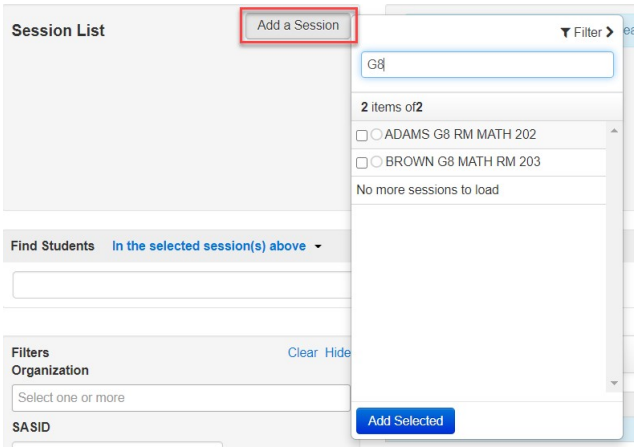


2. **Print student testing tickets.**
   Student testing tickets include a login ID and password to log in to the practice tests and are generated for each student added to a PAN Session.

   a. **Once logged in to the training site, click "Testing" and select "Students in Sessions" from the drop-down menu.**

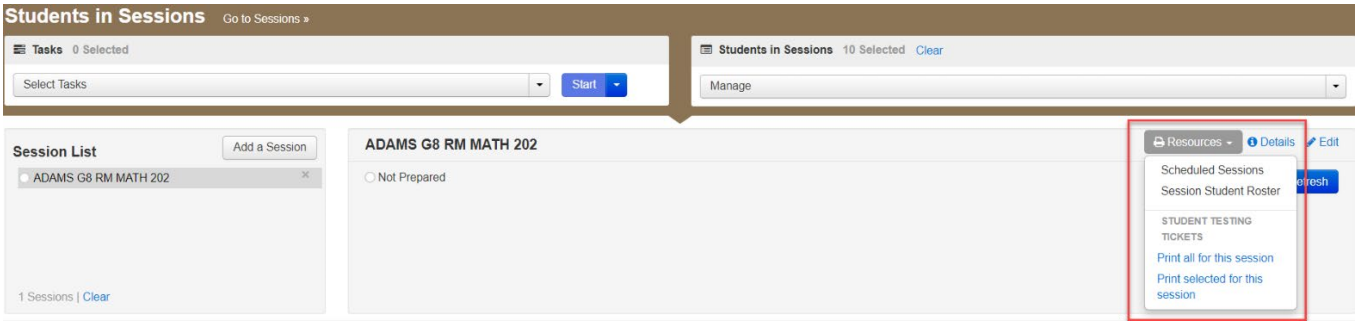


   b. **Select "Add a Session" and search for the PAN Session.**

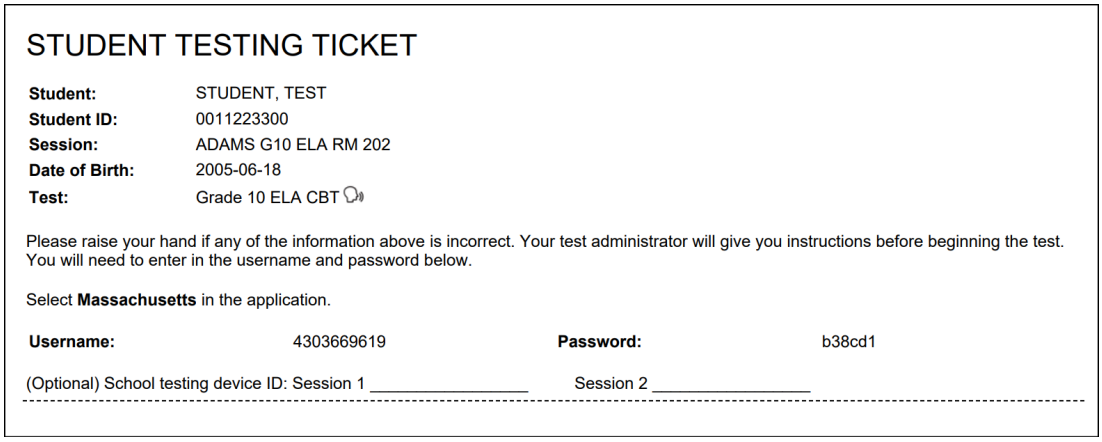


c. **Select the checkbox next to the Session name and click "Add Selected."**

d. **To print student testing tickets, click on the "Resources" drop-down.** There will be options to print tickets for all students or selected students.



Below is an example student testing ticket. Every student test in the Infrastructure Trial and in operational testing requires a testing ticket to access the test.



STUDENT TESTING TICKET

Student: STUDENT, TEST
Student ID: 0011223300
Session: ADAMS G10 ELA RM 202
Date of Birth: 2005-06-18
Test: Grade 10 ELA CBT

Please raise your hand if any of the information above is incorrect. Your test administrator will give you instructions before beginning the test. You will need to enter in the username and password below.

Select **Massachusetts** in the application.

Username: 4303669619 **Password:** b38cd1

(Optional) School testing device ID: Session 1 _____ Session 2 _____

Below is an example Session Student Roster, found in the Resources drop-down menu. This is available for all PAN Sessions and lists every student within each session with the details displayed below.

Session Student Roster

Test Administration	**November 2022 MCAS Retests**	Precaching Computer	
Session Status	**Not Prepared**	Scheduled Start Date	**2022-11-14**
Session Name	**SAMPLE SESSION**	Scheduled Start Time	**01:00 AM**
Organization	**PEARSON DEMO SCHOOL 3 (11331144)**	Actual Start Date	
Test	**NextGen Mathematics CBT Retest**	Actual Start Time	
Proctor Reads Aloud (group of 5 or fewer students)	**No**	Lab Location	
Form Group Type	**Standard**		
Password	**E22EB6**		

8 Results

Student Name	Student Code	Date of Birth	Status	Form/Form Group	Username
STUDENT, NEW	0805406229	2010-10-21	Assigned		5667641968
STUDENT, NEW	1460307430	2010-10-21	Assigned		8291428019
STUDENT, NEW	1623829127	2010-10-21	Assigned		8891014918

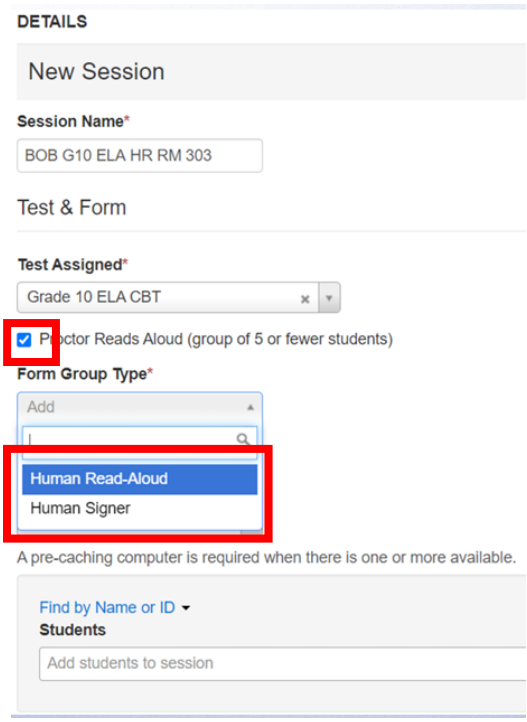
3. **The principal/school test coordinator or test administrators should confirm that technology staff have set up the following:**
    - All devices to be used for testing are charged.
    - Sufficient power cords and power strips are available.
    - Accessories, such as external keyboards for tablets and headphones for students using the text-to-speech edition, are available and in working order prior to testing.

PT/IT

IX. Human Read Aloud/Human Signer Sessions

Schools will need to create separate PAN Sessions for each group of students receiving the human read aloud or human signer accommodation (five students maximum per group). The students must be in a separate PAN Session in order for all students in the group to receive the same test form and for PAN to generate a proctor testing ticket.

- **Follow the instructions above in Part VII, Step 1: Create PAN Sessions, steps a, b, and c above to create a new PAN Session.**
- **Do not select "Standard" under "Form Group Type."**
- **On the "Details" screen, select the checkbox next to "Proctor Reads Aloud"**
- **Under "Form Group Type" select either "Human Read-Aloud" or "Human Signer".**
- **Continue following the steps above in Part VII, Step 1: Create PAN Sessions, steps c, d, and e above to finish creating the Session.**

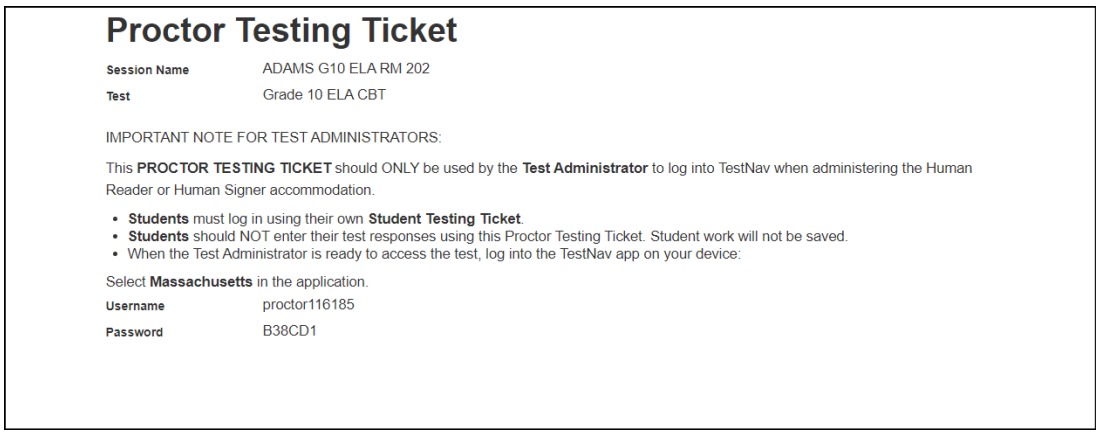


When printing student testing tickets for Human Read Aloud and Human Signer Sessions, note that there is an icon of a person speaking on these testing tickets to indicate these accommodations. See the example on page 23.

Principals or test coordinators will also need to print proctor testing tickets containing the sign-in information for test administrators who will be administering these accommodations. There is one proctor testing ticket assigned to each Human Read Aloud or Human Signer PAN Session – they are not unique to individual test administrators.

No responses should be entered into the test using a proctor testing ticket because responses are not saved in this edition of the test. Students will sign in using their student testing ticket. Schools using proctor testing tickets may want to print them on colored paper to help distinguish them from student testing tickets and ensure that students do not use them.

Below is an example proctor testing ticket. Only Human Reader / Signer tests generate the option to print proctor testing tickets.



Proctor Testing Ticket

Session Name ADAMS G10 ELA RM 202

Test Grade 10 ELA CBT

IMPORTANT NOTE FOR TEST ADMINISTRATORS:

This **PROCTOR TESTING TICKET** should ONLY be used by the **Test Administrator** to log into TestNav when administering the Human Reader or Human Signer accommodation.

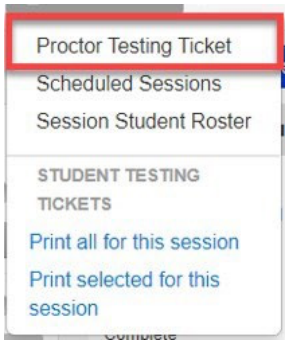
- **Students** must log in using their own **Student Testing Ticket**.
- **Students** should NOT enter their test responses using this Proctor Testing Ticket. Student work will not be saved.
- When the Test Administrator is ready to access the test, log into the TestNav app on your device:

Select **Massachusetts** in the application.

Username proctor116185

Password B38CD1

These proctor testing tickets are found in the Resources drop-down menu on the Students in Sessions screen, shown below.



X. The Day of the Infrastructure Trial/Preliminary System Test

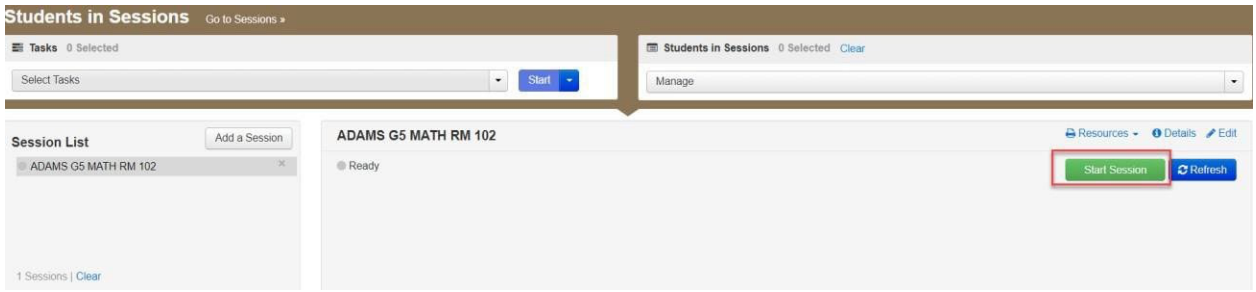
Steps for the district test coordinator or principal/school test coordinator

1. **Start the PAN Session.**

a. **Click "Testing" and select "Students in Sessions" from the drop-down menu. (See a screen shot on page 22.)**

b. **In the "Session List," click on the names of the Sessions to start**.
The **Session Details** screen will appear for the selected Session(s). (If two or more Sessions were selected, options to **Combine View** and **Start All Sessions** will appear.)

c. **On the "Session Details" screen, click on the green "Start Session" (or "Start All Sessions") button.**
After clicking this button, it will change to a **Stop Session** button.



2. **Prepare testing devices:** Launch the TestNav app on all testing devices.

IT

3. **Distribute student testing tickets and proctor testing tickets if applicable:** Ensure that test administrators have the student testing tickets for all students assigned to them, and proctor testing tickets for the Human Reader or Human Signer accommodations. Make sure you do not hand out proctor testing tickets to students.

4. **Direct test administrators and students to their assigned testing locations.**

5. **Conduct the test sessions:** Test administrators will unlock the sessions and have the students log in to TestNav. This marks the beginning of the test session. The following section contains steps for test administrators during the Infrastructure Trial session.

6. **Oversee practice session**: During each test session, principals or school test coordinators should monitor the administration to ensure that testing is being completed as expected.

7. **Complete testing**: Refer to page 5 for information on the number of sessions students should complete for each grade and subject.

XI. Steps for the Test Administrator to Administer the Infrastructure Trial Practice Tests

IT

A. Materials Needed for Infrastructure Trial

1. **You will need the following materials available in your testing space prior to the Infrastructure Trial:**
   - testing devices for students
   - a computer to monitor testing sessions

2. **Prior to the Infrastructure Trial, you will receive the following materials for students assigned to you by the principal or school test coordinator:**
   - student testing tickets
   - proctor testing tickets for Human Reader or Human Signer accommodations, if applicable
   - scratch paper and pencils

3. **Additional Preparations for Computer-Based Testing**
   - Ensure all devices to be used for testing are charged.
   - Make sure sufficient power cords and power strips are available.
   - Confirm that accessories, such as external keyboards for tablets and headphones for students using the text-to-speech edition, are available and in working order prior to testing.

B. Before Students Arrive

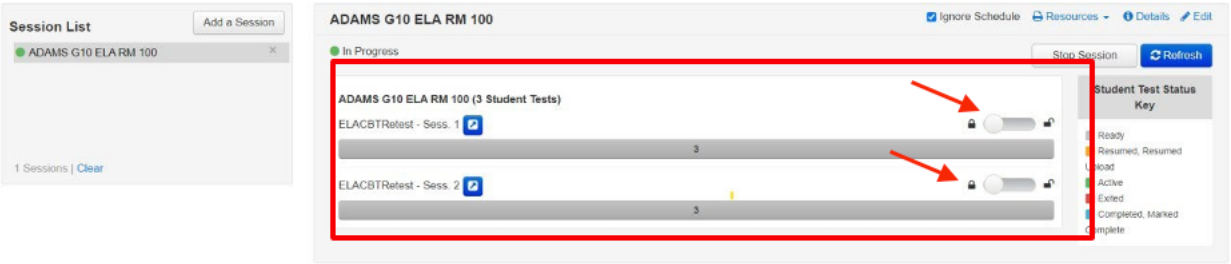
PT/IT

1. **On the test administrator device, log in to the PearsonAccess^{next} training site (https://trng-mcas.pearsonaccessnext.com) and view your PAN Session on the Students in Sessions page.**

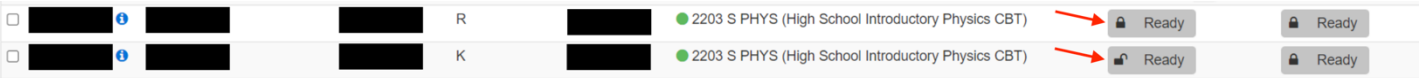
2. **Start your PAN Session.**

3. **Unlock students' tests.**

   Students' tests will be locked, by default, in the **Students in Sessions** screen when a PAN Session is started. Students will not be able to log in until the test session has been unlocked by the test administrator. The test administrator can unlock a test session for the entire class by selecting the unlock bar at the top of the **Students in Sessions** page.



Individual students' tests can also be unlocked one at a time by selecting the lock drop-down for a test session found to the right of the student's name on the **Students in Sessions** page.



C. Administer Infrastructure Trial (use of the script is optional)

The following script is to assist test administrators with the administration of the Infrastructure Trial practice test. Unlike the scripts in the *Test Administrator's Manuals* for use during testing, test administrators are not required to read the script verbatim.

IT

1. Say to students:
   "We will now begin a practice test that will help you understand how and where to answer questions on the MCAS test for_____ *(say the name of the subject you are administering)***.**

The practice test has the same kinds of questions that you will see on the real test, but your answers to questions on this practice test do not count toward your MCAS score. Additionally, this practice test will give you the opportunity to practice using the online tools that you will see on the actual test."

2. Then say to the students:
   "I will now distribute scratch paper for you to use during the session. If at any point you need more, raise your hand and I will give you an additional sheet. You may have up to three pages of scratch paper at one time."

3. For students using the text-to-speech or screen reader accommodation, which requires headphones, say:
   "Put on your headphones and make sure they are plugged in. On your screen next to the 'Sign In' button, click the link that says 'Test Audio.' Confirm you can hear through your headphones and adjust the volume as needed."

4. Then say:
   "I will now distribute the student testing tickets. Do not sign in until I instruct you to do so."

5. Distribute the student testing tickets. Note that testing tickets may not have students' names on them if the Infrastructure Trial was set up with sample students.

If you set up a test with a human reader or human signer, make sure you do not hand out proctor testing tickets to students since responses are **NOT** saved in a test accessed with a proctor testing ticket.

6. Say to students:
   "Now, on the computer, enter the username that is shown on your student testing ticket. Your username is a number that is 10 digits long."
   Assist any students who need help entering their usernames. Then say:
   "Now, on the computer, enter the password that is shown on your student testing ticket."

   Assist any students who need help entering their passwords.
   Then say:
   "Now, click the button that says 'Sign In.'"

   Walk around the room and make sure that all students have successfully signed in. Assist any students who did not successfully sign in. You may retype usernames and passwords for students, if necessary. Either collect the student testing tickets at this time, or at the end of the session.

7. For all tests: Once students are properly signed in, say:
   "Your computer screen should now be at the 'Welcome' screen."

8. For all tests, say:
   "Please keep your testing ticket with you and do not use it for scratch paper. I will need to collect it at the end of this test session.

   Click the box in the middle of the screen that says 'Start.' You should now see a screen that says 'Session 1' at the top and states the number of questions below. If your screen does not say 'Session 1,' please raise your hand."

   Assist any students who raise their hands to get to the correct screen.

9. Then say to all students:

“Please read the directions that are on your screen.”

Pause to allow students to read the directions.

10. Then say to all students:
    “Click the ‘Start’ button. You may now begin your test.”

11. At the **end of the session,** say to any students still working:
    “This is the end of the time scheduled for this session. At the top of the screen, click ‘Review’ and then click ‘End of Section.’ Click the ‘Submit Final Answers’ button to submit your answers. On the popup screen, confirm you’d like to ‘Submit Final Answers.’ If you are not automatically signed out, sign out of the test by going to the User Drop-down Menu at the top right corner of the screen and click ‘Sign out of TestNav.’”

    Collect testing tickets and scratch paper.

XI. Monitoring the Infrastructure Trial

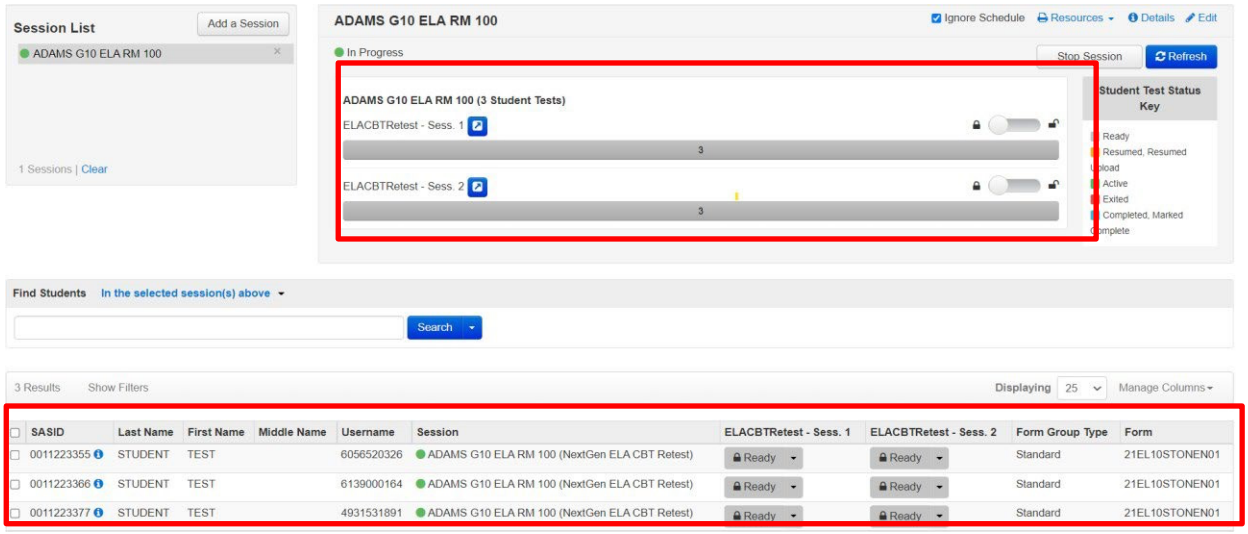
Steps for the Test Administrator to Monitor a Practice Test Session as Part of the Infrastructure Trial

IT

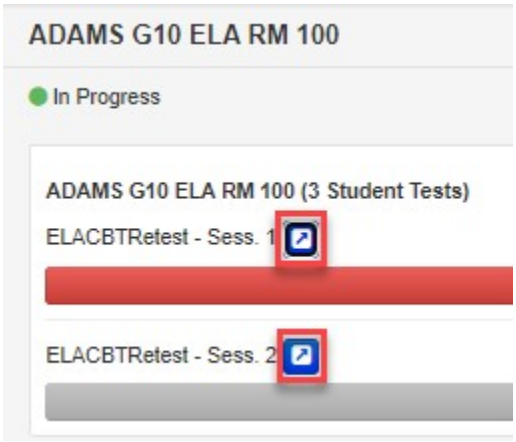
A. How to Monitor PAN Sessions

Once an online test session has started, there are several tasks the test administrator may be responsible for, including resuming students, locking/unlocking sessions, and marking tests complete. The test administrator must have their own device to monitor the session and perform these actions.

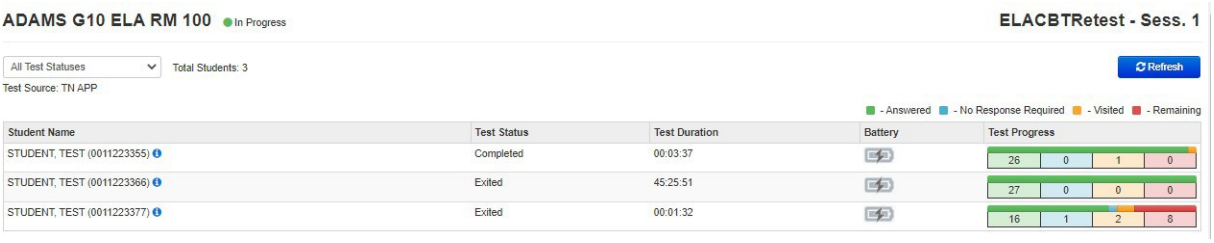
The test administrator can use the **Students in Sessions** page to monitor students as they progress through each test session. The top of the **Students in Sessions** page contains a status bar for each test session. Underneath the status bar, each student will be listed, and the test administrator will be able to see the status of any particular student, as shown below.



PAN users can also view additional data for a PAN Session through the student status dashboard. To access this information, users should select the “up arrow” above a test session.



A separate window will appear that includes additional information on students' test status, duration, and progress on test questions.



B. Student Statuses in PAN

The following table lists the statuses that may appear for a student in the **Session Details** and a description of what each status indicates.

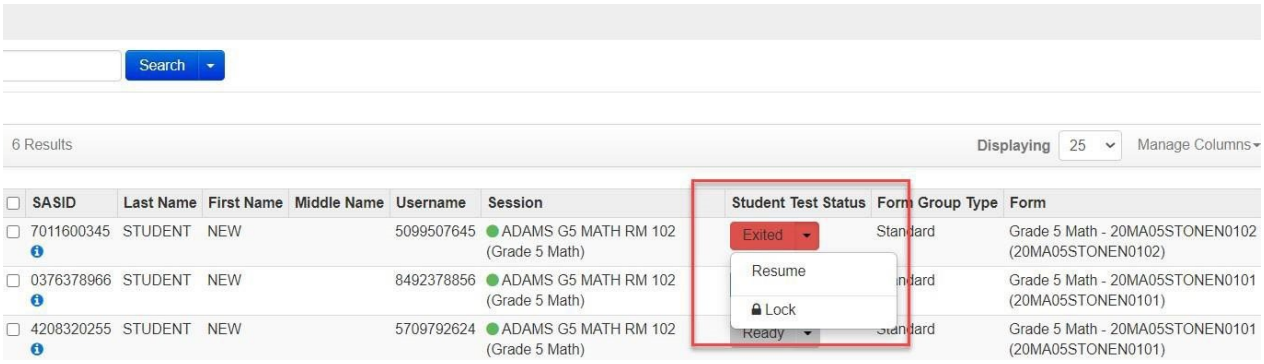
Student Status Key	
Status	Description
Ready	The student has not signed in to the test session yet, but is ready to sign in.
Active	The student is currently signed in to the test.
Exited	The student has exited the test session, but has not submitted responses yet (after a test session, after signing out to take a break, or if an error occurs). Students in Exited status will need to be resumed by a test administrator when they are ready to reenter the test. If a student signs out of a test session or if the testing device loses connectivity before the test is completed (or marked complete), the test will appear in Exited status. The test administrator will then need to resume the student's test (and the student will then appear as Resumed).
Completed	The student has completed the test session and successfully submitted responses.
Marked Complete	The student's test session has been marked complete by the principal/ designee (the student did not submit the test in TestNav).
Resumed	The student is ready to sign back in to the test session. This status appears after a student has exited TestNav while the session is ongoing, and the test administrator has "Resumed" the student in PAN.
Resumed-Upload	The student is ready to sign back in to the test session, but some responses may not have been sent to the testing subcontractor's (Pearson's) servers before the student exited the test. When the student signs in to a test with a Resumed– Upload status, a staff member must be present. TestNav may prompt the user to locate the saved responses from the designated save location and upload them to TestNav before the student's test can be resumed. If the student is resuming on the same device as their last test attempt, they should select the Skip Upload button on the TestNav screen.

PT/IT

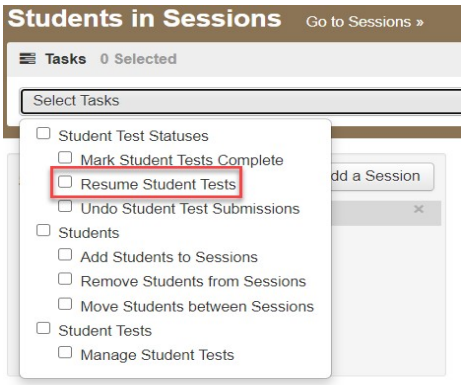
C. How to Resume Students' Tests

If students exit the test for a break, or due to technical error, their tests will need to be resumed prior to reentering the test. Students can be resumed one at a time, or many at a time.

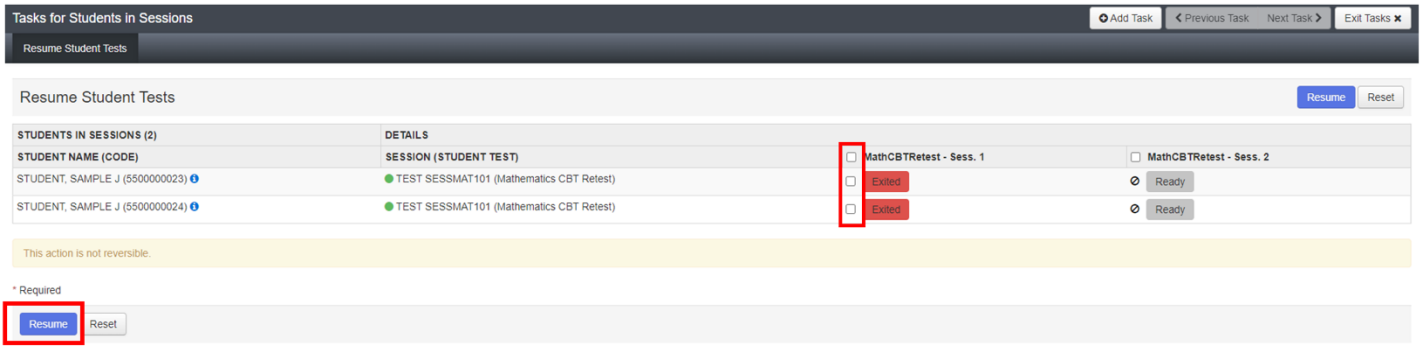
To resume one student at a time, go to **Testing > Students in Sessions** and select **Resume** from the drop-down next to the student's name.



To resume more than one student's test, go to **Testing > Students in Sessions**. Be sure the PAN Session is selected in the **Session List**. Check the box next to the student names whose tests are to be resumed, and select **Resume Student Tests** from the **Select Tasks** menu. Click **Start**.



Select the students whose tests you would like to resume and click **Resume**.



After clicking Resume, a message will display stating **Success, changes saved.** Click **Exit Tasks** to return to the **Students in Session** screen. The resumed student(s) will now be able to reenter the test.

PT/IT

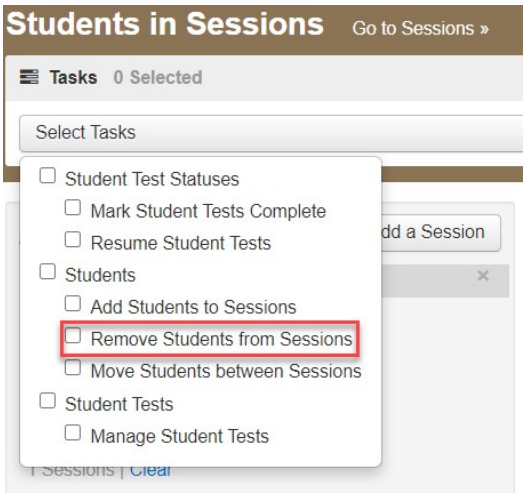
D. How to Stop a PAN Session

Before a PAN Session can be stopped, all students in the PAN Session must be in either Completed or Marked Complete status. You may also need to remove any students in Ready status who did not log in to the test.

To remove students in "Ready" status from a PAN Session:

- Go to **Students in Sessions** and check the box next to the student record(s) to be removed.

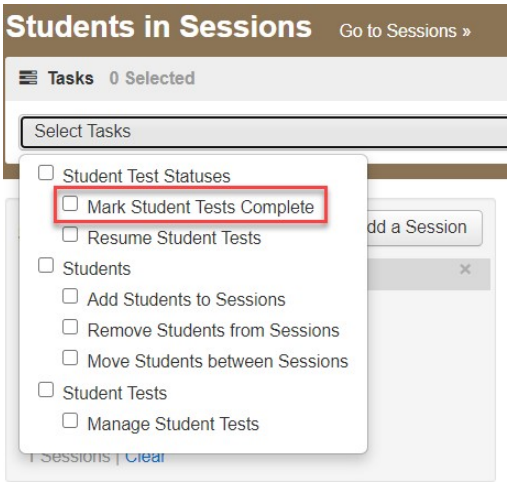
- Select **Remove Students from Sessions** from the **Select Tasks** drop-down and click **Start**.



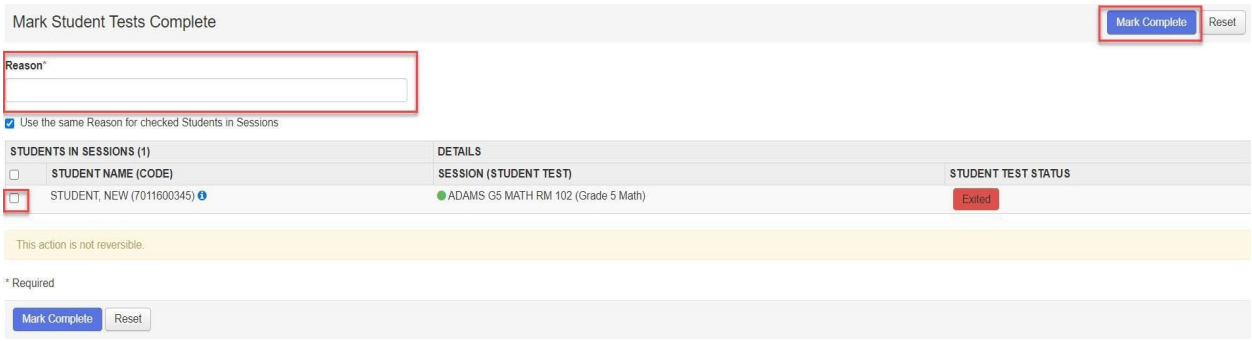
- Check the box beside the student record(s) and click **Remove**. Click **Exit Tasks** to return to the **Students in Sessions** screen.

To mark a student's test complete for a student who logged on but did not complete the test:

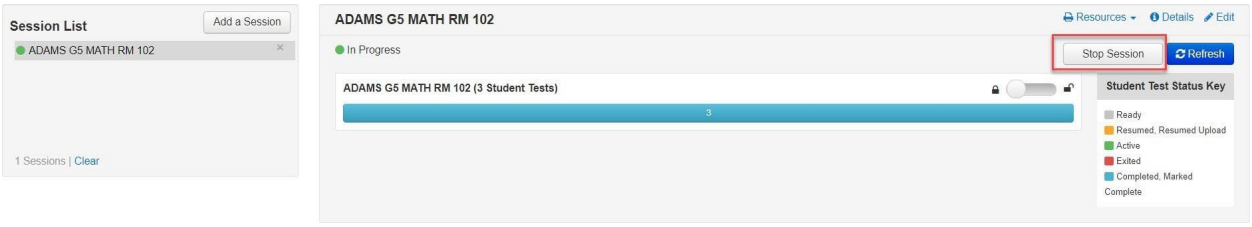
- Go to the **Students in Sessions** page and check the box next to the student record(s) that need to be marked complete.
- Select **Mark Student Tests Complete** from the **Select Tasks** drop-down. Click **Start**.



- Enter the reason for marking the test complete. Click the **Mark Complete** button.



Once all students in a Ready status have been removed, or are in a Completed or Marked Complete status, select the **Stop Session** button on the **Students in Sessions** page.



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XII. Follow-up

Steps for the district test coordinator, principal/school test coordinator, test administrators, and the technology coordinator

Once the school's Infrastructure Trial has been completed, staff who participated in it should review their notes. Follow-up steps include the following:

- Share any notes regarding the need for support with the principal or test coordinator.
- Report to the principal or test coordinator any issues that could not be resolved with assistance from the MCAS Service Center.
- Schools may wish to schedule a call with Pearson's technology support specialists to review any issues with the Infrastructure Trial and to prepare for the test administration.
- If utilizing ProctorCache and/or a secondary save location for your Infrastructure Trial, the technology coordinator should export the TestNav Configuration used in the PAN training site, and import it into the PAN live site. Further details on exporting and importing TestNav Configurations can be found here: https://support.assessment.pearson.com/PAsup/setup/manage-proctor-caching/import- or-export-testnav-configurations

Appendix A: ProctorCache Recommendation for MCAS Computer-Based Testing

Below is a recommendation on whether schools should use Pearson's ProctorCache software. ProctorCache precaches test content onto a designated machine in a school to reduce bandwidth requirements. ProctorCache stores test content, but does **not** store student responses.

ProctorCache is ***only*** recommended for schools who do not pass the Network Check in TestNav. ProctorCache is not recommended for schools that pass the Network Check because it can cause more errors to occur, and item load times are virtually identical regardless of whether ProctorCache is used or not.

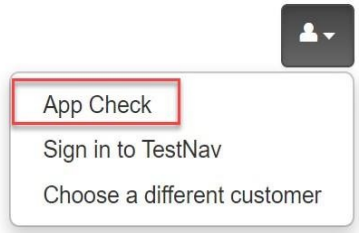
Schools will need to take the following actions based on the results of their Network Check.

Network Check Result	**ProctorCache Recommendation for Schools That Used ProctorCache in their Last CBT Administration**	**ProctorCache Recommendation for Schools That Did NOT Use ProctorCache in their Last CBT Administration**
Pass	Disable ProctorCache prior to the Infrastructure Trial.	Do not install ProctorCache software.
Warning	Use ProctorCache.	Install ProctorCache.
Connection Failed	Verify network connection and run test again.	Verify network connection and run test again.

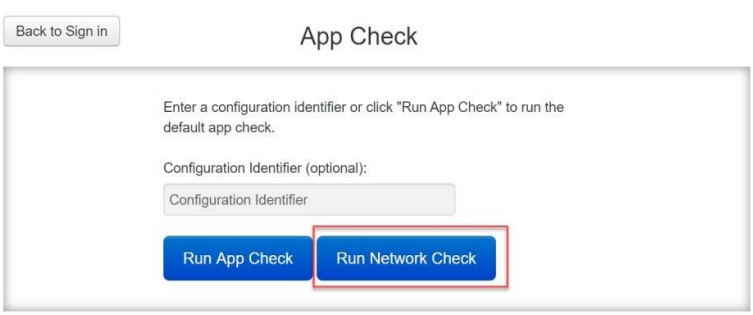
Follow the instructions below to determine whether your school needs to use ProctorCache.

Running the Network Check in TestNav

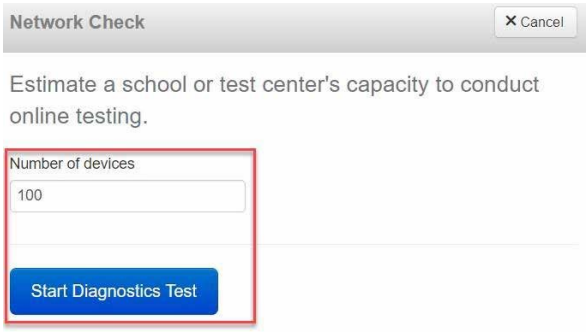
While on the school's network, in the TestNav app, click on the user drop-down and select **App Check**.



On the next screen, click on **Run Network Check**.

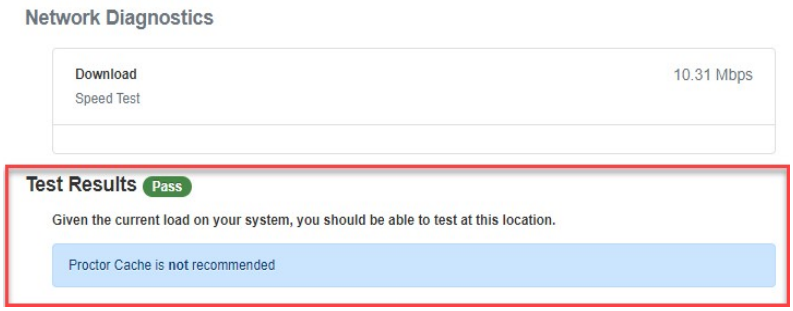


On the following screen, you will be asked to enter a number of devices. This number should match as closely as possible the number of devices that will be used in the school during testing on test day. Once you have entered a number, click on **Start Diagnostics Test**.

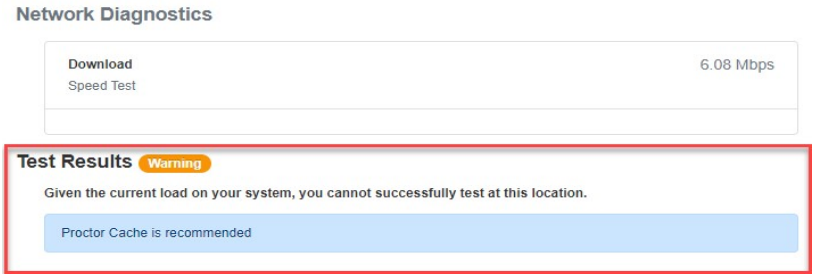


Following this test, you will receive a message informing you whether ProctorCache is recommended based on your network and number of devices entered.

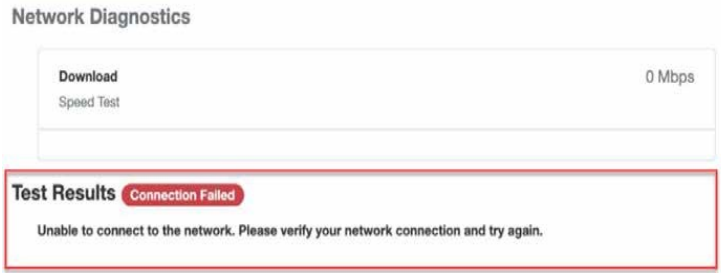
If ProctorCache is not recommended, you will receive a message with a green **Pass** icon.



If ProctorCache is recommended, you will receive a message with an orange **Warning** icon.



When the Network Check is used and the bandwidth test detects a 0 Mbps download speed, you will receive a message with a red **Connection Failed** icon.

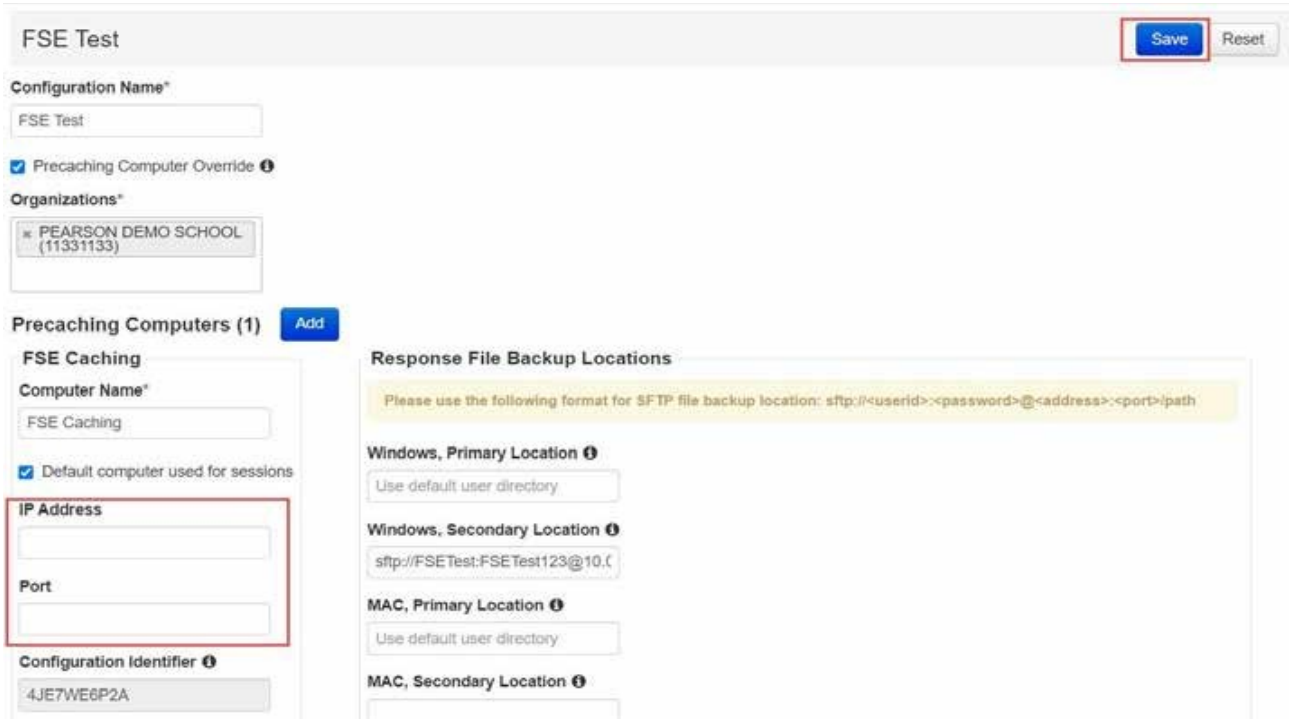


Instructions to Disable and Re-Enable the ProctorCache Configuration

To disable the existing ProctorCache configuration in PearsonAccess Next, follow these steps:

1. Click on **Setup** and **TestNav Configurations.**
2. Click the drop-down next to the **Search** button and click **Show All Results**.
3. Select your configuration and click the **Select Tasks** drop-down, select **Create/Edit TestNav Configurations**, and click **Start.**
4. Select your configuration on the left side of the screen and scroll down to the **Precaching Computers** section.
5. Delete the content in the **IP Address** and **Port** fields and then click **Save**.

To re-enable ProctorCache after disabling, follow the same steps and re-apply the **IP Address** and **Port** fields (these fields are shown in the screen shot below).



It is recommended that schools do not use a MacOS for a ProctorCache machine, but schools that are unable to find another device type should contact the MCAS Service Center for support.

Best Practices for Using ProctorCache

If ProctorCache is needed, a ProctorCache machine at the school level is recommended (a machine at the district level is not recommended). Schools with district configurations have reported connectivity and/or log in issues with larger numbers of students connecting to a single ProctorCache, which can overload the machine.

It is also recommended that the device selected to act as the ProctorCache machine during testing is reserved for this purpose only. A device performing other functions in the school can result in delays when students navigate from one question to the next during testing.

Schools can set up a call with Technology Support Specialists prior to testing to discuss their ProctorCache set-up. This is also an opportunity for technology coordinators to receive support with questions related to the following topics:

- Technology set-up and site readiness
- TestNav, including TestNav configurations in PearsonAccess^{next}
- Infrastructure Trials (set-up as well as debriefing)

Appendix B: Best Practices for MCAS Computer-Based Testing Set-Up, Administration, and Troubleshooting

The tables below describe some best practices for a successful computer-based test (CBT) administration:

1. Technology set-up
2. Steps for test coordinators and test administrators during test administration
3. Troubleshooting common computer-based testing issues

Further details will be provided in each administration's MCAS *Principal's Administration Manual*. Direct technology questions to the MCAS Service Center at mcas@cognia.org or 800-737-5103 and policy questions to DESE at mcas@doe.mass.edu or 781-338-3625. Contact the MCAS Service Center to report any technology issues that cannot be solved quickly at the local level. Prior to testing, technology coordinators can also set up a call with technology support specialists, as detailed in the table below. During testing, if there is a situation in which a student is waiting for more than 15 minutes, schedule the student to complete the session at a later time.

All schools should run App Check in TestNav prior to Infrastructure Trials and operational testing. If schools do not run an Infrastructure Trial, a Preliminary System Test is highly recommended. See the table below for additional details on what each of these three components is comprised of, and how to determine whether to conduct an Infrastructure Trial.

A. Technology Set-Up

Best Practice	Steps to Take	Description
Run "App Check" to test lock down settings on device	1. Open TestNav and navigate to the Massachusetts sign in page, and then click the user icon in the top right and choose "App Check" from the menu. 2. Enter a configuration identifier if testing ProctorCache or SRF Secondary Save Location connectivity, and select "Run App Check." 3. A success message should display within a few seconds. App Check will return two success messages, Kiosk mode and Connectivity. 4. If there is an error message, review the TestNav 8 User Guide for device setup instructions for the TestNav app and App Check error	All schools should run App Check in TestNav prior to running a Preliminary System Test, Infrastructure Trial, and/or operational testing in order to prevent technology issues during administration. App Check takes only a few seconds per device, and is completed by technology staff.

Best Practice	Steps to Take	Description
	messages. Contact the MCAS Service Center with additional questions. 5. If the Configuration Identifier is entered, the App Check will also verify that the device has the appropriate permissions to the primary and, if specified, the secondary save locations. The identifier can be found in PAN on the **Create/Edit TestNav Configuration** page (Setup>TestNav Configurations>Create/Edit TestNav Configurations).	
Preliminary System Test	1. Test coordinators and technology teams should follow the instructions in the Infrastructure Trial Readiness Guide to create PAN Sessions, generate sample students, assign tests, and set up the technology infrastructure. 2. Follow the instructions for a Preliminary System Test in Section I, Part C of the Infrastructure Trial Readiness Guide.	A Preliminary System Test is a small-scale Infrastructure Trial during which technology staff log in and click through the practice tests in TestNav instead of students. It is used to ensure that secure test content will be accessed on test day, that local device security settings are correct, and that TestNav can run successfully on student devices. If your school will not conduct a full-scale Infrastructure Trial with students, DESE strongly recommends running a Preliminary System Test. If you will conduct an Infrastructure Trial, it is recommended to run a Preliminary System Test prior to the full-scale Infrastructure Trial.
Determine whether to Conduct an Infrastructure Trial.	Review the Infrastructure Trial Overview in the Infrastructure Trial Guide, which provides an overview and the purposes of the Infrastructure Trial. Answer the following questions: 1. Did your school successfully complete computer-based testing last year? 2. Has your school had minimal changes to student devices and network and security settings since the last CBT administration?	An Infrastructure Trial confirms that TestNav is configured correctly, student devices can successfully run TestNav, participating staff know how to monitor and manage a computer-based MCAS test, students are familiar with the computer-based tools and format, and, if precaching, that the ProctorCache machine is properly configured. An Infrastructure Trial involves the school and/or district test coordinator, technology staff, test administrators, and students.

Best Practice	Steps to Take	Description
	3. Can you confirm the following: • TestNav is configured correctly • If preaching, the ProctorCache machine is properly configured to deliver test content to devices • Devices can successfully run TestNav • Participating staff know how to monitor and manage a computer-based MCAS test • Students are familiar with the computer-based tools and format If you answer "no" to one or more of the questions above, it is recommended to run an Infrastructure Trial.	
Determine whether to precache test content based on the school's bandwidth.	Review the ProctorCache Recommendation for MCAS Computer-Based Testing.	If you determine the need to precache based on the result of the Network Check, download ProctorCache and set it up in PearsonAccess^{next} for all test sessions.
Verify that devices and operating systems meet system requirements prior to testing.	• Visit the system requirements page for the most updated information. • Turn off auto-update on Chromebooks to avoid auto-updating to an unsupported OS. See instructions under "Set up all Chromebooks" below.	Operating systems, particularly iOS and ChromeOS, update frequently. Students may not be able to test or may experience interruptions if the testing device/operating system is not supported.
Set up all Chromebooks to suspend OS updates, including peer-to-peer, during testing.	Sign in to the Google Admin console, go to **Device,** click **Chrome,** click **Settings**. Choose the organization you want to update these settings for. Go to **Device,** click **Auto Update Settings,** select **Block Updates,** click **Save.**	If the ChromeOS is set to automatically update, this could take place during testing, which could cause student connectivity or device issues. This ChromeOS feature can be managed by a district or school ChromeOS administrator. Chrome releases a full OS update about every 6 weeks and releases minor updates approximately every 2–3 weeks.

Best Practice	Steps to Take	Description
Disable ChromeOS accessibility settings.	Sign in to the Google Admin console, go to **Device,** click on **Chrome**, click on **Settings.** Scroll down to **Sign-in screen accessibility** and select **Disable…** for the accessibility features you wish to turn off.	ChromeOS accessibility settings can interfere with accessibility features the student may have in TestNav. Disabling ChromeOS accessibility settings prior to testing allows for the students' accessibility features to work smoothly.
Set up a Secondary Save Location in the TestNav Configuration in PAN.	When in PAN, click **Setup > TestNav Configurations > Create/Edit TestNav Configurations**. On the right-hand side, there are fields to set up a secondary save location on a local server. Check that the secondary save location is configured correctly by running an App Check in TestNav. Visit the TestNav support page for step-by-step instructions on ensuring the configured file path is valid, and refer to the App Check Error Messages page if the App Check returns any error messages.	Setting up a secondary save location will allow TestNav to write a student response file to both the device as well as the secondary location. It provides a backup in case of a lost response due to a connectivity, power, or device issue, when the primary response on the student device cannot be located. In the case of Chromebooks set to wipe data, this step is necessary to create a backup file of each student response. Chromebooks, iPads, and Android Tablets can **only** use an SFTP server for secondary save locations. These mobile devices cannot use UNC paths or mapped network drives. An example of the required SFTP path format is provided in the TestNav Configurations Menu.
Minimize system impact.	Before testing: 1. Disable low-end wireless protocols that are not being used. 2. Turn off students' cell phones to avoid potential interference during testing. 3. Ask classrooms to stagger logins to minimize initial loading time. For example, in a class of 30 students, the test administrator can have 10 students log in each minute, decreasing the strain on the network.	Taking these steps in advance of testing will reduce the impact of testing on local networks.
Schedule a call with Technology Support Specialists.	Before testing, schedule a 15-, 30-, or 60- minute call for one-on-one support with Pearson's technology support specialists (i.e., Field Service Engineering).	This is an opportunity for technology coordinators to receive support with the following: • Technology set-up and site readiness • Questions about TestNav

Best Practice	Steps to Take	Description
		• ProctorCache set-up • TestNav Configurations in PearsonAccess^{next} • Infrastructure Trials (set-up as well as debriefing)
Review device language settings	Before testing, review student devices to ensure that language settings and keyboard settings are set to English.	Some devices may have previously been set to different language settings or to international keyboard settings. Taking these steps in advance of testing will reduce issues that may arise during testing.

B. Steps for Test Coordinators and Test Administrators During Test Administration

Best Practice	Steps to Take	Description
Have the following materials available, and confirm they are in working order: • power cords, power strips, extra batteries, extra computers to serve as back-up devices that can be used if needed • computer mice and wired external keyboards (strongly recommended for students using tablets) • headphones for students with disabilities using the text-to- speech accommodation (See the *Accessibility and Accommodations Manual* for details.) Ensure that devices will be charged prior to each test session.	• Use the device planner to determine the number of devices needed at a given time. • Students who will be using a touchpad (only) should complete practice tests with the touchpad to familiarize themselves with answering the different question types prior to testing. • External keyboards are strongly recommended due to the smaller screen size on a tablet when using the internal keyboard.	Schools have reported that some students had a challenging experience with some of the technology- enhanced test questions when they used a touchpad (only). Schools have reported that students cannot see all the parts in a test question or all the writing space available due to the reduced screen size when the keyboard pops up.

Best Practice	Steps to Take	Description
Keep a log of the devices that students will use during testing.	Mark the local device ID number on each student's testing ticket or an internal tracking form, or maintain a spreadsheet.	If a student's device experiences an interruption in testing, responses are saved on that device. If it appears that the student is "missing answers," resume the student's test in PAN and have the student sign back in to TestNav on the **same device** to transmit responses. If the device cannot be located, and there is no secondary save location, there is no way to find a student response file.
Instruct Chromebook users to start tests in kiosk mode.	Tests on Chromebooks must be started in kiosk mode. A student who starts the test incorrectly may experience a gray "Start" button in TestNav, and will not be able to log in.	**Before operational testing, check the device's managed status.** 1. Power on the device, but do not log in. 2. In the lower left of the screen, select **Apps > TestNav**. Ensure that "Massachusetts" displays above the sign-in area. If anything other than Massachusetts displays above the sign in area, click the user drop-down menu at the upper-right of the page, and click **Choose a different customer**. Then click on **Massachusetts**. 3. Start a test to ensure you can do so without error. 4. Log in using a testing ticket generated through the PearsonAccess^{next} training site. 5. To shut down and exit kiosk mode after the app launches, hold down the Power button.

C. Troubleshooting Common Computer-Based Testing Issues

Issue	Solution
Loss of Internet connection	• If the Internet connection does not restore before students are finished, have the students exit TestNav, write down the device IDs, and have them sign back in **on the same testing device** when the Internet connection is restored, so that the students can submit their final answers. If the student is testing on a Chromebook, do **not** power off the device, unless there is a secondary save location already set up. • If the issue cannot be resolved immediately, the test administrator should instruct students to stay logged out of TestNav, and the test coordinator/principal should call DESE. Testing can resume when Internet connectivity is restored that day (or the next day if connectivity is not immediately restored).

Issue	Solution
Loss of power	• When power is restored, the test administrator should instruct students to log back in on the same testing devices; this will ensure that all saved responses are transmitted properly. • If a school uses Chromebooks that are set to wipe data on reboot, the technology coordinator will need to find students' response files in the secondary save location and upload them to TestNav before the students' tests can be resumed. • Note: We recommend that Chromebooks be set to retain local user data. We do not recommend that Chromebooks be set to wipe data on reboot.
A student runs out of space on the ELA test, or the character counter shows 0.	• Check the character counter to see if the student used all of the available characters. If the student has reached the maximum number of characters, instruct the student to edit their work so that it will fit in the space provided. • Students whose computer shows fewer characters than what appears on-screen may have hidden spaces or other characters in the text box taking up space. To restore the full character count, highlight any blank space in the text box, scrolling all the way down to catch any hidden characters, and click delete. Use caution so as to not delete student work.
A student started testing with the wrong accommodation (e.g., a student needs text-to-speech but does not have TTS enabled).	• Follow the steps in the "Resolving Incorrect Accommodations During Testing" module, which is available at mcas.pearsonsupport.com/training/.
TestNav Error Codes	• TestNav error codes contain a reference number that can be used to troubleshoot the issue and view recommended actions. Error codes are available here: https://support.assessment.pearson.com/display/TN/Error+Codes