



PCTC Quick Start Guide

Private Cyber Training Cloud

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Software Engineering Institute

Carnegie Mellon University

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1 WELCOME TO PCTC

The Private Cyber Training Cloud (PCTC) is a flexible, multi-media, e-learning environment accessible anywhere, anytime. You can enhance your job-related skills through video-recorded lectures, demos, and hands-on labs. This Quick Start Guide introduces you to PCTC and explains how to enroll in and manage your courses and account information.

2 SYSTEM REQUIREMENTS

To use PCTC effectively, you need the following:

- Web browsers: Internet Explorer 9+, Chrome 4+ and Firefox 35+
- Adobe Flash version 10+ (for Lecture and Demo access)
- JRE Version 6+ (for lab access)
- Computer system and network settings that allow access to streaming video from internet sources
- Minimum client resolution of 1280x1024 to enable proper Video and Lab Player display
- Internet connection of 384 Kbps or greater (to sustain downloads with no more than 230 ms of latency).

3 BECOME A REGISTERED USER OF PCTC

You need an authorized account to gain access to the PCTC e-learning environment.

1. If you do not already have an account, you must receive an invitation via email from a Community Manager inviting you to join a community. To request an account, click on the sign-up link for an account. Restrictions may apply.



An Innovative Solution



PCTC combines extensive research and innovative technology to offer a new solution to cybersecurity workforce research and development, helping practitioners and their teams build knowledge, skills, and experience in a continuous cycle of professional development.



The goal of this approach is for cybersecurity professionals to gain relevant knowledge, skills, and experience to successfully and effectively perform their duties, individually making improvements and collectively moving the organization forward.



The platform enables the CERT Division to test new technologies and content to better understand how to rapidly advance the state of practice for cyber workforce development.



- When you receive the system invite email, click the link to accept the invitation and enter the required profile information to generate your new account.
- The PCTC help desk (pctc-support@cert.org) maintains contact information for existing Community Managers.

Register

Title

Please enter an optional title

First name

Please enter your first name

Last Name

Please enter your last name

Suffix

Please enter an optional suffix

Email

Please enter your email address

Confirm Email

Please enter your email address

Password

Please enter your password

Confirm Password Required

Please enter your password

Password Strength: A password has not yet been entered.

Time Zone:
 Current Date/Time: Tue, 02 Feb 2016 17:55:22 GMT (12:55:22 local)

Terms of Use:
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I Agree to the Terms of Use

- Complete the registration information, check the box to Agree to the Terms of Use, and click the *Submit Registration* button.
- Login to PCTC using your email address and password. You can login using the link at the top-right corner of the screen or by clicking the green *Log In* button at the bottom-left.

On the Login page, links for Contact, FAQ information, and an option to use a smart card for login are available.

PCTC
Private Cyber Training Cloud

FAQ's About Us Contact Us Quick Start Guide

Login

Email

Please enter your email address

Password

Please enter your password

Forgot your password?

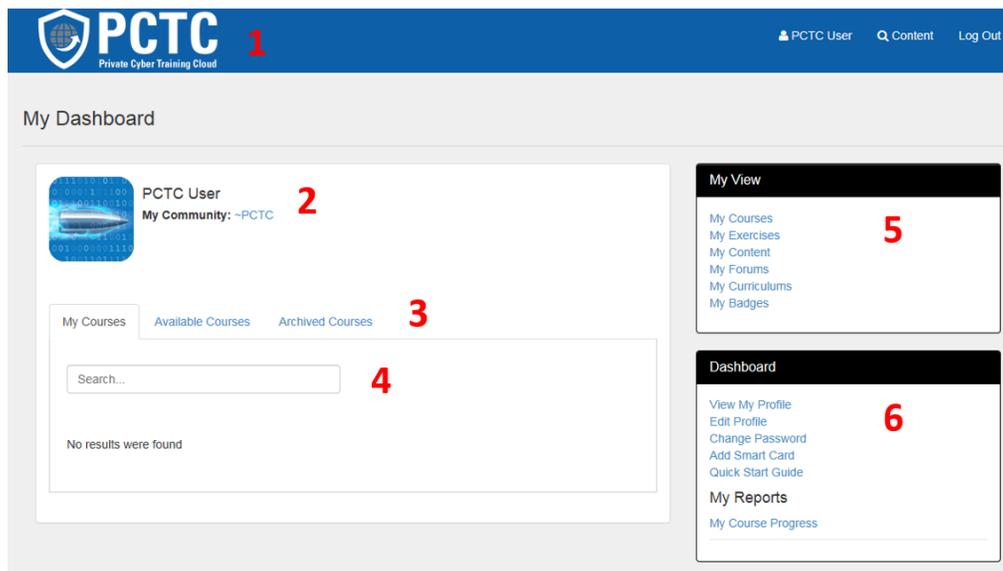
Have a Question?
 Follow the link below and we'll respond as soon as possible.

Frequently Asked Questions
 Be sure to check the [FAQ](#) for answers to common questions!

Login using a Common Access Card

[Smart card not working?](#)

4 LEARN THE HOME PAGE LAYOUT



When you login to PCTC, on your user home page you will see

1. The top panel, where your name is displayed and contains:
 - PCTC (Private Cyber Training Cloud) text. If either is clicked from any page, it will return you to your home page.
 - Search magnifying glass icon used to search for content within PCTC
 - Log Out link to log out of the system
2. My Community, which displays the community name in which your user account is a member. Clicking the link takes you to the community profile page where you can:
 - View community information such as the number of users in the community, number of course enrollments, and number of course completions for the community
 - View the list of Community Managers for this community
 - Access the community forum
3. Course tabs, which contain:
 - My Courses – Courses you are currently enrolled in
 - Available Courses – Courses available to you
 - Archived Courses – Courses you have archived
4. A Search box, to search for courses by name within the active tab.

5. My View action panel, with links available to view:
 - My Courses
 - My Exercises
 - My Content
 - My Forums
 - My Curriculums
 - My Badges

6. A Dashboard action panel, with links available to:
 - View your profile
 - Edit your profile
 - Change your password
 - Add a Smart Card
 - Access the Quick Start Guide
 - View a report displaying your progress for all courses you have enrolled in

5 MY VIEW ACTION PANEL

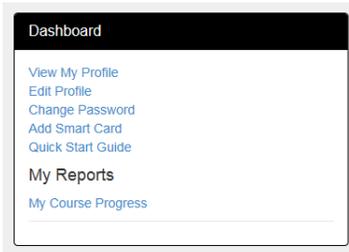
The links available within the My View action panel on the user home page allow users to navigate between the types of content available to them. Each view includes the capability to search the listing by item name.

- My Courses – the default view listing courses as detailed previously
- My Exercises – list of exercises available to the user
- My Content – ability to search through all the content that is part of user’s courses
- My Forums – list of all the forums the user has access to
- My Curriculums – list of curriculums available to the user
- My Badges – list of badges a user has earned

6 DASHBOARD ACTION PANEL

6.1 Edit User Profile and Change User Password

1. Click the PCTC text in the panel at the top of the screen to return to your user home screen. In the Dashboard panel, you will find links to view your profile, edit your profile, change your password, view the Quick Start Guide, and generate your course report.



- View My Profile - opens your My Profile page that displays your name and community membership.
- Edit Profile – opens your profile page to edit name or time zone information
- Change Password – opens password reset page where you must enter your current password, new password, and new password confirmation that meets the system's complexity requirements.
- Add Smart Card – allows user to add a smart card to their profile. This provides another way for user to authenticate to PCTC without having to enter username and password.
- Quick Start Guide – prompts you to view/download the user Quick Start Guide.

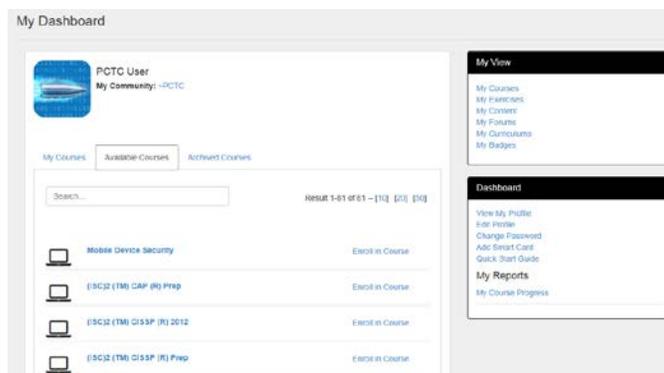
Tip: Be sure to click *Save Profile* or *Save* when finished updating your profile information or changing your password.

The My Reports section of the Dashboard action panel has a link available to generate a report detailing your progress in all courses in which you have enrolled. Additional information on generating and using the *My Course Progress* report is detailed in a later section.

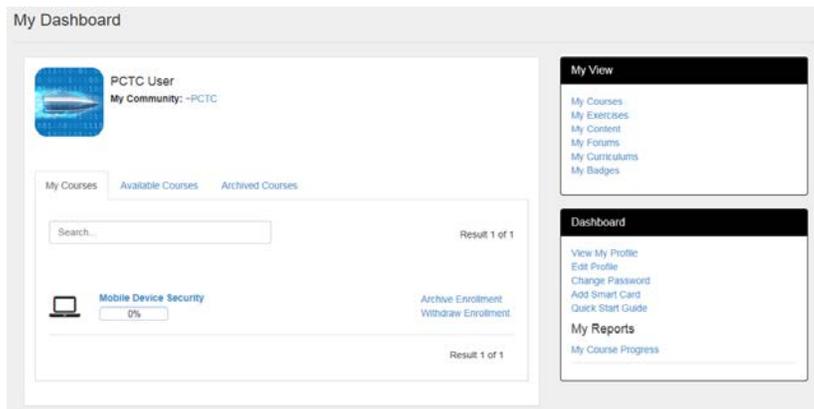
7 ENROLL IN A COURSE

To enroll in a course that is available to your community

1. Click on the *Available Courses* tab.
2. Find a course by browsing the list or searching by course name or keyword.
3. Click the *Enroll in Course* link next to the name of the course you would like to enroll in.



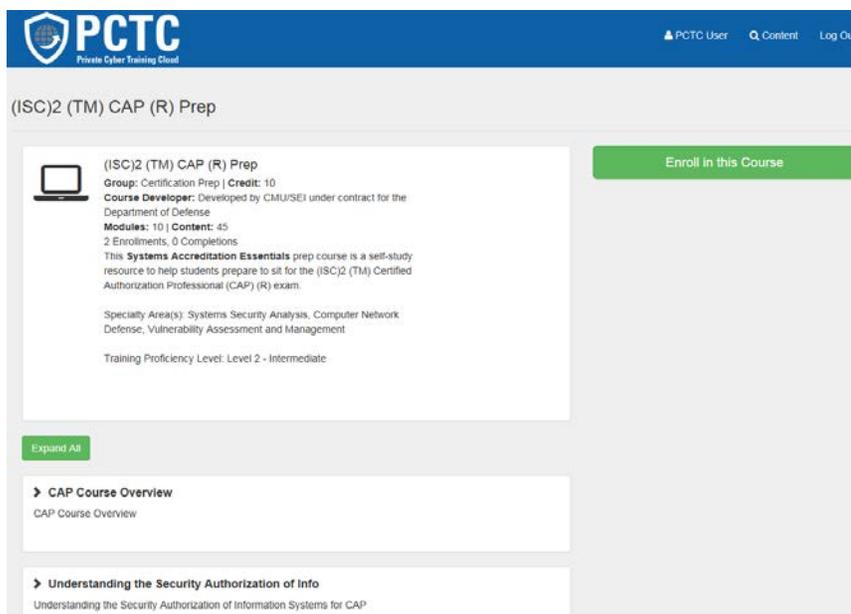
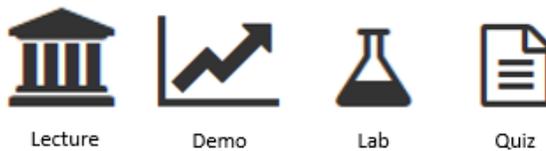
- You will immediately see a message welcoming you to the course, and the course will be listed under your My Courses tab.



8 VIEW COURSE OUTLINE

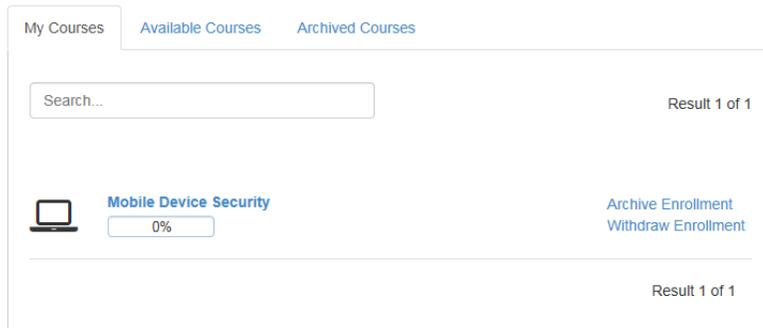
- You may prefer to view the course outline before you enroll in a course. To do so, click the *Available Courses* tab and click on the course name link to view the course's home page and full outline.
- At the course home page, click *Expand All* to open all module headings and reveal the contents contained within each, or click the black arrow next to individual modules to expand individually.

Content item types are indicated by the following icons:



- After you have reviewed the outline, click *Enroll in this Course* in the Course action panel if you wish to enroll in the course. If you do not wish to enroll, click on the PCTC text in the top panel to return to your user home page.

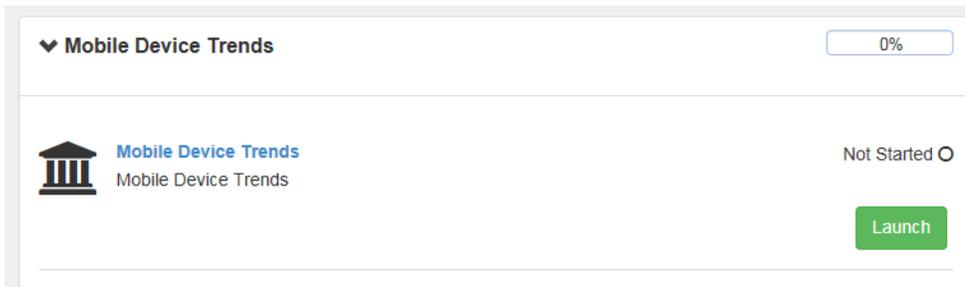
- Once you have enrolled in a course, it will be listed under your My Courses tab until you decide to withdraw from or archive the course.



9 START A COURSE

To begin viewing a course you have enrolled in:

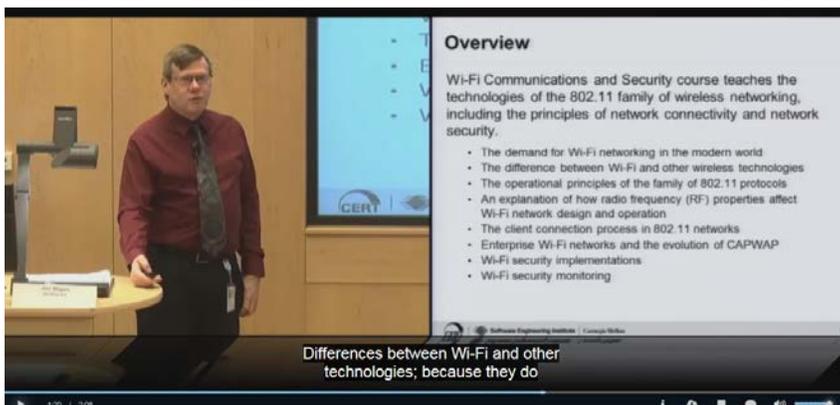
- Select the course name link from your My Courses tab.
- Click the black arrow  to reveal the contents of each course module, or click *Expand All* to simultaneously expand all modules.
- Click the green *Launch* box next to the first piece of content in the course.



- Click the *Launch* box(es) in subsequent modules to progress through the course.

Lecture and demo content items open a player window that includes synchronized video, slides, and the transcript in caption format.

The video may be paused, or you may select to move around within the video chapters, using the player controls at the bottom of the player window.



You may exit a video before completion and resume where you left off at a later time.

- Your progress for each module and individual content item will be displayed in the progress status bar next to each item; each will indicate *Complete* when finished.

▼ **Wi-Fi Communication and Security** 50.0%

Wi-Fi Communication and Security

 **Wi-Fi Communication and Security Intro** 50.0%

Wi-Fi Communication and Security Intro

[Launch](#)

- The Total Progress status bar in the My Course action panel on the course home screen indicates the percentage of the entire course that you have completed.

Wireless Network Security

 **Wireless Network Security**

Group: Wireless Security | **Credit:** 9

Course Developer: Developed by CMU/SEI under contract for the Department of Defense

Modules: 10 | **Content:** 39 (100% Imported)

23 Enrollments, 0 Completions

The purpose of the Wi-Fi Communications and Security course is to teach the technologies of the 802.11 family of wireless networking, including the principles of network connectivity and network security.

Specialty Area: Enterprise Architecture, Network Services, System Administration, Customer Service and Technical Support, Computer Network Defense Infrastructure Support

My Course

Total Progress

25.3%

My Actions

[Withdraw from Course](#)

[Archive this Course](#)

[View Course Notes](#)

- You may exit the course at any time and resume later. When ready to resume the course, simply select it from the courses listed under your My Courses tab and continue where you left off.

10 ACCESS LABS

Many courses in PCTC include hands-on lab exercises. These labs are used to reinforce concepts and provide students with practical, hands-on experience.

As noted in the system requirements section, please confirm your client resolution is set at 1280x1024 or higher.

To access a lab exercise:

- Click the *Launch* button next to a lab within a course outline



Network Monitoring with Nagios

LAB: If a server is not available to users, it is not supporting its mission, not matter how secure it may be. Students will implement a system and application monitoring service on the network for Windows and Linux hosts. Nagios is an open-source platform that gathers availability information and presents it in an aggregate format.

[Launch](#)

2. Clicking the *Launch* button to start a lab will open the Lab Player window. You will have connection options and details for each connection option, as well as the option to view the lab manual that contains the directions and details for the lab.

Connection Options



HTML5

Connect

HTML 5 is the recommended option for those using modern browsers with HTML 5 support



ActiveX

Connect

ActiveX can only be used by Internet Explorer



Client

Get Credentials

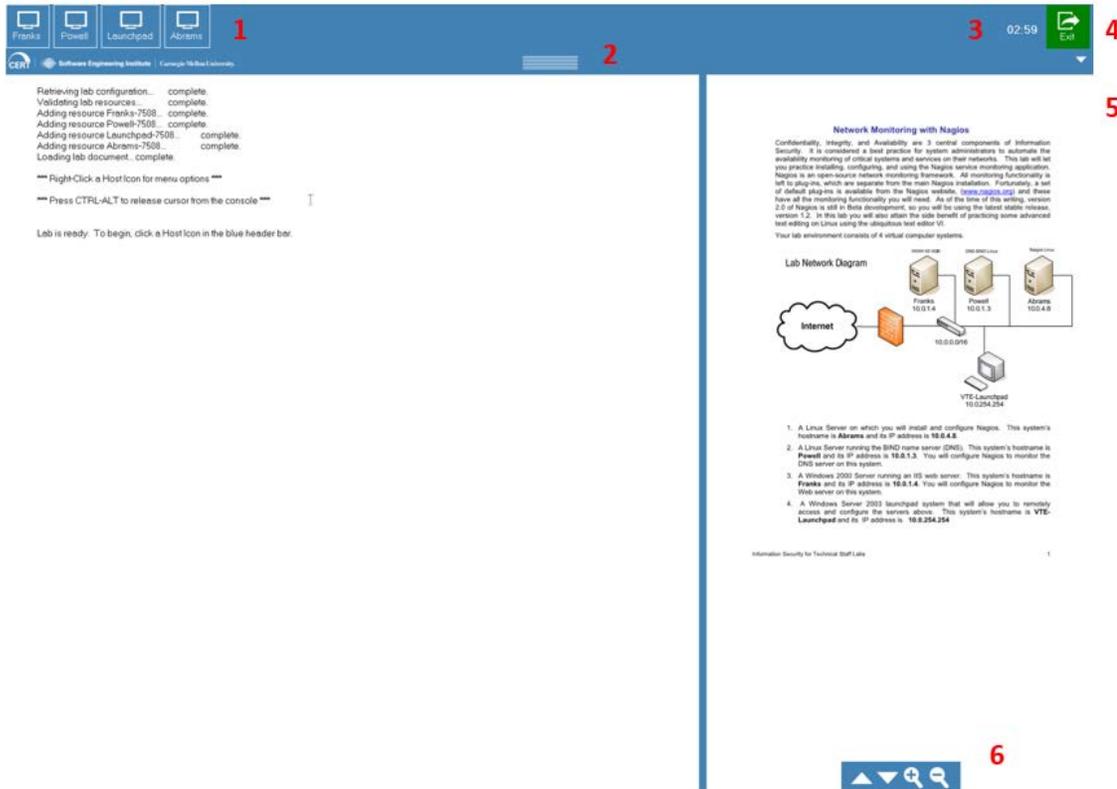
For those who would rather use their own RDP client, we offer the client option. We simply provide you with the necessary host and login credentials, allowing you to connect with any valid RDP client software.

[View Lab Document](#)

Network Monitoring with Nagios

Tip: Labs may take a couple minutes to load. You will see the *Starting..* message as the lab is loading, followed by the Lab Player window detailing status as it loads hosts and configurations.

Once the lab has finished loading, you will have a lab player window split into two sections with the lab's manual displayed on the right. The lab manual contains the directions for completing the lab's objectives.



The lab player window contains

1. Buttons to access the virtual machines referenced in the lab manual directions.
 2. Lines that hide and return the lab player top panel when clicked
 3. Countdown timer displaying how much of the 3-hour time limit is remaining to complete the lab. Right-click the timer and choose *Extend Time by 30 minutes* if more time is needed.
 4. Exit button to exit out of the lab player. This must be clicked when exiting in order for the lab to be marked Complete within the course outline.
 5. Arrow button used to hide and return the lab manual panel from displaying
 6. Tools for use with the lab manual: page up, page down, and zoom
3. When you are finished with a lab, you must click the *Exit* button. This initiates the shutdown processes, closes the Lab Player, and updates course progress accordingly.

Important: If the lab is terminated automatically or by closing the Lab Player window, the lab will NOT be marked as complete in the course outline. You must click the Exit button for PCTC to mark your progress as "Complete" after you have finished a lab.

11 MY COURSE ACTION PANEL: COURSE ACTIONS

The *My Course* Action Panel that is available on the top right of every course home page:

- Shows your total progress completing the course
- Offers two ways to remove a course from your My Courses tab – Withdraw or Archive

The screenshot displays the course page for 'Wireless Network Security'. On the left, there is a laptop icon and course details: 'Group: Wireless Security | Credit: 9', 'Course Developer: Developed by CMU/SEI under contract for the Department of Defense', 'Modules: 10 | Content: 39 (100% Imported)', and '23 Enrollments, 0 Completions'. A description follows: 'The purpose of the Wi-Fi Communications and Security course is to teach the technologies of the 802.11 family of wireless networking, including the principles of network connectivity and network security.' Below this is the 'Speciality Area: Enterprise Architecture, Network Services, System Administration, Customer Service and Technical Support, Computer Network Defense Infrastructure Support'. On the right, the 'My Course' panel shows 'Total Progress' at 25.3% with a progress bar and 'My Actions' including 'Withdraw from Course', 'Archive this Course', and 'View Course Notes'.

11.1 Withdraw from Course

When you withdraw from a course, you completely remove your enrollment. Your course progress information will not be included within any User, Course, or Community reports. However, your progress within individual content items is preserved. If you re-enroll in the course in the future, or if you enroll in another course which uses the same content items, your progress will be indicated.

Important: Withdrawing from, and re-enrolling in, an already completed course may impact the date displayed on the course completion certificate.

11.2 Archive this Course

When you archive a course, you move the course from your My Courses list to your Archived Courses list. This allows you to keep a link to courses that you wish to refer to in the future. All of your archived course progress information is stored and also included in reporting.

Tip: Archive courses that you've completed. This ensures that they are still included in reporting for yourself and your Community

To move a course back to your My Courses tab, click the *Archived Courses* tab on your home screen, find the course name, and click *Restore Enrollment*.

Withdraw, archive and restore functions are also available from the course tabs on your user home screen.

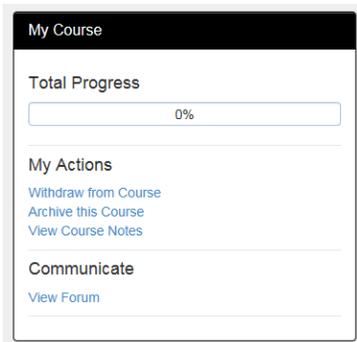
12 MY COURSE ACTION PANEL: COURSE FORUMS

Forums are available for each course. This is an area where users enrolled in the course may post questions or participate in discussions.

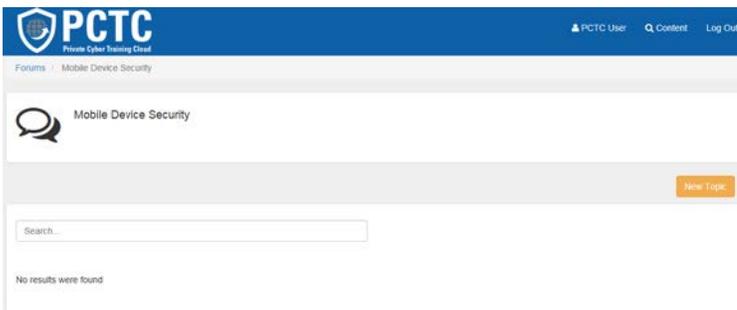
Note: An Administrator must first create the course forum for this feature to be available.

To view postings and post your comments to a course forum

1. From the *My Courses* tab, click the course name link for the corresponding forum you would like to access.
2. Click the *View Forum* link in the My Course action panel of the course's home page.

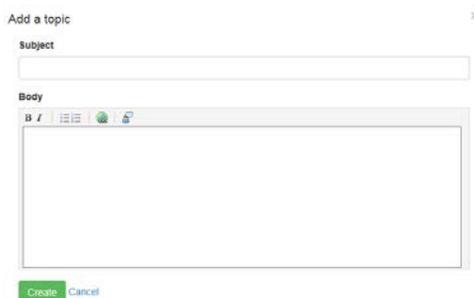


If there are numerous topics in the forum, you can type keywords in the *Search* field to narrow the topics until you find a specific topic.



To create a new forum topic

1. Click the *New Topic* box, enter your topic subject in the Subject field and your comments in the Body field.
2. Click *Create*.



The icons above the Body field allow you to use bold, italics, bulleted or numbered lists, or add a URL in your post.

To reply to a forum topic

1. Click the topic subject link to bring up the forum reply screen. The forum topic appears at the top of the screen along with the latest posting to this topic.



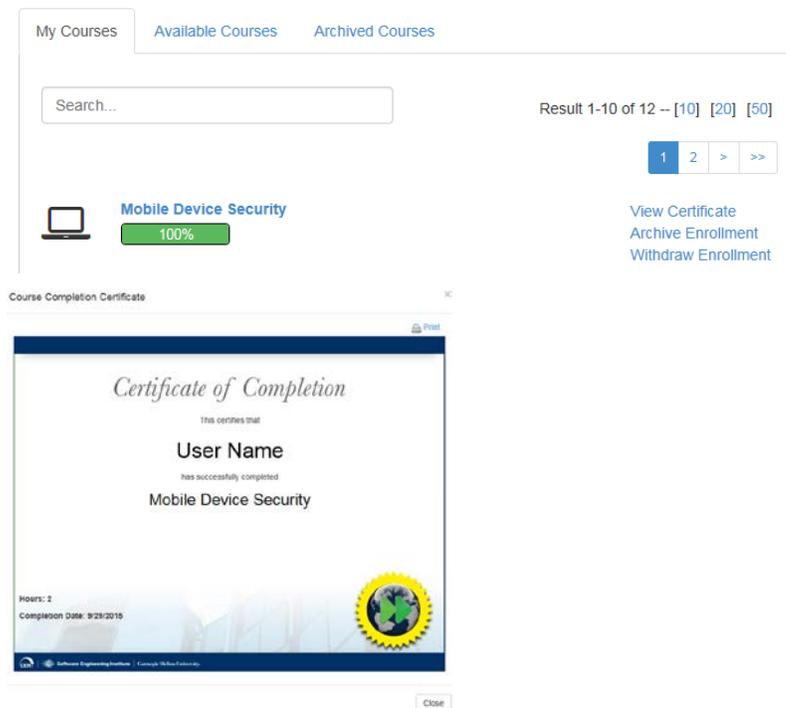
2. Click *Reply* to post your comments.

13 COURSE COMPLETION CERTIFICATE

Once you have completed all items within a course, your course progress status will be 100% and a course completion certificate link will be available to you.

Note: With some courses, specific passing grades on quizzes may be required for course completion.

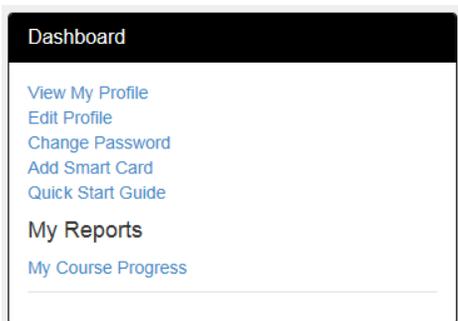
On the *My Courses* tab, the courses that have been completed will have a *View Certificate* link available. Completion certificate links may also be accessed via the completed course's page.



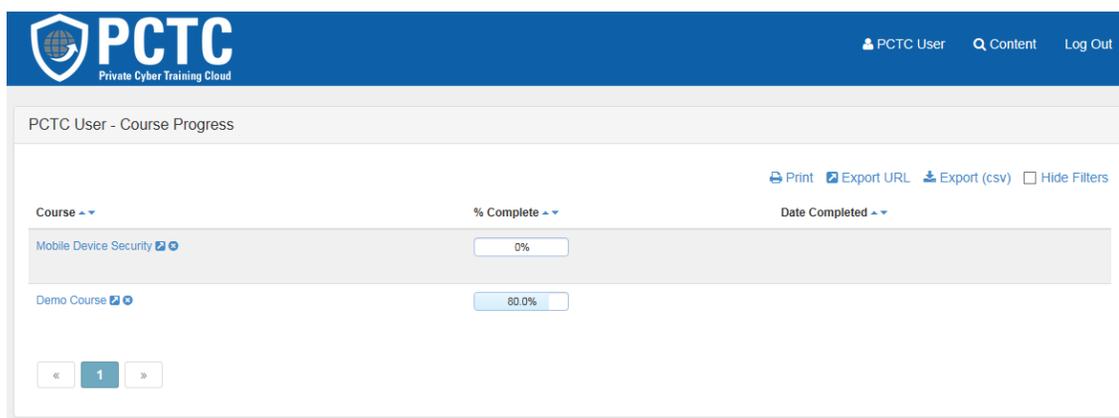
1. Click the *Completion Certificate* link to open the completion certificate. The certificate contains
 - o Your name
 - o The name of the course
 - o The total number of hours for the course
 - o Date of completion
2. To print the certificate, click the *Print* link in the top-right corner.

14 GENERATE COURSE PROGRESS REPORTS

The *My Course Progress* link under My Reports in the Dashboard action panel is used to generate a report detailing your progress in all courses for which you have enrolled.



1. Click the *My Course Progress* link to view the list of courses you are enrolled in and the completion percentage for each. A completion date will be listed for any course you have successfully completed.



This report may be printed or saved as.csv file. An additional option to display/export a direct access URL is also available.

14.1 Filter Course Progress Report

Filters are available to sort or view report information according to desired criteria.

1. Select the “up” or “down” blue triangle next to the Course, % Complete, or Date Completed heading to list and view information according to that respective criteria.
2. To EXCLUDE a course from the report, click the blue X next to the course name. You may exclude as many courses as desired.
3. A blue X will appear by the Course heading, alerting you that a course(s) has been excluded from this report. Click the blue X to restore the course(s) to your report.

14.2 Content Item Progress Reporting

By clicking a course name from the list of courses in your Course Progress Report, you will be able to view progress information for each content item within a course.

User's Name

[Print](#) [Export URL](#) [Export \(csv\)](#) Hide Filters

Id	Name	% Complete	Status
4802	Wi-Fi Communication and Security Intro	100%	Complete
4803	How Wi-Fi Became Ubiquitous	10.0%	Started
4804	Wi-Fi Standards - 802.11b	12.5%	Started
4805	Wi-Fi Standards - 802.11a	33.3%	Started

As described previously in this section, filtering and exclusion features are available within this report as well as the export and printing functionalities.

15 VIEW A COMMUNITY FORUM

Discussion forums are also available at the community level. These discussions will be visible to any user who is a member of the community.

Note: The Community Manager must first create the community forum for this feature to be available.

1. Click the PCTC text in the panel at the top of the screen to return to your user home page.
2. Click the community name link listed next to *My Community*: label.

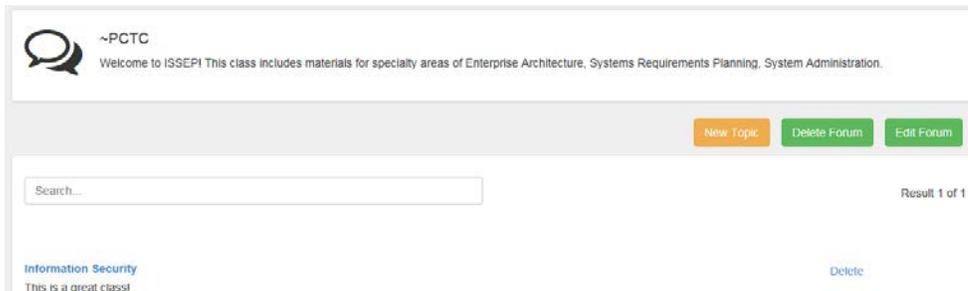


You will be brought to the community profile page where it details information such as the number of users in the community and number of course enrollments in the community. The list of Community Managers for this community is also available under the *Community Managers* text.



3. To access the community forum, click the *View Forum* link in the Community action panel on the right.

The community forums function as the previously described course forums do. You can view, search, and reply to posts, as well as create new discussion topics.



16 CONTACT

To report a problem or provide other feedback, click the *Feedback* link at the bottom of the PCTC window, send email to pctc-support@cert.org, or call 412-268-3300.

Please detail as much information as possible including the specific system element(s) involved (community, course, content piece, etc.) and any error messages you may have received.