



The mission of the Cybersecurity Center at California State University, San Bernardino is to provide an exceptional education for the next generation of cybersecurity leaders for our region and our country. The Cybersecurity Center is the leader in developing applied and innovative education in cybersecurity that provides superior preparation for student success.

The National Cybersecurity Training and Education Center (NCYTE) at Whatcom Community College (WCC) is an Advanced Technological Education (ATE) National Center, grant-funded by the National Science Foundation (NSF). The National Cybersecurity Training & Education (NCYTE) Center advances cybersecurity education in the U.S. by investing in technological innovation, resources, professional development and tools to support faculty, community colleges, and the workforce pipeline of tomorrow.

CERTIFICATE

OF ACHIEVEMENT

CYBER CAREER CHALLENGE

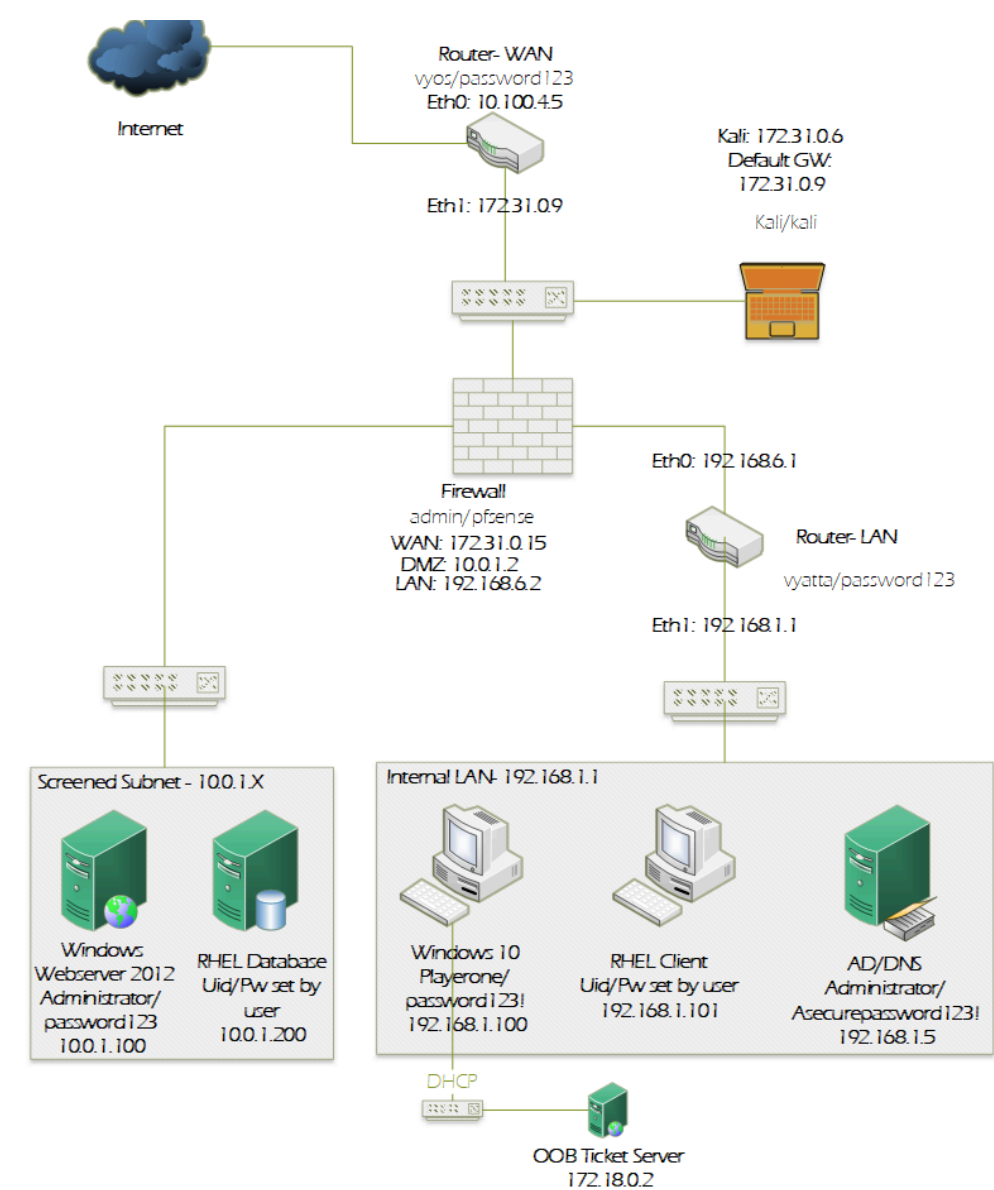
2024

This certificate is proudly presented to

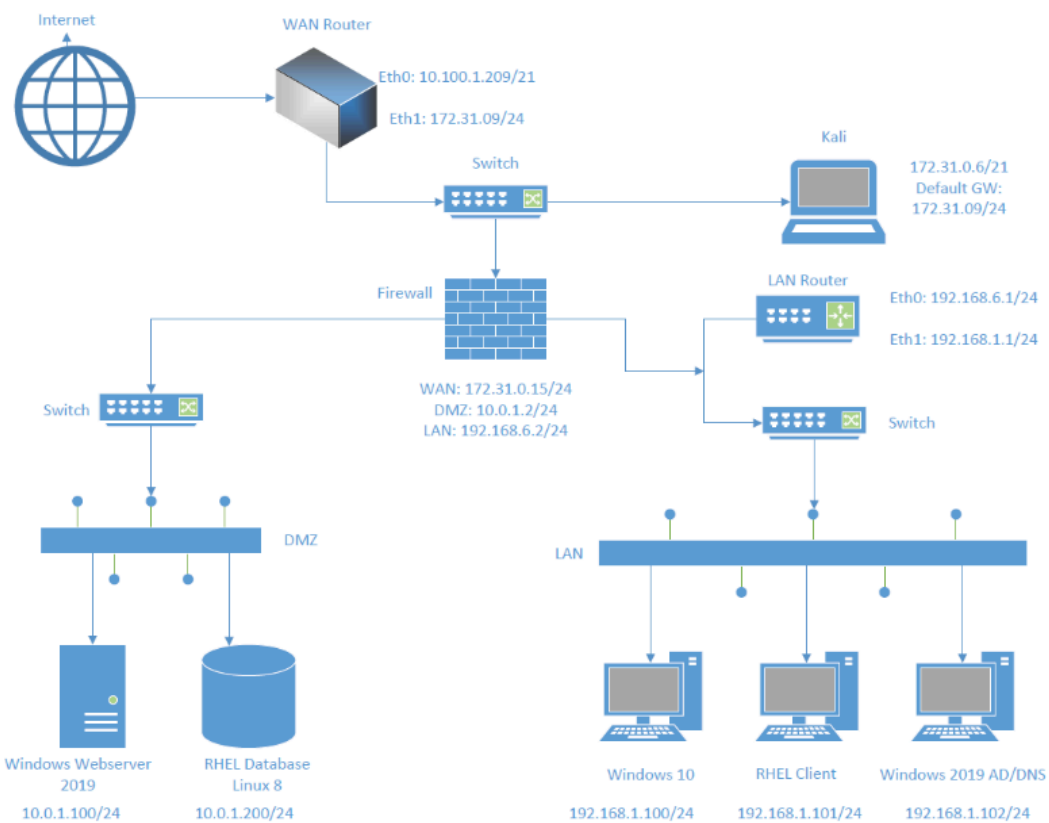
Andre L. Castillo


Andrew Stone
Cyber Career Challenge Instructor

The Cyber Career Challenge experience is designed to give participants the opportunity to gain important workforce experience before entering the workforce. Participants work on a small business network (diagram below) in teams of 3 or 4. The teams are given a list of requirements (listed below) that they must complete by the date of allowing user access and being the subject of a week long penetration test. The results of the experience and the list of specific tasks the participant completed is listed on the next page along with the diagram and modifications made to the network.



Final Network - Below is the network diagram as it was modified and a list of some of the tasks completed in support of the development of this network.



Completed Task	Related NICE Framework Task	Work Role
Hardening of the network	Knowledge of computer networking concepts and protocols, and network security methodologies.	Cyber Defense Analyst
Weekly meetings to review network vulnerabilities	Perform security reviews and identify security gaps in security architecture resulting in recommendations for inclusion in the risk mitigation strategy.	Cyber Defense Analyst
Nmap scanning of network	Perform security reviews and identify security gaps in security architecture resulting in recommendations for inclusion in the risk mitigation strategy.	Cyber Defense Analyst
Reviewing of logs and Snort report before and after pen testing	Receive and analyze network alerts from various sources within the enterprise and determine possible causes of such alerts.	Cyber Defense Analyst

Business Concept		
	Identified three goods	List of items submitted
	Identified three services	List of items submitted
Project Management		
	Gantt Chart	Completed Chart Posted
	Visio diagram of network	Diagram is accurate - information is correct
	FedRAMP System Security Plan	Accurate and complete
Account Management		
	Network authentication	Access the network admin console
	Admin account	Log in as admin
	User accounts	Log in as user
	Guest user account (such as consultant)	log in as a guest user
Web Management		
	Web site created	Access website from browser
	Shopping cart	access shopping cart on website
	purchase goods	purchase a good
	Purchase service	purchase a service
Database Management		
	Database setup	Access database interface
	Query db re goods	Query database for list of goods and other queries

Installing and configuring Snort (IDS) and installation of PRTG network monitor	Build, install, configure, and test dedicated cyber defense hardware.	Cyber Defense Infrastructure Support Specialist
Account Management	Develop policy, programs, and guidelines for implementation.	Cyber Policy and Strategy Planner
Use of Gantt chars to keep on task	Analyze organizational cyber policy	Cyber Policy and Strategy Planner
RHEL Database install Maria and related software requirments	Install and configure database management systems and software.	Database Administrator
Scanning network for vulnerabilities, installing IDS at strategic locations	Ensure that plans of actions and milestones or remediation plans are in place for vulnerabilities identified during risk assessments, audits, inspections, etc.	Executive Cyber Leadership
Schedule system upgrades	Provide recommendations for possible improvements and upgrades.	IT Project Manager
Coordinate team members assigned tasks	Identify and address cyber workforce planning and management issues	IT Project Manager
Integrate 9 devices into one functional network	Integrate new systems into existing network architecture.	Network Operations Specialist
Configured LAN & WAN	Configure and optimize network hubs, routers, and switches	Network Operations Specialist
Configured firewalls and routers, set up demilitarized zones	Test and maintain network infrastructure including software and hardware devices.	Network Operations Specialist
Use of ping, traceroute, nslookup	Diagnose network connectivity problem.	Network Operations Specialist
Website Design	Compile and write documentation of program development and subsequent revisions, inserting comments in the coded instructions so others can understand the program.	Software Developer
Create and manage user accounts with Microsoft Active Directory	Manage accounts, network rights, and access to systems and equipment.	System Administrator
Created and scheduled backups for various systems and configured Windows server	Manage system/server resources including performance, capacity, availability, serviceability, and recoverability.	System Administrator