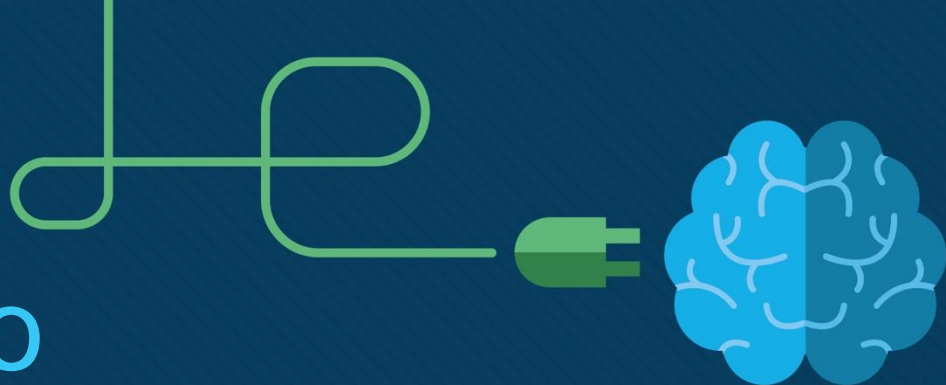




# Introduction to Packet Tracer 1.0

## Overview

September 2017



# Introduction to Packet Tracer Course Overview

## DESCRIPTION

- Teach Packet Tracer features and functionalities
- Teach students how to add, connect, configure, and troubleshoot networks using virtual equipment
- Teach students how to add, connect, configure and monitor smart devices
- Teach students how to create, configure and modify a Thing with Packet Tracer

## FEATURES

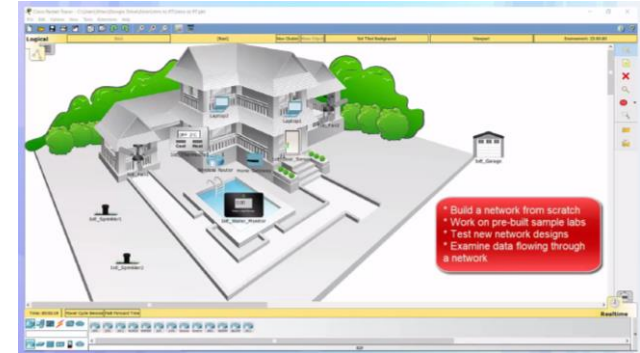
- Self-paced course; instructors may also be able to create and teach
- Instructional and tutorial videos
- Activities and labs
- Assessments
- Course duration: 10 hours

## TARGET AUDIENCE

- Students with minimal knowledge of Packet Tracer
- Students with some knowledge of networking and IoT
- Students do not have access to NetAcad instructors

## AVAILABILITY

- Language: English
- Available September 2017



# Introduction to Packet Tracer 1.0

## Course Overview

Introduction to Packet Tracer covers the Packet Tracer user interface, creating a simple network of networking and IoT devices, using Simulation mode to verify device connectivity, modifying environmental elements, and programming the IoT devices.

**Prerequisites:** None

**Languages:** English

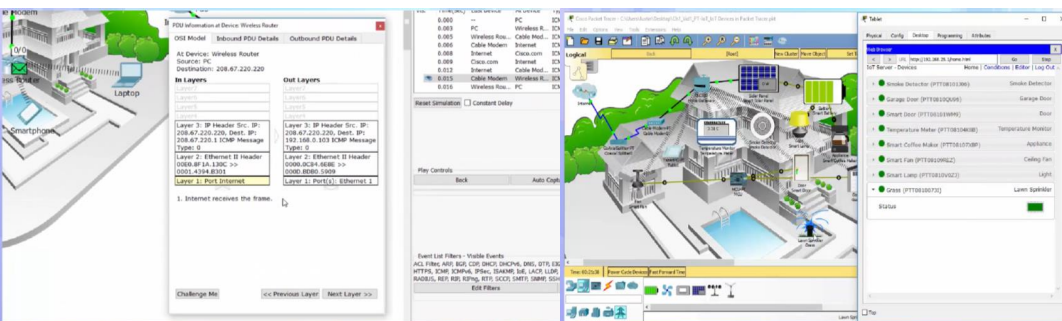
**Course Delivery:** Self-paced (also available in Cisco Academy)

**Estimated Time to Complete:** 10 hours

**Next Course:** CCNA R&S, IoT Fundamentals

## Learning Progression

High school and higher education students interested in learning how to use Cisco Packet Tracer to simulate and visualize a network consisting of networking and IoT devices.

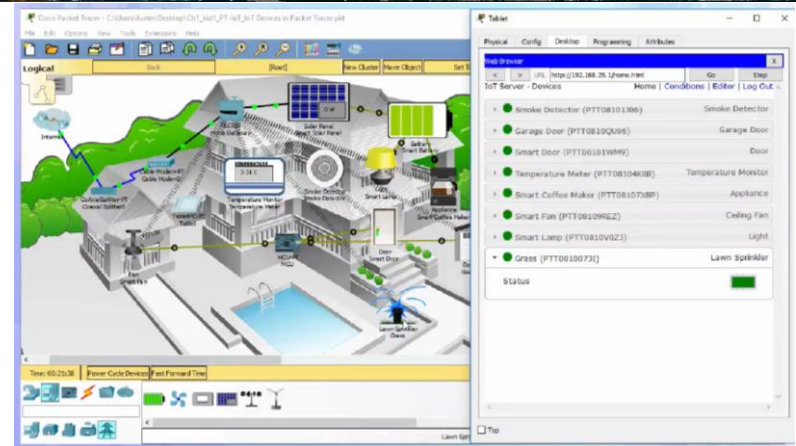


## Learning Components

- 8 chapters
- Interactive Multimedia Content
- 11 Packet Tracer Activities
- 2 modifiable chapter quizzes
- Links to related resources

# Course Design

- Easy-to-navigate graphical user interface
- 8 chapters containing interactive media content and accessible text
- 15 instructional videos with closed caption
- 11 Cisco Packet Tracer activities
- 2 modifiable chapter quizzes
- Certificate of Completion
- Available in English



# Course Outline

Chapter		Learning Objectives
1	Introduction to Packet Tracer	<ul style="list-style-type: none"><li>• Build a network from scratch, use a pre-built sample network, or complete classroom lab assignments</li><li>• Download and install Packet Tracer</li><li>• Authenticate Packet Tracer with NetAcad.com login ID</li></ul>
2	Packet Tracer User Interface	<ul style="list-style-type: none"><li>• Add networking devices and connect them via cables and wireless</li><li>• Configure the intermediate and end devices that make up the network</li></ul>
3	Packet Tracer Simulation Mode	<ul style="list-style-type: none"><li>• Create a simple PDU to replicate the ICMP and ARP functionality of a ping in Simulation mode</li><li>• View the contents of the PDUs to verify connectivity, verify functionality, and troubleshoot</li></ul>
4	Packet Tracer Physical View, and File Assessment Types	<ul style="list-style-type: none"><li>• Make your network more realistic by adding backgrounds, buildings, and wiring closets</li><li>• Learn the different Packet Tracer file types: .pkt, .pkz, and .pka</li><li>• Learn the different assessment types using Packet Tracer: PTMO (Packet Tracer as a Media Object) and PTSA (Packet Tracer Skills Assessment)</li></ul>



# Course Outline

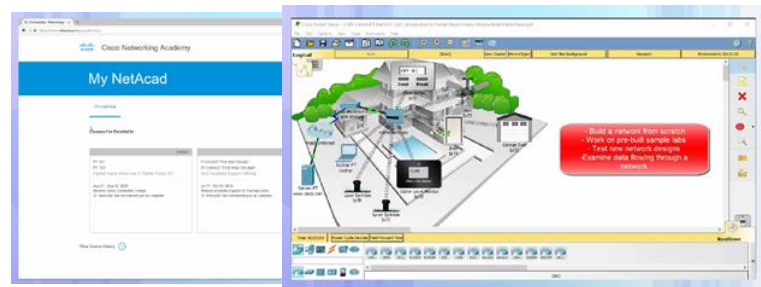
Chapter		Learning Objectives
5	IoT Components in Packet Tracer	<ul style="list-style-type: none"><li>• Locate the IoT devices for a Smart Home, Smart City, Industry and Smart Grid</li><li>• Interact and connect the IoT devices in a Smart Home to a Home Gateway</li></ul>
6	Creating and Controlling a Smart Home Network	<ul style="list-style-type: none"><li>• Locate, deploy, configure and register the smart devices with the Home Gateway</li><li>• Register the smart devices with a dedicated Registration Server</li></ul>
7	Packet Tracer Environment Controls	<ul style="list-style-type: none"><li>• Identify and configure the different environment elements that may affect the IoT devices</li><li>• Modify the sunlight and wind speed environment elements and view their effect on the and , using sunlight as an example</li></ul>
8	Creating and Programming Objects in Packet Tracer	<ul style="list-style-type: none"><li>• Learn how to create a Thing: Push Button and Toggle Push Button</li><li>• Learn how to leverage an existing script to create a new Thing</li></ul>

# Chapter 1: Introduction to Packet Tracer

*Learn how to download, install and authenticate Cisco Packet Tracer.*

Chapter 1 covers Cisco Packet Tracer major product features:

- Build a network from scratch, use a pre-built sample network, or complete classroom lab assignments
- Build a network interconnecting a variety of devices in the Internet of Things
- Cisco Packet Tracer is supported on Linux, Windows and mobile devices
- Download and install Packet Tracer
- Authenticate Packet Tracer with NetAcad.com login ID

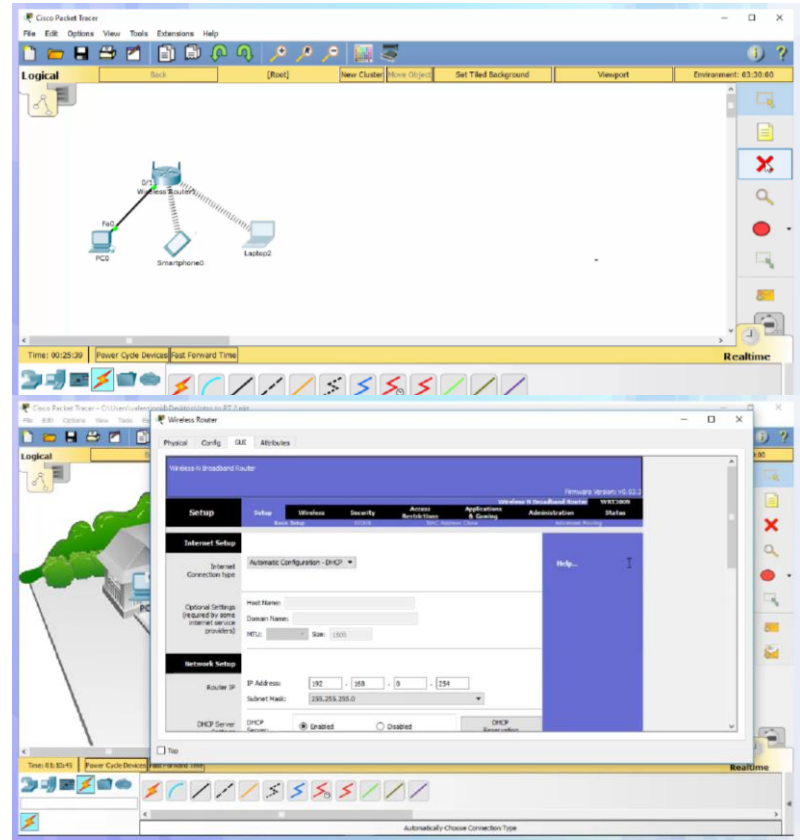


# Chapter 2: Packet Tracer User Interface

*Learn the Packet Tracer user interface and create a simple network.*

Chapter 2 covers:

- Add networking devices and connect them via cables and wireless
- Packet Tracer Activities (2): Locate, deploy, and cable multiple types of devices
- Configure the intermediate and end devices that make up the network
- Packet Tracer Activity: Construct a simple Packet Tracer network and complete basic configuration of end devices



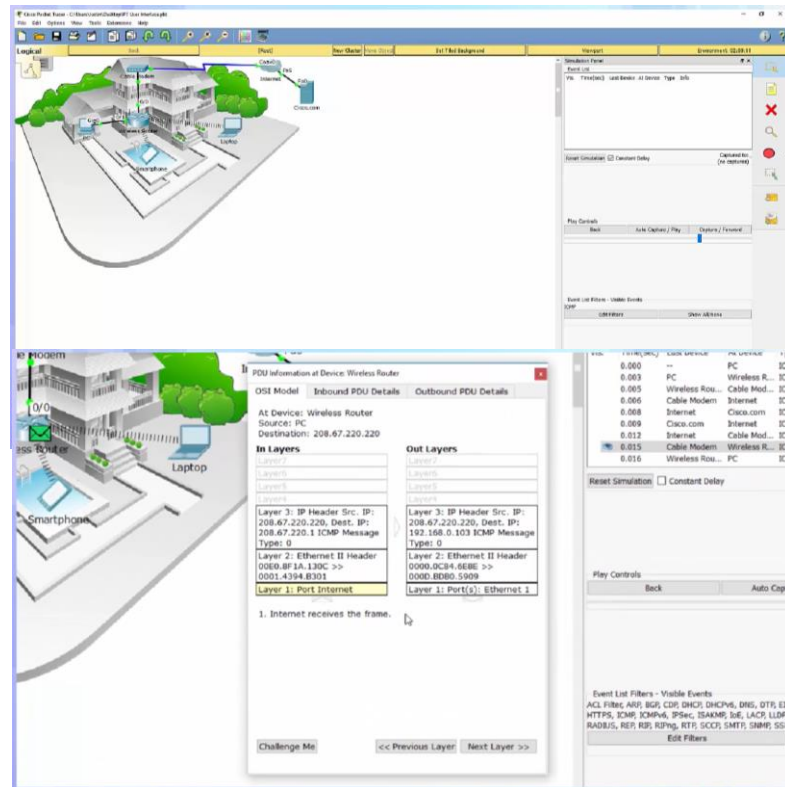


# Chapter 3: Packet Tracer Simulation Mode

*Learn how to use Packet Tracer's powerful Simulation mode to verify device connectivity and to study how the various types of data traverse your network.*

Chapter 3 covers:

- Create a simple PDU to replicate the ICMP and ARP functionality of a ping in Simulation mode
- View the contents of the PDUs to verify connectivity, verify functionality, and troubleshoot
- Packet Tracer Activity: Create and view the content of a Simple PDU in Simulation Mode. Create a complex PDU

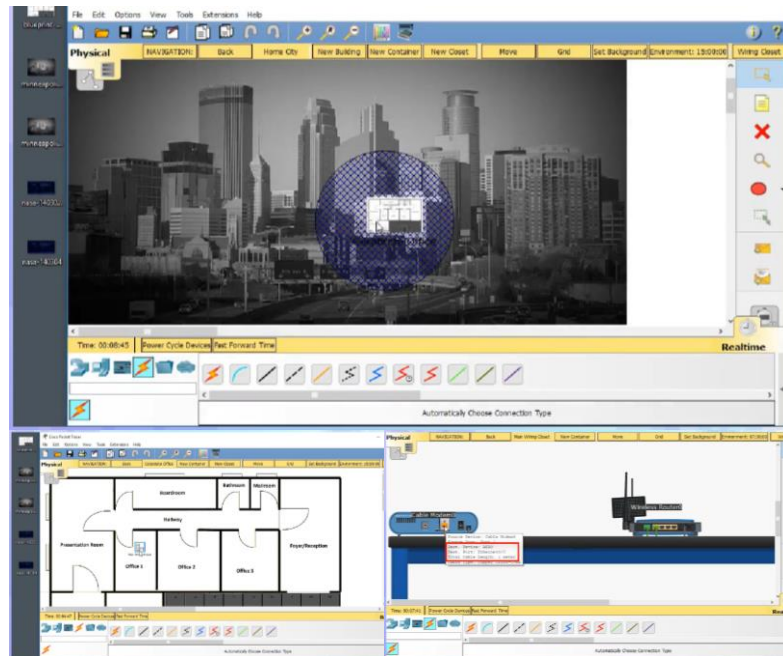


# Chapter 4: Packet Tracer Physical View, and File Assessment Types

*Learn how to place a logical network topology into a physical context with Physical view. Learn the different Packet Tracer and Assessment types*

Chapter 4 covers:

- Make your network more realistic by adding backgrounds, buildings, and wiring closets
- Packet Tracer Activity: Apply a physical view to a logical network
- Learn the different Packet Tracer file types: .pkt, .pkz, and .pka
- Learn the different assessment types using Packet Tracer: PTMO (Packet Tracer as a Media Object) and PTSA (Packet Tracer Skills Assessment)

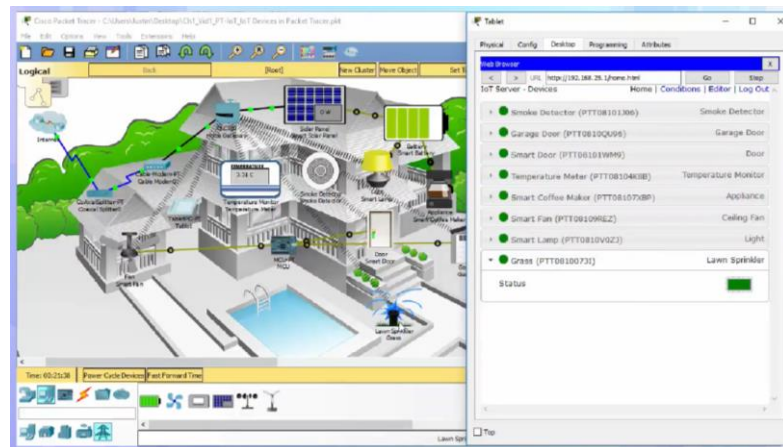


# Chapter 5: IoT Components in Packet Tracer

*Learn how to interact and connect IoT devices in a Smart Home*

Chapter 5 covers:

- Locate the IoT devices for a Smart Home, Smart City, Industry and Smart Grid
- Interact and connect the IoT devices in a Smart Home to a Home Gateway
- Packet Tracer Activity: Open a Packet Tracer file with an existing home network, explore the devices on the network and then add additional wired and wireless IoT devices

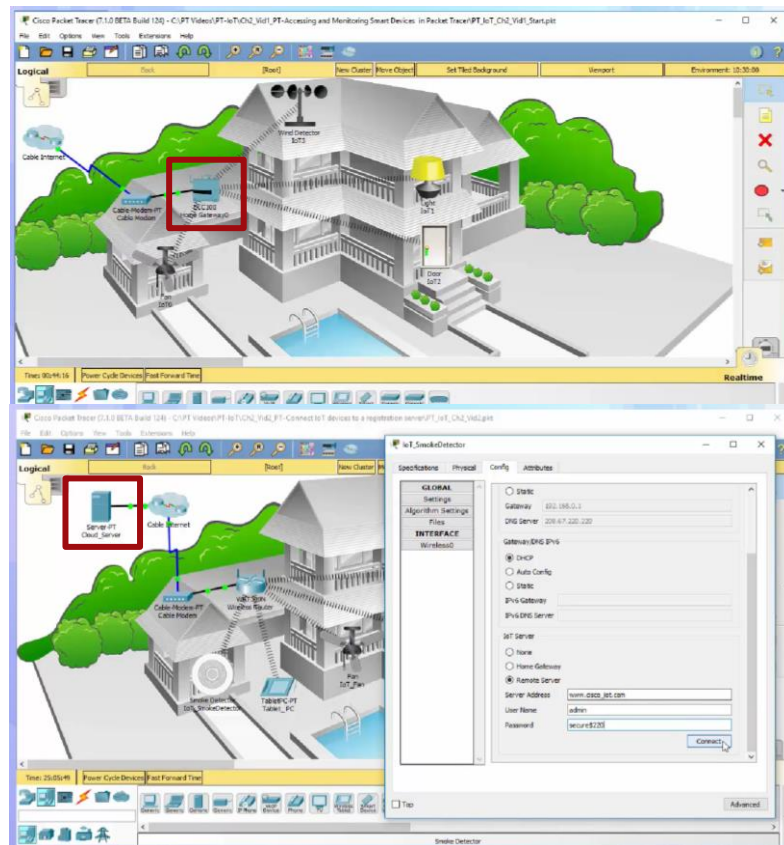


# Chapter 6: Creating and Controlling a Small Smart Home Network

*Learn how to connect and control smart devices in a Smart Home.*

Chapter 6 covers:

- Locate, deploy, configure and register the smart devices with the Home Gateway
- Packet Tracer Activity: Configure and monitor IoT devices through the Home Gateway
- Register the smart devices with a dedicated Registration Server
- Packet Tracer Activity: Configure and monitor IoT devices through the Registration Server

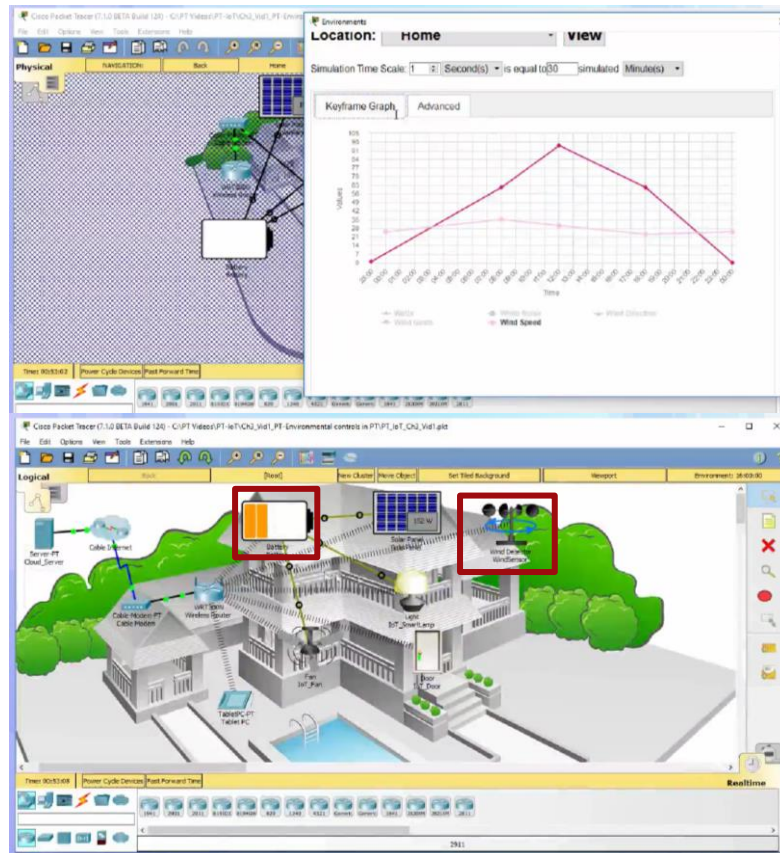


# Chapter 7: Packet Tracer Environment Controls

*Learn how to modify environmental elements and see their effect on the IoT devices.*

Chapter 7 covers:

- Identify and configure the different environment elements that may affect the IoT devices
- Modify the sunlight and wind speed environment elements and view their effect on the and , using sunlight as an example
- Packet Tracer Activity: Use the Physical view in Packet Tracer to view and edit the environmental controls





# Chapter 8: Creating and Programming Objects in Packet Tracer

*Learn how to modify environmental elements and see their effect on the IoT devices.*

Chapter 8 covers:

- Learn how to create a Thing: Push Button and Toggle Push Button
- Learn how to leverage an existing script to create a new Thing
- Packet Tracer Activity: Create a new IoT Thing: a security camera, and save it
- Packet Tracer Activity: Modify an IoT Thing: a security camera,

