

Experience sharing on using free online teaching & learning IoT resources for Secondary School

運用免費資源於中學物聯網教學經驗分享



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With strong motivation for teaching and cultivating the new generation, endeavors for helping teachers, students, parents and community gain the skills they will use throughout school college and careers.

第八屆港澳青少年網絡技能大賽 金獎 (DSE2013)



M21第三屆「全港校際互聯網常識及安全問答大賽」最後八強 (DSE2014)



萬物互聯創作大賽2014 優異獎 (DSE2017)



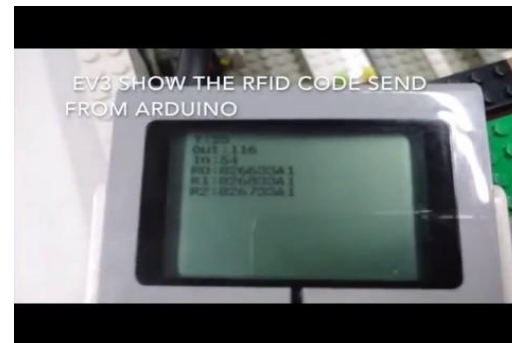
School-based Gifted Program



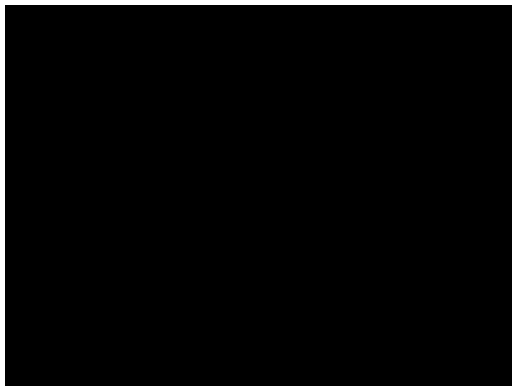
WRO2014 太空探索 BlueTooth RC



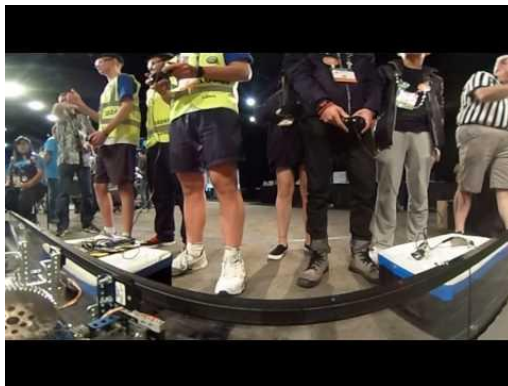
WRO2015 地心行者 BlueTooth互聯



WRO2016 廢亦有道 RFID/Arduino



WRO2017 萬物同城
LoRa/Arduino/RaspberryPi



FTC2016 世界賽@Houston
Android Studio / Modern Robotic



智慧城市專題研習計劃 EV3 /
RaspberryPi / Google Voice&Vision



Lock Tao Secondary School

樂道中學

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Coo/Think @JC
賽馬會運算思維教育



Explore the World Through Robotics

Robotics Curriculum has been implemented in our school since 2013. We believe that Robotics Education, can help broaden students' horizons, and enhance students' abilities to communicate, collaborate and construct knowledge. Robotics Education can also promote student-centered learning. Students are motivated to learn effectively and independently. It also fosters essential work skills such as problem solving and project management skills.

2017



World Robot Olympiad 2016 - Open Category
Hong Kong Representative Team



FIRST Tech Challenge 2016-2017
Champion of Winning Alliance Award (Captain)



FIRST Tech Challenge 2016-2017
World Championship in Houston



HKUST Underwater Robot Competition
Gold Award
and
Best Joint School Inclusion Team
Design a ROV to complete some tasks underwater

2016



World Robot Olympiad 2015
3rd Place of Open Category
Design a robot to explore resources in the world



World Robot Olympiad 2015 - Open Category
In India, Qatar
Hong Kong Representative Team



IET/MATE
Underwater Robot Competition
Adventure Team
Design a ROV to complete some tasks underwater



World Robot Olympiad 2016
3rd Place of Open Category
Design a robot to dig, The Group with RPT technology

2015



World Robot Olympiad 2014
The Best Project Award of Open Category
Design a robot to explore the Space and Alien



Hong Kong F11 Robotics Tournament
The Best Poster Award
Design a robot to connect the world in remote location



HKUST Underwater Robot Competition
Silver Award
and
Best Joint School Inclusion Team
Design a ROV to complete some tasks underwater



Asia-Pacific Youth Robot Competition
Best Robot Design
Design a robot to transport some objects in shortest time

2014



HKBU MindDrive Competition
Best Posture Design
Design a set of postures to control a RC Car with Kinect



Internet of Everything Application Design
Competition 2014 - Merit
Identify IIoT children with the use of IIoT Technology



Asia-Pacific Youth Robot Competition
1st Runner-up and 2nd Runner-up
Design a robot to transport some objects in shortest time
Design a robot to absorb some objects in specific location respectively



Asia-Pacific Youth Robot Competition
In Taiwan
Hong Kong Representative Team

2013



臺南市107年暑假 臺南教育節 第十屆「教育資訊週」



活動網址 <https://sites.google.com/site/tainanshi107/>



活用創新科技
構建智慧城市





Free web platform

Skill For All with Cisco
<https://skillsforall.com/>



Welcome!

Please login to your account.

☐ Remember me

[Forgot Password?](#)

Login

Or continue with



NetAcad

Don't have an account? [Sign up](#)

Cisco Networking Academy
<https://www.netacad.com/>



Log in

Email

nkm@locktao.edu.hk

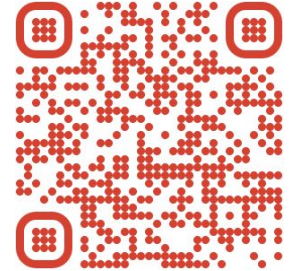
Next

[Unlock account?](#)

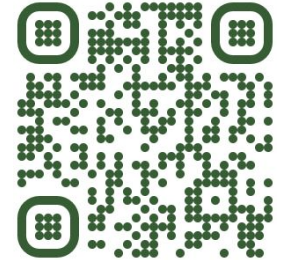
[Forgot email address?](#)

[Help](#)

Don't have an account? [Sign up](#)



How to Become an Academy



How to Become an Instructor



Skill For All with Cisco

Exploring IoT with Packet Tracer



Packet Tracer Exam Link



Invite Learners



Invite via link

Copy the link and send it to your learners.

<https://skillsforall.com/exam/introdu>

Copy



Bulk Invite Learners

Bulk import learners by a specially formatted file.
Learners will receive an email with a link to join.

Select csv file to import

Import

Download [csv template](#) to get started.

Only csv file with "," separator is allowed

Cancel

Invite

Pros:

- Free of charge
- Easy to sign up
- Support self-enrollment
- Support Google SSO / Netacad SSO
- Mobile friendly
- Badge Award System
- No instructor required
- No Physical Device required

Cons:

- English



Cisco Networking Academy

Select Academy *
狼道中學

Course Language *
All

Search

Select the course you want to teach. At this academy, you are certified to teach the following courses.

- ☐ Introduction to IoT
- ☐ IT Essentials: PC Hardware and Software
- ☐ IoT Fundamentals: Big Data & Analytics
- ☐ Introduction to Cybersecurity
- ☐ Introduction au monde connecté L1: Découverte du réseau domestique
- ☐ Introduction au monde connecté L2: Découverte du réseau du college
- ☐ Packet Tracer Know How 1: Packet Tracer 101
- ☐ CCNA Cybersecurity Operations
- ☐ Partner: NDG Linux Unhatched
- ☐ CCNA R&S: Introduction to Networks
- ☐ Annex B for USMC
- ☐ IoT Fundamentals: IoT Security
- ☐ Annex A for USMC
- ☐ Annex C for USMC
- ☐ Partner: NDG Linux Essentials
- ☐ Partner: CLA - Programming Essentials in C
- ☐ Get Connected
- ☐ Cybersecurity Essentials
- ☐ Partner: PCAP - Programming Essentials in Python
- ☐ CCNAv7: Introduction to Networks
- ☐ CCNAv7: Enterprise Networking, Security, and Automation
- ☒ CCNP Enterprise: Advanced Routing
- ☐ CyberOps Associate
- ☐ Partner: Cloud Security
- ☐ ITE 8 - Bridge
- ☐ Introduction to the Internet of Everything
- ☐ Partner: NDG Linux II
- ☐ Partner: CPP - Advanced Programming in C++
- ☐ CCNA Security
- ☐ Entrepreneurship
- ☐ Introduction au monde connecté L3: Découverte du réseau mondial
- ☐ Community: Empowerment Technologies
- ☐ CCNA R&S: Scaling Networks
- ☐ CCNA R&S: Connecting Networks
- ☐ Partner: CPA - Programming Essentials in C++
- ☐ CCNA R&S: Routing and Switching Essentials
- ☐ Partner: NDG Linux I
- ☐ Emerging Technologies Workshop - Experimenting with REST APIs using Webex Teams
- ☐ Partner: CLP - Advanced Programming in C
- ☐ IoT Fundamentals: Hackathon Playbook
- ☐ Introduction to Packet Tracer
- ☐ IoT Fundamentals: Connecting Things
- ☐ Networking Essentials
- ☐ Emerging Technologies Workshop - Model Driven Programmability
- ☐ CCNAv7: Switching, Routing, and Wireless Essentials
- ☐ CCNP Enterprise: Core Networking
- ☐ DevNet Associate
- ☐ Network Security
- ☐ Partner: JavaScript Essentials 1 (JSE)

Pros:

- Free of charge but require verification
- Instructor may needed
- Some courses require trained instructor
- Some courses provide chinese content
- Some courses provide discounted exam voucher for well recognized qualifications after completion of the course

Cons:

- Require an independent account for login with very strong password policy

Networking Academy Curriculum Portfolio

04.26.2022



Explore

Introduction to exciting opportunities in technology.

- ▲ Get Connected
- ▲ NDG Linux Unhatched
- ▲ Introduction to Cybersecurity
- ▲ Introduction to IoT and Digital Transformation
- ▲ Getting Started with Cisco Packet Tracer
- ▲ Exploring Networking with Cisco Packet Tracer
- ▲ Exploring IoT with Cisco Packet Tracer

Career

Preparation for entry level positions.

- Skills for All only
- Both platform
- Both platforms, but courses differ

Digital Essentials

- ★ ● IT Essentials
- ▲ NDG Linux Essentials
- ▲ Networking Essentials
- ▲ Cybersecurity Essentials
- ▲ PCAP: Programming Essentials in Python

Networking

CCNA:

- ★ ● ■ Introduction to Networks
- ★ ● ■ Switching, Routing, & Wireless Essentials
- ★ ● ■ Enterprise Networking, Security & Automation

CCNP Enterprise:

- ★ ● ■ Core Networking (ENCOR)
- ★ ● ■ Advanced Routing (ENARSI)

Programmable Infrastructure

- ▲ Python Essentials 1
- ★ ● ■ DevNet Associate
- Workshop: Experimenting with REST APIs
- Workshop: Model-Driven Programmability

Cybersecurity

- ▲ Endpoint Security
- ▲ Network Defense
- ▲ Cyber Threat Management
- ▲ Cybersecurity Pathway
- ★ ● ■ CyberOps Associate
- ★ ■ Network Security
- ▲ Cloud Security

Practice

Develop skills with interactive tools & experiences

Cisco Packet Tracer

Gaming

Virtual Labs

Assessments

Physical Equipment

Complementary Offerings

Additional offerings available from Partners.



- ▲ NDG Linux I
- ▲ NDG Linux II
- ▲ NDG NETLAB+
- ▲ NDG CyberOps Lab



- ▲ JavaScript Essentials 1 (JSE)
- ▲ CLA: Programming Essentials in C
- ▲ CLP: Advanced Programming in C
- ▲ CPA: Programming Essentials in C++
- ▲ CPP: Advanced Programming in C++

○ Aligns to Certification/Certificate

□ Instructor Training Required

△ Self-paced

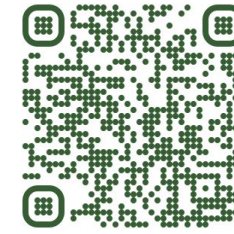
☆ ASC Alignment Required

Includes courses on NetAcad.com and SkillsForAll.com

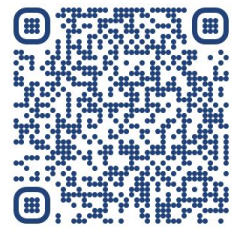
IoT with Packet Tracer Demo

- How to login SkillsForAll.com
- How to explore and enroll course
- How to access course materials
- Course material demonstration

- How to obtain Packet Tracer
- Packet Tracer Lab demonstration



Download
Packet Tracer



Download
Demo Resource

Objectives

- Part 1: Modify Your Thing
- Part 2: Test Your Modified Thing

Background / Scenario


In this activity, you will modify the security camera IoT device created in the previous activity.

Instructions

Part 1: Modify Your Thing

Step 1: Save the device icon from the instructions file.

- Open the HTML instructions file for this activity if it is not already open.
- Right-click the image below and select the option to save the image as a file on your computer. This must be done from the instructions document; it cannot be done from the Packet Tracer instructions window.
- Save the image in a folder where you can find it easily.



Step 2: Add an additional device icon.

- In the Packet Tracer file for this activity, click the **Security Camera** in the Packet Tracer workspace, and click the **Config** tab.
- Click the **Advanced** button in the bottom right of the device configuration window, then click the **Thing Editor** tab. Be sure that the **Properties** tab is open. You will see the icon for the security camera that you worked with in the last activity.

Time Elapsed: 02:55:49
Click Check Results

Back 1/1 Next

Time: 01:37:16

Scenario 0
New Device
Toggle PSDU icon window

Fire Last Status Source Destination Type Color Time(sec) Periodic Num Edit Delete

Appliance



Cisco Prototyping Lab - PL-APP & PL-KIT

