Training: CWNP
CWIIP Certified Wireless IoT Integration Professional

TRAINING GOALS:

The Certified Wireless IoT Integration Professional (CWIIP) develops and implements solutions that integrate multiple wireless-sourced management, monitoring, and control data through programming. This professional can identify and use the appropriate tools to extract, transform, and load data to and from wireless Internet of Things (IoT) systems. The CWIIP plays a crucial role in planning and delivering scalable solutions to automate the transport of and response to data throughout a heterogeneous network.

CWIIP is built on the CWISA certification, which is a prerequisite to the CWIIP. This certification covers:

- Wireless IoT higher layer protocols like MQTT, CoAP, DDS, and AMQP
- Security solutions used within IoT integration projects
- Database systems and the role they play in integration projects
- Systems development using APIs, programming, and libraries
- Python programming fundamentals
- IoT libraries available for Python
- Solid requirements engineering skills
- Implementation, monitoring, and maintenance best practices

Each participant in an authorized CWNP CWIIP training held in Compendium CE will receive a free CWIIP-301 Certified Wireless IoT Integration Professional Exam voucher.

CONSPECT:

- Explain and Use Integration Protocols
  - Demonstrate proficiency in selecting the best use of integration solutions for wireless IoT implementations
    - SNMP
    - Publish-subscribe network protocol (MQTT)
    - Serialized structured data (gRPC)
    - APIs
      - RESTful
      - Web sockets

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- Webhooks
- Standard HTTP GET/POST/PUT/UPDATE/DELETE processing
- OpenConfig
- FTP / TFTP
- Compare and contrast streaming and polling methods

- Perform Requirements Analysis
  - Identify business requirements and constraints
    - Regulatory
    - Budgetary
    - Legal
    - Business use cases
    - Collaborate with internal teams and external partners
  - Identify technical requirements and constraints
    - Data considerations
    - Confidentiality, Integrity, Availability (CIA)
    - Operational considerations
    - Programming languages
    - Scalability and Architecture
  - Identify extract, transform, and load (ETL) requirements
- Develop IoT Integration Solutions
  - Demonstrate proficiency with Python
    - Interface with an API
    - Utilize Dictionaries, Lists, Tuples, and Arrays
    - Utilize libraries
    - Utilize conditional loops
    - Search and isolate unstructured data
  - Process data contained in commonly used IoT data structures
    - JSON
    - XML
    - YANG
    - YAML
    - CSV
  - Understand and interact with database systems
    - Structured
    - Document store
    - Big data

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- Understand and implement security methods
  - Authentication and Authorization
  - Encryption
  - IPSec
  - HTTPS
  - SSL / TLS
  - SSH
- Troubleshoot problem scenarios
  - Response codes
  - Error-handling and exceptions

- Implement IoT Integration Solutions
  - Implement a method to display, monitor, and provide alerts
    - Time series data visualization and dashboards
    - Mechanism for alert communication
  - Implement automation to provision, configure, and interact with IoT devices
    - API
    - OpenConfig
    - SNMP
    - FTP / TFTP
    - CLI

- Maintain and Support IoT Integration Solutions
  - Utilize Git for version control
  - Continued software maintenance (package managers)
  - Documentation
    - Develop documentation
    - Documentation lifecycle
  - Perform validation
    - Regression testing
    - Unit testing
    - Refactoring
  - Project lifecycle management
    - Scope management
    - Change management
  - Utilize best practices and methodologies
    - Understand security best practices
    - Understand software engineering methodologies

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- Python enhancement proposals (PEP)
- Be familiar with industry organizations
  - IETF
  - 3GPP
  - Bluetooth SIG
  - Zigbee Alliance
  - LoRa Alliance
  - IEEE
  - Z-Wave Alliance

REQUIREMENTS:

Basic Understanding of topics taught in CWISA

Difficulty level



CERTIFICATE:

The participants will obtain certificates signed by Compendium CE (course completion).

When you pass the CWIIP exam and hold a valid CWISA certification, you earn the CWIIP certification and credits towards the CWISE certification should you choose to pursue it. The Certified Wireless IoT Integration Professional (CWIIP) develops and implements solutions that integrate multiple wireless-sourced management, monitoring, and control data through programming. This professional can identify and use the appropriate tools to extract, transform, and load data to and from wireless Internet of Things (IoT) systems. The CWIIP plays a crucial role in planning and delivering scalable solutions to automate the transport of and response to data throughout a heterogeneous network.

CWIIP exam is available through the Pearson VUE test centers.

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TRAINER:

Authorized CWNP Trainer.

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