CertNexus®

IoTBIZ™ (IOZ-110) Exam Blueprint

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IoTBIZ™

Introduction to CertNexus

CertNexus is a vendor-neutral certification body, providing emerging technology certifications and micro-credentials for business, data, developer, IT, and security professionals. CertNexus' mission is to assist closing the emerging tech global skills gap while providing individuals with a path towards rewarding careers in Cybersecurity, Data Science, Data Ethics, Internet of Things, and Artificial Intelligence (AI)/ Machine Learning (ML).

We rely on our Subject Matter Experts (SMEs) to provide their industry expertise and help us develop these credentials by participating in a Job Task Analysis, Exam Item Development, and determining the Cut Score. We also depend upon practitioners in the field to participate in a survey of the Job Task Analysis and beta testing to ensure that our certifications validate knowledge and skills relevant to the industry.

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CertNexus IoTBIZ™ (Exam IOZ-110) Exam Blueprint

Exam Information

Candidate Eligibility

The IoTBIZ assessment requires no application fee, supporting documentation, or other eligibility verification measures for you to be eligible to take it. Simply purchase an access key for the *IoTBIZ™ (Exam IOZ-110)* course from the CertNexus Store (here). This course includes access to the credential process directly through the CHOICE platform.

Exam Prerequisites

Successful candidates should have a fundamental knowledge of business processes and general business concepts, as well as domain knowledge in the Internet of Things (IoT). It is recommended that candidates acquire domain knowledge by attending the CertNexus® *IoTBIZ™ (Exam IOZ-110)* course prior to taking the assessment.

Exam Specifications

Number of Items: 10

Passing Score: 80% or 8/10 items

Duration: Estimated 15–30 minutes; candidates may retake as many times as desired.

Exam Delivery: Online through the CHOICE platform

Item Formats: Multiple Choice/Multiple Response

Upon successful completion, candidates will earn the CertNexus IoTBIZ credential.

Exam Description

Target Audience:
The IoTBIZ assessment is primarily designed for business leaders, consultants, product and project managers, and other decision makers who are responsible for growing the business through the use of IoT solutions. Other individuals who wish to validate basic IoT knowledge are also candidates for this assessment.

Exam Objective:
Upon successful completion of the IoTBIZ assessment, business professionals will demonstrate an understanding of what IoT is, what devices comprise IoT, how to plan for IoT implementation, and how to manage an IoT project throughout the development lifecycle.

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To ensure that candidates possess the aforementioned knowledge, skills, and abilities, the IoTBIZ assessment will test them on the following domains with the following weightings:

Domain	% of Examination
1.0 Identify IoT Concepts	40%
2.0 Identify Business Benefits and Challenges of IoT	20%
3.0 Undertake an IoT Project	40%
Total	**100%**

The information that follows is meant to help you prepare for your certification exam. This information does not represent an exhaustive list of all the concepts and skills that you may be tested on during your exam. The exam domains, identified previously and included in the objectives listing, represent the large content areas covered in the exam. The objectives within those domains represent the specific tasks associated with the job role(s) being tested. The information beyond the domains and objectives is meant to provide examples of the types of concepts, tools, skills, and abilities that relate to the corresponding domains and objectives. All of this information represents the industry-expert analysis of the job role(s) related to the certification and does not necessarily correlate one-to-one with the content covered in your training program or on your exam. We strongly recommend that you independently study to familiarize yourself with any concept identified here that was not explicitly covered in your training program or products.

Domains and Objectives

Domain 1.0 Identify IoT Concepts [40%]

Objective 1.1 Identify IoT devices.

- IoT ingredients
  - Sensing
  - Connected
  - Smart
  - Cloud
  - Clients
- IoT device targets
  - Home use
  - Industry
  - Agriculture
- IoT device examples
  - Air-quality monitors
  - Industrial controllers
  - Smart home appliances
  - Traffic monitors
  - Wearables

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Objective 1.2 Identify characteristics of the IoT industry.

- Prompting
  - 1970s: PLCs, M2M, SCADA
  - 1980s: PCs, LANs
  - 1990s: Internet, OPC, OLE, COM
  - 2000s: Cloud
  - 2010s: Web technologies
- IoT industry evolution
  - Industry 1.0 to 4.0
  - CPS
- Enabling technologies
  - Miniaturization
  - Connectivity
  - Cloud processing
- Planned maintenance
  - Preventative
  - Predictive
  - Proactive
  - Prescriptive

Objective 1.3 Identify elements of IoT infrastructure.

- Infrastructure components
  - Networks
  - Gateways
  - The edge
- Gateway tasks
  - Local communication and messaging
  - Data aggregation and storage
  - Local data analysis
- Cloud services
  - Centralization
  - Scaling
- User interfaces
  - Client applications
  - Business intelligence
- Software stacks
  - Operating system
  - HAL
  - Runtime environment
  - Data/messaging management
  - Analytics

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Domain 2.0 Identify Business Benefits and Challenges of IoT [20%]

Objective 2.1 Identify the benefits of IoT.

- Competitive advantages
  - Improvements to products/services
  - Improvements to processes
- New/enhanced revenue streams
  - Revealing unidentified problems
  - Developing improved solutions
- Reduction to costs
  - Operational costs
  - Resource costs
  - Transportation/lodging expenses
  - Waste/defects

Objective 2.2 Identify the challenges of IoT.

- Technical challenges
  - Device constraints
  - Data communication
  - Interoperability
- Security challenges
  - Lack of built-in security
  - Lack of industry/developer knowledge
  - New interfaces, new threats
- Societal/organizational impact
  - Adverse effects on groups of people
  - Job displacement
  - Environmental harms
  - New skills needed in the workforce

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Domain 3.0 Undertake an IoT Project [40%]

Objective 3.1 Determine real-world applications for IoT.

- Smart city
  - Adverse effects on groups of people
  - Garbage/waste
  - Streets/traffic
  - Lighting
- Industry
  - Transportation/distribution
  - Wearables
  - Environment
- Buildings
  - Occupants
  - Safety/security
  - Infrastructure
- Connected cars
  - Maintenance
  - Comfort/convenience
  - Navigation
- Energy and utilities
  - Sources
  - Inspection
  - Customer service/billing
- Health, medical, and life sciences
  - Medical devices
  - Hospital logistics
  - Personal health
- Supply chain
  - Condition monitoring
  - Shipment tracking
  - Inventory management
- Agriculture
  - Crops/livestock
  - Soil
  - Equipment
- Retail
  - Customer presence
  - Advertising
  - Vending/payment
- Defense
  - Matériel
  - Logistics
  - Connected warfighters

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Objective 3.2 Implement the IoT development lifecycle.

- Project complexity
  - Multiple technologies/platforms
  - Multiple vendors
  - Multiple targets
  - New approaches to networking/security
  - Subject to regulations/standards
- Lifecycle phases
  - Initiation
  - Planning
  - Requirements analysis
  - Design
  - Development
  - Integration/testing
  - Implementation
  - Operation/maintenance
  - Disposal
- Cybersecurity considerations
  - Apply at every phase of lifecycle
  - Identify requirements early
  - Integrate into solutions
  - Monitor/maintain over time

IoTBIZ Acronyms

Acronym	Expanded Form
AI	Artificial intelligence
AR	Augmented reality
BAS	Building automation system
BI	Business intelligence
BLE	Bluetooth Low Energy
BMS	Building management system
C2	Command and control
COM	Component Object Model
CPAP	Continuous positive airway pressure
CPS	Cyber-physical system
DDoS	Distributed denial of service
DNS	Domain Name System

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GPS	Global Positioning System
HAL	Hardware abstraction layer
HVAC	Heating, ventilation, air conditioning
IoT	Internet of Things
IT	Information technology
M2M	Machine to machine
ML	Machine learning
MTBF	Mean time between failure
NFC	Near-field communication
OLE	Object Linking and Embedding
OPC	Open Platform Communications
OT	Operational technology
PAC	Process automation controller
PLC	Programmable logic controller
RFID	Radio-frequency identification
RTF	Run to failure
SCADA	Supervisory control and data acquisition
SDL	Security Development Lifecycle

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CertNexus offers personnel certifications and micro-credentials in a variety of emerging technology skills including Cybersecurity, Cyber Secure Coding, the Internet of Things (IoT), IoT Security, Data Science, Artificial Intelligence, and Data Ethics. For a complete list of our credentials visit **https://certnexus.com/certification/**.

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