DEVOPS® INSTITUTE

AIOps Foundation℠

Syllabus

PeopleCert

Official Training Materials

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1. Introduction

The purpose of the DevOps® Institute: AIOps Foundation℠ certification and its associated course aims to cover the origins of AIOps including the history behind the term, patterns that preceded it and the technology context in which it has evolved. The vocabulary terms, concepts and practices are documented in the Official Training Materials provided to the learners. Learners will gain an understanding of the processes of combining big data analytics, machine learning algorithms, automation, and optimization into a single platform.

AIOps Foundation℠ is a freestanding certification from DevOps® Institute, a member of the PeopleCert Group.

Although there are no formal prerequisites for the exam, PeopleCert highly recommends that candidates complete at least 16 contact hours (instruction and labs) as part of a formal, approved training course delivered by an Authorized Training Organization of PeopleCert to prepare candidates for the exam leading to the AIOps Foundation℠ certification.

The AIOps Foundation℠ examination is accredited, managed and administered under the strict protocols and standards of PeopleCert.

2. Exam overview

Material allowed	Official Training Material	This is an 'open book' exam. Official Training Materials can be used for study and during the exam.
Exam duration	60 minutes	Candidates taking the exam in a language that is not their native or working language may be awarded 25% extra time, that is 75 minutes in total.
Number of marks	40 marks	There are 40 questions, each worth 1 mark. There is no negative marking.
Provisional pass mark	65%	Candidates need to answer 26 questions correctly to pass the exam.
Level of thinking	Bloom's levels 1 and 2	'Bloom's level' describes the type of thinking needed to answer the question. For Bloom's level 1 questions, you need to **recall** information/knowledge about the AIOps concepts and vocabulary terms. For Bloom's 2 questions, you need to show **understanding** of these concepts in context.
Question types	Standard, Negative, Missing word(s), and List	The questions are all 'multiple choice'. 'Standard' questions have a stem and four answer options. 'Negative' questions are 'Standard' questions in which the stem is negatively worded. For the 'Missing word(s)' questions, there is a sentence with a word or more words missing and candidates have to select the missing word from four options. For the 'List' questions, there is a list of four statements, and candidates have to select two correct statements from the list.
Delivery	Web-based	The exam is offered only as a computer/web-based exam.
Badge	Online badge	AIOps Foundation℠ Certified

It is recommended that candidates complete the AIOps Foundation℠ course from a PeopleCert Accredited Training Organization (ATO).

3. Question Types

All questions are Objective Test Questions (OTQs), which present four options from which one option is selected. Distractors (wrong answers) are options that candidates with incomplete knowledge or skill would be likely to choose. These are generally plausible responses relating to the syllabus area being examined. Question styles used within this type are: 'Standard', 'Missing word', 'List' (2 correct items), and, exceptionally, 'Negative' standard OTQ.

Example 'Standard' OTQ:

What does the 'C' stand for in CALMS?

A. Cooperation
B. Collaboration
C. Culture
D. Continuous Integration

Example 'List' OTQ:

When putting the First Way into action, which **TWO** of the following should be **INCLUDED**?

1. Passing a known defect downstream
2. Seeking an overview of the system
3. Decreasing flow and adding constraints
4. Allowing local optimization to cause global degradation

A. 1 and 3
B. 2 and 3
C. 2 and 4
D. 3 and 4

NOTE: Two of the list items are correct. List style questions are never negative.

Example 'Missing word' OTQ

Identify the missing word(s) in the following sentence.

According to Gartner, [?] is the most common challenge for organizations adopting DevOps principles.

A. People
B. Information
C. Process
D. Technology

Example 'Negative' standard OTQ:

Which of the following is **NOT** a goal of DevOps?

A. Improved productivity
B. Fewer but higher-quality software releases
C. Lower risk software deployments
D. Improved quality of code

NOTE: Negative questions are only used, as an exception, where part of the learning outcome is to know that something is not done or should not occur.

Please see the sample paper for an example of the exam format and content.

4. Syllabus

The AIOps Foundation[SM] exam requires knowledge of the topic areas described below.

Note: The AIOps Foundation[SM] certification uses the Bloom Taxonomy of Educational Objectives in construction the learning content and the examination.

- The AIOps Foundation[SM] exam contains Bloom 1 questions that test learners' **knowledge** of AIOps concepts and vocabulary terms
- The exam also contains Bloom 2 questions that test learner's **comprehension** of these concepts in context

Topic Area	Description	Marks
AIOF – 1 AIOps Foundation	History, meaning of, differences between AIOps and ITOA, stages	6
AIOF – 2 AIOps in the Organization	Drivers and influences, comparisons with AIOps, a new paradigm	4
AIOF – 3 Core Technologies: Data	Big data and characteristics, the 5 v's, data sources, diverse data	6
AIOF – 4 Core Technologies: Machine Learning (ML)	AI and machine learning, supervised vs. unsupervised, ML and analytics	5
AIOF – 5 AIOPs and Operations Metrics	Metrics and operations, key metrics, incidents, agreements and objectives	5
AIOF – 6 AIOps Use Cases and Organizational Mindset	Reactive vs. proactive, deterministic to probabilistic, shifts	5
AIOF – 7 Evaluating AIOps Impact	AIOps and operation metrics, DevOps, and SRE, tracking, DORA	5
AIOF – 8 Implementing AIOps in the Organization	Common challenges, ethics, paths and implementation, data and regulation, privacy and user cases	4

The candidate is expected to understand the following AIOps concepts and vocabulary at a Bloom's Level 1 and 2:

- AIOps
- Alert noise reduction
- Anomaly detection
- Artificial intelligence (AI)
- Availability
- Batch data
- Big data
- CI/CD
- Clustering
- Collaboration
- Conway's law
- Deterministic systems
- Digital transformation
- Dimensionality reduction
- Error budget
- Failure mode
- Five V's of big data
- Garbage in, garbage out (GIGO)
- General artificial intelligence
- Hyperscale
- Inference
- Inverse of Conway's Law
- IT operations analytics (ITOA)
- Logs
- Machine learning
- Maintainability
- Metrics
- Mean-time between failures (MTBF)
- Mean-time to acknowledge (MTTA)
- Mean-time to detect (MTTD)
- Mean-time to resolve (MTTR)
- ML model
- Monoliths
- Narrow artificial intelligence (AI)
- Observability
- Proactive approach
- Probabilistic systems
- Reactive approach
- Reliability
- Remediation
- Semi-structured data
- Service architecture
- Structured data
- Streaming data
- Super artificial intelligence
- Telemetry
- Traces
- Unstructured data
- Unsupervised learning
- Value stream
- Velocity
- Veracity

5. Exam specification

The examination has the following structure:

Topic Area	Weighting %
AIOps Foundation	15.0%
AIOps in the Organization	10.0%
Core Technologies: Data	15.0%
Core Technologies: Machine Learning (ML)	12.5%
AIOPs and Operations Metrics	12.5%
AIOps Use Cases and Organizational Mindset	12.5%
Evaluating AIOps Impact	12.5%
Implementing AIOps in the Organization	10.0%
Total	**100%**


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