

Study Guide

Progress® MarkLogic® Professional Certification

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Overview

MarkLogic University Certification Tracks

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General Preparation:

To prepare for the MarkLogic Developer and Administrator Certification program it is recommended that you have:

- Attended formal MarkLogic University training.
- Performed your own research and self-study.
- Obtained real world professional experience using MarkLogic.

Resources:

Free MarkLogic University Instructor led, Self-Paced and On Demand training:

- <https://www.progress.com/services/education/marklogic>

Learning Assessment tests:

- <https://mlu.marklogic.com/assessments/>

MarkLogic Community Hub:

- <https://community.progress.com/s/products/marklogic>

MarkLogic Server Whitepaper and Documentation Hub:

- <http://developer.marklogic.com/inside-marklogic>
- <http://developer.marklogic.com/learn/understanding-system-resources>
- <https://docs.progress.com/category/marklogic-content-hub>

MarkLogic Certified Developer - Written Exam

In this section you will learn more about the MarkLogic Certified Developer written exam. You will learn about the category breakdown and some example topics within each category to help focus your studies.

Category	Key Topics	Key Topics
Architecture	MarkLogic architecture: Databases, Forests, Application servers, Hosts (E-Node/D-node), Groups, Caches	Clusters: Merge, Rebalancing, Scalability
XPath & FLWOR (<i>XQuery exam only</i>)	XPath expressions, predicates, and axes FLWOR expression logic	XQuery - structure and syntax
Using the Node.js API (<i>Node.js exam only</i>)	Database clients Document Descriptors	Callbacks, promises and streams CRUD operations
Using the Java API (<i>Java exam only</i>)	Database clients Document Managers	Handles CRUD operations
Indexing	Element and attribute range indexes String range indexes and collation Term List indexes Reverse index Reindexing	Tokenization and stemming concepts Working with data across multiple languages and its impact on indexes
Search	Search relevancy, query weighting, document weighting Filtered versus Unfiltered search Using query constructors	Query tuning functions such as plan() Search across multiple languages
Template Driven Extraction	Creating and using templates	
Optic API	Creating Optic plans Selects Joins	
SQL	SQL configuration SQL queries	

Category	Key Topics	Key Topics
Data Modeling	Using mlcp to ingest and transform documents Loading and managing data using the Client REST API Managing binary documents Using fields	Data modeling choices and the impact on indexes and query resolution Denormalization The envelope pattern
Transactions	MVCC Single statement transactions Multi statement transactions Distributed transactions	Point-in-time queries versus Queries that require locks Server-side functions like invoke(),eval(), and spawn()
Security	Roles and users Application server security Permissions Privileges	Managing security on code in a modules database Redaction Element-level security
Semantics	SPARQL query language Named graphs and collections Using the sem functions Using the cts semantics functions	Loading and managing RDF data with mlcp Data modeling of triples in MarkLogic

MarkLogic Certified Developer Hands-On Exam

Prerequisite: Passing the Developer Written exam

The Hands-on exam is deliverable based. Participants are provided access a hosted virtual machine which will have all the necessary software, data, and instructions required to complete the hands-on exam. You will have up to 4 hours to complete the deliverables according to the requirements defined in the instructions.

The Proctor provides the access details to the virtual machine and the instructions during your hands-on testing session. All deliverables will be saved to the virtual machine. The Proctor will evaluate your submission and provide your results within one week of completing the hands-on exam.

Deliverables	
Data Loads	Modification of ingested documents
Database Transactions	Optic API Queries
Searches	Query analysis and tuning
SPARQL Queries	

MarkLogic Certified Administrator - Written Exam

In this section you will learn more about the MarkLogic Certified Administrator written exam. You will learn about the category breakdown and some example topics within each category to help focus your studies.

Category	Key Topics	Key Topics
Installation and Configuration	System requirements Installation steps Licensing Cluster deployment Ports	Groups Admin Interface REST API ml-gradle Documentation
Monitoring	Log Files Dashboards	Management API Meters
Databases	Creation techniques Forests and Sizing	Storage Ports
Roles and Users	Creating roles Role inheritance	Privileges Creating users
Data Loading	Data modeling APIs for loading URIs, Directories and Collections	Document permissions MIME types CPF
Updates, Merges, and Transactions	Modifying documents Batch updates CoRB Data Movement SDK	Stands and merging Transactions Locking
Search	APIs Stemming Triples	SQL Optic API
Serving Data	App servers Modules REST	Data service Automating deployment
Indexes	Understanding uses Types of indexes Optional indexes	Range indexes Sizing

Category	Key Topics	Key Topics
Security	Roles, users, and privileges Security database Encryption at Rest SSL for hosts	Element-level security Redaction Granular privileges Auditing
Resizing	Forest sizing Adding forests Rebalancing	Retiring forests Removing a host
Backups	Location Doing a backup Scheduling backups	Incremental backups Restoring Point-in-time restore
High Availability	Forest Replication Failover hosts	Database Replication Flexible Replication
Tiered Storage	Purpose Assignment policy	Range partitions Query partitions
Performance	Common factors Unfiltered vs. filtered search Cache hits and misses	Sorting MLCP -fastload
Upgrading	Single host Rolling upgrade Best practices	
Support	Contact Handbook	Telemetry Dump file

MarkLogic Certified Administrator Hands-On Exam Overview

Prerequisite: Passing the Administrator Written exam

The Hands-on exam is deliverable based. Participants are provided access a hosted virtual machine which will have all the necessary software, data, and instructions required to complete the hands-on exam. You will have up to 4 hours to complete the deliverables according to the requirements defined in the instructions.

The Proctor provides the access details to the virtual machine and the instructions during your hands-on testing session. All deliverables will be saved to the virtual machine. The Proctor will evaluate your submission and provide your results within one week of completing the hands-on exam.

Deliverables	
Creating a cluster	Backing up a database
Defining a database, forests, and REST API instance	Retiring and un-attaching forests
Creating roles and users	Creating forest replicas
Loading documents	Enabling telemetry
Defining indexes	Creating granular privileges
Deploying a data service	

MarkLogic Certification Maintenance Exam

Prerequisite: Participants must be MarkLogic Certified Developers or Administrators

MarkLogic will offer the **MarkLogic Certification Maintenance Written exam** for key MarkLogic Server new releases. This exam provides the unique opportunity for Certified Developers and Administrators to upgrade their MarkLogic Developer and/or Administrator certification credential.

Participants will also receive an updated Badge and Certificate for their LinkedIn Profile and Business Card.

This exam consists of the following:

- \$75 (USD)
- 35 Multiple Choice and True/False Questions
- Maximum Time Limit: 60 Minutes
- Pass Mark: 74%

Exam Preparation Resources:

Questions are based on the following resources:

- ML 12 Release Notes - <https://docs.progress.com/bundle/marklogic-server-whats-new-12/page/topics/release-notes.html>
- What's New in MarkLogic 12 recording - <https://www.progress.com/resources/thank-you/what-s-new-in-progress-marklogic-server-12>
- MarkLogic Flux:
 - User Guide - <https://marklogic.github.io/flux/>
 - Community Recording: <https://www.progress.com/resources/thank-you/marklogic-community-event-october-edition-2024>

Question Categories	
Dynamic Hosts	Flux Import and Reprocess
Virtual Views	BM25
MarkLogic – Release Notes	ANN Indexing
Vector Search	Shortest Path
Upgrade	

Taking a Written Exam

In this section we will cover important general information about what to expect during your testing appointment, including what will happen before the exam begins, during the exam, and after the exam is completed.

- Before the Exam
 1. The exam proctor will direct you to a site where you will review the instructions for taking the exam.
 2. The exam Proctor will then validate your contact information, identity, and testing environment through the use of your web cam and government issued photo ID.
 3. Once your identity has been confirmed, the exam Proctor will provide you with an exam key which you must enter in order to begin. Exam keys are only valid for your specific testing event and will not be provided in advance. Without a valid exam key, the system will not enable you to take the exam.
 4. The final step before starting the exam is to review and accept the Terms and Conditions of the Certification Program.
- During the Exam
 1. Each exam will consist of 50 questions. Certification upgrade exams between versions of MarkLogic software may be less than 50 questions.
 2. Every exam will be different; however, the distribution of questions across categories and the weight of questions within categories will be the same for each exam attempt.
 3. You will have 60 minutes to complete the exam, starting from the time you are presented the first question.
 4. Each question may be skipped once. Skipped questions will then be presented back to you after all other questions have been answered.
 5. Do not close the browser window until your exam is complete. If you accidentally close it, please contact the exam proctor and they can help you resume the exam, as long as there is time remaining.
 6. The back button on your browser will not function during the exam. Instead you may skip questions once and answer them at the end.
 7. The exam will automatically finish when you have either submitted answers for all the questions or time expires.
- After the Exam
 8. Upon completion of the exam, your results will be saved in the system, displayed on your screen, and sent to the email address provided when you entered your contact information.
 9. To pass the exam you must answer at least 37 out of 50 questions correctly.
 10. You will be provided a breakdown of your score overall and by category. You will not be shown the exact questions that you answered correctly or incorrectly.
 11. If successful in passing the exam, the next step is to enroll in a hands-on testing event. If unsuccessful in passing the exam, you may retry by enrolling in another written exam testing event.