

An abstract background graphic consisting of a network of thin green lines connecting various sized green circles. Some circles are solid green, while others are hollow. The lines and circles are scattered across the page, with a larger circle in the top right and another in the bottom center.

# Qlik Sense Certification Exam Study Guide

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## **Abstract**

This document contains information about what you need to study as you prepare for your Qlik Sense Certification Exam. It covers all three roles: System Administrator, Data Architect and Business Analyst. This is the only published study guide authorized by Qlik.

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## Introduction

Welcome to the study guide for the Qlik Sense Certification Exams.

This document was created in response to requests for additional information about how to prepare for a Qlik Certification Exam.

The Qlik Certification Program was created to validate the skills and knowledge of Qlik Partners. Expert-level skills are needed to sell, install, design, develop, support, and maintain Qlik Sense in an enterprise environment. Qlik Certification Exams are designed to be challenging. After you pass your exam, you can be proud to have achieved a certification with value.

Qlik Certifications do not expire. They are designed to “age out” naturally as new product versions are released. Attaining the latest available version of your certification is recommended, to validate your skills are up to date with this rapidly-evolving product.

Good luck!

## Preparation Basics for Everyone

### Where to Begin

All the latest information about the Qlik Sense exams is maintained on the [Qlik Certifications & Qualifications web page](#). To get ready for certification, read everything on this page, including the FAQs.

**Exam Prerequisites** lists the background knowledge and experience you should have before attempting a certification exam. **Recommended Preparation Resources** are training and materials that certification candidates should attend or study to get ready for an exam. And finally, **Exam Topics** is the list of sections and objectives used to write the exam questions. This list is helpful to review as you prepare for your exam.

### Training

Qlik offers a variety of training to get started with Qlik Sense. Instructor-led training is offered in person or virtually. Qlik Continuous Classroom is a self-service training portal with regularly updated modules. The training will give you the basics about using Qlik Sense, but they are NOT designed specifically to ensure you pass a certification exam. To really understand the power and capabilities of Qlik Sense, take what you learned and apply it.

### Hands-On Experience

**It is highly recommended to get hands-on experience with Qlik Sense in an enterprise environment before attempting a certification exam.** By developing applications and data models, or managing a Qlik Sense site, you will gain valuable skills and knowledge by working through challenges.

### Practice Questions

On the Qlik Certifications & Qualifications web page, under the “Recommended Preparation Resources” section, you will find a link to FREE Certification Practice Questions. There are 10 questions for each exam.

The Skills Assessments and quizzes in the Qlik Continuous Classroom are NOT exam preparation materials! They should be used as you are learning about Qlik products and going through training materials but they are just the beginning of your Qlik learning journey.

## Exam Tips

Certification exams can be stressful. The pressure is on and you want to pass. Here are a few tips to help you:

- For questions where you need to select multiple answers, you will see a prompt, such as “(Select two)” or “(Select three)”. ALWAYS select the required number of answers. Partial credit is NOT given for this type of question. You either get it completely correct or not.
- Plan to take two passes through the exam. The first time, go quickly and answer all the questions that you know right away. If you don’t know the answer immediately, click “Flag for Review”. Then at the end, review only the flagged items.
- When reviewing your flagged items, if you don’t know the answer to a question, work on eliminating one or two of the answers. Then select the best choice and move on.
- Trust your gut. We do not intentionally write questions to trick you, so don’t over-analyze them.
- If you need to re-take the exam, you may see some of the same questions. The order of the questions and the multiple-choice options are randomized, so be sure to read the entire question thoroughly.

## Next Steps

The following pages have more specific information for each Qlik Sense Certification Exam. These lists of knowledge, skills, and abilities were assembled by the exam development team during the exam design process. These are illustrative, not exhaustive lists, but should give you an idea of the topics that are within the scope of the exam (and also what topics are NOT within the scope).

As you prepare for your exam, practice performing the various tasks in your own work environment. Experiment with Qlik Sense to learn new skills. If you get stuck, refer to the online help, or reach out and ask questions in Qlik Community. Studying – and using – the “Knowledge and Abilities within Exam Scope” in this document will best prepare you for your certification exam.

# Qlik Sense Business Analyst Certification Exam

## Knowledge and Abilities within Exam Scope

### Identify Requirements

- Based on business requirements, identify Qlik products, needed for the solution (QSE, QDC, QABDI, ODAG, Qlik Core, Attunity, Insight Bot, NPrinting, etc.)
- Explain Qlik Sense features (e.g., smart search, responsive design, accessibility features, themes, etc.) and how they impact app design
- Describe the differences between the Qlik deployment options
- Based on business requirements, identify KPIs, dimensions and measures,
- Ask appropriate questions to understand the needs of the potential users of the Qlik Sense application
- Identify user types and their typical devices to use to access apps
- Explain the purpose of APIs, server-side extensions (such as R, Python), Qlik GeoAnalytics, web mashups, widgets, section access
- Explain and interpret results from Qlik Associative Engine
- Identify Qlik Cognitive Engine uses
- Consider performance during data loading and application development (removing unused columns, consider calculation condition)

### Prepare and Load Data

- Create a basic data model using Data Manager (e.g., spreadsheets, CSV, flat files, QVDs, etc.)
- Define the steps to load and associate data
- Apply filters while loading data in Data Manager
- Manually create data table in Data Manager (creates Inline Load script)
- Explain synthetic keys and possible methods of resolution
- Create folder and file data connections
- Leverage data connections already in Qlik Sense Enterprise

### Design Applications

- Based on the business requirements and desired insight, determine the optimal number of charts, correct chart type, order of dimensions, use of color, and measures
- Design the order of the sheets in an application to provide an overall flow matching the expectations of the user journey (DAR concept)
- Select object types appropriate for the required data analysis (e.g., a line chart to show a trend over time)
- Understand when and why to use an alternate chart recommendation
- Identify the proper expression to create the appropriate visualization to meet the business requirements
- Explain the impact of using mobiles devices on app design
- Leverage appropriate method for data comparisons (filters, bookmarks, alternate states, set analysis)

- Distinguish between situations when data security requirements need to use section access or security rules

### **Develop Applications**

- Add dimensions, measures, and objects
- Use the latest objects and features in the Visualization Bundle, e.g., trellis chart, Profit & Loss pivot table
- Use Advanced Authoring features, e.g., specify a default landing sheet, native container object, etc.
- Set up visualizations with alternate states
- Change the grid size after adding objects
- Create and use variables
- Use custom color in charts (e.g., ColorMix, CSS colors, If statements, etc.)
- Know what extensions are and when to use them
- Create a story
- Create master items
- Apply filters and create bookmarks
- Use advanced functions like AGGR and set analysis
- Perform tasks around making a production ready application (e.g., create a thumbnail image, appropriate title, etc.)
- Use Insight Advisor to generate visualizations
- Use chart suggestions to change visualization type
- Select appropriate screen layout

### **Knowledge and Abilities NOT within Exam Scope**

- Create data connections to systems/databases (should be able to create connections to files and folders)
- Add calculations to a data model via data load editor
- Create complex set analysis formulas (P and E functions)
- Advanced Analytics Integration
- Any QMC tasks such as publishing apps

### **Recommended Reading for Qlik Sense Business Analysts**

In the Qlik Sense online help, review the topics under “Creating apps and visualizations”.

# **Qlik Sense Data Architect Certification Exam**

## **Knowledge and Abilities within Exam Scope**

### **Identify Requirements for Data Models**

- Given a set of business objectives, determine KPIs, dimensions or measures
- Given customer requirements, determine an appropriate solution to meet the customer needs (e.g., data, variables, master items, GeoAnalytics, advanced analytics integration)
- Interpret app security requirements

### **Design Data Models**

- Given a data set, identify quality issues and potential solutions
- Determine the expected effects of data quality issues
- Given a data set, determine the relationships among data and how the relationships will affect the Qlik Sense data model (e.g., performance, accuracy, scalability)
- Use various methods and explain considerations for connecting to different types of data sources

### **Build Data Models**

- Describe the circumstances under which different load strategies should be used (including On-Demand App Generation (ODAG), incremental load)
- Explain load techniques and functions relevant to data transformation and filtering
- Understand the data profiling capabilities in Data Manager (e.g., sorting, bucketing, splitting)
- Understand the differences between Data Load Editor and Data Manager and how and when to use each or both for loading data
- Given a scenario, determine how to resolve table association issues (e.g., synthetic keys, circular references)
- Explain the circumstances under which QVD and QVX files and/or n-tiered data architectures should be recommended
- Describe the use and properties of fact tables and dimension tables
- Explain how to resolve complex calendar scenarios
- Explain the use and effects of different types of JOINS, KEEPs and CONCATENATE
- Given business requirements, determine appropriate section access configuration
- Explain the use of control statements and/or variables
- Explain scenarios in which data filtering should be used and how to filter
- Given a script, determine the cause and/or solution for a script error
- Add items to the master library, including set analysis expressions and variables
- Identify and explain the use of Qlik connectors
- Explain how to convert a QlikView document into Qlik Sense app
- Identify scenarios for and how to use calculated dimensions.
- Illustrate how to replace null values in a dataset
- Utilize ETL within the Qlik Sense environment to support a variety of analysis requirements (e.g., building data models, layering of QVDs, incremental loading)



**Validate Data**

- Explain the purpose and functionality of Qlik Sense troubleshooting tools or functions (e.g., debugger, script log)
- Explain the purpose and functionality of the Data Model Viewer
- Use visualization to validate the data model

**Knowledge and Abilities NOT within Exam Scope**

- Create connections and use data from complex data sources (e.g., SAP, SAS, Google Big Query, Hadoop)
- Create Direct Discovery solutions
- Apply complex optimization of the data model
- Address complex data security requirements
- Create load scripts for Qlik GeoAnalytics\
- Explain the capabilities of various load types in Qlik GeoAnalytics

**Recommended Reading for Qlik Sense Data Architects**

In the Qlik Sense online help, review the topics under “Script statements and keywords” and “Managing data”.

# **Qlik Sense System Administrator Certification Exam**

## **Knowledge and Abilities within Exam Scope**

### **Identify Requirements**

- Evaluate hardware, software, and network to determine if minimum requirements are met for projected number and size of applications, for initial deployment and expected future growth
- Describe workflows for setting up and configuring a single-node or multi-node Qlik Sense Enterprise site (physical or virtual)
- Understand requirements and implications for a multi-cloud deployment
- Identify scenarios in which a multi-cloud deployment is needed
- Understand the implications of virtual and/or cloud-based deployments (e.g., Amazon Web Services, VMware)
- Set up the connector for Advanced Analytics Integration (AAI) [also called Server-Side Extensions]
- Explain the Qlik Sense services and their dependencies
- Identify scalability, capacity, and resilience requirements for a multi-node site and the services to run on each node (e.g., set up a floating central node)
- Plan a Qlik Sense deployment
- Determine data connectivity requirements
- Evaluate the security requirements
- Determine license requirements
- Set up user accounts to perform the installation
- Determine required user directory connection(s)
- Determine the type of virtual proxy to use and implications of the different authentication methods (e.g., the new JSON Web Tokens (JWT) authentication method)
- Determine type of scheduler (master/slave) needed to support tasks
- Use the customer/partner portals to gather installation files, associated release notes and manuals, keeping updated about current product modifications/changes
- Use the online help, Qlik Community, Qlik Branch, Support Portal, and other online resources for help, technical briefs and documentation

### **Install and Set Up Qlik Sense Enterprise**

- Analyze Windows server management console settings to determine the appropriate configuration for the setup (e.g., required ports are available, firewall settings)
- Demonstrate how to create and configure a network file share
- Install Qlik Sense
- Apply server licenses (including Qlik Licensing Service and signed license keys)
- Configure user access rules
- Install and manage self-signed and third-party certificates (has knowledge of OpenSSL)
- Set up services for each node
- Configure the user directory connector(s) (e.g., Active Directory, LDAP, Excel/CSV)

- Configure user groups, security rules, and streams
- Configure appropriate type of scheduler (master/slave) and reload tasks
- Configure Qlik Sense load balancing rules between nodes
- Set up virtual proxies and authorization
- Set up security rules to restrict/grant access to system, streams and apps (including groups and custom properties)
- Set up authentication and authorization
- Set up user accounts (either internal to firewall or external)
- Install extensions, and understand the implications
- Apply and evaluate the given configuration of Qlik Sense Services within Windows Services Applet and Qlik Sense Management Console
- Configure the proxy service (changing a port, moving from HTTP to HTTPS, configuring a white list, setting up anonymous access, adding a virtual proxy, extra headers, etc.)
- Explain the use of memory usage settings
- Install or uninstall Qlik Sense software updates
- Configure centralized logging
- Qlik Web Connectors (separately licensed product)

### **Manage Content/ Monitor & Maintain**

- Explain the different views in QMC and methods to manage resources
- Locate Windows and Qlik Sense log files, know their purpose, and interpret content to troubleshoot problems
- Use Log Collector and Cockpit for troubleshooting
- Diagnose and resolve the root cause of problems
- Manage applications – publishing, unpublishing, importing, reassigning, moving apps between streams
- Troubleshoot and resolve user access problems, including section access
- Troubleshoot and resolve security rule problems
- Troubleshoot and resolve user management problems
- Troubleshoot and resolve application and task problems
- Troubleshoot certificate issues using MMC
- Manage and maintain users (token allocation, delete users, etc.)
- Apply different roles for various users (root, content, audit, etc.)
- Locate resources in various folder of the service cluster (Qlik Sense environment)
- Define custom properties for apps, rules, users
- Use audit functionality to validate rules, etc.
- Troubleshoot and validate data connections
- Set up environment to deploy authentication links (for Desktop, QSE, and Mobile)
- Create and manage tasks according to given resources
- Use License Monitor to validate license information and manage licenses
- Use the Qlik Sense Service Dispatcher (QSD) to launch and manage Migration Service, Data Profiling Service, Chart Sharing Service, Broker and Hub Service

- Use the Operations Monitor in the QMC and Hub for the performance history of hardware utilization, active users, app sessions, results of reload tasks and errors and warnings.
- Deploy the custom connectors
- Modify memory usage settings according to changes in the environment
- Create library for database connections, and assign correct rights to them
- Configure governance applications for monitoring
- Set up delegate administration for the QMC using rules based access
- Complete a system backup/restore
- Use appropriate switches in settings files (e.g., SSL for communication between services, Repository, Program Files, differences between audit, trace, and system logs)
- Monitor simple performance usage through Task Manager
- Modify, repair, update or uninstall Qlik Sense
- Use troubleshooting tools (e.g., Fiddler and Google Dev tools) to resolve issues
- Use the customer/partner portals to log, update, and monitor a support case
- Install and use the Log Monitor, Reloads Monitor, and Sessions Monitor
- Explain the impact of settings for Min and Max Working Set
- Explain how to see pagefile usage and adjust if necessary
- Qlik Licensing Service (QLS) (understand it replaces LEF, understand what it is and when to use it)
- Troubleshoot ODAG app history and space consumption

### **Knowledge and Abilities NOT within Exam Scope**

- Qlik Sense Enterprise on Kubernetes
- Determine whether Advanced Analytics Integration is needed (e.g., connect to R, Python)
- Configure and manage On-Demand App Generation (ODAG)
- Set up security for mobile devices in environment (including Apple iOS)
- Determine when external load balancers need to be modified and explain the need for sticky sessions, but are NOT expected to modify the load balancers
- Modify Active Directory users and computer resources
- Modify firewall device rules, third party proxy server (e.g., proxy, reverse proxy) configuration to allow all services to communicate with each other
- Configure custom authentication
- Use the Scalability tools
- Set up performance counters
- Integrate APIs into Qlik Sense
- Explain third party security for mobile device
- Ensure disaster recovery plan meets the corporate policy
- Use the pg\_hba.conf and postgresql.conf files to troubleshoot the database (and allow other computers to access it)
- Explain the use of and implications of using the SenseUtil connection string

- Set up SAML
- Deployment the custom connectors
- Configure for anonymous user access
- Complete a system restore to a different server name
- Telemetry
- Deployment of mashups
- Dual licensing (QlikView & Qlik Sense)

### **Recommended Reading for Qlik Sense System Administrators**

In the Qlik Sense online help, review the topics under “Managing a Qlik Sense site”, “Monitoring a Qlik Sense site” and “Troubleshooting Qlik Sense using logs”.