

Qlik Sense Enterprise インストールTips

2018年11月

クリックテック・ジャパン株式会社

Qlik  LEAD WITH DATA™



導入の計画に当たって

- 導入の計画に当たって確認が必須となるポイントについては以下のヘルプページをご確認ください。



The screenshot shows the Qlik Sense help page for planning deployment. The page title is "展開の計画" (Planning your deployment). The main content area lists several key topics for deployment planning:

- Qlik Sense のシステム要件** (System requirements): Before you start, confirm that your system meets the requirements.
- ポート** (Ports): Confirm that the necessary ports are open for use in your system.
- 対応ブラウザ** (Supported browsers): Confirm that the browser you are using is supported.
- アーキテクチャ** (Architecture): Understand the Qlik Sense architecture and the various node types.
- 持続性** (High availability): Understand the high availability models used in Qlik Sense.
- サービス** (Services): Understand the services used in Qlik Sense.

The left sidebar shows the navigation menu with "展開の計画" (Planning your deployment) selected. The top navigation bar includes the Qlik Sense logo, a search bar, and a language dropdown set to Japanese.


https://help.qlik.com/ja-JP/sense/September2018/Subsystems/PlanningQlikSenseDeployments/Content/Sense_Deployment/Planning-your-deployment.htm

Qlik Support Portal

- テクニカルサポートより発行されている製品関連の注意点や問題の解決方法など多数の技術記事をこちらから検索することができます。


<https://qliksupport.force.com/>

The screenshot shows the Qlik Support Portal interface. At the top, there is a navigation bar with the Qlik logo and the word "Support". Below this is a green navigation bar with links for "Home", "About Support", "Knowledge", and "Software Downloads". A search bar is prominently displayed. The main content area is divided into several sections: a "Welcome Guest user" message, a "Planned maintenance" announcement, a "Need help?" section with a "Critical Issue" warning and a country/region selector, a "Trending Knowledgebase" section with two article teasers, and a "Free Webinars" section. At the bottom, there are two columns of quick links: "Get Started" (Site Guide, New to Qlik Products, Free Downloads) and "Explore" (Knowledgebase, Qlik Community, Qlik Consulting, Qlik Education). The Qlik logo and tagline "LEAD WITH DATA" are visible in the bottom left corner.

Qlik  | Support

Welcome Guest | Login | Qlik.com

Home About Support Knowledge Software Downloads

SEARCH 

Welcome Guest user
Please log in using your Qlik.com credentials to benefit from all features of the Support site.

Planned maintenance
Hello all
On Monday the 12th of November there will be a planned upgrade of the Qlik Continuous Classroom server.
The upgrade will start around 09:00 GMT (10:00 CET) and take approximately an hour to complete.
During this time you will not be able to log in to the QCC.
Thank you for your patience
/The Global Qlik Support Team

Need help?
Critical Issue
Please contact us by phone.
-- Select Country/Region --

Trending Knowledgebase


How to recover Layout and Script from a corrupt Document
If a document has become corrupted and can't be used anymore, in some cases it is possible to recover at least the Layout

How To Lease License From QlikView Server To QlikView Desktop Client
Prerequisites and required settings on QlikView Server for License Lease and required steps to take in QlikView Desktop

Free Webinars
The Support Techspert Thursdays is a free webinar built to extend our support offerings with the purpose to facilitate knowledge sharing with our Customers and Partners. These webinars focus on important support topics and are held on a monthly basis.
Check it out

Get Started
Site Guide
New to Qlik Products
Free Downloads

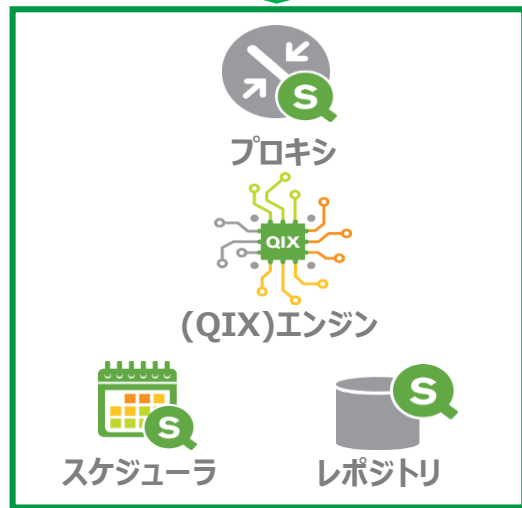
Explore
Knowledgebase
Qlik Community
Qlik Consulting
Qlik Education

Qlik  LEAD WITH DATA

Qlik Sense Enterprise(QSE)の基本サービスコンポーネント



エンドユーザー



スケジューラ

レポジトリ



プロキシ: Qlik Sense Proxy (QPS)

- ✓ Qlik Senseサイトの認証、セッション、負荷分散を管理

エンジン: Qlik Sense Engine (QIX / QES)

- ✓ 全てのアプリケーションの計算とロジックを取り扱うサービス

スケジューラ: Qlik Sense Scheduler Service(QSS)

- ✓ アプリのスケジューリングされたリロードやタスクチェーンなどを管理

レポジトリ: Qlik Sense Repository Service (QRS)

- ✓ アプリ、ライセンス、セキュリティ、サービス構成データの管理と同期

その他のサービスコンポーネント



プリンティング・サービス: Qlik Sense Printing Service (QPR)

- ✓ 印刷やエクスポートの処理を管理



ディスパッチャ: Qlik Sense Dispatcher (QSD)

- ✓ 以下のサービスの起動・管理
 - ブローカー・サービス: Broker Service – QSD管理下のサービス間のやりとりを中継
 - プロファイリング・サービス: Data Profiling Service – データプロファイリング処理を管理
 - ハブ・サービス: Hub Service – ユーザーが参照できるコンテンツの制御
 - マイグレーション・サービス: Migration Service – 稼働している製品バージョンでのアプリ利用を確保
 - ウェブエクステンション・サービス: Web Extension Service – エクステンション、マッシュアップ、ウィジェットの制御



- **ロギングサービス: Qlik Logging Service**

- ✓ 集中ログ管理を行うためのサービスで、各種Qlik Senseサービスからログを保存

Qlik Sense Enterpriseで利用するポート

- QSEではマイクロサービス・アーキテクチャーを採用しており、サービスコンポーネント間の通信はAPIを経由してなされるため、特にマルチノード構成の場合にはFirewallポート開放に注意を払う必要があります。
- クラウドサービスを利用している場合、AzureのネットワークセキュリティグループやAWSのセキュリティグループなどのインバウンドトラフィックの設定も要確認
- 他のソフトウェアサービスとの同居はポート競合が発生する可能性があるため推奨されていません。
- 以前のバージョンで必要だったWindows認証ポート(4244/4248)の開放は不要となりました。

Qlik Sense Enterprise および Qlik Sense Enterprise for Windows は、Web ブラウザー (ユーザー) とプロキシ間、およびシングル/マルチノード両方の要請でのサービス間の通信用にポートを使用します。

Qlik Sense Enterprise for elastic 環境は、Kubernetes 上でホストされている他のアプリケーションと異なる特定のポート要件がない Kubernetes クラスタ上で実行されます。Kubernetes ポート要件の一般的な情報については、[Kubernetes クラスタのドキュメント](#)を参照してください。

ポートの概要

下の表に、Qlik Sense 環境で使用されるポートの概要を示します。

コンポーネント	受信	発信	内部のみ
Qlik Sense	80 (HTTP)	4239 (QRS WebSocket)	4244 (Windows 認証)
Proxy Service (QPS)	443 (HTTPS)	4241 (QRS REST API) 4747 (エンジン) 4899 (印刷)	
	4243 (REST API)	4900 (ブローカー) 4949 (データ プロファイリング) 7070 (ログ サービス)	

https://help.qlik.com/ja-JP/sense/September2018/Subsystems/PlanningQlikSenseDeployments/Content/Sense_Deployment/Ports.htm

ポート利用に関わるトラブルシューティング

- 以下の方法でポートの利用状況や疎通を確認することが可能です。

How to check which program is using a specific port

<https://qliksupport.force.com/articles/000009703>

Description

Qlik ports are being used by other products.

Resolution

Method 1: (If you are an administrator) Open cmd as an administrator and execute the following command:

```
C:\>netstat -noab
```

```
TCP 0.0.0.0:7680 0.0.0.0 LISTENING 1028 DoSvc [svchost.exe]
```

Method 2: (If you are not administrator) Open cmd and execute the following commands:

```
1. C:\>netstat -noa
```

Active Connections

Proto	Local Address	Foreign Address	State	PID
...				
TCP	[*]:5151	[*]:0	LISTENING	1688
...				

```
2. C:\>tasklist /fi "pid eq 1688" or "tasklist | find "[PID_number]"
```

Image Name	PID	Session Name	Session#	Mem Usage
anothersoftware.exe	1688	Services	0	66,192 K

How to check if a server port is open from a client machine, with Telnet

<https://qliksupport.force.com/articles/000003505>

Description

This article describes how to check if a port is open and enabled for communication, from client to server.

For example to confirm if a port is open and enables a QlikView client to communicate with a QlikView server.

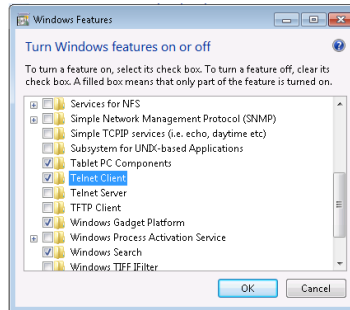
This test is mostly used to confirm that the client can actually reach the server, not that the server itself is functional itself or that the ports are configured correctly on the server environment. As this article as part of a series how to check ports, see here for more information on similar tests. [Different ways to check if a port is open.](#)

Resolution

Preparation

As the first step you need to enable Telnet Client feature in Windows on a client machine.

- Click the Start button , click Control Panel, click Programs, and then click Turn Windows features on or off.
- Tick "Telnet Client" and click OK button



WebSocketの利用

- Qlik SenseではWebSocketが利用されていますので、利用ネットワーク環境でWebSocketが利用可能か確認が必要となります。
 - NLB(Network Load Balancer)を利用する場合には、NLBのWebSocketをサポートも要確認

What is a WebSocket ?

<https://qliksupport.force.com/articles/000027778>

Why Does Qlik Sense Use WebSocket?

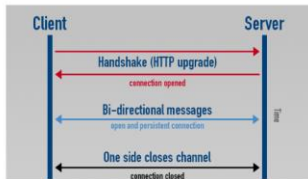
<https://qliksupport.force.com/articles/000030282>

Description

HTML5 WebSocket is a client / server technology that opens a communication session between the browser and the server.

Qlik Sense uses HTML5 WebSockets that enable web pages to use the WebSockets protocol (wss:// or ws://) for two-way communication between clients and Qlik Sense server. These WebSockets work over a single connection by establishing a full duplex communication.

In a document. Once a WebSocket connection is established with the web server, data can be sent from the browser to the server and receive data from the server to the browser. WebSockets improve the scalability of the real-time / bi-directional communication between servers and clients. This makes a significant improvement in the web communication speed, compared to pure HTTP communication.



It is recommended to have a single WebSocket open per client to make an application more manageable. Concurrency and multiple WebSockets per client may make a page unresponsive due to data coming in from each WebSocket connection.

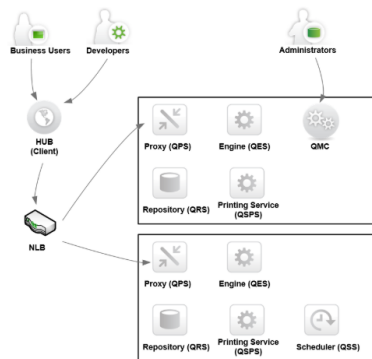
Network Load Balancer (NLB) With Qlik Sense Enterprise

<https://qliksupport.force.com/articles/000028775>

Description

Qlik Sense Hub (Hub) and Qlik Sense Management Console (QMC) are accessed through a web browser on client side towards a Qlik Sense Proxy (QPS). In a multi-node environment this means that each node is addressed with its unique address (URL). This potentially introduces a need to do DNS redirects or share new URLs to users, when nodes are taken down for maintenance or when new nodes are introduced.

A network load balancer (NLB) can be introduced in the Qlik Sense deployment to enable a single point of contact for the user client and to ensure High-Availability to end-users. The NLB also adds a single point of administration of where users should currently be routed.

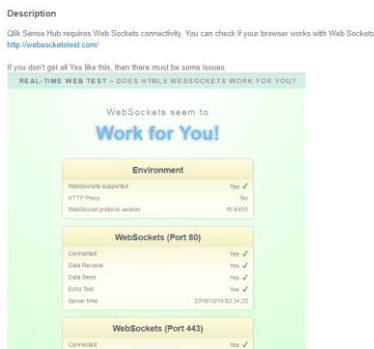


WebSocketに関するトラブルシューティング

- 以下の方法でブラウザのWebSocketサポート状況やQSEとのWebSocketの疎通を確認することが可能です。

How To Check If The Browser Works With WebSockets

<https://qliksupport.force.com/articles/000025498>



Qlik Sense Websocket Connectivity Tester

<https://qliksupport.force.com/articles/000038601>

Tracing and capturing Qlik Sense traffic using Fiddler

<https://qliksupport.force.com/articles/000039466>



- また、IEではWebSocketのコネクション数に上限があるため、以下について考慮が必要です。

Internet Explorer Supports A Of Six WebSocket Connections

<https://qliksupport.force.com/articles/000025761>

証明書の準備と導入

- HTTPSを利用するにはサードパーティーの証明書を取得し以下の手順に従って導入を行う必要があります。
- HTTPはデフォルトでは有効になっていませんが、HTTPS利用しない場合にはHTTPを有効化して利用することも可能です

How to: Change the certificate used by the Qlik Sense Proxy to a custom third party certificate
<https://qliksupport.force.com/articles/000005458>

Description By default a self-signed certificate is being used to secure communication between the web browser (client) and the Proxy. This will result in a warning in the client web browser such as "The site's security certificate is not trusted" (Chrome) or "This Connection is Untrusted" (Firefox).

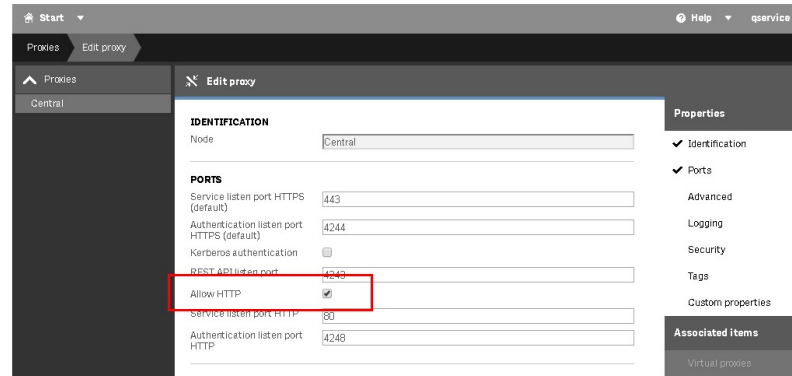
A 3rd party certificate can be purchased and installed to use. This certificate does not replace existing Sense certificates. Do not delete current certificates, as this would break service communication.

Environment:

Qlik Sense any version

Resolution Before getting started, ensure that the certificate used is compatible with Qlik Sense. See [Qlik Sense: Compatibility information for third-party SSL certificates](#). In addition, it is highly recommended to enable HTTP, at least temporarily, in case any issue breaks HTTPS connections.

This setup does NOT require the deletion of any already existing Sense certificates. Deleting the Sense generated certificates will damage the system.



To resolve this issue, the certificate being used for communication between the web browser (client) and the proxy must be replaced with a Signed Server Certificate from a trusted Certificate Authority. The following steps will need to be done to accomplish this:

アンチウイルスの除外設定

- アンチウイルスのスキャンによるポートやファイルに対するアクセスの競合が発生する可能性があるためスキャンやモニタリングの除外設定を行ってください。

Qlik Sense Folder And Files To Exclude From AntiVirus Scanning

<https://qliksupport.force.com/articles/000031189>

Description

Qlik Sense requires access to predetermined TCP and UDP ports to function. If anti-virus software prevents traffic on these ports, Qlik Sense may not function as expected. This can include running exe files, data connections, etc.

Qlik Sense constantly updates a number of log files and also relies on multiple config and binary files to function correctly. If these files and folders are being scanned by the anti-virus software, then this may cause upgrades/installation to fail, performance issues, or cause the services to fail.

Resolution

1. For synchronized Persistence these folders should be excluded from Anti-Virus scanning:

- C:\ProgramData\Qlik\
- C:\Program Files\Qlik\
 - Or alternative installation path of Qlik Sense
- C:\Program Files\Common Files\Qlik
- The Application directory
- Reboot the machine, it will not take effect until this is done.

2. For Shared Persistence these folders should be excluded from Anti-Virus scanning:

- C:\ProgramData\Qlik
- C:\Program Files\Qlik\
 - Or alternative installation path of Qlik Sense
- C:\Program Files\Common Files\Qlik
- The Shared Folder
- Reboot the machine, it will not take effect until this is done.

- If the PostgreSQL database is installed on another machine please refer to the PostgreSQL manual for more details https://wiki.postgresql.org/wiki/Running_%26_Installing_PostgreSQL_On_Native_Windows
- With latest releases of Qlik Sense, files with ".lock" extensions are generated, and each binary app file has its own .lock file. These file must be excluded from analysis as well.

3. Ports to be excluded from Anti-Virus Monitoring / Blocking

- See the relevant piece of documentation for your version of Qlik Sense: <http://help.qlik.com/en-US/sense/November2017/Subsystems/PlanningQlikSenseDeployments/Content/Deployment/Ports.htm>

Archive Logのメンテナンス

- ログは以下のタイミングでArchive用フォルダに移動されて保存されますが、Archiveされたログは自動的に削除されないため、定期的に削除や別の保存場所への移動などを行うハウスキーピングが必要となります。

When does Qlik Sense Archive log files?

<https://qliksupport.force.com/articles/000031778>

Cause

Qlik Sense logs are archived if one of the three following conditions are met:

1. The log file would become larger than 8MB
2. Every 12 hours
3. Qlik Sense services have restarted

What is the purpose of files at location...

<https://qliksupport.force.com/articles/000035150>

How To Reduce Log Folder Size Over Time

<https://qliksupport.force.com/articles/Basic/How-To-Reduce-Log-Folder-Size-Over-Time>

ログの確認方法

- 問題判別のためのログ確認は主に以下のログの確認を行います。
 - ✓ C:\%ProgramData%\Qlik\Sense\Logは以下にログファイルは配置
 - ✓ サービスごとにフォルダが分かれており、サービスのフォルダ配下のTraceログを主に問題判別に利用

How logging works in Qlik Sense

<https://qliksupport.force.com/articles/000027218>

Description

In Qlik Sense, by default, the logs are stored in %ProgramData%\Qlik\Sense\Log.

In this directory you will basically see one sub directory per component.

For each component you have three sub directories:

- Audit: High level user actions (i.e. Open Document, reload document, get ticket, login success, user directory sync)
- System: Service log, all errors and system/service operations (i.e. System Settings, server physical ram, NIC config)
- Trace: Debug diagnostic (i.e. User selections, https redirects, method work times, session information)

At some point, those logs are going to be archived in \\<server>\<share>\ArchivedLogs folder following those 3 factors:

- On a service restart
- If the file is reaching 8MB
- If the file is older than 12 hours

The Archived Logs folder can grow quickly depending of the traffic you have in your environment and the level of detail the logs are set to.

It's recommended to clean this directory on a regular basis.

Qlik recommend to keep at least one month of logs in order to trace a root cause of an issue.

Resolution

For more information on logs and using them to troubleshoot, please refer to [https://help.qlik.com/en-](https://help.qlik.com/en-US/sense/September2017/Subsystems/Troubleshooting-Qlik-Sense-using-logs/Content/ServerLogTroubleshoot/ServerLogTroubleshoot-Using-Logs.htm)

[US/sense/September2017/Subsystems/Troubleshooting-Qlik-Sense-using-logs/Content/ServerLogTroubleshoot/ServerLogTroubleshoot-Using-Logs.htm](https://help.qlik.com/en-US/sense/September2017/Subsystems/Troubleshooting-Qlik-Sense-using-logs/Content/ServerLogTroubleshoot/ServerLogTroubleshoot-Using-Logs.htm)

ログを使用した Qlik Sense のトラブルシューティング

<https://help.qlik.com/ja-JP/sense/September2017/Subsystems/Troubleshooting-Qlik-Sense-using-logs/Content/ServerLogTroubleshoot/ServerLogTroubleshoot-Using-Logs.htm>

Qlik Sense Utils (ユーティリティツール)

- バックアップやポートチェック、クラスタ設定の変更などを行うツールが提供されています。

Qlik Sense Utility - Functions and Features

<https://qliksupport.force.com/articles/000046014>

Description

This article describes the functionality present in the QlikSenseUtil standalone executable bundled with Qlik Sense September 2017 / November 2017 / February 2018 / April 2018

The tool is located in the installation path for Qlik Sense in the Repository > Tools > QlikSenseUtil folder.

- Default location: C:\Program Files\Qlik\Sense\Repository\Util\QlikSenseUtil\QlikSenseUtil.exe

Resolution

- Backup and Restore tool (a replacement for the RSM which was used for this scenario in Synchronized Persistence)
 - [QlikSenseUtil as a backup tool](#)
- Qlik Sense Port Checker: Pings every active port Qlik sense is using for every node. Note that some ports can be for internal use and might not be exposed to the node you are pinging from.
- Repository Database Integrity Checker: Mostly applicable for a synchronized persistence deployment. Checks that the data references are not broken.
- Duplicate server nodes: Mostly applicable for a synchronized persistence deployment. Checks there are no duplicate server nodes in the database.
- Remove old app binaries: Removes deleted app binaries from the selected folder.
- Get system configuration: Returns the system configuration from the database.
- Connection string editor: A tool for editing the connection string.
- Service Cluster: Functionality for updating the service cluster in the database.
- Log Fetcher: A tool for fetching logs from the system. If the time span is shorter than 24h all logs will be summarized in one single file. This will make trouble shooting easier if you are looking for events what occurred within a short time frame.
 - Fetching logs with a time span larger than 24h will copy the logs and paste them in their logical structure. The filter functionality selects every row with the specified keyword and creates log files based on rows selected.
 - Note** : Qlik Support prefers using the Log Collector included in [How To Collect Qlik Sense Log Files](#)
- Service type checker: Mostly applicable for a synchronized persistence deployment. Checking for duplicated service types in the database.

QlikSenseUtil as a backup tool

<https://qliksupport.force.com/articles/000051894>

How to change the share path in Qlik Sense June 2017 or higher

<https://qliksupport.force.com/articles/000045909>

ユーザー・ディレクトリ・コネクタ(UDC)

- UDCを利用したADやExcelファイル等からのユーザー情報取得方法や、LDAPフィルタの利用方法については以下をご参照ください。

How to setup and configure User Directory Connectors (UDCs) in Qlik Sense

<https://qliksupport.force.com/articles/000038613>

Resolution

Active Directory:

- LDAP Filter for multiple groups in Qlik Sense
- Qlik Sense : Example of a LDAP filter to sync users in a group
- How to get LDAP filters for Active Directory groups from users already in Qlik Sense
- Qlik Sense: Should I use an LDAP Filter when using User Directory Connector?
- Qlik Sense: How to create a filter in Directory Connector (and test it)
- How to limit importing of expired domain account in QMC
- LDAP filter to only include all users in a certain Organizational Unit (OU)

LDAP:

- How To Validate LDAP User Directory Connection
- Qlik Sense Generic LDAP settings are case-sensitive

ODBC:

- Unable to create an Oracle ODBC UDC in 3.x
- Create and Sync a UDC with Microsoft Excel Driver
- Qlik Sense: can the drivers installed with the "Qlik Database Connectors" be used to setup User Directory Connectors, or for other purposes?
- How to setup a Sense User Directory Connector to a SQL Database

Generic:

- How to avoid the RootAdmin(s) from becoming inactive
- New users are not added when syncing an User connector in Qlik Sense
- Admin Account Disabled After LDAP Filter Added

セキュリティルール

- セキュリティルールは以下の文書で全体像を把握したうえで、ヘルプサイト、Qlik Community、Support Portalなどの例を参考に設定を行うことをご推奨します。

Qlik Sense Security Rules List (v3.2SR1)

<https://community.qlik.com/t5/Qlik-Sense-Enterprise-Documents/Qlik-Sense-Security-Rules-List-v3-2SR1/ta-p/1480441>

Understanding the security rules included in the Qlik Sense default install

<https://community.qlik.com/t5/Qlik-Sense-Enterprise-Documents/Understanding-the-security-rules-included-in-the-Qlik-Sense/ta-p/1476623>

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Qlik-Cli (コミュニティツール)

- Qlik-Cliを利用することで、コマンドからのタスク実行などの操作を行うことが可能です。

Installing Qlik-Cli

<https://qliksupport.force.com/articles/000028655>

Removing Inactive users using Qlik-Cli

<https://qliksupport.force.com/articles/000028656>

How To Install Qlik CLI Powershell Module

<https://qliksupport.force.com/articles/000047186>

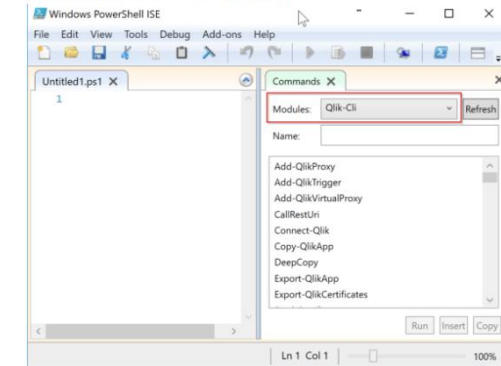
Importing an app with Qlik-Cli

<https://qliksupport.force.com/articles/000028659>

Resolution

Install Qlik CLI on client machine

1. Following installation instructions on <https://github.com/ahaydon/Qlik-Cli>
2. After installation open Powershell ISE
3. Validate that Qlik-Cli is listed as an available module



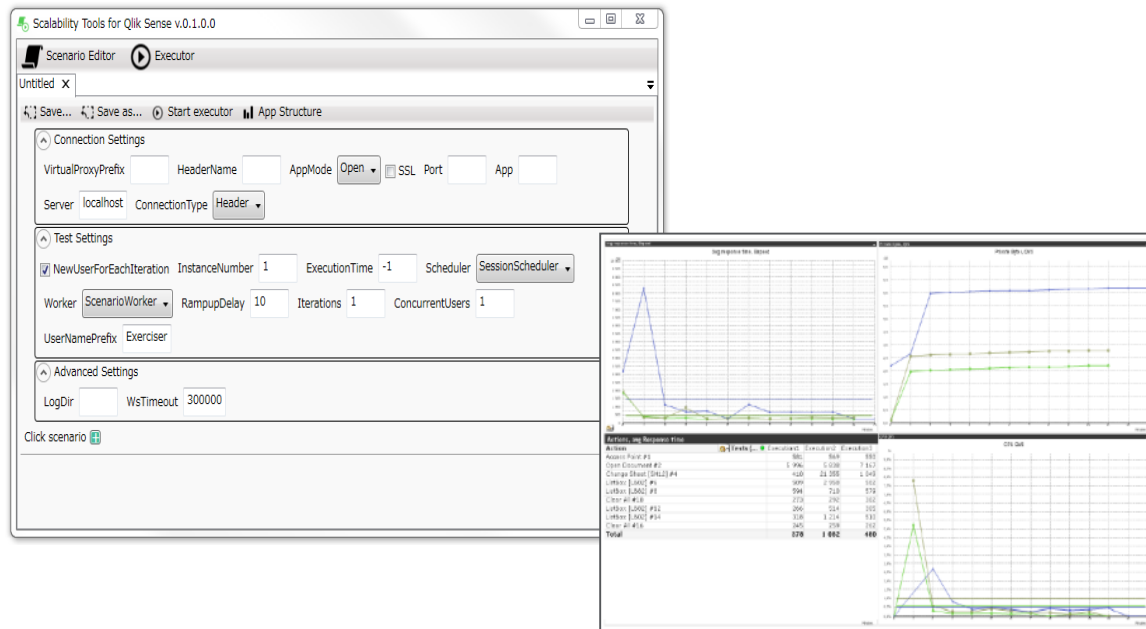
Connect using certificates

Scalability Tools (コミュニティツール)

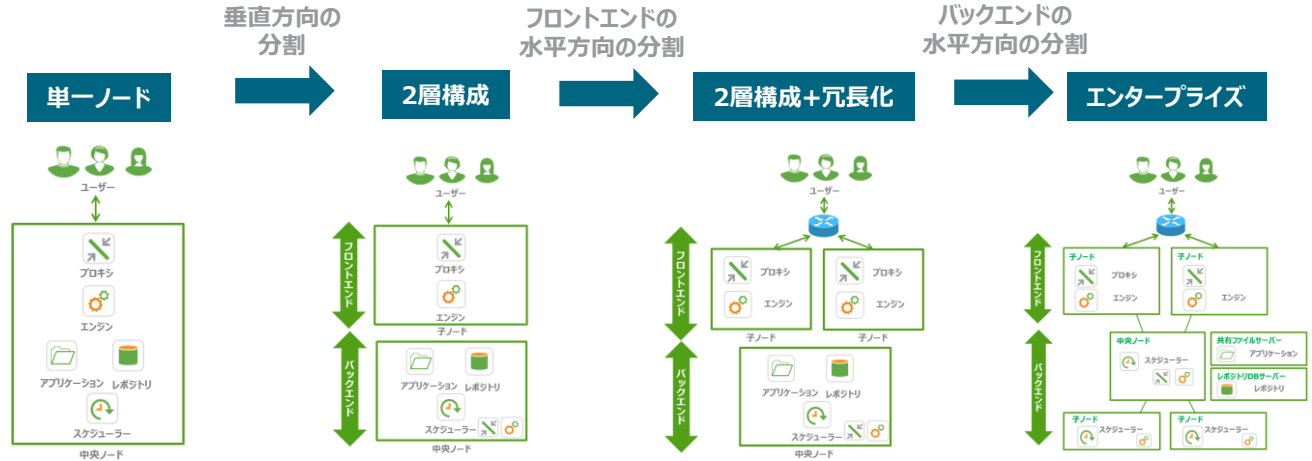
- Scalability Toolsを利用することで、負荷テストやパフォーマンステストなどを実施することが可能です。

Qlik Sense Scalability Tools

<https://community.qlik.com/docs/DOC-8878>



構成パターン



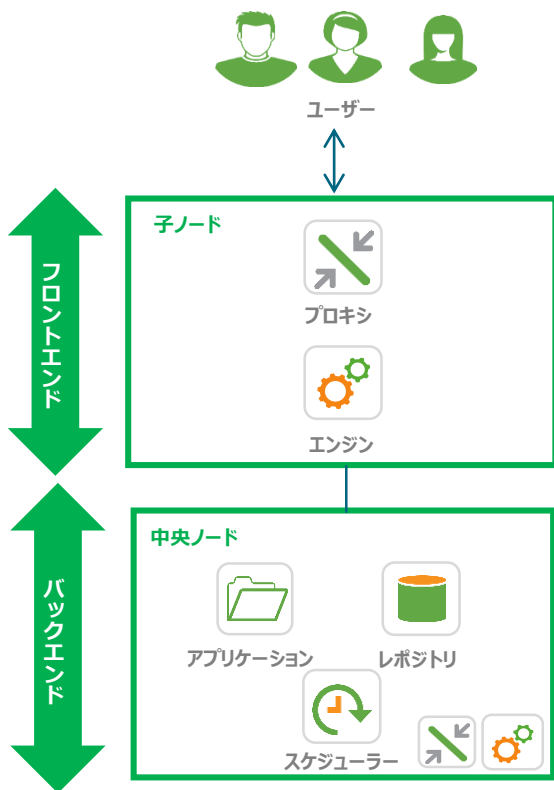
		単一ノード	2層	2層構成+負荷分散・冗長化	エンタープライズ
サービス提供		●	●	●	●
業務時間内のデータ更新			●	●	●
負荷分散・冗長化	フロントエンド			●	●
	バックエンド				●

単一ノード構成



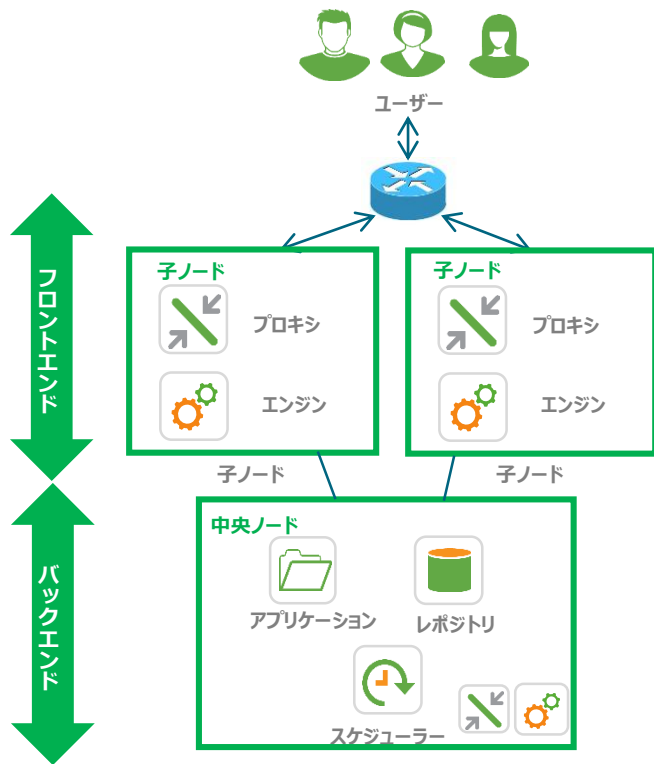
- エンジンとスケジューラーの単一筐体での同居
- タスク実行の負荷がサービスに影響するため、業務時間外でのスケジューラー・タスク実行を前提
- サービス提供時間が業務時間内のみに限られるスモールスタートでの展開に最適な構成

2層構成



- エンジンとスケジューラーを別ノードで運用し、タスク実行によるサービスへの影響を排する構成
- 業務時間内でのスケジューラー・タスク実行に対応
- 将来的なユーザー数の増加に対応するための、フロントエンドのノード追加による拡張性を確保
- サービス継続性への対応は限定されるが、業務時間内のデータ更新が求められる展開に最適な構成

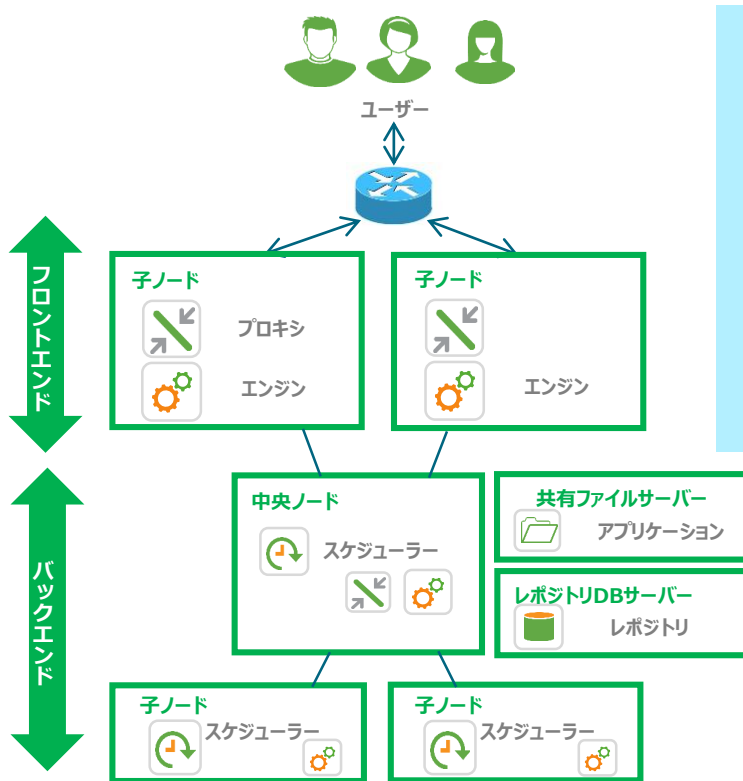
2層 + 負荷分散・冗長化構成



- フロントエンドの冗長化により、サービスの継続性に対する要求に対応
- アプリケーションやユーザーアクセスを異なるノードに分離する運用も可能
- サービス継続性および、業務時間内のデータ更新が求められる展開に最適な構成
- リロードタスクの拡張性については限定的

※ ロードバランサではなく、プロキシノードを配置してユーザーアクセスのロードバランスを行う構成も可能

エンタープライズ構成

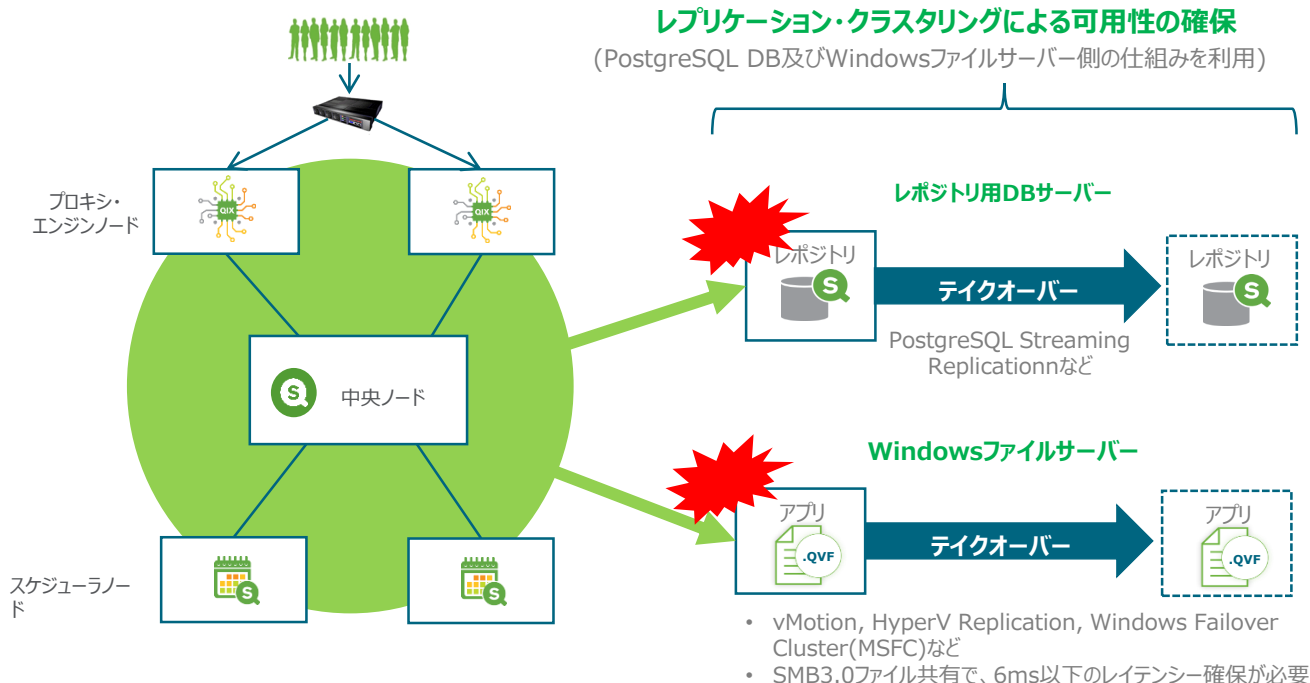


- ・フロントエンドの冗長化により、サービスの継続性についての要求に対応
- ・アプリケーションやユーザーアクセスを別ノードに分離する運用が可能
- ・業務時間内のデータ更新に対応
- ・リロードタスクの拡張性・冗長化に対応
- ・レポジトリDB、共有ファイル用の専用サーバーを配置
- ・フロントエンド、バックエンドの拡張性に対応が求められるエンタープライズ環境に最適

※ ロードバランサではなく、プロキシノードを配置してユーザーアクセスのロードバランスを行う構成も可能

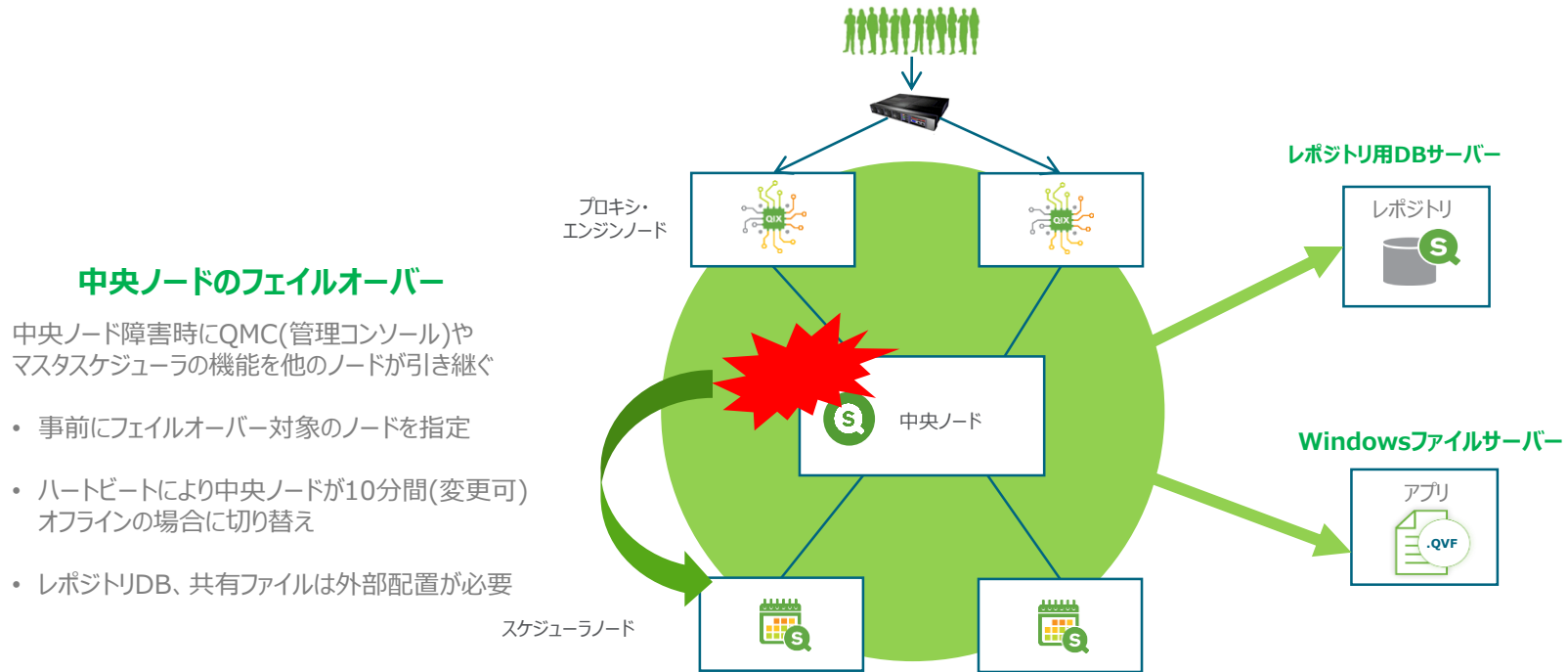
レポジトリDB・ファイルサーバーの可用性確保

耐障害性の確保、パフォーマンスの観点から、外部のファイルサーバー(Windows OSベース)、及びDBサーバー(PostgreSQL)にアプリなどの共有ファイル、及びレポジトリを配置することが可能です。



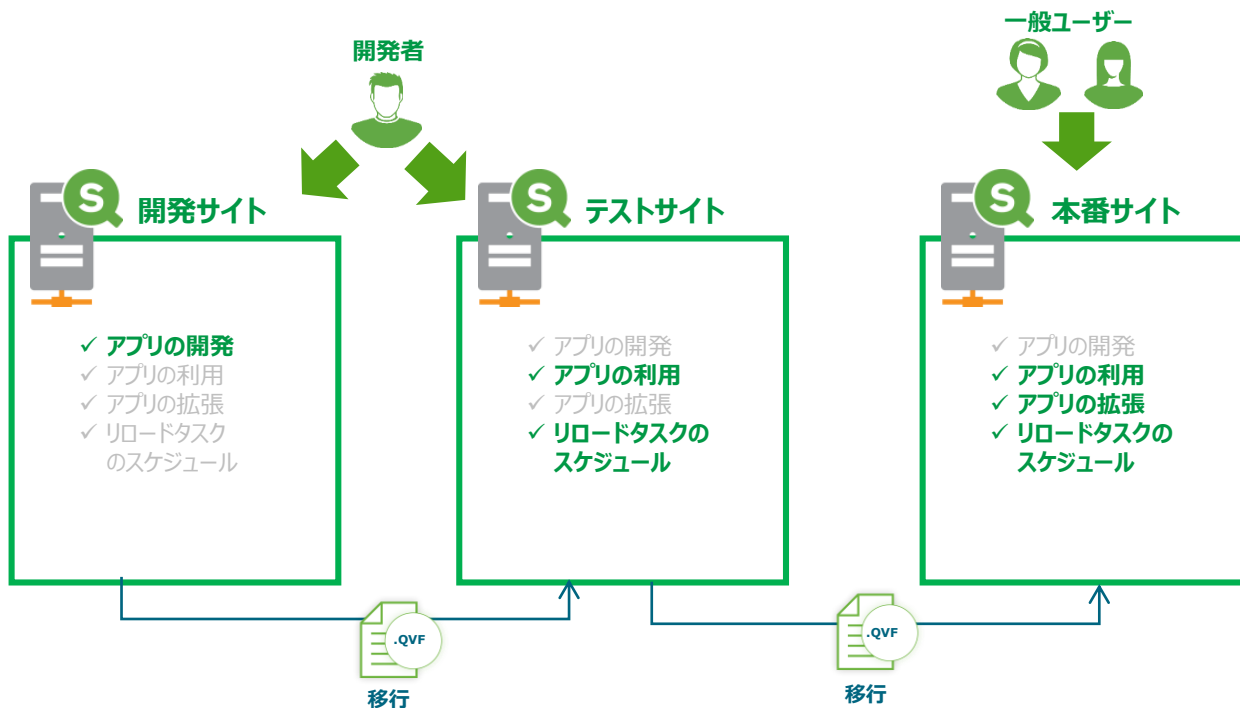
中央ノードの可用性確保

中央ノードの障害時に他のノードで中央ノードの役割を引き継ぐ構成をとることが可能です。



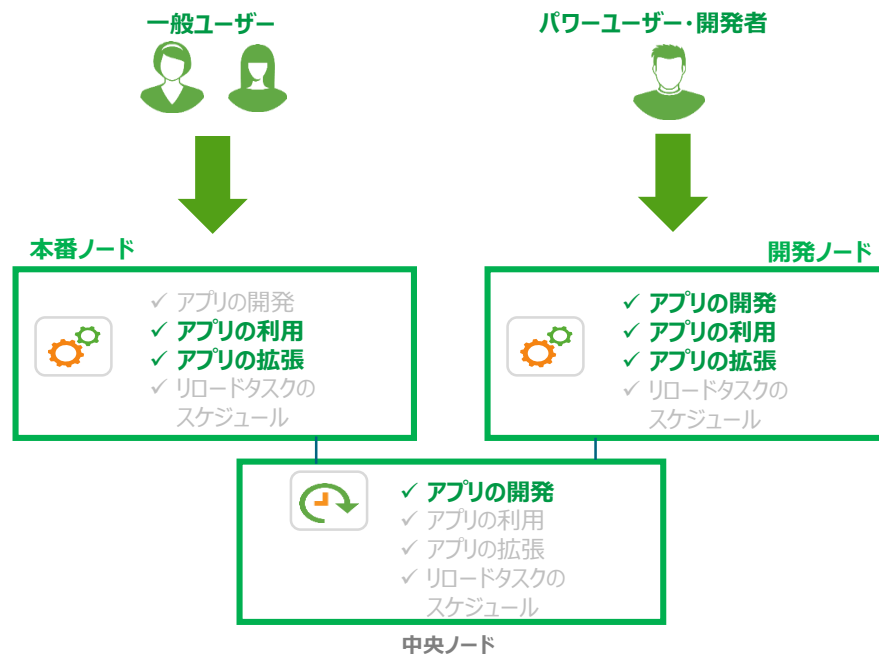
開発・テスト環境パターン(1): 従来型開発ライフサイクル

- 従来型の開発ライフサイクルに従った構成
 - ✓ 開発者が開発サイトでアプリを開発
 - ✓ テストサイトで機能、パフォーマンス、セキュリティなどの検証を実施



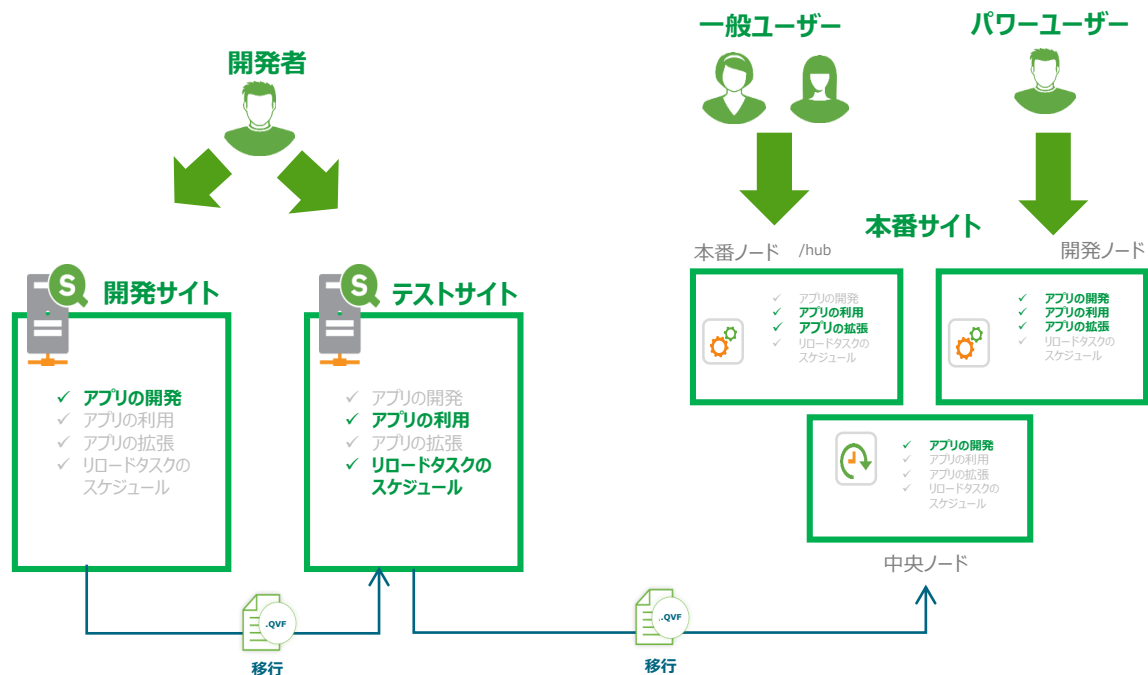
開発・テスト環境パターン(2): セルフサービス型開発ライフサイクル

- ユーザーがセルフサービスでデータロード/モデリング、アプリ開発を本番環境で実施する構成
 - ✓ マルチノード構成でアプリ開発用の専用ノードを配置
 - ✓ 本番ノード、開発ノードへのアクセスプロキシ上でURL(例: /hub, /dev)のルーティングで制御することも可能



開発・テスト環境パターン(3): 従来型+セルフサービス型開発ライフサイクル

- 従来型の開発ライフサイクルと、セルフサービスの開発環境を両立させた構成
 - 新規アプリは従来型で行い、パワーユーザーによるセルフサービス分析向けに本番サイトで専用サーバーを割り当てるなど





Questions?