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# Configuring SharePoint 2013 as a Business Intelligence Platform

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Consultant

SHAREPOINT **SATURDAY**  
■■■■■■■  
OTTAWA

# Edwin Sarmiento

Microsoft MVP/Microsoft Certified Master: SQL Server



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# Agenda

- SharePoint 2013 as a BI Platform
  - High Availability and Scalability
- Reporting Services in SharePoint-Integrated Mode
- Excel Services
- PowerPivot
- PowerView

don't  
^ How many of you  
like working with  
**SharePoint**

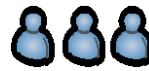


“

In the middle of every  
difficulty lies opportunity.

- **Albert Einstein** -

# Architecture Diagrams



## Single-Server Deployment

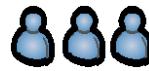
`http://portal.testdomain.com*`



Web, Application and Database Server

recommended only for  
**development environment**  
but ended up being so popular  
that it has now become a  
**mission-critical production server**

\*Alternate access mappings (AAM) configured



## Basic 2-Tier Architecture

<http://portal.testdomain.com>\*



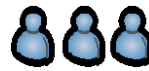
Web and Application Server



Database Server

\*Alternate access mappings (AAM) configured





# Basic 2-Tier Architecture

<http://portal.testdomain.com>



Web and Application Server



Local High Availability  
Database Server



Disaster Recovery

# 3-Tier Architecture



<http://portal.testdomain.com>



Web Server    Application Server  
Scalability

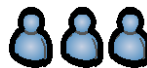


Local High Availability  
Database Server

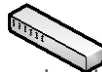


Disaster Recovery

# 3-Tier Architecture



<http://portal.testdomain.com>



hardware load balancer



Web Server    Application Server  
Scalability & High Availability

Web and Application Server  
Disaster Recovery



Local High Availability  
Database Server



Disaster Recovery

## Application Servers

- Reporting Services
- Analysis Services
- PowerPivot (SSAS)
- PerformancePoint Services
- Business Connectivity Services

## Web Servers

- Web Server
- Central Admin
- Search Service
- Reporting Services Add-In
- User Profile Service
- User Profile Synch Service
- Excel Services

# Reporting Services

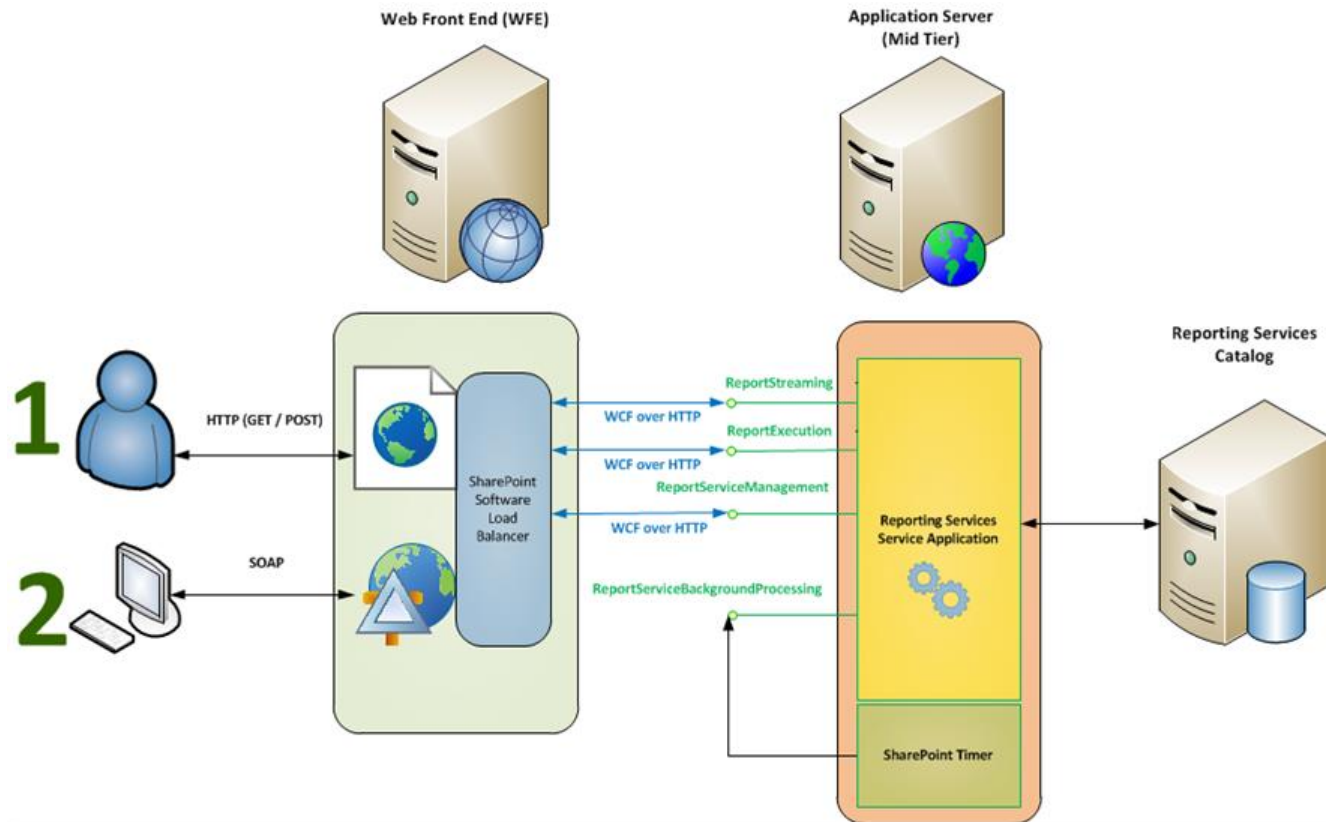
Overview and Architecture

SharePoint integration

Load-balancing and Security

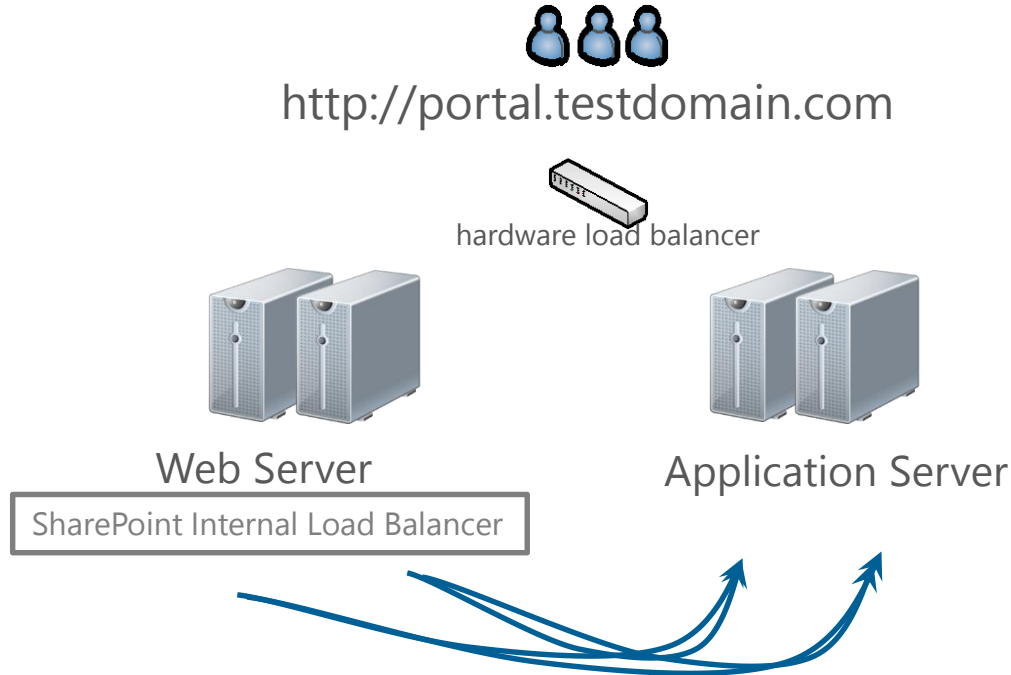
Configure Reporting Services in SharePoint-integrated  
Mode

# architecture

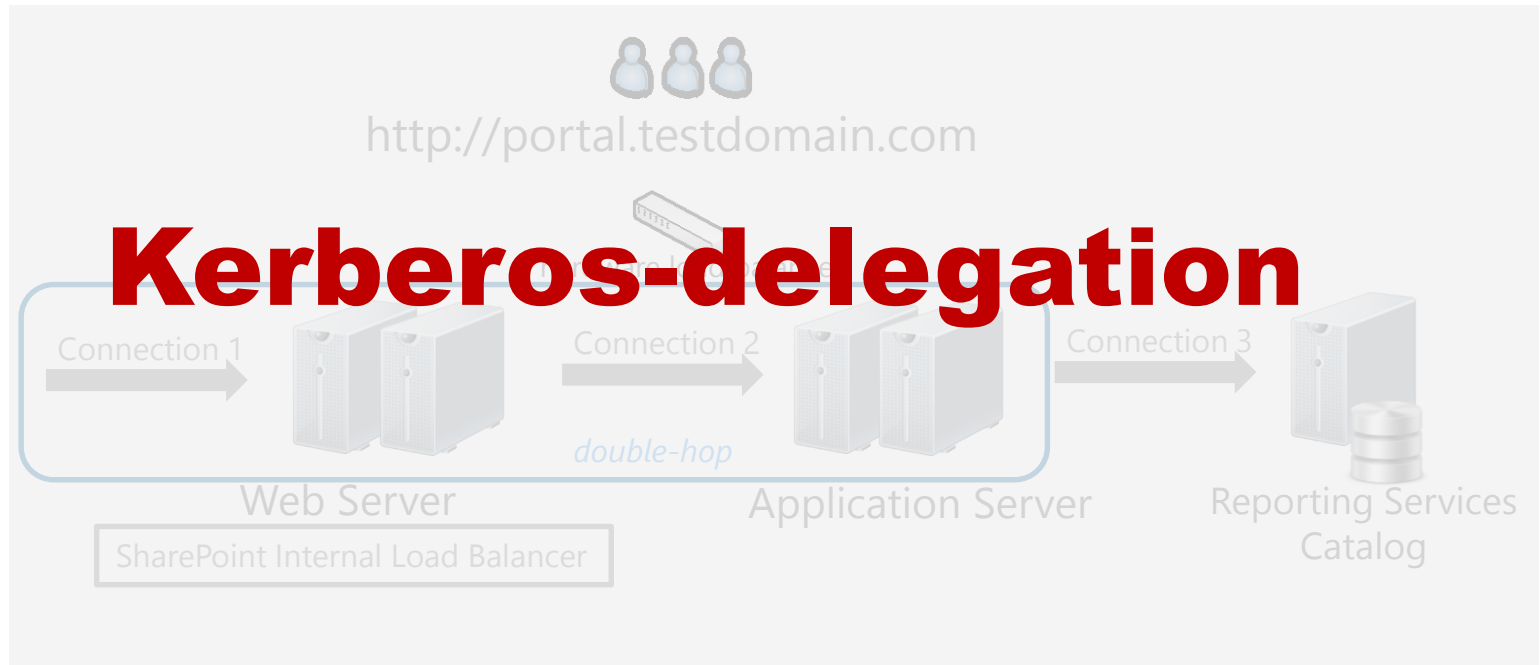


# load balancing

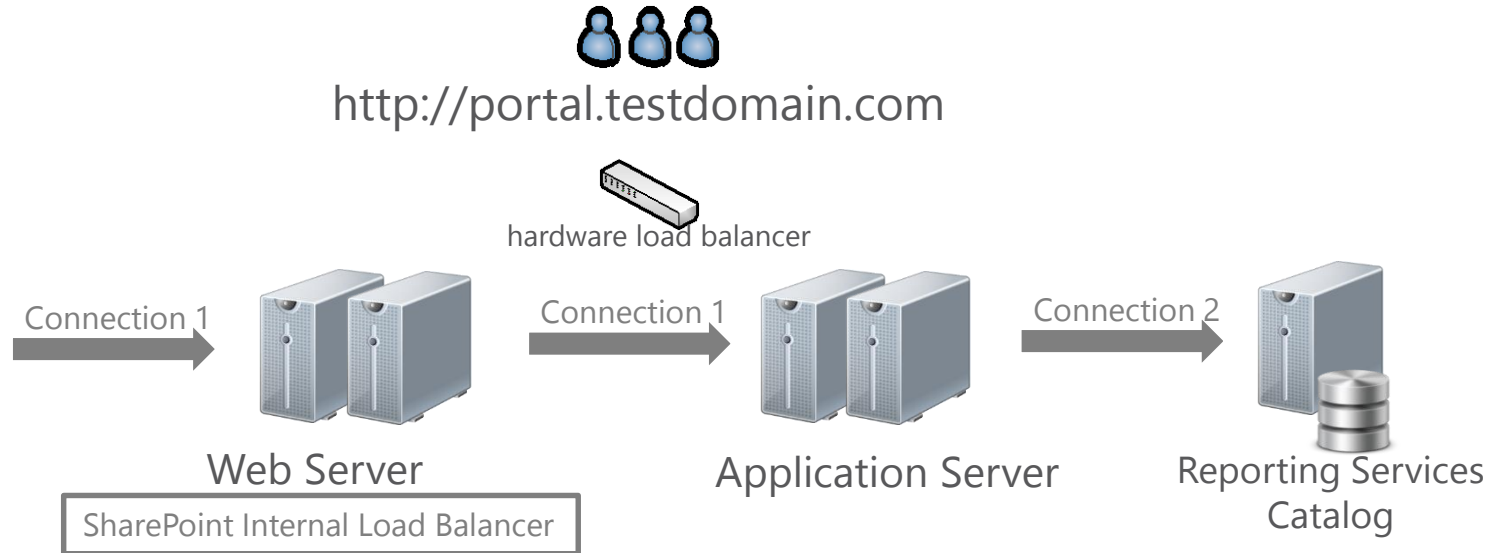
\*each web front end server can balance the load requests to any of the Reporting Services instance



In the past, security was complicated



Reporting Services is now part of SharePoint





# Configure Reporting Services in SharePoint-integrated Mode

Demo



## Feature Selection

Select the Enterprise features to install.

Product Key

License Terms

Global Rules

Microsoft Update

Install Setup Files

Install Rules

Setup Role

**Feature Selection**

Feature Rules

Reporting Services Configuration

Feature Configuration Rules

Ready to Install

Installation Progress

Complete

Features:

### Instance Features

- ☐ Database Engine Services
- ☐ SQL Server Replication
- ☐ Full-Text and Semantic Extractions for Search
- ☐ Data Quality Services
- ☐ Analysis Services
- ☐ Reporting Services - Native

### Shared Features

- ☒ Reporting Services - SharePoint
- ☐ Reporting Services Add-in for SharePoint Products
- ☐ Data Quality Client
- ☐ Client Tools Connectivity
- ☐ Integration Services

Select All

Unselect All

Instance root directory:

C:\Program Files\Microsoft SQL Server\

Shared feature directory:

C:\Program Files\Microsoft SQL Server\

Shared feature directory (x86):

C:\Program Files (x86)\Microsoft SQL Server\

Feature description:

Includes Reporting Services, a server-based application for creating, managing, and delivering reports to email, multiple file formats, and interactive Web-based formats.

Prerequisites for selected features:

Already installed:

Microsoft .NET Framework 4.0

To be installed from media:

Disk Space Requirements

Drive C: 1203 MB required, 7207 MB available

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Help



## Reporting Services Configuration

Specify the Reporting Services configuration mode.

Product Key  
License Terms  
Global Rules  
Microsoft Update  
Install Setup Files  
Install Rules  
Setup Role  
Feature Selection  
Feature Rules  
**Reporting Services Configura...**  
Feature Configuration Rules  
Ready to Install  
Installation Progress  
Complete

### Reporting Services Native Mode

☒ Install and configure.

Installs and configures the report server in native mode. The report server is operational after setup completes.

☐ Install only.

Installs the report server files. After installation, use Reporting Services Configuration Manager to configure the report server for native mode.

### Reporting Services SharePoint Integrated Mode

☒ Install only.

Installs the report server files. After installation use SharePoint Central Administration to complete the configuration. Verify the SQL Server Reporting Services service is started and create at least one SQL Server Reporting Services service application. For more information, click Help.

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## Welcome to the Installation Wizard for SQL Server 2014 RS Add-in for SharePoint



Setup helps you install, modify or remove SQL Server 2014 RS Add-in for SharePoint . To continue, click Next.

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*#Define parameters*

*\$appPoolName = "Reporting Services App Pool" #SSRS application pool name*

*\$appPoolAccount = "TESTDOMAIN\spapp" #SSRS application pool account*

*\$serviceAppName = "Reporting Services" #SSRS service application name*

*\$serviceProxyAppName = "Reporting Services" #SSRS service application proxy*

*\$serviceAppDB = "ReportingServiceDB" #SSRS database name*

*\$DBserver = "SP2013-DB" #SQL Server instance name*

*#Create a new service application pool*

*New-SPServiceApplicationPool -Name \$appPoolName -Account \$appPoolAccount*

*#Retrieve newly created service application pool*

*\$appPool = Get-SPServiceApplicationPool \$appPoolName*

*#Create a new service application and assign it to a variable*

*\$serviceApp = New-SPRSServiceApplication \$serviceAppName -ApplicationPool*

*\$appPool -DatabaseName \$serviceAppDB -DatabaseServer \$DBserver*

*#Create new service application proxy for the newly created service application*

*\$serviceAppProxy = New-SPRSServiceApplicationProxy -Name*

*\$serviceProxyAppName -ServiceApplication \$serviceApp*

*#Add service application proxy to default proxy group.*

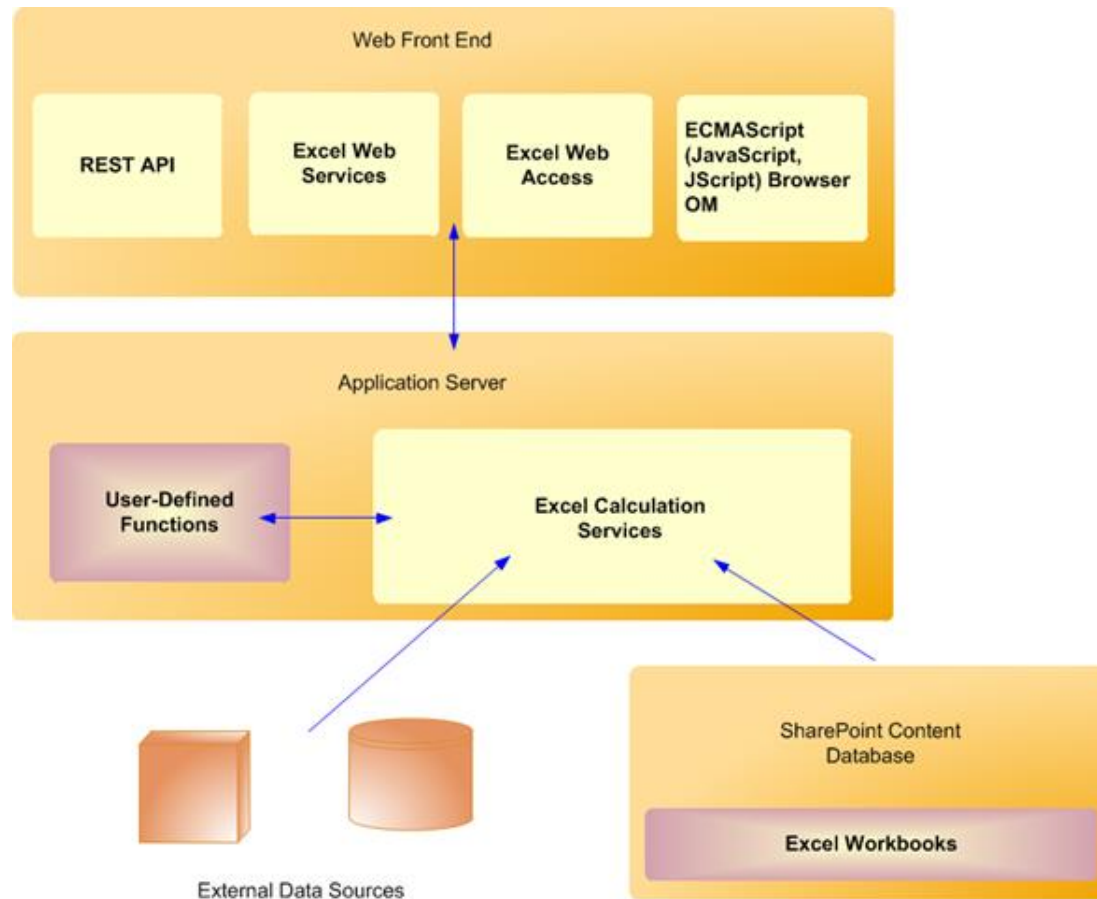
*#Any web application that uses the default proxy group will now be  
#able to use this service application.*

*Get-SPServiceApplicationProxyGroup -default | Add-  
SPServiceApplicationProxyGroupMember -Member \$serviceAppProxy*

# Excel Services

Overview and Architecture  
Configuring Excel Services





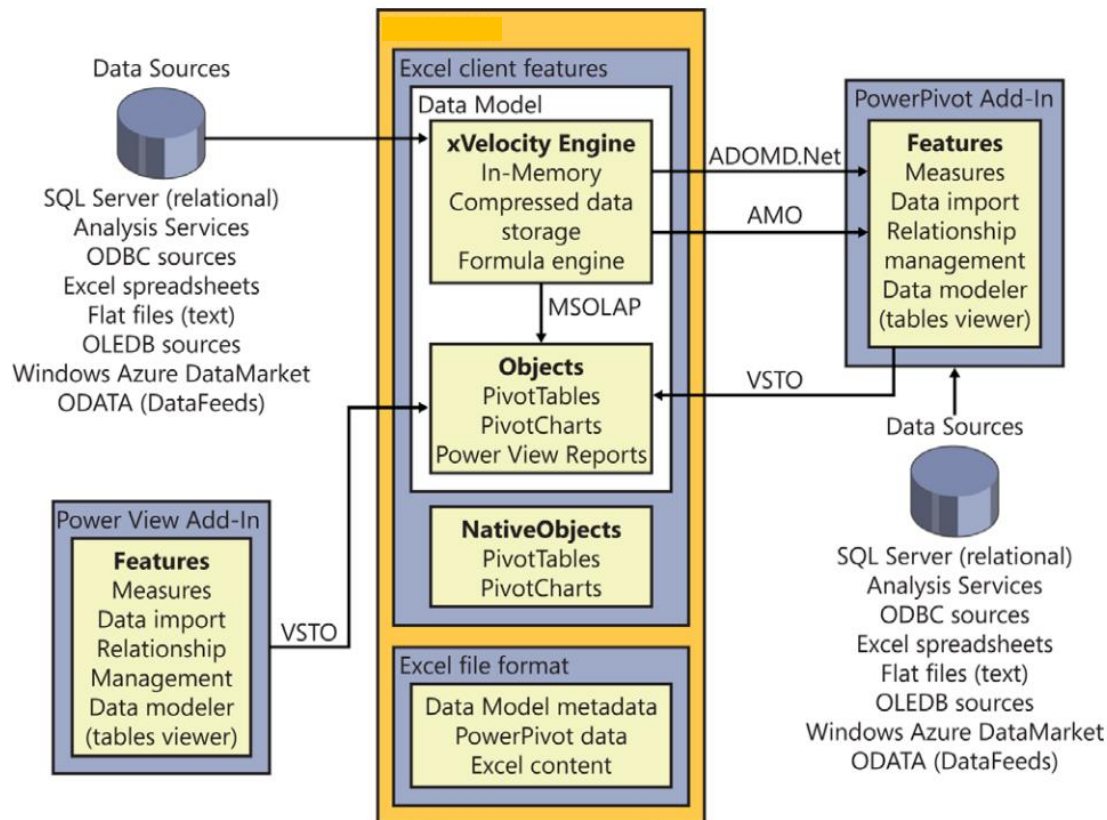
# Configuring Excel Services

Demo

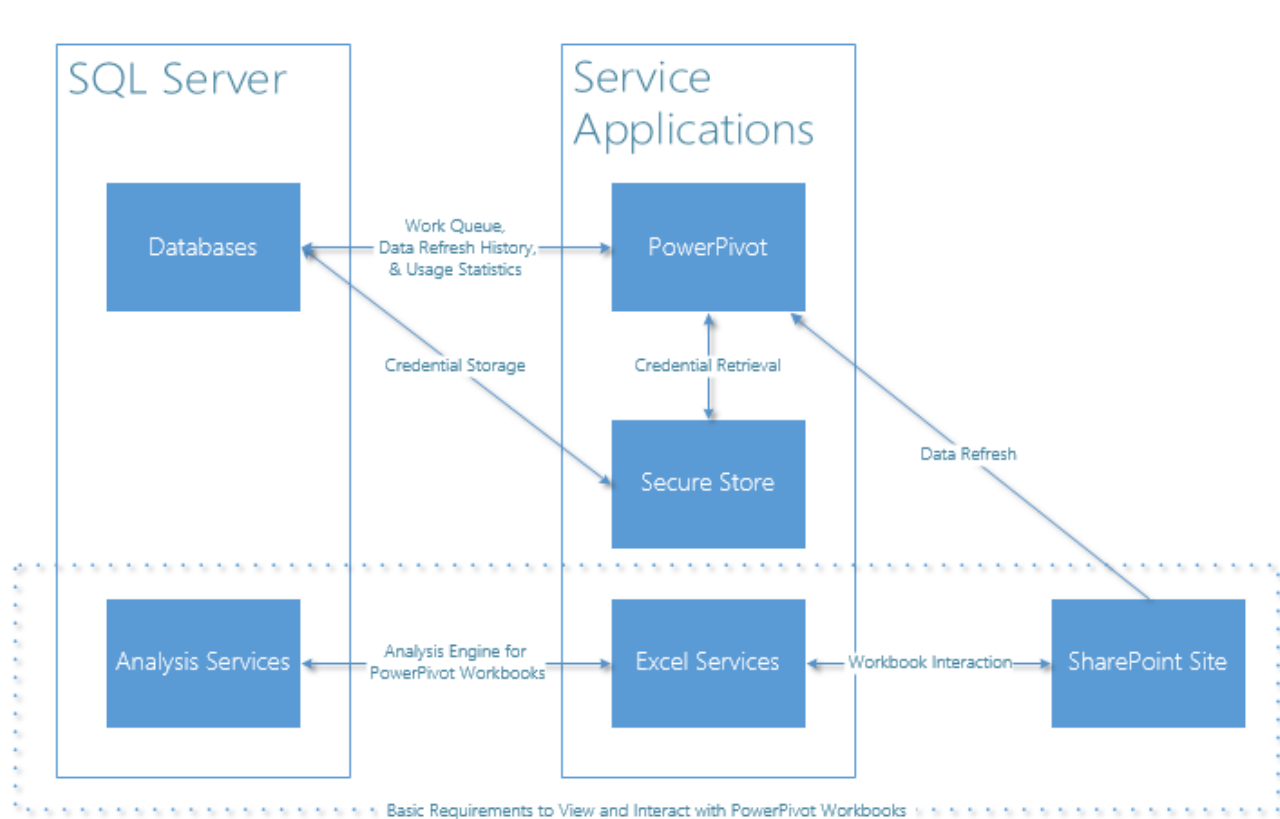
# Power Pivot

Overview and Architecture  
Configuring Power Pivot

# Inside Excel 2013



# Inside SharePoint 2013



# Installing and Configuring Power Pivot for SharePoint

Demo



## Setup Role

Click the SQL Server Feature Installation option to individually select which feature components to install, or click a feature role to install a specific configuration.

Global Rules

Microsoft Update

Install Setup Files

Install Rules

Product Key

License Terms

**Setup Role**

Feature Selection

Feature Rules

Feature Configuration Rules

Ready to Install

Installation Progress

Complete

☐ SQL Server Feature Installation

Install SQL Server Database Engine Services, Analysis Services, Reporting Services, Integration Services, and other features.

☒ SQL Server PowerPivot for SharePoint

Install PowerPivot for SharePoint on a new or existing SharePoint server to support PowerPivot data access in the farm. Optionally, add the SQL Server relational database engine to use as the new farm's database server.

☐ Add SQL Server Database Relational Engine Services to this installation.

☐ All Features With Defaults

Install all features using default values for the service accounts.

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## Instance Configuration

Specify the name and instance ID for the instance of SQL Server. Instance ID becomes part of the installation path.

Global Rules

Microsoft Update

Install Setup Files

Install Rules

Product Key

License Terms

Setup Role

Feature Selection

Feature Rules

**Instance Configuration**

Server Configuration

Analysis Services Configuration

Feature Configuration Rules

Ready to Install

Installation Progress

Complete

☐ Default instance

☒ Named instance:

POWERPIVOT

Instance ID:

POWERPIVOT

Analysis Services directory: C:\Program Files\Microsoft SQL Server\MSAS12.POWERPIVOT

Installed instances:

Instance Name	Instance ID	Features	Edition	Version
<Shared Compone...		RS_SHP		12.0.2000.8

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## Analysis Services Configuration

Specify Analysis Services server modes, administrators, and data directories.

- Global Rules
- Microsoft Update
- Install Setup Files
- Install Rules
- Product Key
- License Terms
- Setup Role
- Feature Selection
- Feature Rules
- Instance Configuration
- Server Configuration
- Analysis Services Configuration**
- Feature Configuration Rules
- Ready to Install
- Installation Progress
- Complete

Server Configuration

Data Directories

Specify which users have administrative permissions for Analysis Services.

TESTDOMAIN\esarmiento (Edwin Sarmiento)

TESTDOMAIN\spfarm (SharePoint Farm Account)

Analysis Services administrators have unrestricted access to Analysis Services.

Add Current User

Add...

Remove

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## Microsoft SQL Server 2014 PowerPivot for SharePoint 2013



### Welcome to the Installation Wizard for SQL Server 2014 PowerPivot for SharePoint 2013

Setup helps you install, modify or remove SQL Server 2014 PowerPivot for SharePoint 2013 . To continue, click Next.

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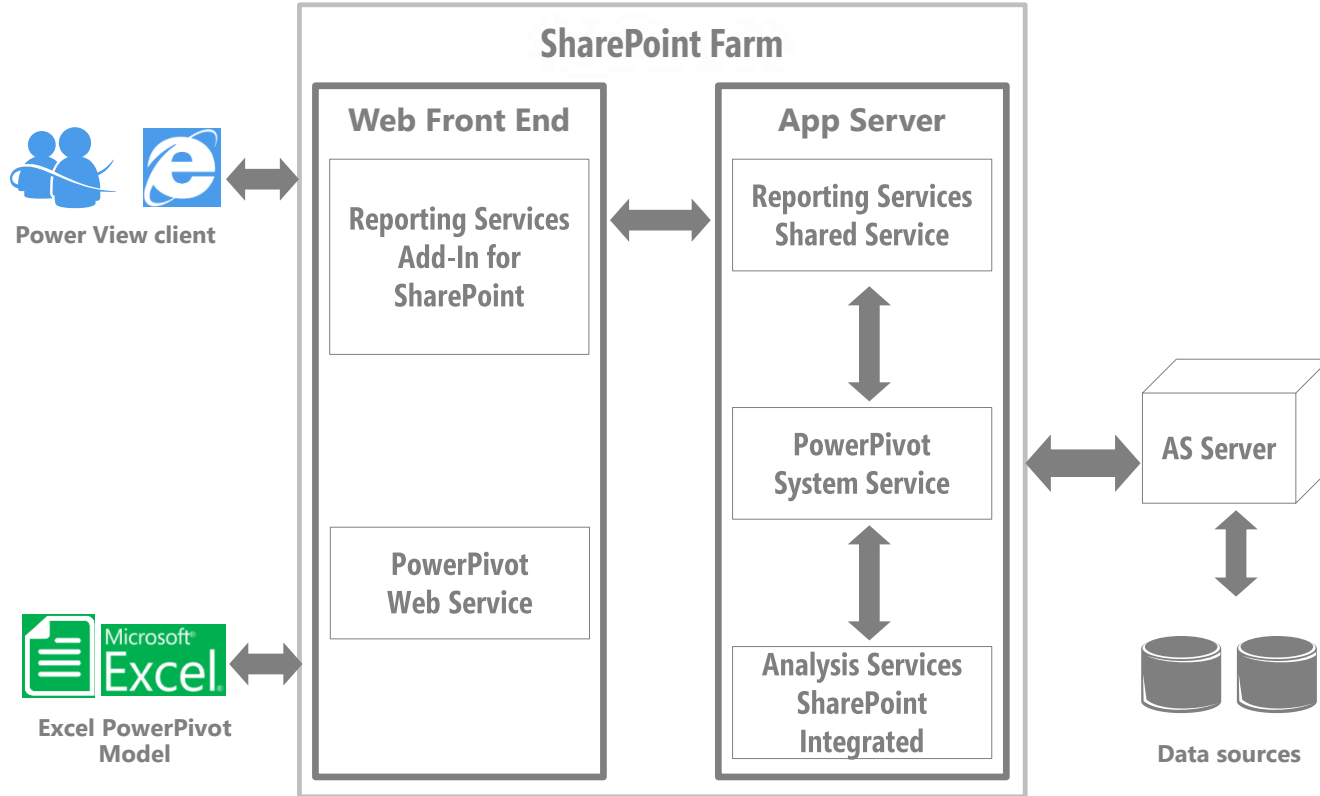
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# Power View

Overview and Architecture

Activating Power View in a SharePoint site collection



# Activating Power View in a SharePoint site collection

Demo

# Summary

- SharePoint 2013 as a BI Platform
  - High Availability and Scalability
- Reporting Services in SharePoint-Integrated Mode
- Excel Services
- PowerPivot
- PowerView

# Action Items

## Plan SharePoint 2013 BI Farm Server Topology and Roles

### Read the following

Microsoft BI Authentication and Identity Delegation

**<http://bit.ly/1pcaRA4>**

Supported Combinations of SharePoint and Reporting Services Server and Add-in (SQL Server 2014)

**<http://bit.ly/WOKKYS>**

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**Q & A**