



애저 서버리스에서 파이썬/장고 웹서비스 쉽게 배포/운영하기

Azure SQL Database와 장고 연동

여러분의 파이썬/장고/리액트 페이스메이커가 되겠습니다.

세션 목차

- EP01. 애저펍션과 파이썬 구동 환경 소개
- EP02. 애저펍션 개발환경 구축 및 기본 프로젝트 생성
- EP03. 장고 애플리케이션 생성 및 애저펍션 연동
- EP04. Azure SQL Database와 장고 연동
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- EP06. 애저펍션 인프라로 배포하기
- EP07. 리액트 웹 애플리케이션 배포와 애저 장고 API 연동
- EP08. 마무리

Agenda

- Azure SQL 소개
- Azure SQL Database 생성 및 방화벽 설정
- ODBC 17 Driver
- Azure SQL Database 와 장고 프로젝트 연동

Azure SQL

Azure 클라우드에서 지원하는 SQL Server 서비스

- Azure SQL Database
 - 옵션1) 예측 불가능한 워크로드를 위한 오토 스케일링 (서버리스)
 - 옵션2) 무제한 데이터베이스 (100TB 이상) 스토리지 (하이퍼스케일)
- Azure SQL Managed Instance : VM을 Microsoft에서 관리하는 PaaS
- Azure VM에서 직접 SQL Server 운영

Azure SQL 데이터베이스 생성

Microsoft Azure

Search resources, services, and docs (G+)

[Home](#) > [Azure SQL](#) > [Select SQL deployment option](#) >

Create SQL Database

Microsoft

Basics

Networking

Additional settings

Tags

Review + create

Create a SQL database with your preferred configurations. Complete the Basics tab then go to Review + Create to provision with smart defaults, or visit each tab to customize. [Learn more](#)

Project details

Select the subscription to manage deployed resources and costs. Use resource groups like folders to organize and manage all your resources.

Subscription * ⓘ

Microsoft Azure Subscription

Resource group * ⓘ

se

[Create new](#)

Database details

Enter required settings for this database, including picking a logical server and configuring the compute and storage resources

Database name *

se

Server * ⓘ

(new) se (Korea Central)

[Create new](#)

Want to use SQL elastic pool? * ⓘ ☐ Yes ☒ No

Compute + storage * ⓘ

General Purpose

Serverless, Gen5, 1 vCore, 32 GB storage

[Configure database](#)

Review + create

Next : Networking >

Microsoft Azure

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[Home](#) > [Azure SQL](#) > [Select SQL deployment option](#) > [Create SQL Database](#) >

Configure

[Feedback](#)

	General Purpose Scalable compute and storage options 500 - 20,000 IOPS 2-10 ms latency	Hyperscale On-demand scalable storage 500 - 204,800 IOPS 1-10 ms latency	Business Critical High transaction rate and high resiliency 5,000 - 204,800 IOPS 1-2 ms latency
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[Looking for basic, standard, premium?](#)

Compute tier

Provisioned
Compute resources are pre-allocated
Billed per hour based on vCores configured

Serverless ☒
Compute resources are auto-scaled
Billed per second based on vCores used

Compute Hardware

Click "Change configuration" to see details for all hardware generations available including memory optimized and compute optimized options

Hardware Configuration **Gen5**
up to 40 vCores, up to 120 GB memory
[Change configuration](#)

Max vCores

1 2 4 6 8 10 12 14 16 18 20 24 32 40 1 vCore

Min vCores

0.5 0.75 1 0.5 vCores

Cost summary

Gen5 - General Purpose (GP_S_Gen5_1)

Cost per GB (in KRW) 152.62

Max storage selected (in GB) x 41.6

ESTIMATED STORAGE COST / MONTH 6348.78 KRW

COMPUTE COST / VCORE / SECOND 0.184189 KRW

NOTES
1 Serverless databases are billed in vCores based on a combination of CPU and memory utilization. [Learn more about serverless billing](#)

Apply

Azure SQL 데이터베이스 생성 (Demo)

Microsoft Azure

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1

?

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Windows Server 2016 Datacenter

Quickstarts + tutorials




Ubuntu Server 18.04 LTS

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SQL Database

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Function App

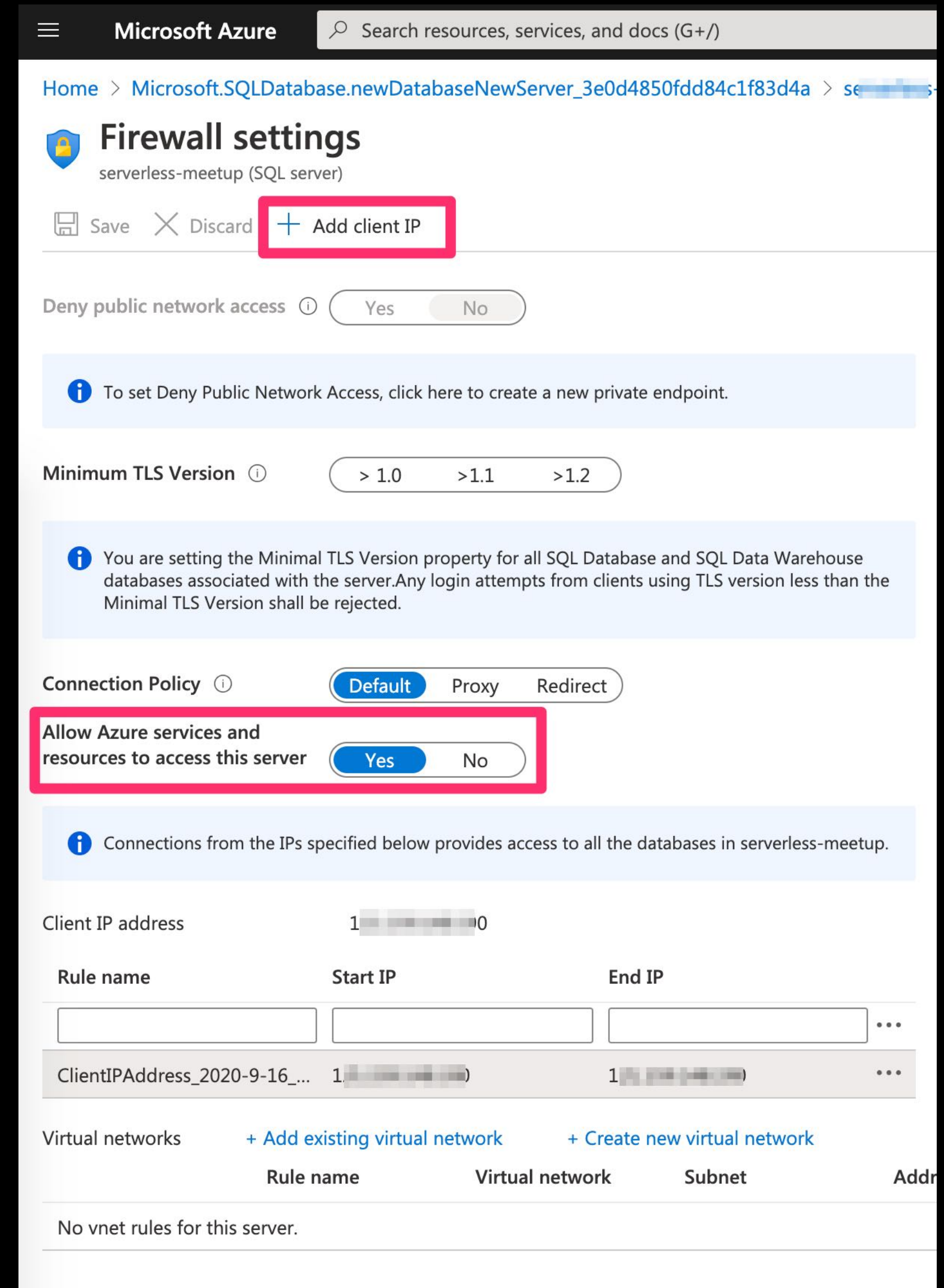
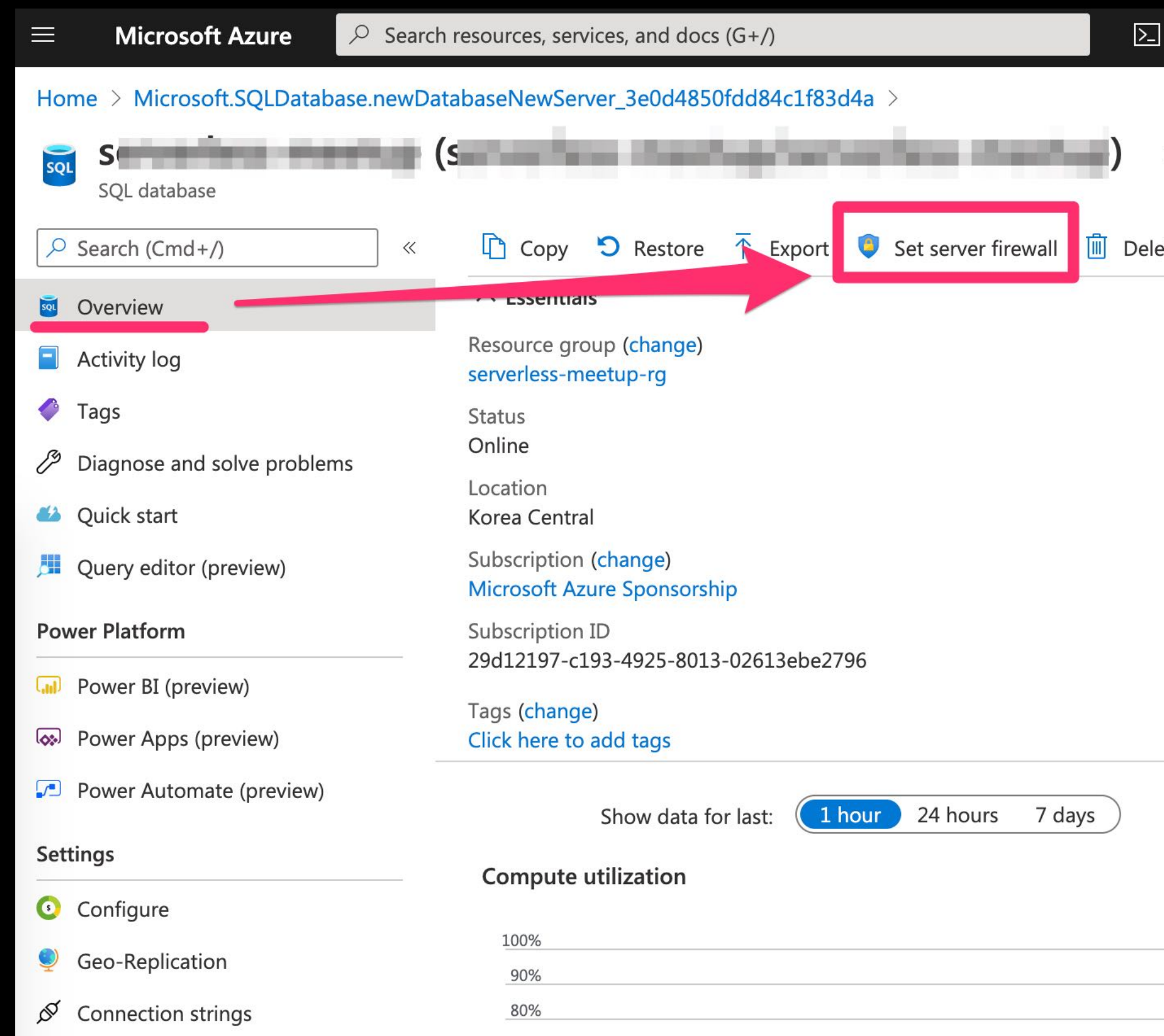
Quickstarts + tutorials



Azure Cosmos DB

Quickstarts + tutorials

방화벽 설정



방화벽 설정 (Demo)

Microsoft Azure

Search resources, services, and docs (G+)

2

Home > Microsoft.SQLDatabase.newDatabaseNewServer_3068040dee6246d9a4d95 >

SQL

azfunctions-demo-db (azfunctions-demo/azfunctions-demo-db)

SQL database

Search (Ctrl+)

Copy

Restore

Export

Set server firewall

Delete

Connect with...

Feedback

Overview

Activity log

Tags

Diagnose and solve problems

Quick start

Query editor (preview)

Power Platform

Power BI (preview)

Power Apps (preview)

Power Automate (preview)

Settings

Configure

Geo-Replication

Essentials

Resource group (change)
azfunctions-demo

Status
Online

Location
Korea Central

Subscription (change)
Microsoft Azure Sponsorship

Subscription ID
29d12197-c193-4925-8013-02613ebe2796

Tags (change)
Click here to add tags

Server name
azfunctions-demo.database.windows.net

Connection strings
Show database connection strings

Pricing tier
General Purpose: Serverless, Gen5, 1 vCore

Auto-pause delay
1 hour

Earliest restore point
2020-09-22 07:41 UTC

Show data for last: 1 hour 24 hours 7 days

Aggregation type: Max

Compute utilization

App CPU billed

100%

90%

https://portal.azure.com/#@9b2158db-a75a-4e1b-8dd4-8ef85a25a296/resource/subscriptions/29d12197-c193-4925-8013-02613ebe2796/resourceGroups/azfunctions-demo/providers/Microsoft.Sql/servers/azfunctions-demo/da...

ODBC 17 Driver

- Azure Functions 기본 이미지 (Debian Linux 10 기반)에 이미 설치
 - Ubuntu 등에서도 손쉽게 드라이버를 설치하실 수 있습니다.
- 개발머신에 드라이버 설치 : 윈도우, 맥, 리눅스
- 장고에서는 다음 2개 라이브러리만 설치하면 OK
 - pyodbc, django-mssql-backend
- 장고에서 DATABASES, ENGINE 지정 : 'sql_server.pyodbc'

팁) pyodbc 버전을 꼭 확인해주세요.

- pyodbc==4.0.0-unsupported 에서는 django-mssql-backend 설치 불가

```
(py38) C:\Users\Wallieus> pip freeze | find "pyodbc"  
pyodbc==4.0.0-unsupported  
  
(py38) C:\Users\Wallieus> pip install --upgrade pyodbc  
Collecting pyodbc  
  Using cached pyodbc-4.0.30-cp38-cp38-win_amd64.whl (68 kB)  
Installing collected packages: pyodbc  
  Attempting uninstall: pyodbc  
    Found existing installation: pyodbc 4.0.0-unsupported  
    Uninstalling pyodbc-4.0.0-unsupported:  
      Successfully uninstalled pyodbc-4.0.0-unsupported  
Successfully installed pyodbc-4.0.30  
  
(py38) C:\Users\Wallieus>_
```

장고 프로젝트 설정

- 필요한 라이브러리 : pyodbc, django-mssql-backend
- DB ENGINE 명 : "sql_server.pyodbc"
- django-environ을 활용한 database uri 지정 (환경변수 키 : DATABASE_URL)

mssql://유저명:암호@DB서버주소:포트/DB명?driver=ODBC Driver 17 for SQL Server&timeout=5&conn_max_age=30

환경변수 지정/참조 예

`{}` local.settings.json ✕

`{}` local.settings.json > `{}` Values

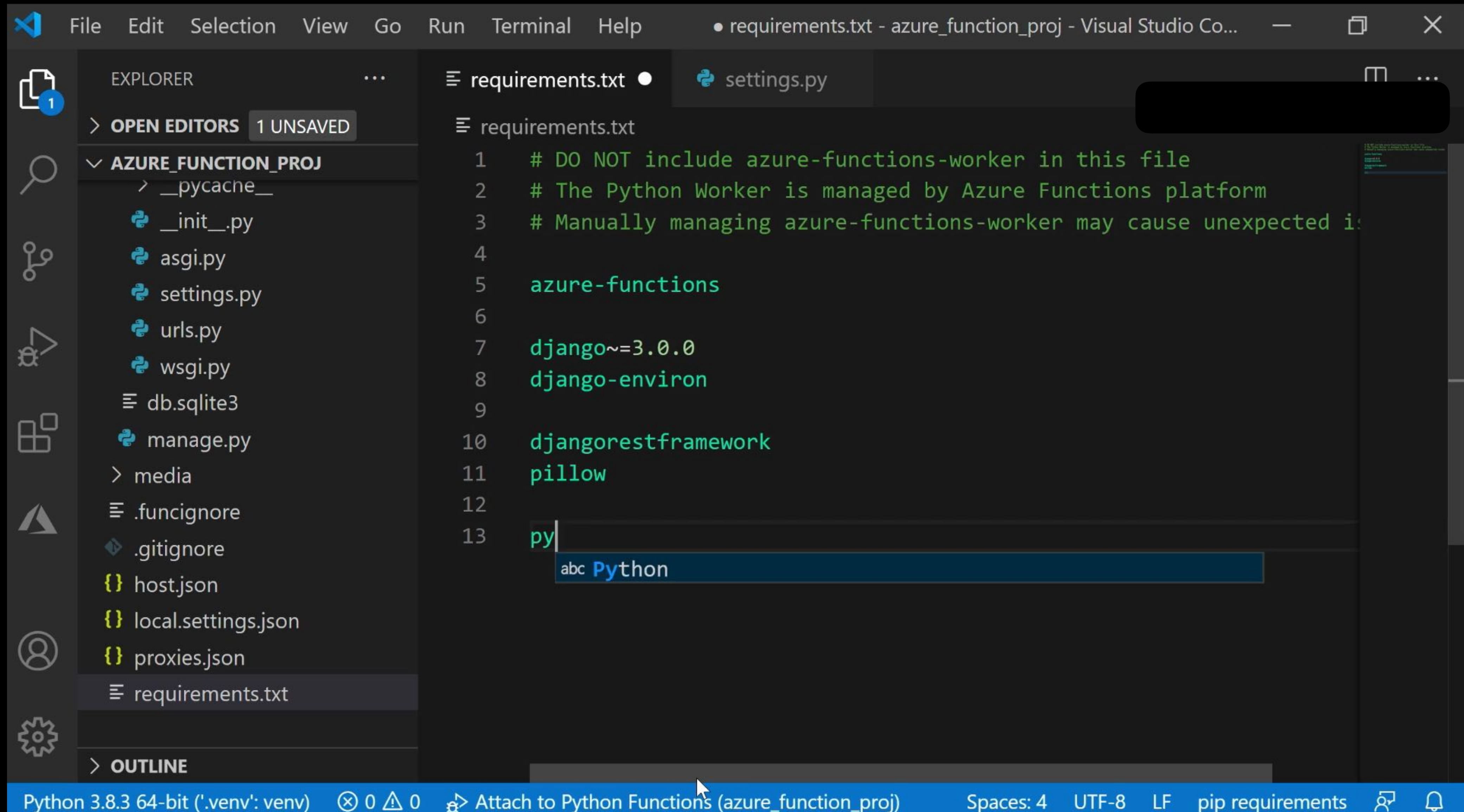
```
1 {
2   "IsEncrypted": false,
3   "Values": {
4     "AzureWebJobsStorage": "",
5     "FUNCTIONS_WORKER_RUNTIME": "python",
6     "DATABASE_URL": "mssql://myadmin:!1234azfunctions-demo@azfunctions-demo.database.
7     windows.net:1433/azfunctions-demo-db?driver=ODBC+Driver+17+for+SQL+Server&timeout=5&
8     conn_max_age=30"
9   }
}
```

```
from environ import Env
```

```
env = Env()
```

```
DATABASES = {
    'default': env.db(default=f'sqlite:/// {BASE_DIR} / "db.sqlite3"'),
}
```

Azure SQL Database와 장고 연동 (Demo)



다음 에피소드에서는 ...

EP05. Azure Blob Storage와 장고 연동

- 장고의 Static/Media와 File storage API
- Azure Blob Storage 생성 및 Container 생성
- Azure blob Storage 와 장고 연동

Life is short.
You need Python and Django.

I will be your pacemaker.

