

```
Microsoft Azure Search resources, services, and docs (G+/) Copilot StanislavKostenich@dm... DEFAULT DIRECTORY (DMYTROS...)

Switch to PowerShell Restart Manage files New session Editor Web preview Settings Help

{
  "createdAt": "2025-01-25T15:35:42.508243+00:00",
  "createdBy": null,
  "createdByType": null,
  "lastModifiedAt": null,
  "lastModifiedBy": null,
  "lastModifiedByType": null
},
"tags": {
  "defaultExperience": "Core (SQL)",
  "hidden-cosmos-mmsspecial": ""
},
"type": "Microsoft.DocumentDB/databaseAccounts",
"virtualNetworkRules": [],
"writeLocations": [
  {
    "documentEndpoint": "https://devcosmosdbaccount20250125-westcentralus.documents.azure.com:443/",
    "failoverPriority": 0,
    "id": "devcosmosdbaccount20250125-westcentralus",
    "isZoneRedundant": false,
    "locationName": "West Central US",
    "provisioningState": "Succeeded"
  },
  {
    "documentEndpoint": "https://devcosmosdbaccount20250125-westus3.documents.azure.com:443/",
    "failoverPriority": 1,
    "id": "devcosmosdbaccount20250125-westus3",
    "isZoneRedundant": false,
    "locationName": "West US 3",
    "provisioningState": "Succeeded"
  }
]
}
}
Adding Secondary Region: westus3...
Performing Manual Failover to Secondary Region...
Verifying Data Consistency Post-Failover...
Traceback (most recent call last):
  File "<stdin>", line 4, in <module>
NameError: name 'ENDPOINT' is not defined
Azure Cosmos DB global distribution, replication, and failover testing completed!
stanislav [ ~ ]$
```

```
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stanislav [ ~ ]$ ./cosmosdb_global_distribution.sh
WARNING: [Warning] This output may compromise security by showing secrets. Learn more at: https://go.microsoft.com/fwlink/?linkid=2258669

[notice] A new release of pip is available: 23.0.1 -> 24.3.1
[notice] To update, run: pip install --upgrade pip
Cosmos DB Endpoint: https://devcosmosdbaccount20250125.documents.azure.com:443/
Starting Cosmos DB Global Distribution Setup...
✓ Inserted test data into primary region.
✓ Data replicated: {'id': '1', 'name': 'Replication Test', 'region': 'primary', '_rid': '9iFeANWKwXGBhB4AAAAA==', '_self': 'dbs/9iFeAA==/colls/9iFeANWKwXE=/docs/9iFeANWKwXGBhB4AAAAA==/', '_etag': '"00003513-0000-0600-0000-679550130000"', '_attachments': 'attachments/', '_ts': 1737838611}
Enabling multi-region replication...
{
  "analyticalStorageConfiguration": {
    "schemaType": "WellDefined"
  },
  "apiProperties": null,
  "backupPolicy": {
    "migrationState": null,
    "periodicModeProperties": {
      "backupIntervalInMinutes": 240,
      "backupRetentionIntervalInHours": 8,
      "backupStorageRedundancy": "Geo"
    },
    "type": "Periodic"
  },
  "capabilities": [],
  "capacity": null,
  "connectorOffer": null,
  "consistencyPolicy": {
    "defaultConsistencyLevel": "Session",
    "maxIntervalInSeconds": 5,
    "maxStalenessPrefix": 100
  },
  "cors": [],
  "createMode": null,
  "customerManagedKeyStatus": null,
  "databaseAccountOfferType": "Standard",
  "defaultIdentity": "FirstPartyIdentity",
  "disableKeyBasedMetadataWriteAccess": false,
  "disableLocalAuth": false,
```

```
43 # Insert test data
44 test_data = {"id": "1", "name": "Replication Test", "region": "primary"}
45 container.upsert_item(test_data)
46 print("✅ Inserted test data into primary region.")
47
48 # Verify replication by reading data
49 retrieved_item = container.read_item(item="1", partition_key="1")
50 if retrieved_item:
51     print(f"✅ Data replicated: {retrieved_item}")
52
53 EOF
54
55 echo "🔄 Enabling multi-region replication..."
56 az cosmosdb update --name $COSMOS_ACCOUNT --resource-group $RESOURCE_GROUP --enable-multiple-write-locations true
57
58 echo "🌐 Adding Secondary Region: $SECONDARY_REGION..."
59 az cosmosdb failover-priority-change --name $COSMOS_ACCOUNT --resource-group $RESOURCE_GROUP --failover-policies "$PRIMARY_REGION=0" "$SECONDARY_R
60
61 # Wait for replication to take effect
62 sleep 60
63
64 echo "⚠️ Performing Manual Failover to Secondary Region..."
65 az cosmosdb failover-priority-change --name $COSMOS_ACCOUNT --resource-group $RESOURCE_GROUP --failover-policies "$SECONDARY_REGION=0" "$PRIMARY_R
66
67 # Wait for failover to take effect
68 sleep 60
69
70 echo "🔄 Verifying Data Consistency Post-Failover..."
71 python3 <<EOF
72 from azure.cosmos import CosmosClient
73
74 # Reconnect after failover
75 client = CosmosClient(ENDPOINT, KEY)
76 container = client.get_database_client(DATABASE_NAME).get_container_client(CONTAINER_NAME)
77
78 retrieved_item = container.read_item(item="1", partition_key="1")
79 if retrieved_item:
80     print(f"✅ Data consistency verified after failover: {retrieved_item}")
81 else:
82     print("❌ Data verification failed!")
83 EOF
84
```

```
1 #!/bin/bash
2
3 # Define variables
4 RESOURCE_GROUP="StanislavKostenich"
5 COSMOS_ACCOUNT="devcosmosdbaccount20250125"
6 DATABASE_NAME="Items"
7 CONTAINER_NAME="Items"
8 PRIMARY_REGION="westus3"
9 SECONDARY_REGION="westcentralus"
10
11 # Fetch Cosmos DB Account details
12 COSMOS_ENDPOINT=$(az cosmosdb show --name $COSMOS_ACCOUNT --resource-group $RESOURCE_GROUP --query "documentEndpoint" -o tsv)
13 COSMOS_KEY=$(az cosmosdb keys list --name $COSMOS_ACCOUNT --resource-group $RESOURCE_GROUP --query "primaryMasterKey" -o tsv)
14
15 # Install required dependencies if not already installed
16 pip install azure-cosmos --quiet
17
18 echo "🔥 Cosmos DB Endpoint: $COSMOS_ENDPOINT"
19 echo "🔥 Starting Cosmos DB Global Distribution Setup..."
20
21 # Python script for inserting, verifying replication, and failover testing
22 python3 <<EOF
23 from azure.cosmos import CosmosClient, PartitionKey
24
25 # Cosmos DB credentials
26 ENDPOINT = "$COSMOS_ENDPOINT"
27 KEY = "$COSMOS_KEY"
28 DATABASE_NAME = "$DATABASE_NAME"
29 CONTAINER_NAME = "$CONTAINER_NAME"
30
31 # Initialize Cosmos Client
32 client = CosmosClient(ENDPOINT, KEY)
33
34 # Create (or Get) Database
35 database = client.create_database_if_not_exists(DATABASE_NAME)
36
37 # Create (or Get) Container
38 container = database.create_container_if_not_exists(
39     id=CONTAINER_NAME,
40     partition_key=PartitionKey(path="/id")
41 )
42
```

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Dashboard > Microsoft.Azure.CosmosDB-20250125173401 | Overview > devcosmosdbaccount20250125

devcosmosdbaccount20250125 | Data Explorer ☆ ...
Azure Cosmos DB account

Search

Enable Azure Synapse Link

Overview
Activity log
Access control (IAM)
Tags
Diagnose and solve problems
Cost Management
Quick start
Data Explorer
Mirroring in Fabric (Preview)
Settings
Features
Replicate data globally
Default consistency
Backup & Restore
Networking
CORS
Dedicated Gateway
Keys
Advisor Recommendations


Home


+ New Container


Home

Welcome to Azure Cosmos DB

Globally distributed, multi-model database service for any scale

Launch quick start
Launch a quick start tutorial to get started with sample data

New Container
Create a new container for storage and throughput

Connect
Prefer using your own choice of tooling? Find the connection string you need to connect

Recents
Items
Container
todolist

Top 3 things you need to know
Advanced Modeling Patterns
Learn advanced strategies to optimize your database.

Learning Resources
Data Explorer keyboard shortcuts
Learn keyboard shortcuts to navigate Data Explorer.

0 0 1

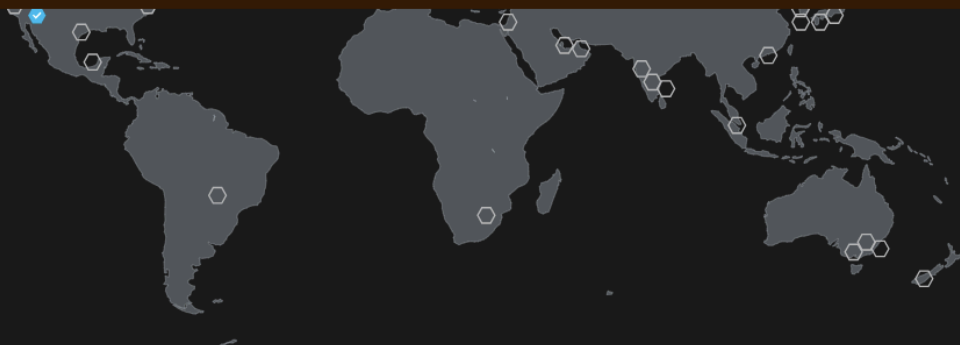
 devcosmosdb
Azure Cosmos DB account

☆ ...

Azure Cosmos DB account

Save Discard Manual failover Service-Managed Failover Feedback

 When you add a region to your account, you will be billed for the additional RU/s and storage copied to the region. [Click here to learn more.](#) →




Configure the regions for reads, writes and availability zone (supported in selected regions and can only be configured when a new region is added).

Availability zone

Action

West Central US



devcosmosdbaccount20250125 | Data Explorer

☆

⋮

Azure Cosmos DB account

 New Item
 Update
 Discard
 Delete
 Upload Item

+ New Container

Home	<input checked="" type="checkbox"/>	id ...	/c ...	gotyfi ...	roni
devtodolist	<input type="checkbox"/>	1			
> todolist	<input checked="" type="checkbox"/>	2			
Items					
<div> <div></div> <div>Items</div> </div>					
Items					
Scale & Settings					
> Stored Procedures					
> User Defined Functions					
> Triggers					

```
1 {
2   "id": "2",
3   "name": "Smartphone2",
4   "category": "Electronics2",
5   "price": 699,
6   "_rid": "xnwIAJXch6YCAAAAAAAAA==",
7   "_self": "dbs/xnwIAA==/colls/xnwIAJXch6Y=/docs/xnwIAJXch6YCAAAA
8   "_etag": "\"4900a02f-0000-4d00-0000-67951c950000\"",
9   "_attachments": "attachments/",
10  "_ts": 1737825429
11 }
```

[Load more](#)

0 0 4

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Azure Cosmos DB account

+ New Container

Home

devtodolist

▼ todolist

Items

Scale & Settings

> Stored Procedures

> User Defined Functions

> Triggers

Execute Query

Save Query

Download Query

View

Home

todolist.Items

todolist.Qu... x

1 SELECT * FROM c WHERE c.category = 'Electronics'

Results

Query Stats

1 - 3

```
[
  {
    "id": "1",
    "name": "Smartphone",
    "category": "Electronics",
    "price": 699,
    "_rid": "9cVKAIU\\X7EBAAAAAAAAA==",
    "_self": "dbs/9cVKAA==/colls/9cVKAIU\\X7E=/docs/9cVKAIU\\X7EBAAAAAAAAA==/",
    "_etag": "\"0000df44-0000-4d00-0000-679516360000\"",
    "_attachments": "attachments/",
    "_ts": 1737823798
  },
  {
    "id": "2",
    "name": "Smartphone2",
    "category": "Electronics",
    "price": 699,
    "_rid": "9cVKAIU\\X7ECAAAAAAAAAA==",
    "_self": "dbs/9cVKAA==/colls/9cVKAIU\\X7E=/docs/9cVKAIU\\X7ECAAAAAAAAAA==/",
    "_etag": "\"0000e044-0000-4d00-0000-679516590000\"",
    "_attachments": "attachments/",
    "_ts": 1737823833
  }
]
```

0 1 5 | Successfully fetched 3 item for container todolist

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devcosmosdbaccount20250125 | Data Explorer

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Items

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User Defined Functions

Triggers

Execute Query

Save Query

Download Query

View

Home

todolist.Items

todolist.Qu...

1

SELECT * FROM c

Results

Query Stats

1 - 3

```
[
{
  "id": "1",
  "name": "Smartphone",
  "category": "Electronics",
  "price": 699,
  "_rid": "9cVKAIU\\X7EBAAAAAAAAA==",
  "_self": "dbs/9cVKAA==/colls/9cVKAIU\\X7E=/docs/9cVKAIU\\X7EBAAAAAAAAA==/",
  "_etag": "\"0000df44-0000-4d00-0000-679516360000\"",
  "_attachments": "attachments/",
  "_ts": 1737823798
},
{
  "id": "2",
  "name": "Smartphone2",
  "category": "Electronics",
  "price": 699,
  "_rid": "9cVKAIU\\X7ECAAAAAAAAAA==",
  "_self": "dbs/9cVKAA==/colls/9cVKAIU\\X7E=/docs/9cVKAIU\\X7ECAAAAAAAAAA==/",
  "_etag": "\"0000e044-0000-4d00-0000-679516590000\"",
  "_attachments": "attachments/",
  "_ts": 1737823833
}
]
```

0 1 4

The screenshot displays the VS Code interface with a REST client setup. The sidebar on the left shows the file explorer with a folder named 'devtodolist' containing a file 'todolist'. The main editor area shows a REST client configuration with a base URL of 'http://localhost:3000/api'. The first request is a GET request to '/items/3' with a success response showing item details.

id	name	category	price	_rid	_self	_etag	_attachments	_ts
1	Smartphone3	Electronics	699	9cVKAIU\X7EDAAAAAAAAA==	db/9cVKAA==/colls/9cVKAIU\X7E=/docs/9cVKAIU\X7EDAAAAAAAAA	"\"0000e144-0000-4d00-0000-6795166d0000\""	"attachments/"	1737823853

The terminal at the bottom shows the message: 'Successfully created new item for container todolist'.

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devcosmosdbaccount20250125 | Data Explorer ☆ ...

Azure Cosmos DB account

+ New Container

New Item

Save

Discard

Upload Item

Home

todolist.Ite...

SELECT * FROM c

<input type="checkbox"/>	id	...	/category	...
<input type="checkbox"/>	1			
<input type="checkbox"/>	2			

Load more

1 {

2 "id": "3",

3 "name": "Smartphone3", "category": "Electronics", "price": 699

4 }

Edit Filter

0

0

2



Create Azure Cosmos DB Account - Azure Cosmos DB for NoSQL



Subscription *

Azure subscription 1

Resource Group *

StanislavKostenich

[Create new](#)

Create new

Instance Details

Account Name * devcosmosdbaccount20250125 ✓

Configure availability zone settings for your account. You cannot change these settings once the account is created.

Availability Zones ☐ Enable ☒ Disable

Location * ⓘ (US) West US 3 ▼

Available locations are determined by your subscription's access and availability zone support (if that is enabled). If you don't see or cannot select your desired location, please open a support request for region access.

[Click here for more details on how to create a region access request](#)

Capacity mode ⓘ ☒ Provisioned throughput ☐ Serverless

With Azure Cosmos DB free tier, you will get the first 1000 RU/s and 25 GB of storage for free in an account. You can enable free tier on up to one account per subscription. Estimated \$64/month discount per account.

The subscription you have selected already has an account with free tier enabled.

Apply Free Tier Discount ☐ Apply ☒ Do Not Apply

Limit total account throughput ☐ Limit the total amount of throughput that can be provisioned on this account

