

ISVECTOR (Transact-SQL)

Article • 09/11/2024

Applies to:  Azure SQL Database  Azure SQL Managed Instance

Note


This function is in preview and is subject to change. Preview features are not meant for production use and are subject to additional terms of use.

Warning

This function along with **VECTOR_TO_JSON_ARRAY** and **JSON_ARRAY_TO_VECTOR**, which work with the varbinary(8000) datatype, will be phased out after the private preview, as the new **VECTOR** type is being introduced. These functions will remain available until the end of the private preview to assist early adopters in transitioning to the new vector type.

Tests whether a binary contains a valid vector.

Syntax

 Transact-SQL syntax conventions

```
syntaxsql
```

```
ISVECTOR ( expression[, dimensions] )
```

Arguments

expression

The binary value to test.

dimensions

The number of dimensions the vector is expected to have.

Return value

Returns 1 if the binary contains valid vector, usable by vector functions; otherwise, returns 0. Returns null if *expression* is null.

If *dimensions* value is specified, returns 1 if the tested *expression* is a vector, and it has the specified number of dimensions. It returns 0 otherwise.

An error is returned if *expression* isn't a varbinary or if *dimensions* value is out of the supported range, which is from 1 to 1,998.

Examples

Make sure to check out the [Azure SQL DB Vector Search Samples](#) GitHub repo to get end-to-end working samples.

Example 1

The following example runs a statement block conditionally if the parameter value `@param` contains valid JSON.

SQL

```
DECLARE @v VARBINARY(8000) = JSON_ARRAY_TO_VECTOR('[0.1, 2, 30]');
SELECT ISVECTOR(@v, 3); -- Returns true
SELECT ISVECTOR(@v, 10); -- Returns false
```

Example 2

The following example creates a table to store vector embeddings coming from OpenAI using an embedding model that returns vectors with 1,536 dimensions.

SQL

```
CREATE TABLE dbo.DocumentEmbeddings
(
    DocumentId INT NOT NULL PRIMARY KEY,
```

```
Embedding VARBINARY(8000) CHECK( ISVECTOR(Embedding, 1536) = 1 )
)
```

See also

- [Vector Functions \(Transact SQL\)](#)
- [Azure SQL DB Vector Search Samples](#)

Feedback

Was this page helpful?

 Yes

 No

[Provide product feedback](#) | [Get help at Microsoft Q&A](#)