

JSON_ARRAY_TO_VECTOR (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 **ISVECTOR**, 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.

Creates a vector from a JSON array.

Syntax

 Transact-SQL syntax conventions

```
syntaxsql
```

```
JSON_ARRAY_TO_VECTOR ( expression )
```

Arguments

expression

The provided expression must evaluate to a JSON array. The array must contain only single-precision numbers and the number of elements must be between 1 and 1,998.

Return value

The function returns a binary value that represents the vector.

An error is returned if *expression* isn't a valid JSON array of single-precision numbers or if the array contains less than 1 or more than 1,998 elements.

Remarks

Vectors dimension values are store using single-precision (real) numbers.

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 creates a vector with three dimensions from a string with a JSON array.

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 transforms the embeddings stored as JSON arrays in a sample database into binary vectors.

SQL

```
SELECT id, JSON_ARRAY_TO_VECTOR(title_vector) FROM [dbo].[wikipedia_articles]  
WHERE title = 'Alan Turing'
```

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](#)