

ARRAYCROSS Function

Generates a nested array containing the cross-product of all elements in two or more arrays.

- Input arrays can be referenced as column names or array literals.
- If Array1 has M elements and Array2 has N elements, the generated array has M X N elements.

NOTE: Be careful applying this function across columns of large arrays. A limit is automatically applied on large arrays to prevent overloading the browser. Avoid apply the ARRAYCROSS transform to very wide columns.

Wrangle vs. SQL: This function is part of Wrangle , a proprietary data transformation language. Wrangle is not SQL. For more information, see *Wrangle Language*.

Basic Usage

Array literal reference example:

```
arraycross(["A","B"], ["1","2"], ["3"])
```

Output: Returns a single array:

```
[["A","1"],["A","2"],["A","3"],["B","1"],["B","2"],["B","3"]]
```

Column reference example:

```
arraycross(array1,array2,array3)
```

Output: Returns an array containing a single array listing all combinations of elements between array1, array2 , and array3.

Syntax and Arguments

```
arraycross(array_ref1,array_ref2)
```

Argument	Required?	Data Type	Description
array_ref1	Y	string or array	Name of first column or first array literal to apply to the function
array_ref2	Y	string or array	Name of second column or second array literal to apply to the function

For more information on syntax standards, see *Language Documentation Syntax Notes*.

array_ref1, array_ref2

Array literal or name of the array column whose intersection you want to derive.

Usage Notes:

Required?	Data Type	Example Value
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Yes	Array literal or column reference	myArray1, myArray2
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Examples

Tip: For additional examples, see *Common Tasks*.

Example - Simple cross example

This example illustrates how to use the nested functions.

Functions:

Item	Description
ARRAYCONCAT Function	Combines the elements of one array with another, listing all elements of the first array before listing all elements of the second array.
ARRAYINTERSECT Function	Generates an array containing all elements that appear in multiple input arrays, referenced as column names or array literals.
ARRAYCROSS Function	Generates a nested array containing the cross-product of all elements in two or more arrays.
ARRAYUNIQUE Function	Generates an array of all unique elements among one or more arrays.

Source:

Code formatting has been applied to improve legibility.

Item	ArrayA	ArrayB
Item1	["A", "B", "C"]	["1", "2", "3"]
Item2	["A", "B"]	["A", "B", "C"]
Item3	["D", "E", "F"]	["4", "5", "6"]

Transformation:

You can apply the following transforms in the following order. Note that the column names must be different from the transform name, which is a reserved word.

Transformation Name	New formula
Parameter: Formula type	Single row formula
Parameter: Formula	ARRAYCONCAT([Letters, Numerals])
Parameter: New column name	'concat2'

Transformation Name	New formula
Parameter: Formula type	Single row formula
Parameter: Formula	ARRAYINTERSECT([Letters, Numerals])

Parameter: New column name	'intersection2'
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Transformation Name	New formula
Parameter: Formula type	Single row formula
Parameter: Formula	ARRAYCROSS([Letters, Numerals])
Parameter: New column name	'cross2'

Transformation Name	New formula
Parameter: Formula type	Single row formula
Parameter: Formula	ARRAYUNIQUE([Letters, Numerals])
Parameter: New column name	'unique2'

Results:

For display purposes, the results table has been broken down into three separate sets of columns.

Column set 1:

Item	ArrayA	ArrayB	concat2	intersection2
Item1	["A", "B", "C"]	["1", "2", "3"]	["A", "B", "C", "1", "2", "3"]	[]
Item2	["A", "B"]	["A", "B", "C"]	["A", "B", "A", "B", "C"]	["A", "B"]
Item3	["D", "E", "F"]	["4", "5", "6"]	["D", "E", "F", "4", "5", "6"]	[]

Column set 2:

Item	cross2
Item1	[["A", "1"], ["A", "2"], ["A", "3"], ["B", "1"], ["B", "2"], ["B", "3"], ["C", "1"], ["C", "2"], ["C", "3"]]
Item2	[["A", "A"], ["A", "B"], ["A", "C"], ["B", "A"], ["B", "B"], ["B", "C"]]
Item3	[["D", "4"], ["D", "5"], ["D", "6"], ["E", "4"], ["E", "5"], ["E", "6"], ["F", "4"], ["F", "5"], ["F", "6"]]

Column set 3:

Item	unique2
Item1	["A", "B", "C", "1", "2", "3"]
Item2	["A", "B", "C"]
Item3	["D", "E", "F", "4", "5", "6"]