

Add Field

ArcMap 10.5

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Summary

Adds a new field to a table or the table of a feature class, feature layer, and/or rasters with attribute tables.

Usage

- For shapefiles and dBase tables, if field type defines a character, blanks are inserted for each record. If field type defines a numeric item, zeros are inserted for each record.
- The Field Length parameter is only applicable on fields of type text. If a length is not specified, the length will default to 255.
- For geodatabases, if field type defines a character or number, <null> is inserted into each record if the Field Is Nullable parameter is checked (field_is_nullable="NULLABLE" in Python).
- A non-nullable field cannot be added to an empty geodatabase feature class or table.
- A shapefile does not support alias for fields, so you cannot add a field alias to a shapefile.
- The Field Domain parameter can use an existing domain from a feature class in a geodatabase. The name of an existing domain must be entered. Entering invalid domain names or values will not cause the tool to fail, but the invalid name or value will be ignored and no domain will be set for the field.
- The precision and scale of a field describe the maximum size and precision of data that can be stored in the field. The precision describes the number of digits that can be stored in the field, and the scale describes the number of decimal places for float and double fields. For example, if the field value is 54.234, scale = 3 and precision = 5.

Use the following guidelines for choosing the correct field type for a given precision and scale:

- When you create a float, double, or integer field and specify 0 for precision and scale, the tool will attempt to create a binary type field if the underlying database supports it. File and personal geodatabases support only binary type fields, and precision and scale are ignored.
- When you create float and double fields and specify a precision and scale, if your precision is greater than 6, use a double; otherwise, use a float. If you create a double field and specify a precision of 6 or less, a float field is created. If you create a float field and specify a precision greater than 6, a double field is created.
- If you specify a scale of 0 and a precision of 10 or less, you should be creating integer fields. When creating integer fields, your precision should be 10 or less, or your field may be created as double.
- When creating a new field in a geodatabase feature class or table, you can specify the field's type, but not its precision, and scale. Even if the dialog box allows you to add a value for precision or scale, it will be ignored during execution.
- Required fields are permanent and cannot be deleted. To allow for deletion at a later time, set the field to non-required (the default).
- A field of type raster allows you to have a raster image as an attribute. It is stored within or alongside the geodatabase. This is helpful when a picture is the best way to describe a feature. Precision, scale, and length cannot be set for fields of type raster.

Syntax

AddField_management (in_table, field_name, field_type, {field_precision}, {field_scale}, {field_length}, {field_alias}, {field_i

Parameter	Explanation	Data Type
in_table	The input table to which the specified field will be added. The field will be added to the existing input table and will not create a new output table. Fields can be added to feature classes in geodatabases, shapefiles, stand-alone tables, rasters with attribute tables, and layers.	Table View; Raster Layer; Raster Catalog Layer; Mosaic Layer
field_name	The name of the field that will be added to the input table.	String

Parameter	Explanation	Data Type
field_type	<p>The field type of the new field.</p> <ul style="list-style-type: none"> • TEXT —Any string of characters. • FLOAT — Fractional numbers between -3.4E38 and 1.2E38. • DOUBLE — Fractional numbers between -2.2E308 and 1.8E308. • SHORT — Whole numbers between -32,768 and 32,767. • LONG — Whole numbers between -2,147,483,648 and 2,147,483,647. • DATE —Date and/or time. • BLOB —Long sequence of binary numbers. You need a custom loader or viewer or a third-party application to load items into a BLOB field or view the contents of a BLOB field. • RASTER —Raster images. All ArcGIS software-supported raster dataset formats can be stored, but it is highly recommended that only small images be used. • GUID —Globally unique identifier. 	String
field_precision (Optional)	<p>The number of digits that can be stored in the field. All digits are counted no matter what side of the decimal they are on.</p> <p>If the input table is a file or personal geodatabase, the field precision value will be ignored.</p>	Long
field_scale (Optional)	<p>The number of decimal places stored in a field. This parameter is only used in float and double data field types.</p> <p>If the input table is a file or personal geodatabase, the field scale value will be ignored.</p>	Long
field_length (Optional)	<p>The length of the field being added. This sets the maximum number of allowable characters for each record of the field. This option is only applicable on fields of type text.</p>	Long
field_alias (Optional)	<p>The alternate name given to the field name. This name is used to give more descriptive names to cryptic field names. The field alias parameter only applies to geodatabases.</p>	String
field_is_nullable (Optional)	<p>Specifies whether the field can contain null values. Null values are different from zero or empty fields and are only supported for fields in a geodatabase.</p> <ul style="list-style-type: none"> • NON_NULLABLE —The field will not allow null values. • NULLABLE —The field will allow null values. This is the default. 	Boolean
field_is_required (Optional)	<p>Specifies whether the field being created is a required field for the table and is only supported for fields in a geodatabase.</p> <ul style="list-style-type: none"> • NON_REQUIRED —The field is not a required field. This is the default. • REQUIRED —The field is a required field. Required fields are permanent and cannot be deleted. 	Boolean
field_domain (Optional)	<p>Used to constrain the values allowed in any particular attribute for a table, feature class, or subtype in a geodatabase. You must specify the name of an existing domain for it to be applied to the field.</p>	String

Code sample

AddField example (Python window)

The following Python window script demonstrates how to use the AddField tool in immediate mode.

```
import arcpy
arcpy.env.workspace = "C:/data/airport.gdb"
arcpy.AddField_management("schools", "ref_ID", "LONG", 9, "", "", "refcode", "NULLABLE", "REQUIRED")
```

AddField example 2 (stand-alone script)

The following stand-alone script demonstrates how to use the AddField tool.

```
# Name: AddField_Example2.py
# Description: Add a pair of new fields to a table

# Import system modules
import arcpy

# Set environment settings
arcpy.env.workspace = "C:/data/airport.gdb"

# Set local variables
```

```
inFeatures = "schools"
fieldName1 = "ref_ID"
fieldPrecision = 9
fieldAlias = "refcode"
fieldName2 = "status"
fieldLength = 10

# Execute AddField twice for two new fields
arcpy.AddField_management(inFeatures, fieldName1, "LONG", fieldPrecision,
                          field_alias=fieldAlias, field_is_nullable="NULLABLE")
arcpy.AddField_management(inFeatures, fieldName2, "TEXT", field_length=fieldLength)
```

Environments

- [Current Workspace](#)

Licensing information

- ArcGIS Desktop Basic: Yes
- ArcGIS Desktop Standard: Yes
- ArcGIS Desktop Advanced: Yes

Related topics

- [An overview of the Fields toolset](#)