

# **GiD v16**

**The pre and postprocessing system for computer analysis  
in science and engineering**

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# gid\_bounding\_box

## Description

In a sentence or two, describe the purpose of this space.

## Project Tracker

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### Introduction

5 minutes ago • contributed by [Enrique Escolano](#)

### Commands

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### Example

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### gid\_bounding\_box

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## Contributors

 This list below will automatically update each time somebody in your space creates or updates content.

[Enrique Escolano](#)

## Introduction

Tcl package for bounding box wrapping gid class with swig

Must run `do_wrap.bat` to recreate `gid_bounding_box_wrap.cxx` C++ code of the package

BoundingBox is the main command to create objects without call the other commands

and has as subcommands the rest of commands starting by "BoundingBox\_" removing this prefix

doubleArray is an auxiliary array of doubles required as argument of some command

Note: Maybe instead this `gid_bounding_box` package will be a `gid_common_tools` package wrapping other neutral (than can be used in a external console) classes like octree or bin for spatial search

# Commands

## BoundingBox

wrap the class, to create new objects without directly call `new_BoundingBox` or `delete_BoundingBox`

- `new_BoundingBox`
- `BoundingBox_AreEqual`
- `BoundingBox_Check`
- `BoundingBox_GetMinCornerComponent`
- `BoundingBox_GetMaxCornerComponent`
- `BoundingBox_SetMinCornerComponent`
- `BoundingBox_SetMaxCornerComponent`
- `BoundingBox_CalcSize`
- `BoundingBox_CalcMinSize`
- `BoundingBox_CalcMaxSize`
- `BoundingBox_GetMinCorner`
- `BoundingBox_GetMaxCorner`
- `BoundingBox_SetMinCorner`
- `BoundingBox_SetMaxCorner`
- `BoundingBox_CalcVolume`
- `BoundingBox_Diagonal`
- `BoundingBox_CalcCenter`
- `BoundingBox_Reset`
- `BoundingBox_IsValid`
- `BoundingBox_Expand`
- `BoundingBox_Set`
- `BoundingBox_Scale`
- `BoundingBox_Translate`
- `BoundingBox_Transform`
- `BoundingBox_SetToZero`
- `BoundingBox_AllCornersAreInsideSphere`
- `BoundingBox_CollidesWithBoundingBox`
- `BoundingBox_Collides`
- `BoundingBox_CollidesWithEdge`
- `BoundingBox_IsInside`
- `BoundingBox_IsInsideXAndY`
- `BoundingBox_LowerBoundSignedDistance`
- `BoundingBox_Join`
- `BoundingBox_MinDistance`
- `BoundingBox_MaxDistance`
- `BoundingBox_MaxDistBetweenBBoxPoints`
- `delete_BoundingBox`
- `BoundingBox`
- `MinDistance`

- IntersectionBBoxEdge
- BoundingBoxCollidesBoundingBox

Auxiliary array of doubles required as argument of some command

- new\_doubleArray
- delete\_doubleArray
- doubleArray\_getitem
- doubleArray\_setitem

## Example

```
1 package require gid_bounding_box
2 set bbox [BoundingBox]
3 $bbox IsValid
4 ->0
5 $bbox SetToZero
6 $bbox IsValid
7 ->1
8 $bbox Reset
9 $bbox IsValid
10 ->0
11 $bbox Set 0 0 0 4 2 0
12 set p [new_doubleArray 3]
13 $bbox GetMaxCorner $p
14 doubleArray_getitem $p 0
15 ->4.0
16 DoubleArray_Get $p
17 ->4.0 2.0 0.0
18 $bbox GetMaxCornerComponent 0
19 ->4.0
20 set xyz [list 1.5 9.2 4.1]
21 ->1.5 9.2 4.1
22 $bbox Join {*} $xyz
23 $bbox Join 4.1 3.0 6.0
24 BoundingBoxGet $bbox
25 ->0.0 0.0 0.0 4.1 9.2 6.0
```