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# **tabledata Documentation**

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## 1.1 Summary

tabledata is a Python library to represent tabular data. Used for pytablewriter/pytablereader/SimpleSQLite/etc.



### 2.1 Install from PyPI

```
pip install tabledata
```

### 2.2 Install from PPA (for Ubuntu)

```
sudo add-apt-repository ppa:thombashi/ppa  
sudo apt update  
sudo apt install python3-tabledata
```





- Python 3.7+
- Mandatory Python package dependencies (automatically installed)

### 3.1 Optional Python packages

- **loguru**
  - Used for logging if the package installed
- **pandas**
  - required to get table data as a pandas data frame



## 4.1 Data Structure

### 4.1.1 TableData

```
class tabledata.TableData (table_name: Optional[str], headers: Sequence[str],  
                           rows: Sequence[T_co], dp_extractor: Op-  
                           tional[dataproperty._extractor.DataPropertyExtractor]  
                           = None, type_hints: Optional[Sequence[Union[str,  
                           Type[typeepy.type._base.AbstractType], None]]] = None, max_workers:  
                           Optional[int] = None, max_precision: Optional[int] = None)
```

Class to represent a table data structure.

#### Parameters

- **table\_name** – Name of the table.
- **headers** – Table header names.
- **rows** – Data of the table.

**as\_dataframe()** → pandas.DataFrame

**Returns** Table data as a pandas.DataFrame instance.

**Return type** pandas.DataFrame

#### Sample Code

```
from tabledata import TableData

TableData (
    "sample",
    ["a", "b"],
    [[1, 2], [3.3, 4.4]]
).as_dataframe()
```

**Output**

```
      a    b
0      1    2
1    3.3  4.4
```

**Dependency Packages**

- pandas

**as\_dict** (*default\_key*: str = 'table') → Dict[str, List[OrderedDict[str, Any]]]

**Parameters** **default\_key** – Key of a returning dictionary when the `table_name` is empty.

**Returns** Table data as a dict instance.

**Return type** dict

**Sample Code:**

```
from tabledata import TableData

TableData(
    "sample",
    ["a", "b"],
    [[1, 2], [3.3, 4.4]]
).as_dict()
```

**Output:**

```
{'sample': [OrderedDict([('a', 1), ('b', 2)]), OrderedDict([('a', 3.3), (
↪ 'b', 4.4)])]}
```

**as\_tuple**() → Iterator[Tuple]

**Returns** Rows of the tuple.

**Return type** list of namedtuple

**Sample Code**

```
from tabledata import TableData

records = TableData(
    "sample",
    ["a", "b"],
    [[1, 2], [3.3, 4.4]]
).as_tuple()
for record in records:
    print(record)
```

**Output**

```
Row(a=1, b=2)
Row(a=Decimal('3.3'), b=Decimal('4.4'))
```

**column\_dp\_list**

**dp\_extractor**

**equals** (*other*: tabledata.\_core.TableData, *cmp\_by\_dp*: bool = True) → bool

**filter\_column** (*patterns: Optional[str] = None, is\_invert\_match: bool = False, is\_re\_match: bool = False, pattern\_match: tabledata.\_constant.PatternMatch = <PatternMatch.OR: 0>*)  
 → tabledata.\_core.TableData

**static from\_dataframe** (*dataframe: pandas.DataFrame, table\_name: str = "", type\_hints: Optional[Sequence[Optional[Type[typepy.type.\_base.AbstractType]]]] = None, max\_workers: Optional[int] = None*) → TableData

Initialize TableData instance from a pandas.DataFrame instance.

**Parameters**

- **dataframe** (*pandas.DataFrame*) –
- **table\_name** (*str*) – Table name to create.

**has\_value\_dp\_matrix**

**header\_dp\_list**

**headers**

Table header names.

**Type** Sequence[str]

**in\_tabledata\_list** (*other: Sequence[TableData], cmp\_by\_dp: bool = True*) → bool

**is\_empty** () → bool

**Returns** True if the data *headers* or *value\_matrix* is empty.

**Return type** bool

**is\_empty\_header** () → bool

bool: True if the data *headers* is empty.

**is\_empty\_rows** () → bool

**Returns** True if the tabular data has no rows.

**Return type** bool

**max\_workers**

**num\_columns**

**num\_rows**

Number of rows in the tabular data. None if the rows is neither list nor tuple.

**Type** Optional[int]

**rows**

Original rows of tabular data.

**Type** Sequence

**table\_name**

Name of the table.

**Type** str

**transpose** () → tabledata.\_core.TableData

**validate\_rows** () → None

**Raises ValueError** –

**value\_dp\_matrix**

DataProperty for table data.

**Type** DataPropertyMatrix

**value\_matrix**

Converted rows of tabular data.

**Type** DataPropertyMatrix

## 4.2 Exceptions

**exception** tabledata.**NameValidationError**

Bases: ValueError

Exception raised when a name is invalid.

**exception** tabledata.**InvalidTableNameError**

Bases: tabledata.error.NameValidationError

Exception raised when a table name is invalid.

**exception** tabledata.**InvalidHeaderNameError**

Bases: tabledata.error.NameValidationError

Exception raised when a table header name is invalid.

**exception** tabledata.**DataError**

Bases: ValueError

Exception raised when data is invalid as tabular data.

## CHAPTER 5

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### Indices and tables

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- `genindex`





## CHAPTER 6

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### Links

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- [GitHub repository](#)
- [Issue tracker](#)
- [pip: A tool for installing Python packages](#)



## CHAPTER 7

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### Indices and tables

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- `genindex`
- `modindex`
- `search`



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