

TeLiTab

TeLiTab stands for "Text List Table" and is the generic fractal (see [fractal]) data model for Quaestor. It is used as standard format for exchange and storage of data.

The format can also used as I/O format between Quaestor and satellite applications.

The general structures is:

Text
List
Table

- **Text** contains all text for the dataset, this can be the description of the dataset and/or DOCUMENT blocks containing document parts representing string values op parameters in theTeLiTab. If only DOCUMENT blocks are used, the TeLiTab should start with an empty line;
- **List** contains all the single-value parameters in a dataset;
- **Table** contains all the multi-value parameters in the dataset (resulting in a table of cases for a parameter);

It is a fractal model because every parameter in the list or table of the dataset can contain a TeLiTab itself:

Text	
List	
	Text
	List
	Table
Table	
	Text
	List
	Table

Syntax

The syntax for the TeLiTab is as followed:

1. Normal TeLiTab,

```
TableNo%>0:
"Text$"
"..."
"Text$"
@DOCUMENT_ParName_CaseNumber
Document$
@END_DOCUMENT_ParName_CaseNumber
@END_DOCUMENTS
ListNo%
"ParName" ParVal
...
"ParName" ParVal
TableNo% "ParName" ... "ParName"
"1" ParVal ... ParVal
...
"nr.cases" ParVal ... ParVal
```
2. Transposed TeLiTab,

```

TableNo%<0:
"Text$"
"..."
"Text$"
@DOCUMENT_ParName_CaseNumber
Document$
@END_DOCUMENT_ParName_CaseNumber
@END_DOCUMENTS
"ParName" ParVal
...
"ParName" ParVal
TableNo% "1" ... "nr.cases"
"ParName" ParVal ... ParVal
...
"ParName" ParVal ... ParVal

```

Arguments

- Text\$ is optional and contains text between quotes for each line. If only DOCUMENT blocks are used, the TeLiTab should start with an empty line;
- @DOCUMENT_ParName_CaseNumber indicates the start of a document section which is related to ParName of case CaseNumber . So @DOCUMENT_B_1 is the starting tag for the document-value of the list parameter B , or its first case in a table;
- Document\$ contains text with Crlfs;
- @END_DOCUMENT_ParName_CaseNumber indicates the end of a document section which is related to ParName of case CaseNumber . So @END_DOCUMENT_B_1 is the ending tag for the document-value of the list parameter B , or its first case in a table;
- The DOCUMENT block should always close with a @END_DOCUMENTS tag;
- Each DOCUMENT block is representing the documents on its own level in the TeLiTab (see the schematic recursive figure above).
- The parameter containing a document Document\$ defined by @DOCUMENT_ParName_CaseNumber Document\$@END_DOCUMENT_ParName_CaseNumber should have "\DOCUMENT" as value in the list or table;
- ListNo% is an integer value indicating the number of parameters in the list;
- ParName is the parameter name (between quotes and unique in that level of the TeLiTab. **So, although the syntax shows several ParName items, they cannot have the same name!**);
- ParVal is the value of the parameter;
- TableNo% is an integer value indicating the number of parameters in the table, when using a negative value Quaestor expects a transposed TeLiTab with parameter on the rows and cases as columns;
- ParName is the parameter name (between quotes and unique in that level of the TeLiTab. **So, although the syntax shows several**

ParName

items, they cannot have the same name!);

- nr.cases is the maximum case row or column number;
- ParVal is the value of the parameter;
- For both list and table values, please note that string values should always be between double quotes;
- A parameter should always be of the same type (either STRING, TeLiTab, VALUE or OBJECT) within the same TeLiTab structure;
- Each nested telitab starts with { and ends with } , which should both be provided on a new line:

```

ListNo%
"ParName"
{
"Text$"
"..."
"Text$"
@DOCUMENT_ParName_CaseNumber
Document$
@END_DOCUMENT_ParName_CaseNumber
@END_DOCUMENTS
ListNo%
"ParName" ParVal
...
"ParName" ParVal
TableNo% "ParName" ... "ParName"
"1" ParVal ... ParVal
...
"nr.cases" ParVal ... ParVal
}

```

- In a list TeLiTab or OBJECT values are provided at the end of the list. So they should not be followed by any additional string or value parameters;

- If TeLiTab or OBJECT values have to be included in the table, TableNo% should be the total number of table parameters, including the TeLiTab or OBJECT parameters. This is not really surprising as the OBJECT or TeLiTab parameters for these values are indeed part of the Table. However, the structure is difference in only blocks with { and } divide the different values:

```
"ParName"

{
  "Text$"
  " ..."
  "Text$"
  @DOCUMENT_ParName_CaseNumber
  Document$
  @END_DOCUMENT_ParName_CaseNumber
  @END_DOCUMENTS
  ListNo%
  "ParName" ParVal
  ...
  "ParName" ParVal
  TableNo% "ParName" ... "ParName"
  "1" ParVal ... ParVal
  ...
  "nr.cases" ParVal ... ParVal
}
{
  ...
}
{
  "Text$"
  " ..."
  "Text$"
  @DOCUMENT_ParName_CaseNumber
  Document$
  @END_DOCUMENT_ParName_CaseNumber
  @END_DOCUMENTS
  ListNo%
  "ParName" ParVal
  ...
  "ParName" ParVal
  TableNo% "ParName" ... "ParName"
  "1" ParVal ... ParVal
  ...
  "nr.cases" ParVal ... ParVal
}
```

Remarks

1. Parameter names, strings, documents and case numbers should **always** be between quotes;
2. As mentioned: each parameter within the same TeLiTab should have a **unique** name;
3. Because a parameter can be either a single value or an object with several values, a parameter can be an Object, and, an Object is also a parameter. **However, a parameter should always be of the same type (either STRING, TeLiTab, VALUE or OBJECT) within the same TeLiTab structure;**
4. Moreover, an Object or TeLiTab has the same structure in a TeLiTab set;
5. Parameters can have documents as values, in that case ParVal for this parameter should be replaced with "DOCUMENT". These document are defined as a block after the text part and prior to the list parameters. If the text part is NOT provided the TeLiTab should start with an empty line. This should be the case on any TeLiTab level. A document is basically a set of strings (text) with character returns;
6. A telitab with a table but no list has to start with a 0, indicating that there are no list values;
7. A transposed table has a negative values for the number of parameters (the cases become collums and the parameters rows);
8. As shown, a multi-case object might have a different amount of parameters voor each case (and contain no optional stuff);

Examples

Assume a dataset for a ship, containing Length (Lpp), Beam (B) and Resistance data, being a table with Speed (V) and Resistance (R). Based on this discription you can make a TeLiTab:

1. With list values Lpp and B;
2. A table with V and R;

```

2
"Lpp" 100
"B" 20
2 "R" "V"
"1" 1000 10
"2" 1200 11
"3" 1300 12
"4" 1400 13
"5" 1500 14
"6" 1600 15

```

You could consider to define a separate object or TeLiTab "Resistance" that contain the resistance data. In that case the Resistance data is connected to a separate parameter denominated "Resistance" which contains a TeLiTab with Speed (V) and Resistance (R). Based on this discription you can expect a two TeLiTabs:

1. The TeLiTab with Lpp, B and Resistance;
2. The TeLiTab within Resistance, with V and R;

The resulting TeLiTab looks as followed:

```

3
"Lpp" 100
"B" 20
"Resistance"
{
0
2 "R" "V"

"1" 1000 10
"2" 1200 11
"3" 1300 12
"4" 1400 13
"5" 1500 14
"6" 1600 15
}

```

Finally you could assume that this information is part of the "Ship" object. In that case on the highest level their is one list parameter "Ship", containing the previous TeLiTab structure as value:

1. The TeLiTab with one list value Ship;
2. The TeLiTab within Ship with Lpp, B and Resistance;
3. The TeLiTab within Resistance, with V and R;

```

1
"Ship"
{
3
"Lpp" 100
"B" 20
"Resistance"
{
0
2 "R" "V"

"1" 1000 10
"2" 1200 11
"3" 1300 12
"4" 1400 13
"5" 1500 14
"6" 1600 15
}
}

```

All information between double quotes are parameters/objects.

Parameters and objects should always be between double quotes. String information has to be between double quotes when the string contains spaces. "Ships" and "Resistance" are objects in the dataset (they contain a Telitab set). The secondary Telitab (for object "Resistance") is the content of the List item "Ship" of the primary Telitab.

For syntax specific questions, see also [QuaestorSyntax](#)