



# Tab-separated values

**Tab-separated values** (**TSV**) is a text data format for storing tabular data where records are separated by newline and values within a record are separated by tabs.<sup>[3]</sup> The TSV format is a delimiter-separated values (DSV) and is similar to comma-separated values (CSV).

TSV is a relatively simple format and is widely supported. It is often used in data exchange to move tabular data between different computer programs that support the format. For example, a TSV file might be used to transfer information from a database to a spreadsheet.

## Example

The head of the Iris flower data set can be stored as a TSV using the following plain text (note that the HTML rendering may convert tabs to spaces):

Sepal length	Sepal width	Petal length	Petal width	Species
5.1	3.5	1.4	0.2	I. setosa
4.9	3.0	1.4	0.2	I. setosa
4.7	3.2	1.3	0.2	I. setosa
4.6	3.1	1.5	0.2	I. setosa
5.0	3.6	1.4	0.2	I. setosa

The TSV plain text above corresponds to the following tabular data:

Sepal length	Sepal width	Petal length	Petal width	Species
5.1	3.5	1.4	0.2	I. setosa
4.9	3.0	1.4	0.2	I. setosa
4.7	3.2	1.3	0.2	I. setosa
4.6	3.1	1.5	0.2	I. setosa
5.0	3.6	1.4	0.2	I. setosa

## Character escaping

The IANA media type standard for TSV achieves simplicity by simply disallowing tabs within fields.<sup>[4]</sup>

Since the values in the TSV format cannot contain literal tabs or newline characters, a convention is necessary for lossless conversion of text values with these characters. A common convention is to perform the following escapes:<sup>[5][6]</sup>

### Tab-separated values



<u>Filename extension</u>	.tsv, .tab <sup>[1]</sup>
<u>Internet media type</u>	text/tab-separated-values
<u>Uniform Type Identifier (UTI)</u>	public.tab-separated-values-text <sup>[2]</sup>
<u>UTI conformation</u>	public.delimited-values-text <sup>[2]</sup>
<u>Developed by</u>	University of Minnesota Internet Gopher Team
<u>Initial release</u>	June 1993
<u>Type of format</u>	Delimiter-separated values format
<u>Container for</u>	database information organized as field separated lists
<u>Standard</u>	IANA MIME type

escape sequence	meaning
\n	<u>line feed</u>
\t	<u>tab</u>
\r	<u>carriage return</u>
\\	<u>backslash</u>

Another common convention is to use the CSV convention from [RFC 4180](https://www.rfc-editor.org/rfc/rfc4180) (<https://www.rfc-editor.org/rfc/rfc4180>) and enclose values containing tabs or newlines in double quotes. This can lead to ambiguities.<sup>[7][8]</sup>

## Line endings

Records are typically separated by a line feed, as is typical for Unix platforms, or a carriage return and line feed, as is typical for Microsoft platforms. Some programs may expect the latter. The de-facto specification<sup>[9]</sup> specifies that records are separated by an EOL, but does not specify any specific newline.

## See also

- [Comma-separated values](#)
- [Delimiter collision](#)

## References

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3. "How To Use Tab Separated Value (TSV) files" (<https://www.imf.org/external/help/tsv.htm>). International Monetary Fund. Retrieved 1 February 2023.
4. [Lindner 1993](#).
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## Sources

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## Further reading

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