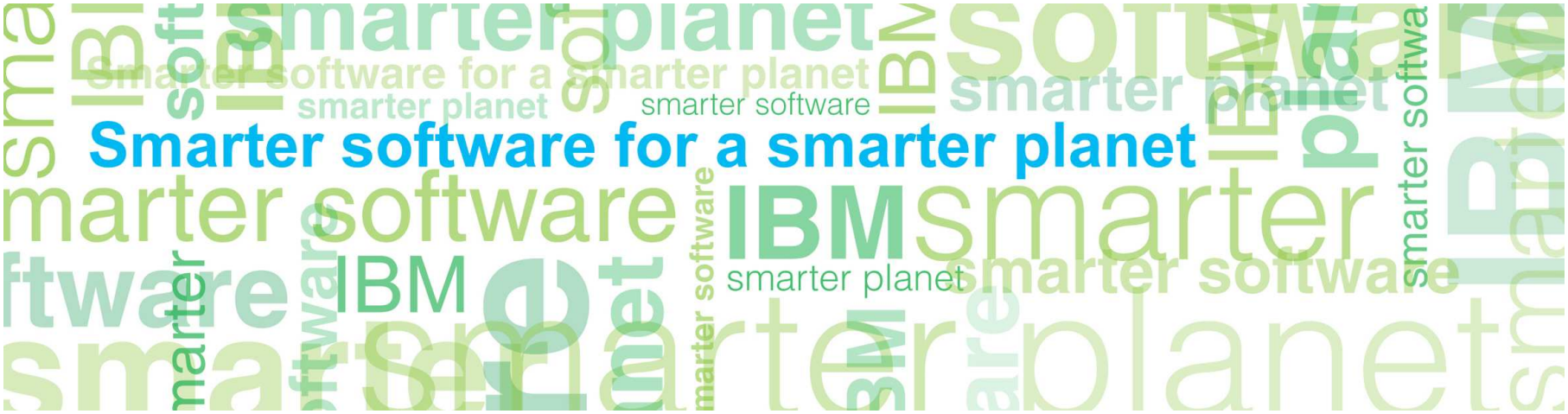
LanguageWare Resource Workbench 7.2

Create and use break rules



Introduction

- **Module overview**
  - What are break rules
  - How to create, configure and use break rules
  - Best practices
- **Target audience:**
  - All audiences
- **Prerequisites:**
  - Install LanguageWare® Resource Workbench
  - Create a LanguageWare project
  - Create a UIMA annotator
  - Annotate a document
- **Version Release Date:** LRW 7.2, ICA 2.2, released October, 2010

Module objectives

After this module you will be able to:

- Understand how break rules affect text tokenization.
- Create a break rules file.
- Configure a break rules file.
- Build a break rules file and use it in your annotator.

Module roadmap

- **Break rules**
  - What are break rules
  - Creating a break rules file
  - Configuring the break rules file
  - Building the break rules file
  - Using the break rules in an annotator
- **Summary and best practices**
- **Sample exercises**

Break rules

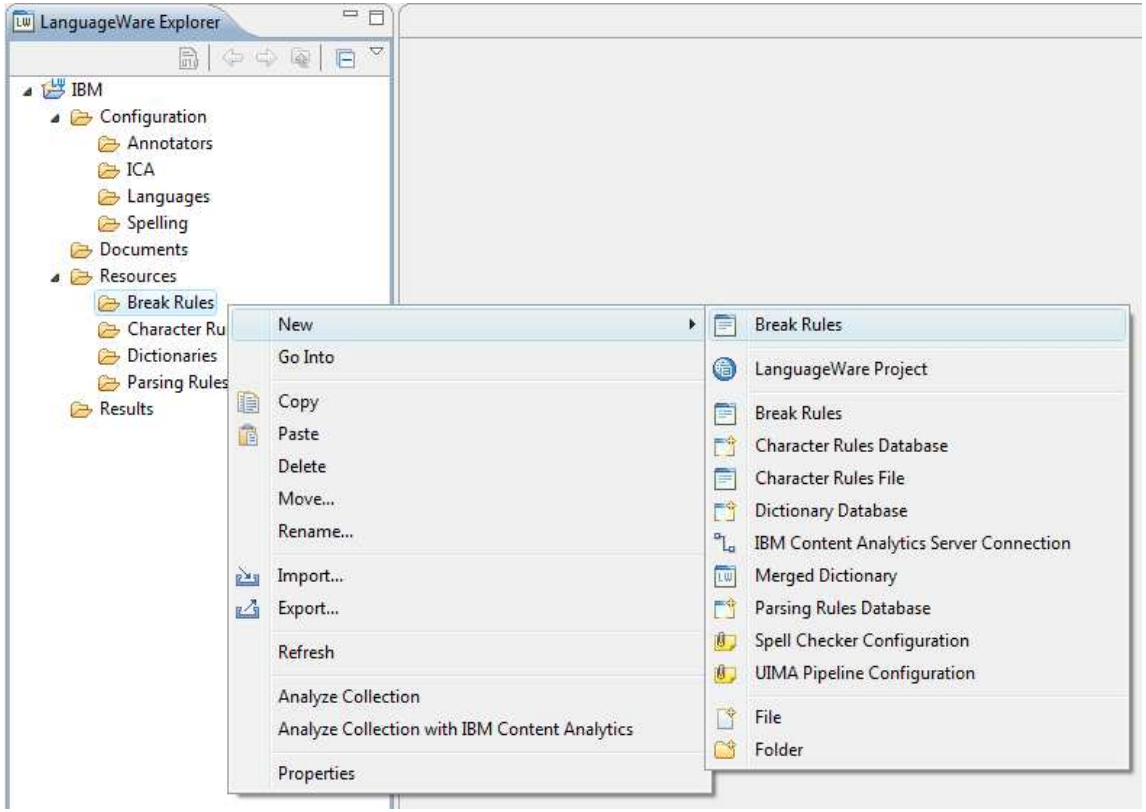
What are they?

- LanguageWare uses break rules to split documents into lexical components.
- These lexical components are paragraphs, sentences and tokens.
- A token is a unit of text, and could be a word, a punctuation symbol, a number, or a string of symbols.
- Much of the logic of how to split a document into components is standard, and does not need to be defined.
- However, there are several options where the document structure, and your preferences, dictate how a document should be split into components.
- For example, in some documents, a new line is an indication of the start of a new paragraph, while in other documents the new line is only a mechanism to format the document into lines of a fixed length. For this reason, LanguageWare allows you to configure these options in the break rules.

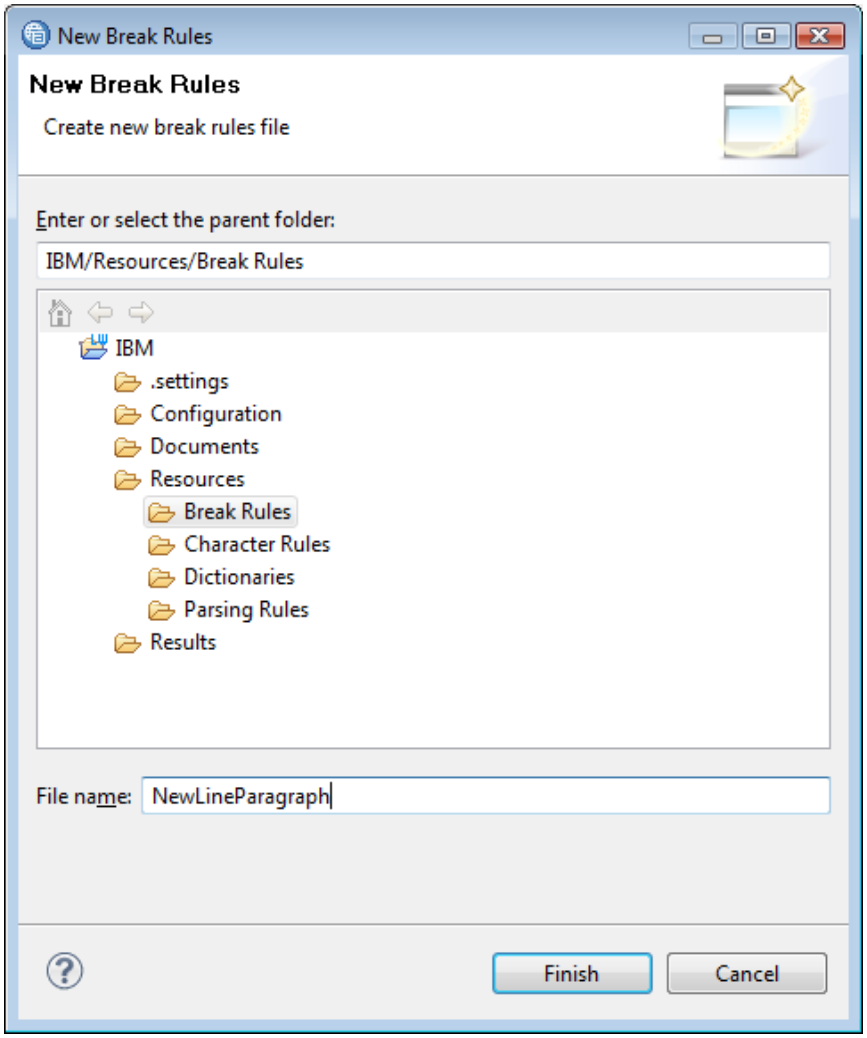
Break rules file

How to create it?

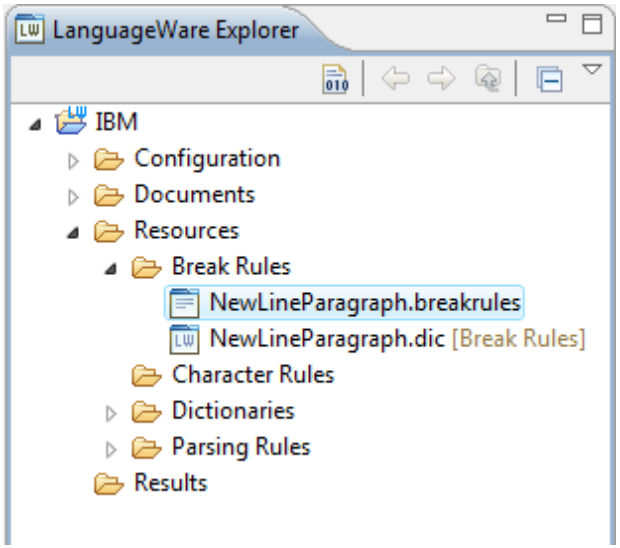
- Right click the break rules folder in the Resources directory, and select New/Break Rules.



- The New Break Rules dialog box pops up:
  - The parent folder will match the one you right clicked (It can be changed if needed).
  - Specify the name of the Break Rules file. It is good to use relevant names (specific to the function, for example NewLineParagraph, or relevant to the model, for example Healthcare).
- Click Finish.

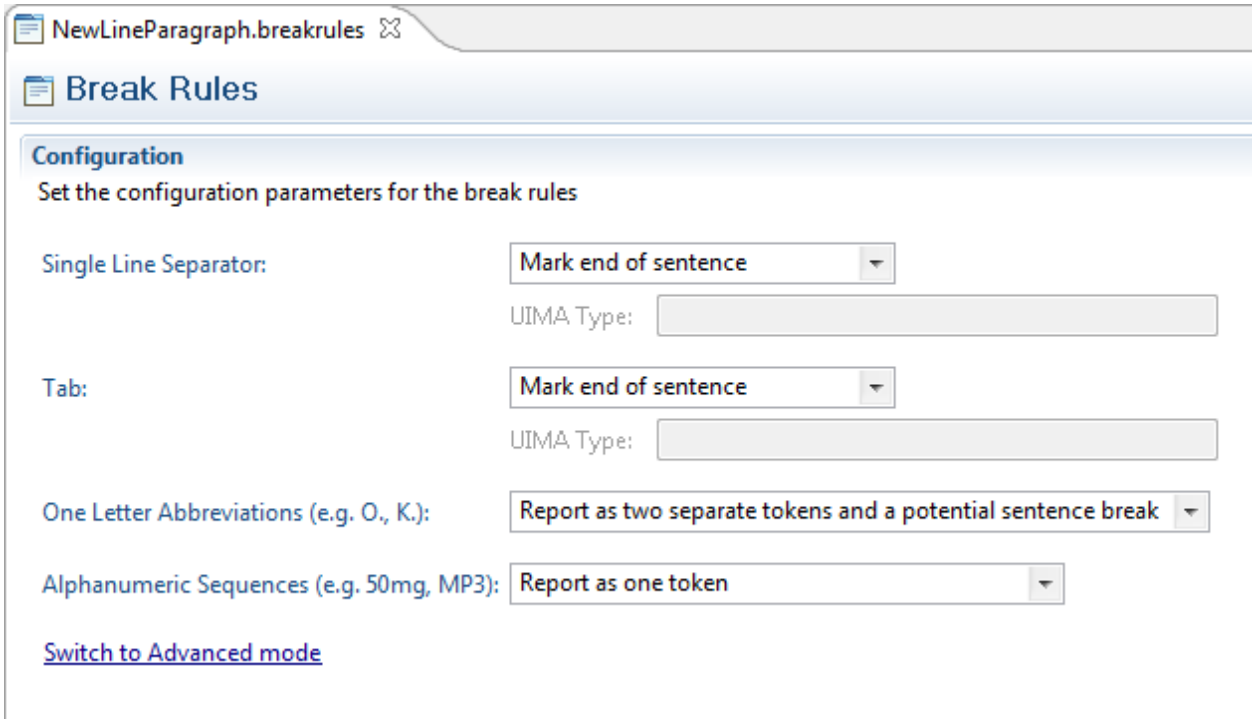


- The following files are generated when creating break rules.
  - **.breakrules**: Contains the source of the break rules. This is the file you edit to change the settings.
  - **.dic**: The break rule dictionary which contains a compiled version of the rules. This dictionary is used when analyzing a document.



Break rules file
Setting options

- When you create a new break rules file, the **.breakrules** file is automatically opened in the break rules editor to allow you to set required options.



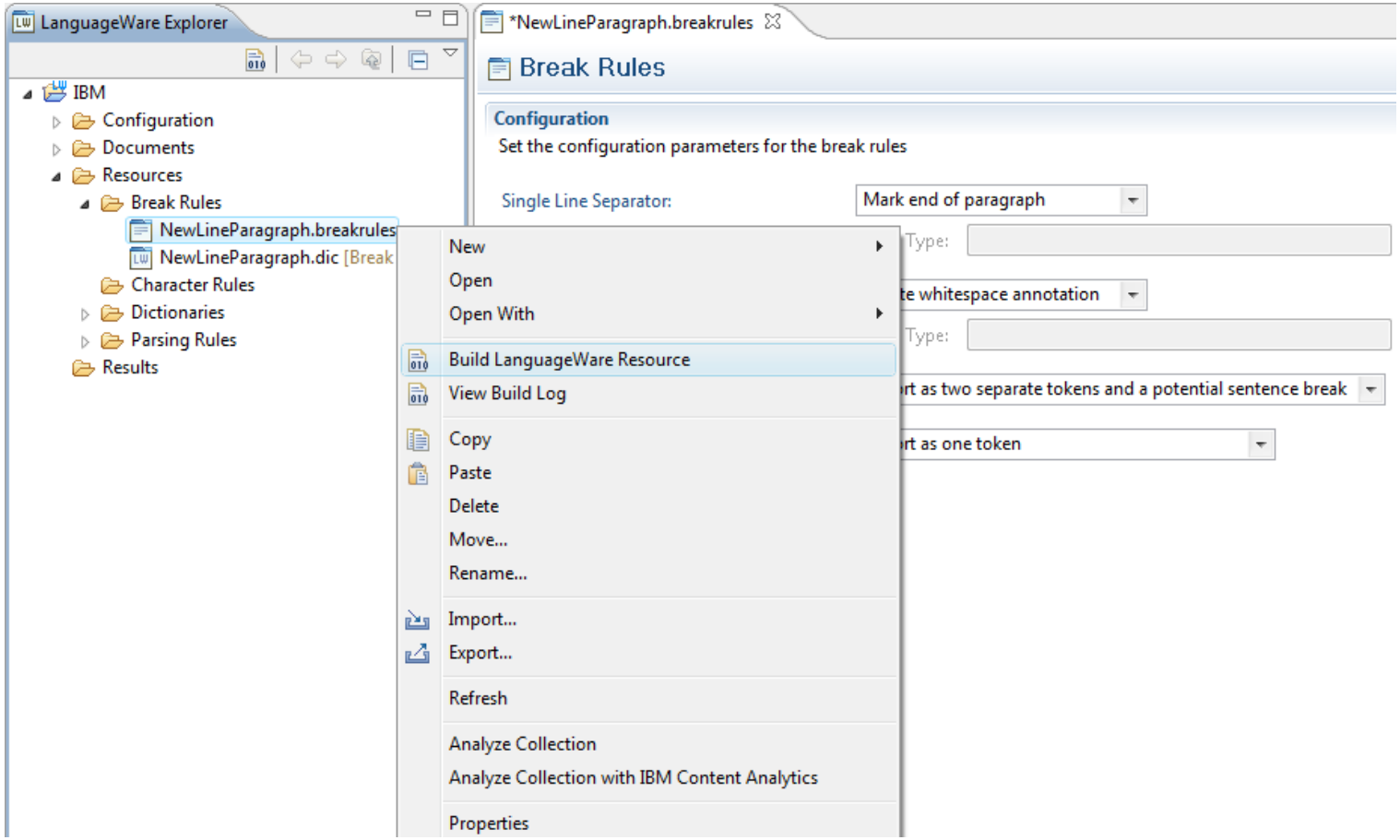
Break rule Options

Single line separator	A single line separator between two lines of text. This can indicate: * End of paragraph * End of sentence * Punctuation * Whitespace
Tab	A tab character. This can indicate: * End of paragraph * End of sentence * Punctuation * Whitespace
One letter abbreviation	A single alphabetic character followed by a period, for example **B.** This can be treated as: * A single token * Two separate tokens and a potential sentence break.
Alphanumeric sequences	A string containing both alphabetic and numeric characters, for example **50mg.** This can be treated as: * A single token * Separate alphabetic and numeric tokens

- Once you have set the options, select the menu options **File / Save** and then **File / Close**.

Break rules file
Building

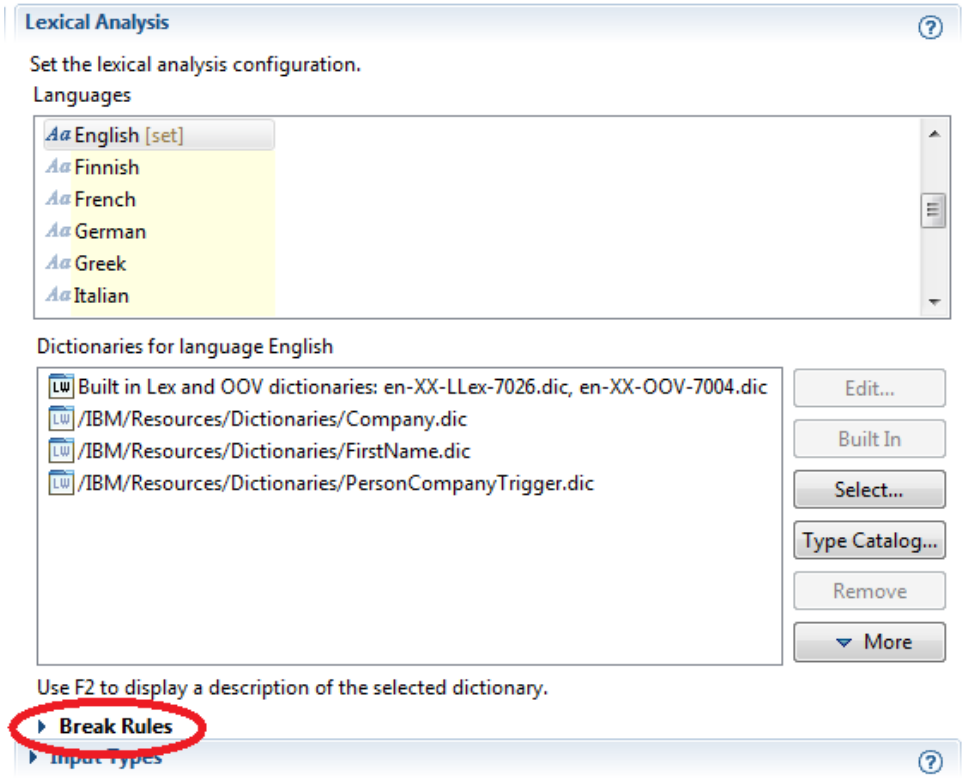
- Once you have updated the **.breakrules** file, right click it and select Build LanguageWare Resource to build the updated rules into the **.dic** file.



Break rules

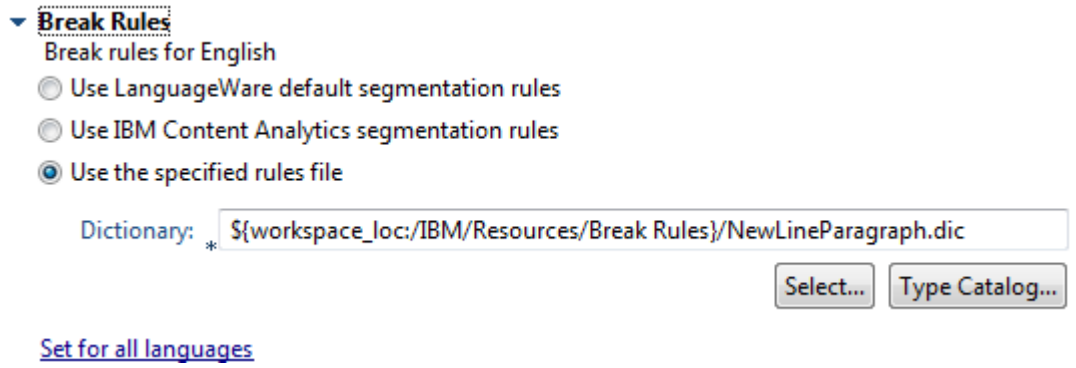
Using in an annotator

- Open a UIMA pipeline configuration file (file type .annoconfig)
- Select the **Lexical Analysis** stage in the list of UIMA pipeline stages.
- Break rules are specified in the **Break Rules** section which is normally collapsed.
- Expand this section by clicking it.



Break rules

Using in an annotator



- Click **Use the specified rules file**
- Click the **Select** button
- Use the **Dictionary Selection** dialog to select the Break Rules dictionary, for example, NewLineParagraph.dic
- If this break rules file should be used for all languages, click the **Set for all languages** link.
- Save the changes to the UIMA pipeline configuration file.

Module roadmap

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Module summary

You have completed this course and can:

- Create a break rules file
- Configure and build a break rules file into a dictionary
- Use a break rules dictionary in a UIMA pipeline

See the LanguageWare help for more tips and advanced use cases.

Best practices

- A break rules file tells the annotator how to tokenize the text while annotating a document.
- Give the break rules file a meaningful name so it is obvious what its purpose is.

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Practice exercises

- Analyze all documents in the documents folder of the "ConfectionaryCompanyHelpline" project with the "AnalyseHelpline" annotator.
- Save the annotations in a file called “DefaultBreak”.
- Create a break rules file called “HelplineBreakrules”
- Set the “Alphanumeric sequences” option to report as separate tokens
- Rebuild the break rules file and include the file in the "AnalyseHelpline" annotator.
- Again, analyze all documents in the documents folder of the "ConfectionaryCompanyHelpline" project with the "AnalyseHelpline" annotator.
- Compare the results of these annotation with the saved annotations in the file “DefaultBreak”.

Contacts

- If you have any questions, comments or suggestions, contact us using the LanguageWare email address *EMEALAN@ie.ibm.com* or on the developerWorks® forum.

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