

Developing an Extension in AIP

This page is dedicated to understanding the principles of field extension development of extensions beyond product and product road map

There are 5 types of extension development

1. **Adding custom rules on top of existing supported AIP technologies** not in the product road map.
2. **Creating supported extensions for unsupported AIP technologies** not in the product road map
3. **Enhancing existing user community extensions** with new version support for technologies which are not in the product road map
4. **Developing an extension using existing OpenSource code checkers** to insert new metrics in AIP
5. **Converting old UA-based technology** to full-SDK-Python

The objective of creating an extension

- It is possible to "extend" CAST AIP with an extension to provide additional analysis and measurement capabilities both for technologies that are not supported "out-of-the-box" and for technologies supported by CAST AIP
- "Official" CAST AIP Extensions are provided by CAST and are [downloaded](#) and [installed](#) on top of CAST AIP to provide support for specific technologies (analysis/measurement/discovery/extraction) that are not supported "out-of-the-box" by CAST AIP

Extensions are developed using the full [Python SDK](#)

The prerequisite skills for extension development are:

- Python programming experience, including
 - File stream object knowledge for reading and writing files
 - Collections use knowledge, for example List, directory and tuples
 - Knowledge on the file parsing concept
 - Usage of third-party libraries
 - Knowledge of database query execution
 - Usage of library xml.etree.ElementTree which is needed for parsing xml-based source code
 - Usage of lxml library which is needed for xml-based source code
 - Knowledge of writing log messages using libraries like logging..
 - Writing function
 - Debugging programs using eclipse
- [CAST AIP basic certification](#) including
 - 1.Schema creation extension installation knowledge
 - Source code packaging
 - Adding extension in CMS related to that technology
 - Knowledge of analysis and snapshot launching
 - Enlighten knowledge

It is normally a two-day course to cover concepts, including practical work. The course Powerpoint is available at the [CAST University](#)

There are some basic concepts for the development of an Extension in AIP

- You need to configure the CAST SDK to develop the custom extensions.
- To develop Custom Extensions to analyse a language not already supported by CAST, you need to follow the following three-step process:
 - Define the language and objects for the language you want to analyse
 - Define how to analyse the language you want to analyse - only necessary if analyzing source code
 - Test the configuration files for completeness and then include the configuration files in a custom extension

Information on extending CAST AIP is available at [Extending CAST AIP](#)

CAST has a specific site for extensions which is located at [CAST Extend](#)

There are some examples available within CAST Extend which are [SDK training samples on extending](#)