

Targeting

Focus Area: Back-end



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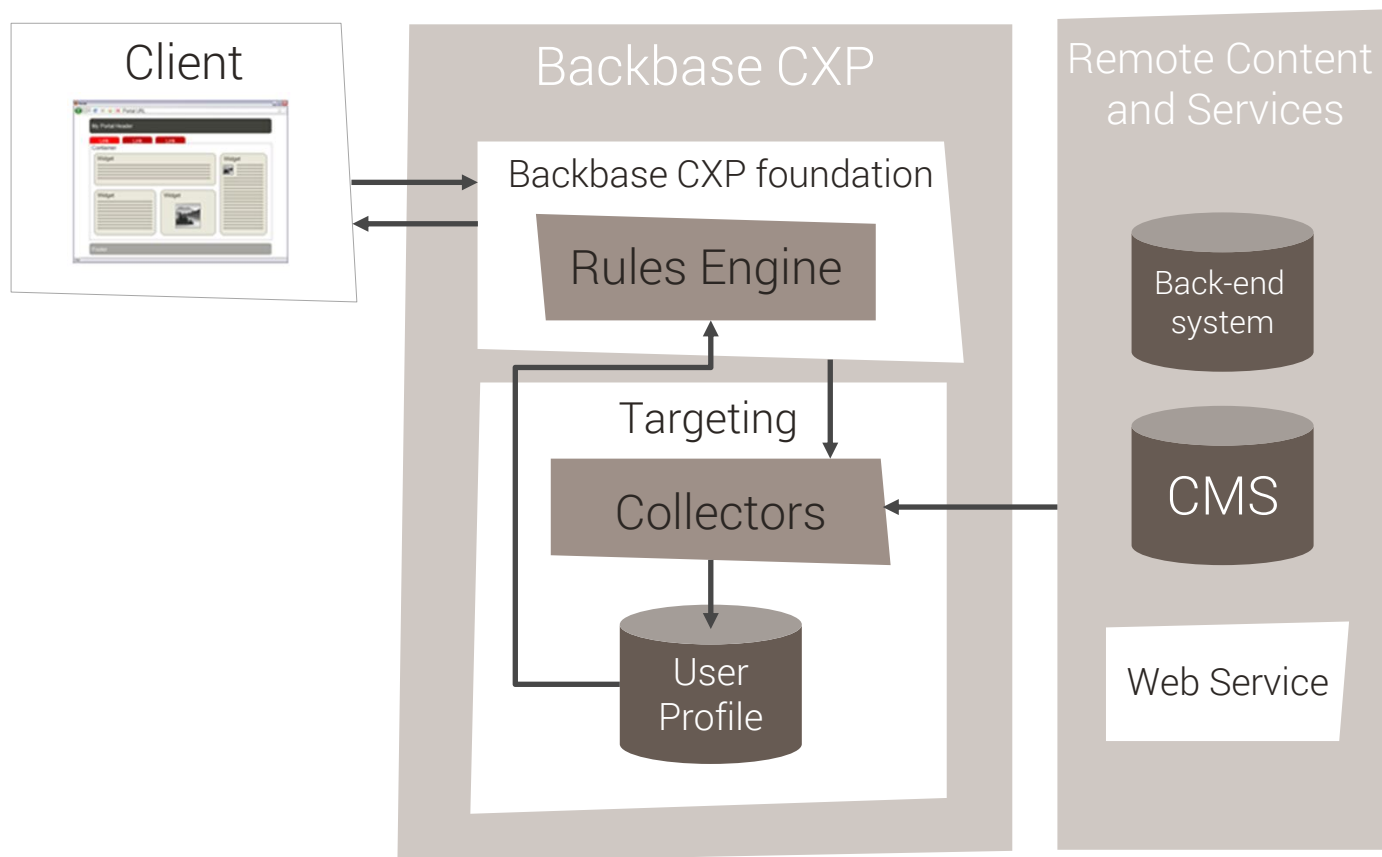
Portal APIs

1. Understand the principles of Targeting.
2. Understand Collectors.
3. Understand User profiles and the Rules engine.
4. Understand Selectors and Conditions.
5. Create a custom collector.

Intro to Targeting

Targeting

- Displays pages differently depending on certain criteria, for example, the user's browser, geographic location, etc.
- **Targeting Container** – a special container with multiple alternative displays.
 - For each alternative, a set of **conditions** can be specified.
 - **Rules Engine** evaluates conditions sequentially, and returns the first alternative whose set of conditions evaluates to true.
 - The **fallback** – the "last" alternative being taken if none of the conditions evaluate to true.



- Collectors are logical units within Targeting.
- They collect data about the user and store them in *user profiles*.
- Sources of data can be, for example, CRM installations, geographic location servers, or databases.
- Collectors extend either:
 - the **StaticContextCollector** class – can store user profiles locally for future retrieval (e.g. Geographic Location and Session), or
 - the **ContextCollector** class – do not store user profiles (e.g. Weather and Track Tag Counts).

- The following collectors are available as examples:
 - **Track Tag Counts** — collects *tag* statistics in client requests for particular items. It can use databases or cookies as sources. You can use the Track Tag Counts collector with the Tracking feature.
 - **Geographic Location** — looks up the geographic location of the user by querying a geographic location server. If a request does not come from a public IP address, the collector looks up first the public IP address, then uses it to query the geographic location server.
 - **Session** — gathers user data based on the request HTTP headers.
 - **Weather** — only a demo; provides hard-coded, weather-related data.

▪ User Profiles

- A user profile is a collection of data about a user combining the input of different collectors.
- Collectors store user data in user profiles, then forward them to the rules engine.
- Collectors extending the StaticContextCollector can store user profiles locally for future retrieval, while those extending ContextCollector cannot.

▪ Rules Engine

- The rules engine is a library in Backbase CXP Foundation that:
 - Evaluates requests against *conditions*.
 - Selects an alternative of the Targeting Container.
 - Returns it to the client.

- Selectors are parameters of a user profile.
- Conditions are logical statements about the user requesting the targeted page.
- Conditions can be combine into a set using AND or OR logical operators
- When creating a new set of conditions, you can choose to Save As Preset.



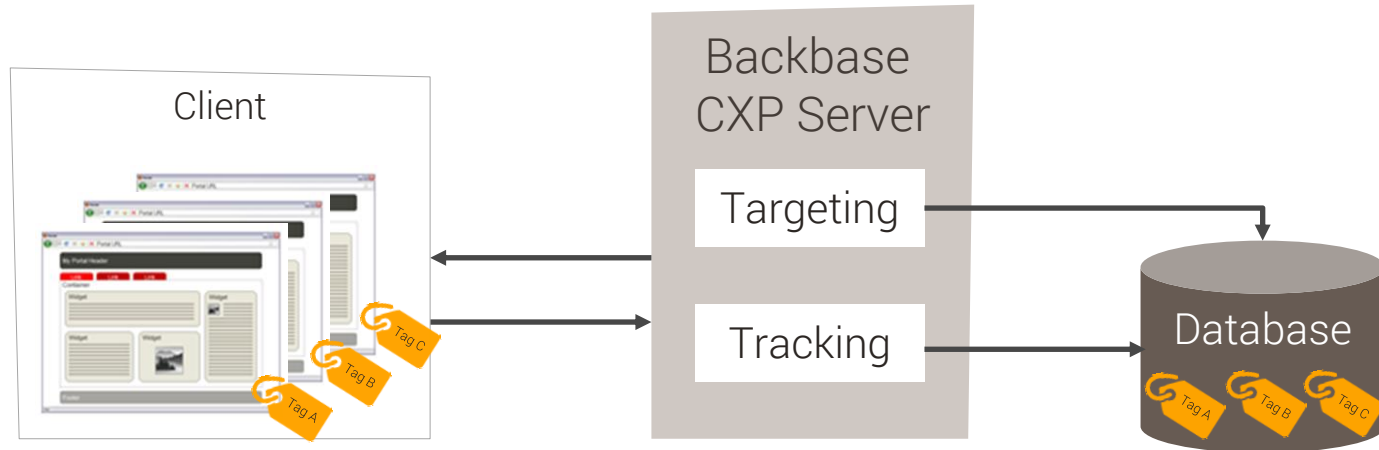
- Start the portal server and create a new page in the training portal.
- Select the targeting container from the layouts tab and drag it onto the new page.
- Add an alternative.
- Add a condition (for example, use the browser name selector defined by the session collector to check if the browser name is Chrome).
- Add an image viewer widget instance to each alternative but drag different images onto them.
- Test the page on different browsers.

Tracking

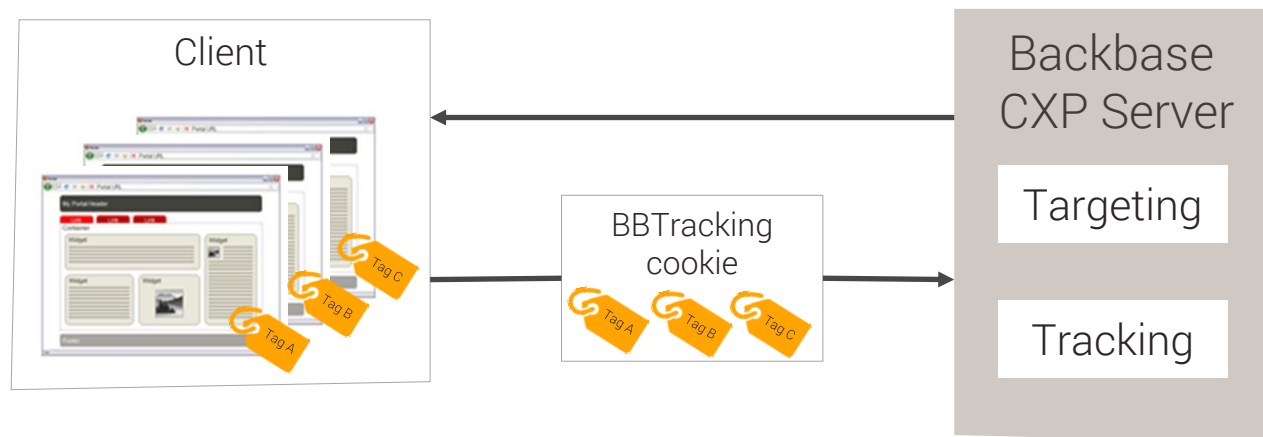
Targeting

- Tracking is a feature that:
 - Tracks user behavior based on the **tags of a custom type** that are assigned to the visited pages.
 - Stores tracking data either:
 - client-side in cookies, or
 - server-side in a database.
 - Makes tracking data available to Targeting through the *Track Tag Counts* collector.
- Tracking is available in combination with Backbase CXP Foundation or stand-alone.
- Tracking is disabled by default.

Tracking tags saved to the database



Tracking tags saved to the client session



- Tracking only records tags of special types.
- These tag types need to be specified in the `trackingTagTypes` portal property.
 - Create a custom portal property named *trackingTagTypes* of a *string* data type. Set its value to a comma-separated list of tag types you want to track.
 - Assign *tags of these custom types* to portal elements.



- Enable tracking in the *backbase.properties* file.
- Start the portal server and create a new page in the training portal.
- Go to Portal Explorer and create the *trackingTagTypes* property of the portal by assigning it a custom tag type you are going to use for tracking.
- Tag your page with a tag of that type.
- Go back to your pages, select the targeting container from the layouts tab and drag it onto the page.
- Add an alternative and specify a condition using the *Track Tag Counts* collector. Select your tag from the first dropdown, choose “is greater than” as a relational operator, and use a single-digit integer as the second operand.
- Add an image viewer widget instance to each alternative but drag different images onto them.
- Test the page by refreshing it several times.

Custom Collectors

Targeting

- In order to create a custom collector, you need to:
 - Create a Java class under *src/main/java* by:
 - extending **ContextCollector** or **StaticContextCollector**
 - overriding **defineSelectors** and **executeTask**
 - invoking the superclass constructor.
 - Define a Spring bean
 - Open the *targeting-connectorframework.xml* file and define the Spring bean for the collector under the `<!-- COLLECTORS -->` section.

```
<bean id="weather"  
  class="com.backbase.targeting.collector.examples.WeatherContextCollector"/>
```



Create a custom collector which contacts a RESTful service to obtain a users' age in years and apply the defined age selector to the users' profile:

- Create the AgeCollector class.
- Override the necessary methods.
- Add the class in the appropriate spring configuration file.

Create some sample data files to test the implementation.

For assistance, please follow the '**Create a Targeting Collector That Uses the REST API**' article on my.backbase.com

Thank you!

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