CSCFA bartelby project.

Architecture description.

Name	Date	Modification description
*matthieu88160 matthieu vallance	05/15/2015	Creating file Starting to write documentation.

* : github nickname

Table of Contents

1. project description :

Bartelby is a database manager based on fullREST api. His goal is to manage relational and no-sql both database to allow to access most rapidely to classical data and files.

Bartelby must be configurable on security issues for IP access, user and role access and field view access. For it, the structure must implement some of component, totaly abstract that will interact with a "routing component"that will route the request behind internal component.

Each of this components will send message to this "router" to request a "pass next component" with specific information or "refuse next" also with informations.

2. usage definition

2.1 http connexion component

Bartelby must give connexion component to allow http REST access. This component must grant default accessibility to the router with special informations. In this component, the process must retreive request URI, specific condition for the data request, user identification, user password and client ip adress.

On advanced mode, this component will have to manage the internal process threading. This will be configurable with a specific config file to prevent over capacity thread count. On this limit reaching, the http connexion component will be able to send a redirection response to use an alternative bartelby server. If no alternative server is configured, connexion component will have to use a cache request waiting component to grant threading overflow escaping.

This component will create a process execution thread to manage the request and give the request to the router. The router will give to this component the response.

2.2 cache request waiting component

The cache request waiting component will grant the bartelby server to manage a request feed that can't be processed in the current state. This component will be use in the unique case of threading limit is reached.

This component will grant http connexion component to give request and get back cached request.

2.3 routing component

The router will grant the component usage way and will be used like an interactive messaging transmitter behind each of the internals components.

The router will receive transmition request from a component and a message collection to transmit. It's to it own responsability to transmit this informations to the right component.

2.4 configuration component

The configuration component is in charge of configuration file loading. This configuration defined by the user is attach as a service for common accessibility on read only state.

2.5 service container component

The service container is implemented to allow configuration and static method acces behind each component of Bartelby system.

This container is loaded at Bartelby starting and must be accessible in each component.

2.5 security provider component

The security provider component is in charge of the data security accessibility. It manage IP access and user connexion.

It can reject totaly the data access or render a specific field obfuscation pattern for the requested data.

2.6 database manager component

The database manager component manage the database connexion. It grant the database caching information to assure the Bartelby rapidity access. In the reading case it only use cache informations and manage them to access more faster in statistic most requested data.

It will manage the field pattern supply by the security component to obfuscate the forbidden fields.

2.7 response formater component

The response formater component will convert the response data in one of the supported format that was asked by the client.

2.8 UNIX socket manager component

The UNIX socket manager component will grant the local computer access to the Bartelby instance. It will grant the console interface usage.

2.9 console command provider component

The console command provider component will allow the local machine to submit orders to the bartelby instance behind UNIX socket manager component.

2.10 running status manager component

The runing status manager component will be in charge of manage the bartelby instance status. In this status we understand start and stop task, reloading task, configuration reloading task.

This component will be an external component that work behind UNIX socket manager component and console command provider component.

3. Architecture shema :