ampliar

OPEN SOURCE SOA BASED MIDDLEWARE FRAMEWORK FOR CLASSIFIED BASED WEB DEVELOPMENT

OUR TEAM

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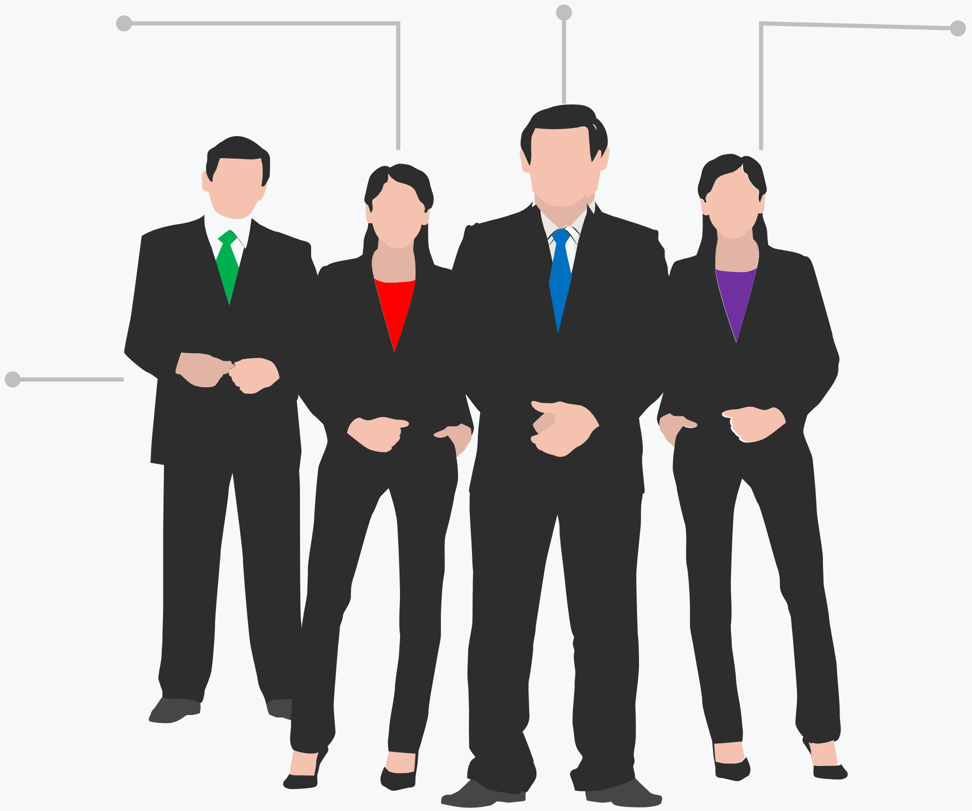

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What is Classified Web Development ?

Lets start from the beginning …

Public Notice Carving

2000 BC: Outdoor advertising was invented by the Egyptians.

59 BC: The Roman Empire published Acta Diurna ("Daily Acts").

Hand-writing Newssheets

206 BC: China, early government-produced handwritten news sheets called tipao.

Evolution

Evolution of classified ads begins in 2000BC

Hand written news sheets

In ancient times people tend to use hand written news sheets

Beginning of newspaper classifieds

In year of 1704 marks the beginning of newspaper classifieds which made popular among people for huge amount of time.

Online classifieds

With the invention of internet in year 1991, online classifieds were introduced in the year 1995.

Developing A Classified Web Site

If it is started from the scratch ..

Need Different Technologies

It involves different technologies. Developer need to learn and understand each.

User Expect Advance Features

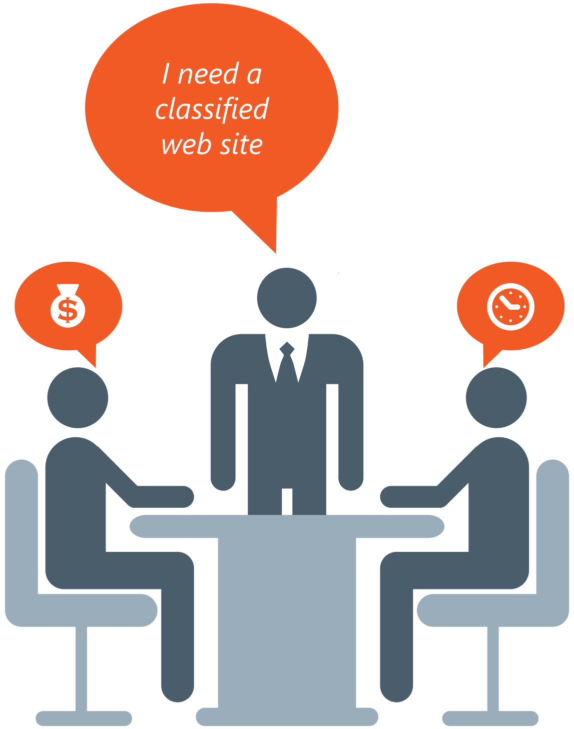
Nowadays most of the classified base web sites contain advanced features.

Market Is Very Competitive

Time is very important. Every seconds counts

Developer Frustration

Complex technologies + time constrains make developers frustrated. Result failure project or cost/ time overrun



Feature Comparison

Existing frameworks VS Ampliar

Feature	Yclas	Flynax	Oxy classifieds	Titan classifieds	Os class	ClassiPress	This Framework (Ampliar)
Open Source	*Yes*	*No*	*No*	*No*	*Yes*	*No*	***Yes***
Free	*Yes*	*No*	*No*	*No*	*Yes*	*Yes*	***Yes***
Extensible Database Abstraction	*No*	*No*	*No*	*No*	*No*	*No*	***Yes***
Social Login	*Yes*	*Yes (Only facebook)*	*Yes*	*No*	*Yes (Only facebook)*	*Yes*	***Yes***
Extensible Federated Authentication	*No*	*No*	*No*	*No*	*No*	*No*	***Yes***
Web Analytics	*Yes*	*No*	*No*	*No*	*No*	*No*	***Yes***

Limitations Of Existing Frameworks

Existing frameworks limit their functionalities in different ways ..

Repetitive Tasks

Developer has to develop the same functionalities again and again whenever he gets a classified website to develop. (functionalities such as adding, editing, deleting and viewing advertisements)

Only One DB Vendor

Developer has to stick to one database vendor, he can't go for his preference database vendor because existing frameworks don't support multiple vendors.

Integration Issues

If developer wishes to plugged his web application to a custom data store, he can't do that with the existing frameworks because most existing frameworks doesn't support database extension.

Limited Identity Providers

Most frameworks doesn't allow all the major identity providers for federated authentication.

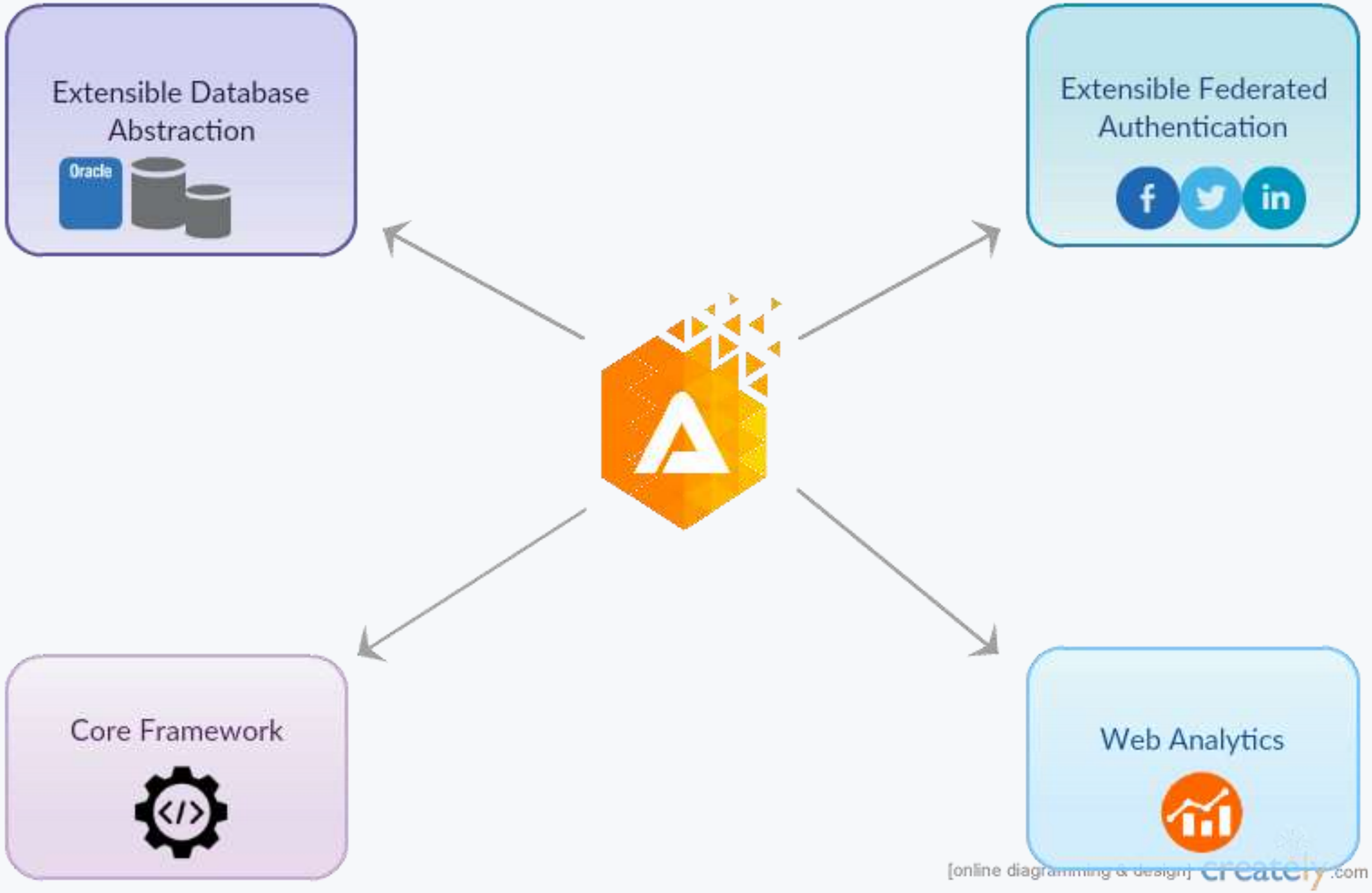
Not Free

Some classified framework features are not free and developer need to pay money to get the features.

Lack Of Analytical Engine

Most frameworks doesn't come up with an analytical engine in built with the framework.

WORKLOAD DISTRIBUTION



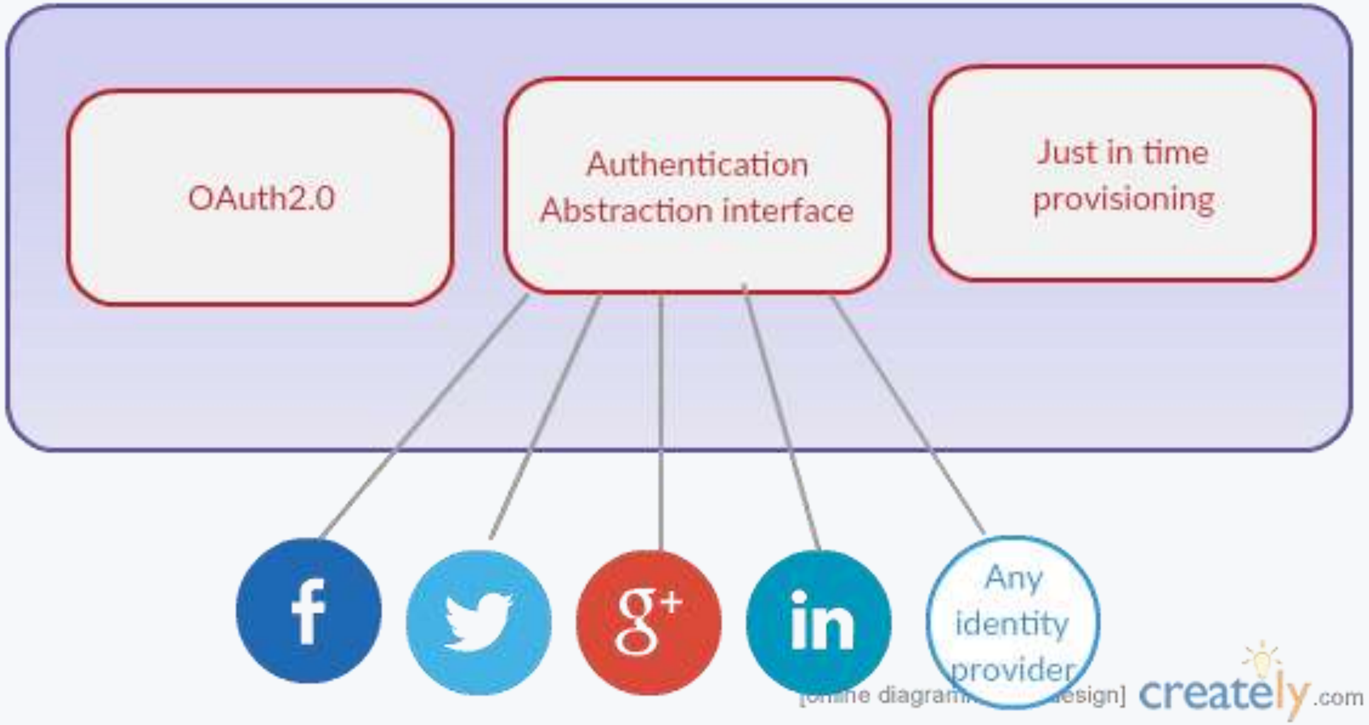
Extensible Database Abstraction

Extensible Federated Authentication

Core Framework

Web Analytics

EXTENSIBLE FEDERATED AUTHENTICATION



PROGRESS I TASKS

- Authentication module was integrated with facebook, twitter, linkedin and google+ identity providers to support the federated authentication to the system.
- An extension point was provided to implement any other identity provider functionality.
- XML configuration file will be given to the developer so that he can easily configure connectors rather than going through the code.
- Login page can dynamically load by modifying the configuration attribute given in the configuration file.

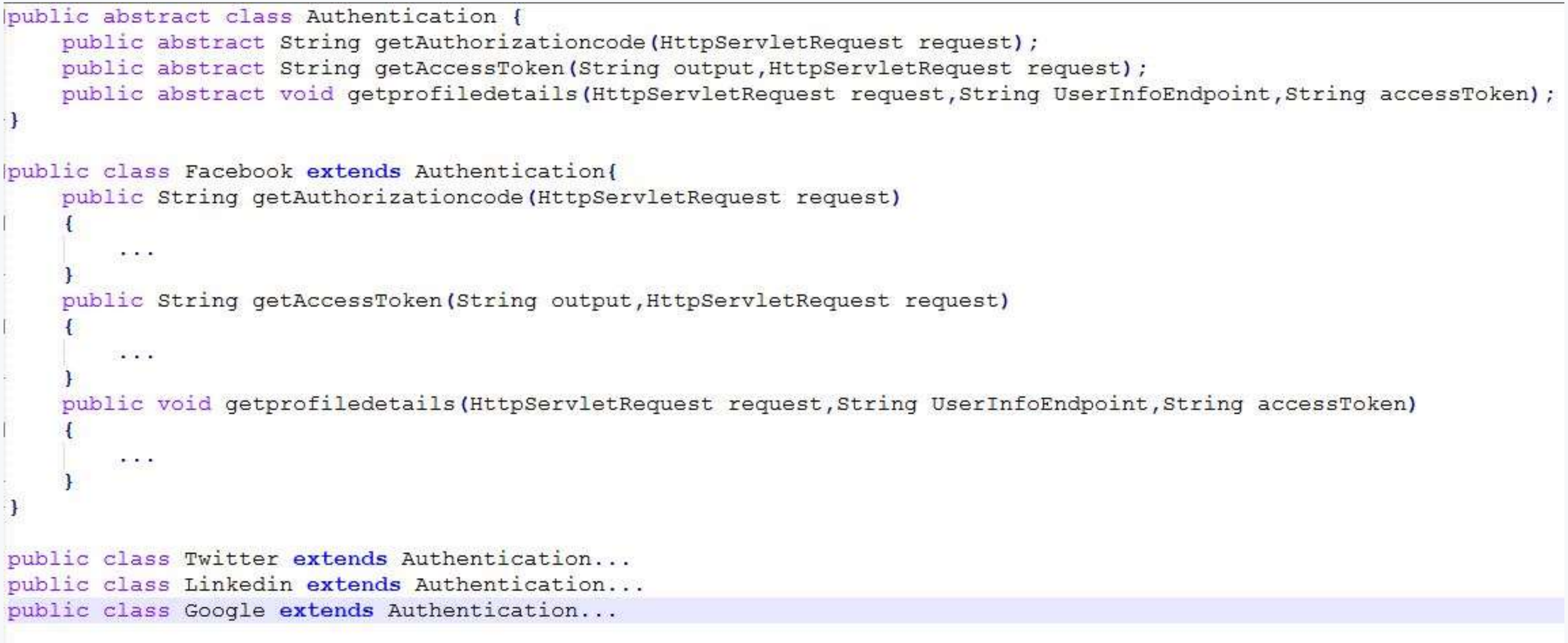
PROGRESS II TASKS

- Adaptive authentication is provided with the local authentication.
- Considering ip address, device, browser, date/time and location risk factors, risk based scoring model was defined.
- To provide more accurate result, weight is defined for a given factor.
- If the risk score is higher than a certain percentage, decisions will be taken to verify the user.
- One time password will be sent to the user, when the risk score becomes higher.
- For a medium risk, security questions will be prompt, which were deifined at the user registration.

COMPONENT DEMONSTRATION

SOLUTION

- Achieve extendibility



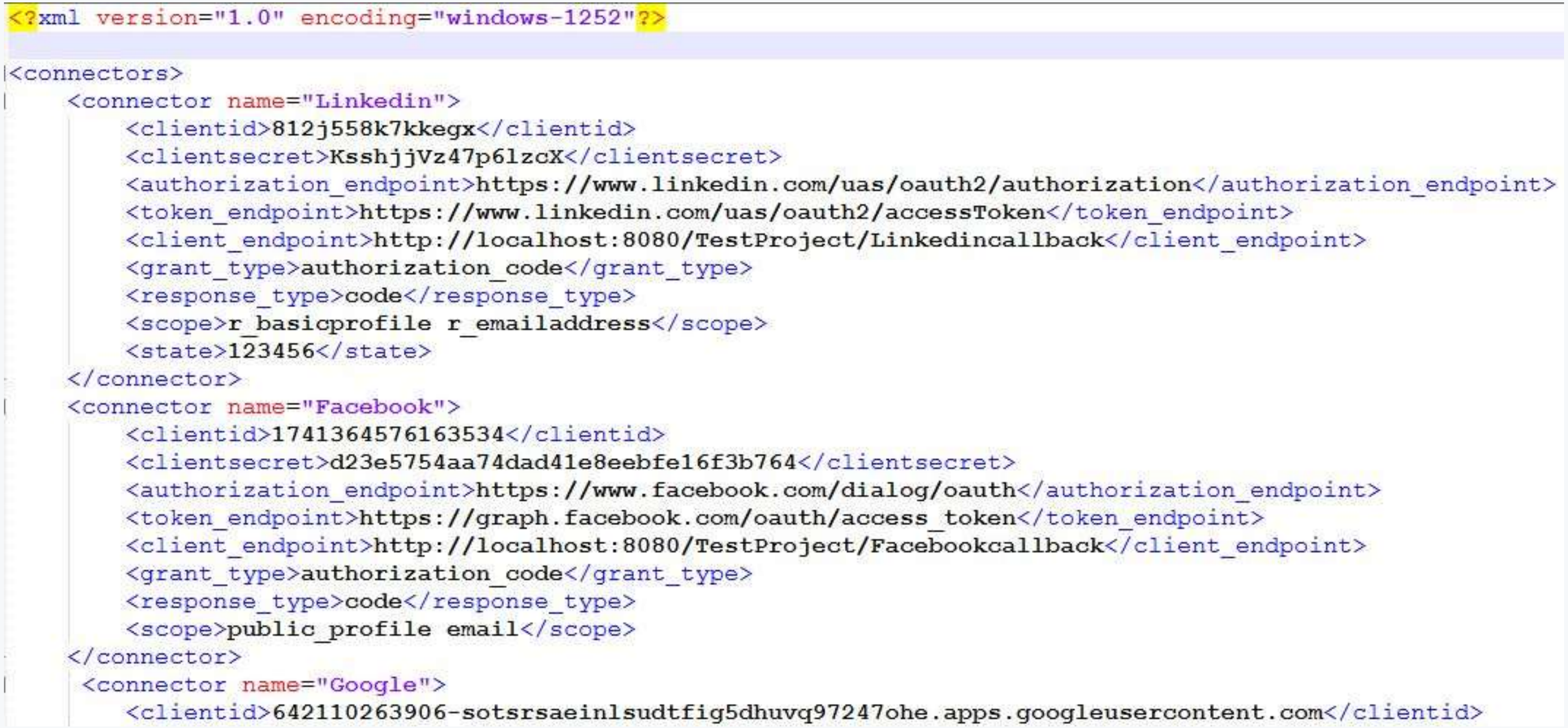
```
public abstract class Authentication {
    public abstract String getAuthorizationcode(HttpServletRequest request);
    public abstract String getAccessToken(String output,HttpServletRequest request);
    public abstract void getprofiledetails(HttpServletRequest request,String UserInfoEndpoint,String accessToken);
}

public class Facebook extends Authentication{
    public String getAuthorizationcode(HttpServletRequest request)
    {
        ...
    }
    public String getAccessToken(String output,HttpServletRequest request)
    {
        ...
    }
    public void getprofiledetails(HttpServletRequest request,String UserInfoEndpoint,String accessToken)
    {
        ...
    }
}

public class Twitter extends Authentication...
public class Linkedin extends Authentication...
public class Google extends Authentication...
```

SOLUTION

- We have used a xml file to get the keys and URLs related to specific connectors.



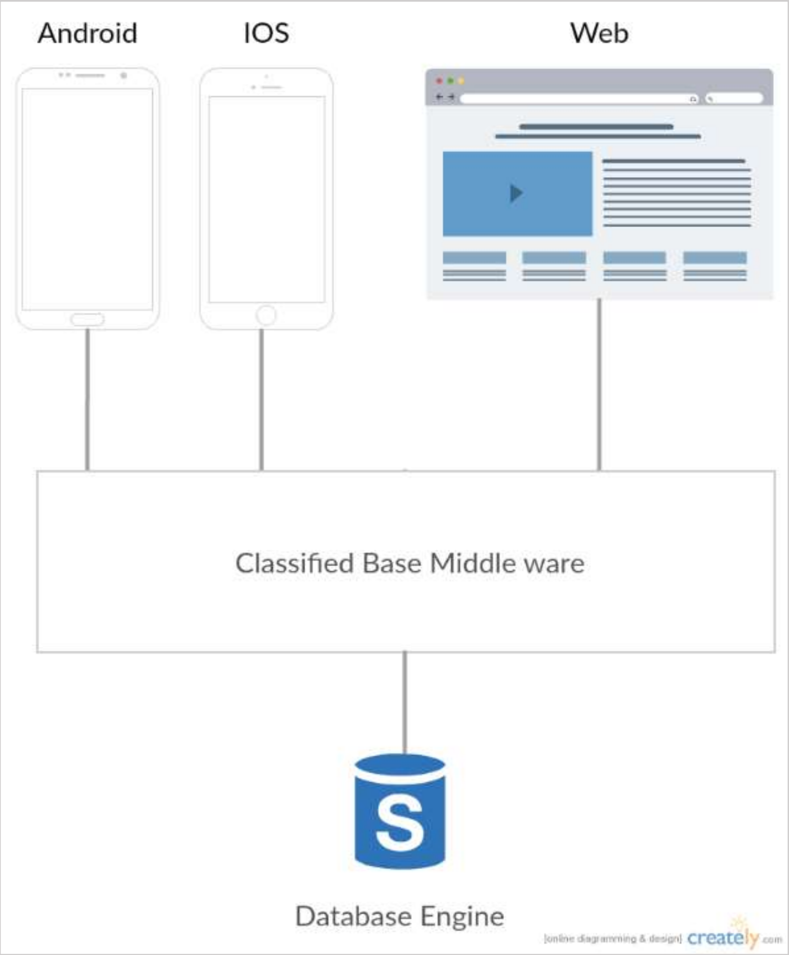
```xml
<?xml version="1.0" encoding="windows-1252"?>

<connectors>
    <connector name="Linkedin">
        <clientid>812j558k7kkegx</clientid>
        <clientsecret>KsshjjVz47p6lzcX</clientsecret>
        <authorization_endpoint>https://www.linkedin.com/uas/oauth2/authorization</authorization_endpoint>
        <token_endpoint>https://www.linkedin.com/uas/oauth2/accessToken</token_endpoint>
        <client_endpoint>http://localhost:8080/TestProject/Linkedincallback</client_endpoint>
        <grant_type>authorization_code</grant_type>
        <response_type>code</response_type>
        <scope>r_basicprofile r_emailaddress</scope>
        <state>123456</state>
    </connector>
    <connector name="Facebook">
        <clientid>1741364576163534</clientid>
        <clientsecret>d23e5754aa74dad41e8eebfe16f3b764</clientsecret>
        <authorization_endpoint>https://www.facebook.com/dialog/oauth</authorization_endpoint>
        <token_endpoint>https://graph.facebook.com/oauth/access_token</token_endpoint>
        <client_endpoint>http://localhost:8080/TestProject/Facebookcallback</client_endpoint>
        <grant_type>authorization_code</grant_type>
        <response_type>code</response_type>
        <scope>public_profile email</scope>
    </connector>
     <connector name="Google">
        <clientid>642110263906-sotsrsaeinlsudtfig5dhuvq97247ohe.apps.googleusercontent.com</clientid>
```

IMPROVEMENTS & FUTURE DEVELOPMENTS

- Modify the xml file with connector enable attribute and load the login page dynamically.
- Track user activities when logged in with federated authentication.
- Implement local authentication mechanism to the framework.

CORE FRAMEWORK


Android
IOS
Web
Classified Base Middle ware
Database Engine
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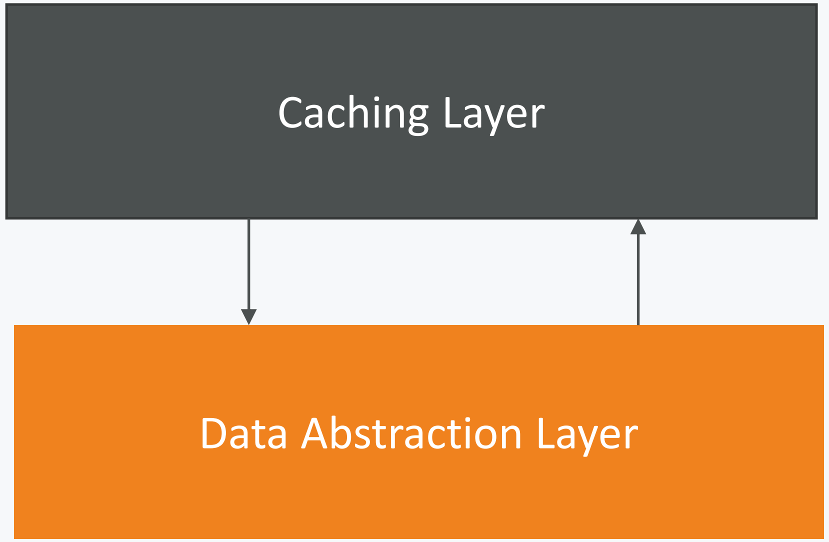
CORE FRAMEWORK

- Integrate other components. (Database extension, authentication extension and analytics generator)
- Expose APIs for all functionality related to classified based websites.
- Those services should be secure with OAuth 2.0 protocol.
- Handle permissions, roles and security of the core framework.
- Manage routing, services, libraries, plugins and configurations of the framework.
- Manage core functionalities such as adding, editing, deleting and viewing advertisements.

COMPONENT DEMONSTRATION

EXTENSIBLE DATABASE ABSTRACTION

This module handles everything between core framework & database engine



CONTAINS TWO LAYERS

1. Caching layer
2. Data abstraction layer

CACHING LAYER

Cache each search query for constant amount of time.

DATA ABSTRACTION LAYER

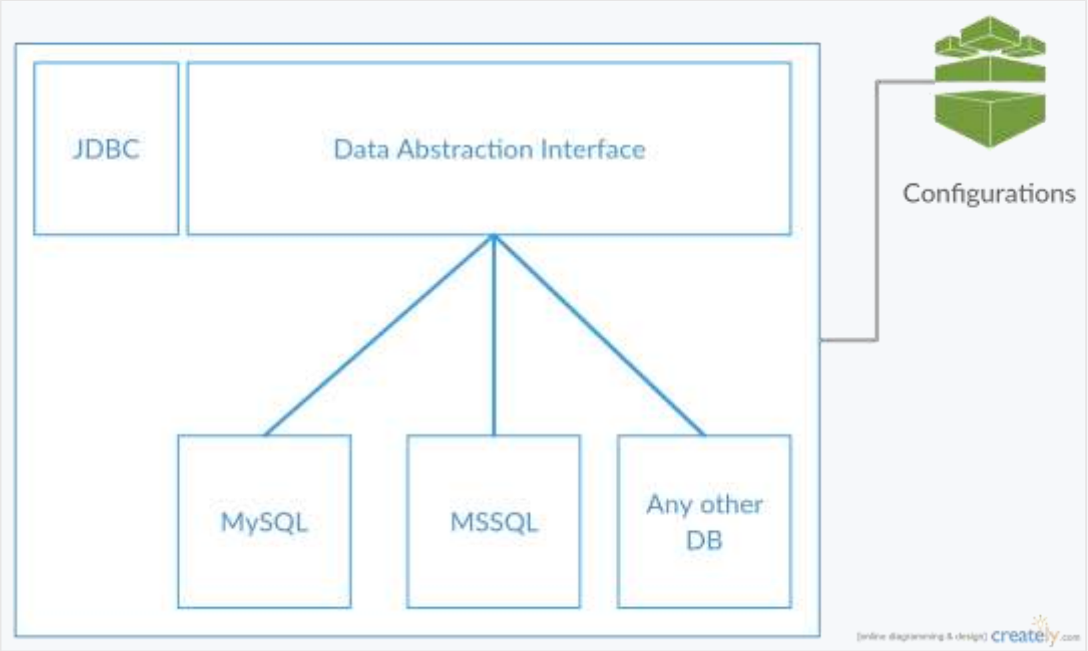
Query the database. By default support MySQL, MSSQL, PostgreSQL and oracle. Can be extensible by the developer

CONFIGURATION FILE

This file contains cache pool configurations + database connection configurations .

EXTENSIBLE DATABASE ABSTRACTION

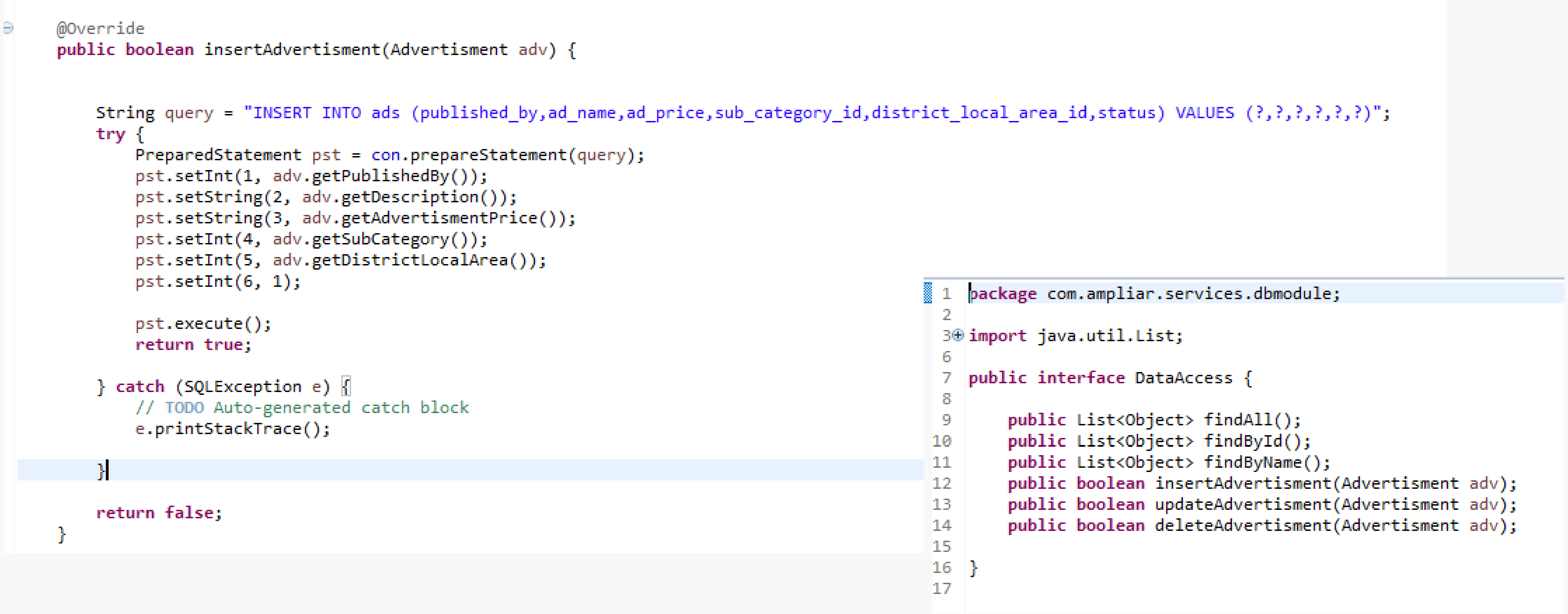
- Ampliar framework should support for major database vendors.
- By default framework will support MySQL, MsSQL, OracleSql and PostgreSQL.
- If developer wishes to plug a custom data store (eg: file based, service based… etc) the same functionality can be implemented extending the methods provided by the framework in the database layer and the new component can be easily plugged in.



COMPONENT DEMONSTRATION

SOLUTION

Achieve extendibility

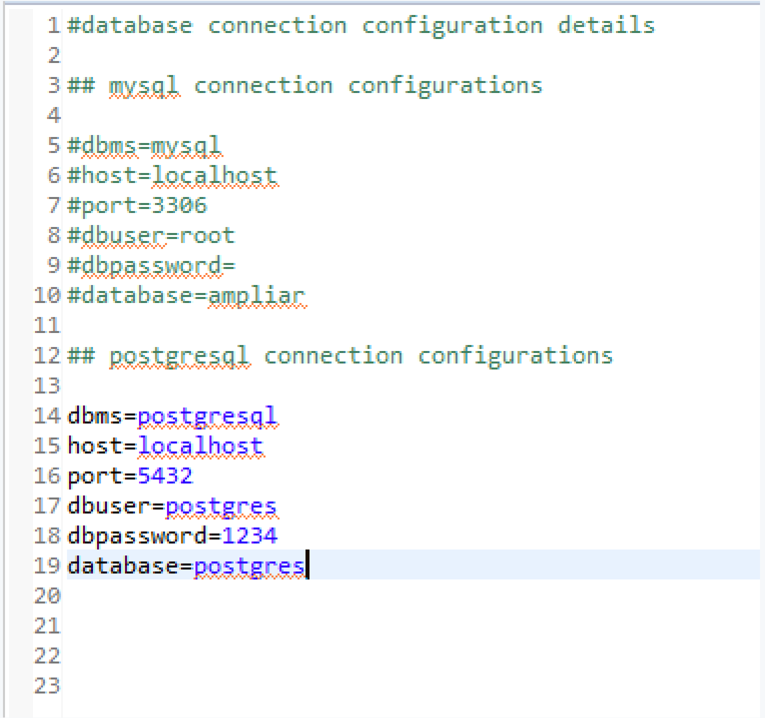


```
@Override
public boolean insertAdvertisment(Advertisment adv) {


    String query = "INSERT INTO ads (published_by,ad_name,ad_price,sub_category_id,district_local_area_id,status) VALUES (?,?,?,?,?,?)";
    try {
        PreparedStatement pst = con.prepareStatement(query);
        pst.setInt(1, adv.getPublishedBy());
        pst.setString(2, adv.getDescription());
        pst.setString(3, adv.getAdvertismentPrice());
        pst.setInt(4, adv.getSubCategory());
        pst.setInt(5, adv.getDistrictLocalArea());
        pst.setInt(6, 1);

        pst.execute();
        return true;

    } catch (SQLException e) {
        // TODO Auto-generated catch block
        e.printStackTrace();

    }

    return false;
}
```

```
package com.ampliar.services.dbmodule;

import java.util.List;

public interface DataAccess {

    public List<Object> findAll();
    public List<Object> findById();
    public List<Object> findByName();
    public boolean insertAdvertisment(Advertisment adv);
    public boolean updateAdvertisment(Advertisment adv);
    public boolean deleteAdvertisment(Advertisment adv);

}

```

SOLUTION

Easy configurations



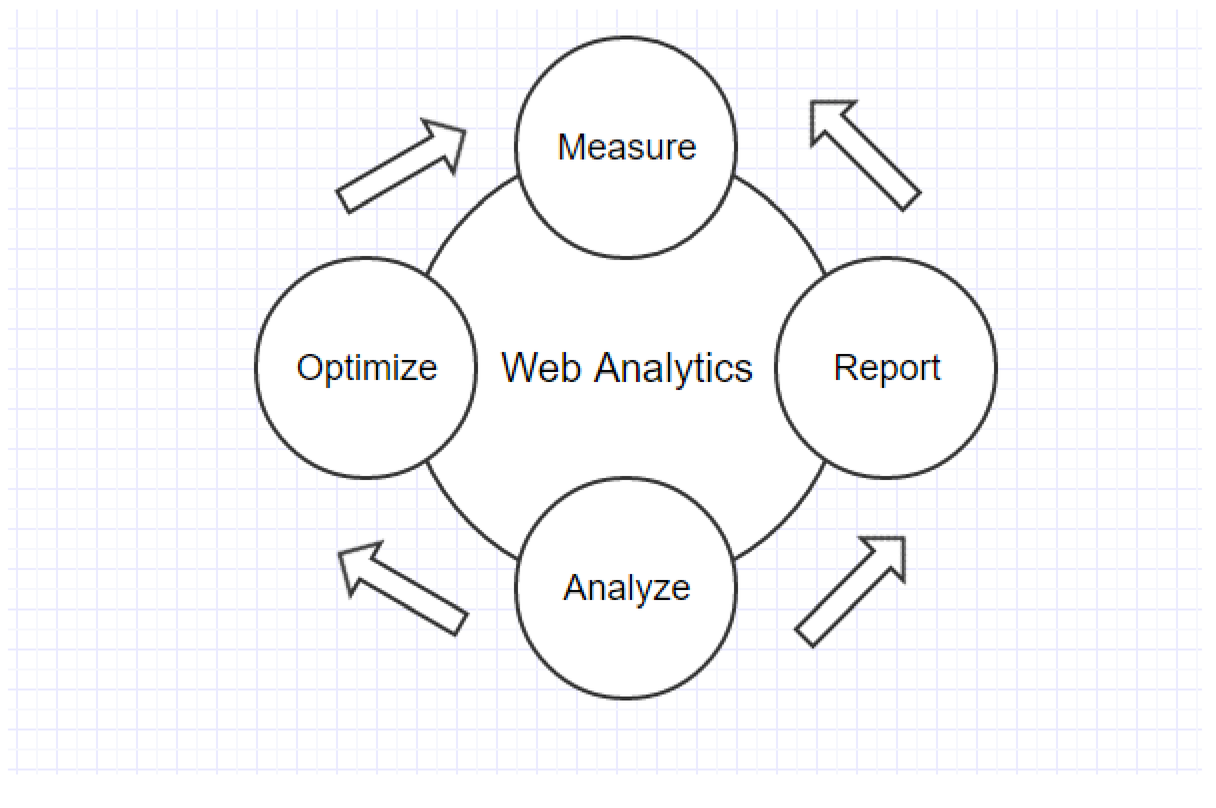
```
#database connection configuration details

## mysql connection configurations

#dbms=mysql
#host=localhost
#port=3306
#dbuser=root
#dbpassword=
#database=ampliar

## postgresql connection configurations

dbms=postgresql
host=localhost
port=5432
dbuser=postgres
dbpassword=1234
database=postgres




```

IMPROVEMENTS & FUTURE DEVELOPMENTS

To Do list

- Enhance component architecture design for further extensibility
- Implement Oracle and MSSQL DBMS support
- Develop proper expectation handling mechanism
- Develop data chancing module using ehcache
- Improve component performance

WEB ANALYTICS



WEB ANALYTICS

- Web analytics is measurement, collection, analysis and reporting of web data for purpose of understanding and optimizing web usage.
- Focus on the process of analyzing the behavior of visitors to a website and based on web log data mining.
- Main objective is to design and implement the web analytics.
- Developer may get the opportunity to use the existing web analytics library or the facility to develop an analytic engine by himself to analyze their classified web site statistically
- follows a listener architecture to develop the analytics.

COMPONENT DEMONSTRATION

BENEFITS OF AMPLIAR FRAMEWORK

- Developer can easily use the core framework to develop the major functionalities, he doesn't have to develop from the scratch.
- Developer has the opportunity to choose his preference database vendor since ampliar framework supports multiple database vendors.
- Developer can easily plug a custom data store to the website.
- Developer can choose a different identity provider (apart from popular) for federated authentication.
- Developer can use the in built analytical engine to develop the analytics for the website.
- Reduce developer burden, complexity and knowledge gap during the development process.
- Reduce development time and cost of a classified base web development project.

THANK YOU!

Q & A