

An Integration Web Service Selection Approach from Cloud Computing

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Abstract – Cloud Computing is a new technology that helps us how to use the Cloud for compliance our computation needs. It is the latest effort in delivering computing resources as a service. Cloud refers to a scalable network of computers that work together. Cloud represents a shift away from computing as a product that is purchased, to computing as a service that is delivered to consumers over the internet from large-scale data centers – or “clouds”. So cloud computing helps us to improve the efficiency. Cloud computing is gaining growing popularity in IT industry, academia appeared to be lagging behind the rapid developments in this field. As cloud computing is new technology, there are both advantages and disadvantages of this technology summarized in this article and then some vanguards of this technology are studied. After that we find out that how Cloud Computing will have important roles in our tomorrow life.

Index Terms – Cloud, Large-scale, Computing, Internet.

1. INTRODUCTION

Cloud computing has recently gained popularity and developed into a major trend in IT. While industry has been pushing the Cloud research agenda at high speed, academia has only recently joined, as can be seen through the sharp rise in workshops and conferences focusing on Cloud Computing. Lately, there are so many peer-reviewed papers on aspects of cloud computing, and made a systematic review necessary, which analyses the research done and explains the resulting research agenda. In this article it is understood that how Cloud Computing helps us to use the network as computer.

Potential of the Cloud is used to transfer the computing and processing from locality into the Cloud.

- ❖ **Broad network access:** previously mentioned resources can be accessed over a network using heterogeneous devices such as laptops or mobiles phones.
- ❖ **Resource pooling:** The cloud service providers pool their resources that are then shared by multiple users. This is referred to as *multi-tenancy* where for example a physical server may host several virtual machines belonging to different users.

- ❖ **Rapid elasticity:** a user can quickly acquire more resources from the cloud by scaling out. They can scale back in by releasing those resources once they are no longer required.
- ❖ **Measured service:** resource usage is metered using appropriate metrics such monitoring storage usage, CPU hours, bandwidth usage etc.

2. RESEARCH METHODOLOGY

2.1. Problem Definition

As more facets of work and personal life move online then the concept of Cloud Computing emerged. This will prove to be boom for IT sector. Many Cloud service providers are available in market so which is the best cloud service provider which can provide Cloud service to use in very efficient way is becoming a very big problem .So to deal with this selection problem I have created an Interface where user can send their request and this interface accept the user request and send it to the cloud service provider ,get response from these cloud service provider and select a Cloud service for the user on the basis of three parameters:

1. Availability
2. Response Time
3. Deadlock

In this work first I have make a table of all the web services available for the Weather Forecasting Then add all web References in the website we created. We call all these web References one by one and check their availability and record this in a table. After this we had set time when the request sends to the Service provider and when we get the response from that particular Cloud service Provider. Now we subtract time of request from the time when we get response from the Cloud service provider. We will get the Response time in milliseconds. On the basis of this response time we compare different cloud service providers and send the best cloud service to the user.

We have create an table for all these web services for WEATHER FORCAST and find their response time and availability ,record them in table. With the help of this table users can easily check the current status of these Cloud Service Providers.

We have created a graph using GRAPHICAL DEVICE INTERFACE which shows performance of the Weather services. In this graph we have 2 Axis that is X-axis and Y-axis. On X- axis we have four web services: Global Weather, Weather Forecast, and Weather on Y-axis we show the response time and with the response of the Cloud provides have drawn a graph which shows their performance according to their response time. Graph is the easiest way for representation of the performance of the Web services. User can easily decide which Cloud Service Provider is efficient. Now we have showed all these output with the snapshot.

The third parameter that is Deadlock is also explained .For this first I have created four Support Web Services:

1. Web Service DB1.
2. Web Service DB2.
3. Web Service DB3
4. Web Service DB4

After creating these, I have built Dynamic Web service. Where I have created a webpage which consist of different five Web links:

1. Personal Detail.
2. Educational Detail.
3. Career Detail.
4. Bank Detail.
5. Medical Detail.

Now when we run this web page it shows all these links, and if we open first link that is personal detail and simultaneously try to open other links then it will open those links because Deadlock occurs, and it will display message of Deadlock on the screen. Hence we will choose good Cloud service which satisfies all these three parameters.

We are providing and approach that can be implemented by large and medium-sized enterprises, the ability to outsource IT services and applications not only offers the potential to reduce overall costs, but also can lower the barriers to entry for many processing-intensive activities, since it eliminates the need for up-front capital investment and the necessity of maintaining dedicated infrastructure. Cloud providers gain an additional source of revenue and are able to commercialize their expertise in managing large data centers.

One main assumption in cloud computing consists of infinite computing resources available on demand and delivered via broadband. However that is not always the case. Problems faced by users in developing countries include the high cost of software and hardware, a poor power infrastructure, and limited access to broadband. Low-cost computing devices equipped with free and open source software might provide a solution for the first problem. Although the number of broadband Internet subscribers has grown rapidly worldwide, developed economies still dominate subscriptions, and the gap in terms of penetration in developed and developing countries is widening¹. Internet users without broadband access are disadvantaged with respect to broadband users, as they are unable to use certain applications, e.g., video and audio streaming, online backup of photos and other data. Ubiquitous and unmetered access to broadband Internet is one of the most important requirements for the success of cloud computing.

We are providing an integration mechanism in terms of database sharing using the cloud computing. Now instead of keeping data at one place data can be present at different location and according to the user query the data call will be performed for different locations without any information to the user. It will provide the following features:

- No need to maintain huge database at one place.
- Each location has independent local resources or data because of this the efficiency will be high.
- Location independence.
- Transparency for the user.
- Reliability
- Integrity

Reliability and liability: As with any other telecommunications service, users will expect the cloud to be a reliable resource, especially if a cloud provider takes over the task of running “mission-critical” applications, and will expect clear delineation of liability if serious problems occur.

Security, privacy, anonymity: It may be the case that the levels of privacy and anonymity available to the user of a cloud will be lower than the user of desktop applications. To protect the privacy of Cloud users, care must be taken to guard the user’s data and applications for manipulating the data.

2.2. Algorithm: Selection of Service

This algorithm shows the necessary steps to choose a service and get the maximum quality results.

1. For finding a service for a specified task, perform a search on service descriptions.
2. Arrange all discovered services by their signature parameter and discard all other services.

3. Get the desired Service Parameters.
4. Collect the services result and order by their utility.
5. If no results are found, let the client reconsider the constraints, go to step 2.

3. RESULTS

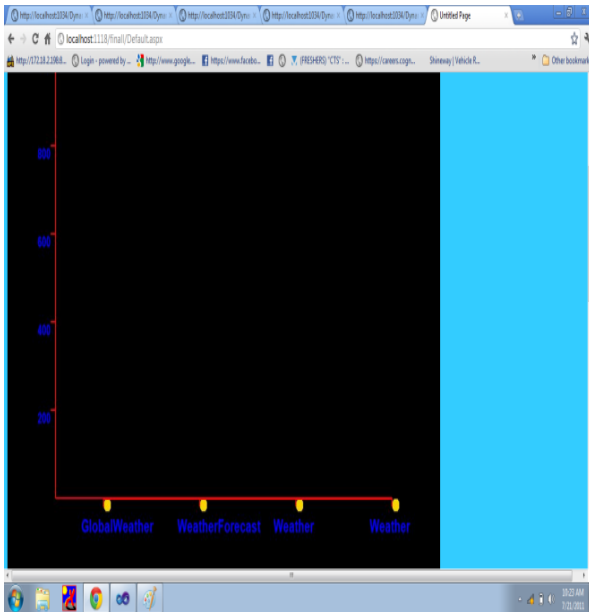


Figure 1 Graph between web service and response time.

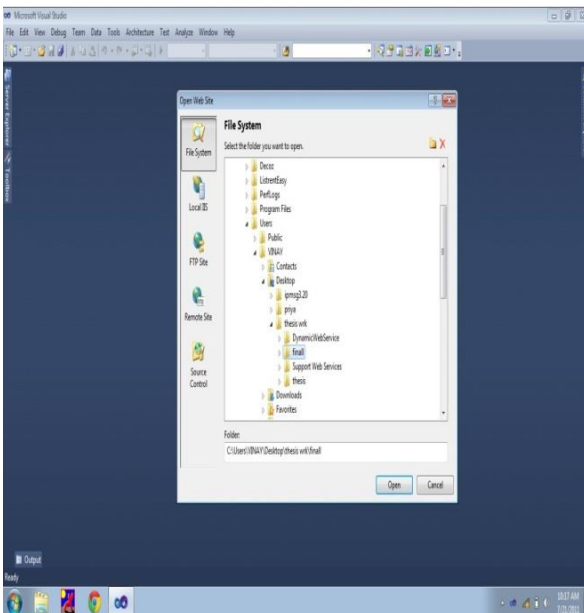


Figure 2 File System

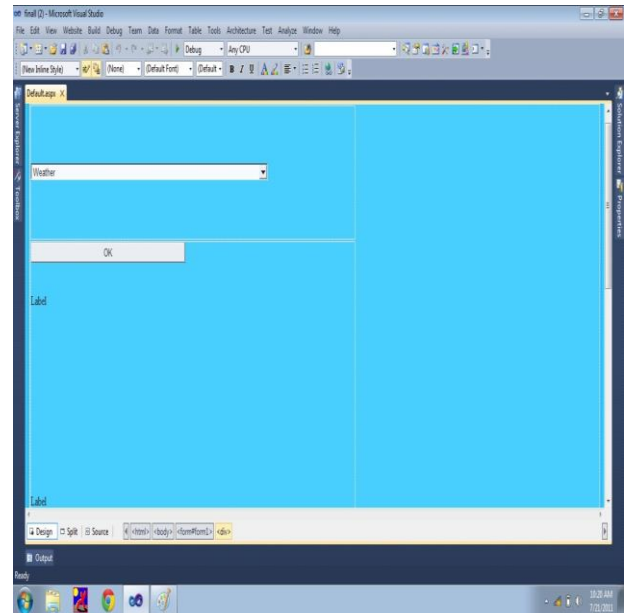


Figure 3 Find out weather

	GlobalWeather	WeatherForecast	Weather	Weather
Web Service Name	http://www.webservices.net/WS/WSDetails.aspx?CATID=12&WSID=56	http://www.webservices.net/WeatherForecast.aspx	http://vs.codeplex.com/WeatherWS/Weather.aspx	http://www.dreamtraining.com/webservices/weather.aspx
Web Method	GetCitiesByCountry	GetWeatherByPlaceName	GetCityForecastByZIP	GetWeather
Available	Not Available	Available	Available	Available
Response Time in Milliseconds	0	0	0	0

Figure 4 Web Service



Web Service Site Name	http://ws.cdyne.com/WeatherWS/Weather.asmx	http://www.deept raining.com/webs ervices/weather.a smx
Web Method	GetCityForecastByZIP GetCityWeatherByZIP	GetWeather
Availability	Available Available	Available Available
Response Time in Milliseconds	0 0	0 0

Figure 5 Find out web service availability at a particular time

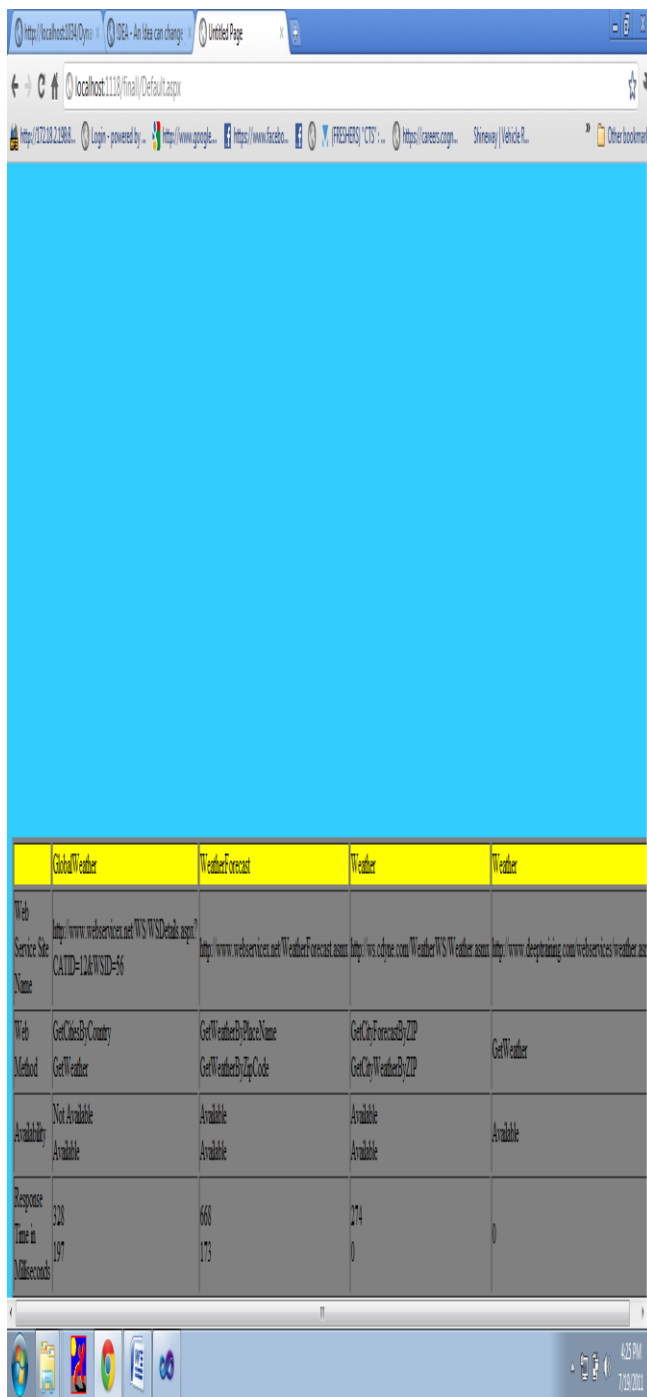


Figure 6 Weather forecasting by web methods

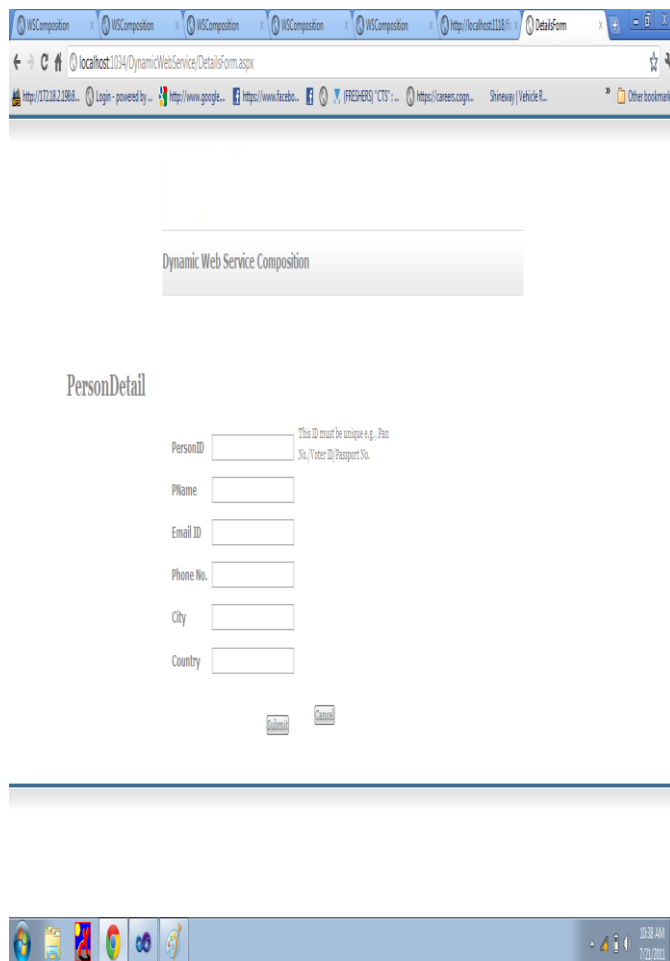


Figure 10 Personal Detail Form

4. CONCLUSION

The numbers of Conclusions are drawn from the study. Here I have created an interface for Weather Forecasting service. This web service will be very helpful for weather forecasting organizations. From this study I conclude that computation work will be done in very efficient manner with the help of CLOUD COMPUTING. From previous researches and by my implementation work I conclude that Cloud Computing will prove to be BOOM for IT industry. Cloud Computing is likely to have the same impact on software that foundries have had on the hardware industry.

The motivation factors of this study are:

- To Create An Integration Web Service Selection Approach from Cloud Network.
- To clarify terms, top technical and non-technical terms of Cloud Computing by studying previous research papers & literature available regarding Cloud Computing.

- To explain applications which makes it NEXT GENERATION COMPUTING and also challenges for Cloud Computing.
- To give details of CLOUD Service Providers.

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