



Automatic Managed Web Hosting

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Abstract: In current technical market, new small level startup are going towards automatic hosting and paying a lot of money to multiple hosting companies.

They don't have control over scaling up and down and quality of hosting. Now we are introducing a tool, which can help a startup to scale up their infrastructure as per different architectural setup. We are setting the startup setup over AWS cloud so that they can get the benefit of "pay as we go" model.

Now startup company would have full control over infrastructure as well as bills.

Technical Keywords: AWS Cloud Computing, Access key, Secrete key, AWS CLI, Authorization, Authentication, MFA

INTRODUCTION :

The need of our project in the market is something like that many new startups and other users come in industry but they don't have as such knowledge that how to host their websites and secure it from attacks. From this we as a team came up with an idea named as Automatic Managed Web Hosting in which we are providing a managed hosting to our clients. In the start we are providing 5 different kinds of hosting servers which are static, flask framework, Django framework, php & WordPress client can choose accordingly and provide the details of daily users load and further details and using these details in our backend we will be creating terraform codes which will be running according to the client input, create and host instance on cloud with the security and return with a DNS server which client can land as per his requirement.

PROBLEM DEFINITION & SCOPE :

MOTIVATION :

Whenever we required to setup new server its initial cost is very high, so by AWS we can get hourly bases cost. Server cost is minimum by using AWS. If maximum number of users may attack to the server then we have to provide elasticity or load balancer.

PROBLEM STATEMENT :

To create a platform which will provide new startups and other users a personalized and easy to host their websites in few minutes with minimum hosting costs.

Bare-metal hosting required high expenses. No elasticity and scaling. More initial Investment. Multiple Language Support and Complex Architecture.

GOALS & OBJECTIVES :

GOALS :

Web hosting services provide personal website hosting free to deploy and use. It also allows the accessing to be performed of the websites that is having the higher expense.

Payment methods: The most popular payment methods for hosting in India are paying by credit/debit card and PayPal, so your preferable host should have at least one of these options. The more payment methods the host has, the better. For instance, with Hostinger, you have an option to pay by eight different payment methods, including bitcoin.

Freebies: SSL certificate, domain name. Usually, if you tend to buy a more advanced hosting plan for a longer period, you get a bunch of freebies. So, as a result, you get a better plan and don't have to pay for additional features! Sometimes, you don't even need to buy a more advanced plan to get something for free.

OBJECTIVES :

1. Websites to be directly hosted on Cloud using secured environment.
2. A platform which led a user to host website by providing few information about it like credentials, region, project name etc.



3. We are providing different websites options available to client wishing to present content on the internet.
4. We can provide great security in AWS CLI i.e. Access Key and Secret Key.

LITERATURE SURVEY :

- Until 1991, the Internet was restricted to use only for "research and education in the sciences and engineering " and was used for email, telnet, FTP and USENET traffic but only a tiny number of web pages. The World Wide Web protocols had only just been written and not until the end of 1993 would there be a graphical web browser for Mac or Windows computers. Even after there was some opening up of internet access, the situation was confused until 1995.
- To host a website on the internet, an individual or company would need their own computer or server. As not all companies had the budget or expertise to do this, web hosting services began to offer to host users websites on their own servers, without the client needing to own the necessary infrastructure required to operate the website. The owners of the websites, also called webmasters, would be able to create a website that would be hosted on the web hosting service's server and published to the web by the web hosting service.
- As the number of users on the World Wide Web grew, the pressure for companies, both large and small, to have an online presence grew. By 1995, companies such as GeoCities, AngelFire and Tripod were offering free hosting
- Encryption is the procedure of changing over the information into a structure called cipher text that can be seen distinctly by the approved clients. Encryption is a proficient strategy for securing the information, however, has the deterrent that information will be lost when the encryption key is taken.
- T. Kamala Kannan et. al discussed the storage challenges in the cloud computing environment and to keep data secure .
- In an architecture for running WordPress using three virtual machines, one as a MySQL database server and the other two as Apache/PHP and WordPress application servers installed. For the proper functioning of this environment it was also necessary to configure the virtual interconnect resources (network, subnet, IPs, interfaces and routes) and security (firewall rules).
- Secure Network Architecture is attained by the network devices such as firewall which manages and controls the boundary of network. Traffic flow policies, access control list (ACL), is generated to control the flow of informational is approved by Amazon Information Security.
- Secure Access Point indicates that AWS has limited number of access points so as to perform proper monitoring of communication. The access points of customers are called API endpoints. These access points help in access of secure HTTP (HTTPS). Transmission Protection is the one can make connection to the AWS access point via HTTS using SSL (Secure Socket Layer) protocol. This protocol provides many security services like protection against message forgery, tampering etc. Next is Amazon corporate segregation which means segregation of Amazon Production network from Amazon Corporate network by the network devices. The developer or manager cannot directly access the network devices even for maintenance.
- Cloud Computing was not a new idea, it was envisioned in 1960s by John McCarthy with the idea of providing it to the general public for profit and usefulness. The word "Cloud" in 1990s was used to represent large networks like the ATM network .Virtual Private Network (VPN) services were provided by telecommunication services with better quality and lower cost. Cloud Computing uses concepts and best practices which are already established, so it is an old concept. We maintain applications and data using remote servers and internet in Cloud Computing technology. In 2009, Pearson described privacy issues in cloud computing. Enisa presented cloud security risk assessment in 2009. Amazon released Amazon Web Services (AWS) that is based on Server Virtualization Technology in 2006-2007.

EXISTING SYSTEM :

- In the existing system Authentication is not so good they have not used MFA in proper manner; MFA is nothing but we can connect to cloud with the help of mobile. They have not used security credentials i.e. access key or secret key
- Amazon elastic cloud compute (EC2) provides scalable computing services of the cloud. It provides flexibility to the user to scale up and down the number of instances as per the requirement quickly. It reduces the time to scale instance up to minutes allows you to pay only for the capacity you used. Here two EC2 instances are used for each subnet namely private subnet and public subnet. The two EC2 instances were used with the following configuration: Amazon Linux AMI with t2.micro instance type which includes 1vCPU and 1GB memory. It also includes a root volume of 8GB.
- Identity access management (IAM) enables restricted access of user over the amazon web services. It allows



admin to create roles, groups, and policies. This helps in the segregation and smooth functioning of various projects altogether. The root account has complete admin access. In order to access the new users are given access key id and secret access keys, when they are created. These are used to generate access using APIs and command line. In order to provide an extra layer of security, multi-factor authentication is used. For MFA, we need a virtual MFA device like mobile, hardware which will be used for login purpose. It ensures that a person with an MFA device will be able to log in to the system. If a person loses credentials, the MFA restricts the unauthorized access. This research paper has been organized in such a way that section II consists of related work available at storage implementation among various categories of cloud computing, section III discusses about motivation and section IV is having various steps of implementation performed on VPC. Afterwards in the next section discusses about the conclusion for the simple storage service implementation on AWS.

PROPOSED SYSTEM :

Step1 :- Install the software provided by

Open the application . Click on create the project

It redirect to new window over there will be three buttons asking about your website data.

Step2 :-Now click over upload website data button; it will redirect you to the new folder where you need to put your code or images. Close that folder click on second button named as Configure button

Step3 :-Now when you will click on second button you will redirected to new window over there you need to fill the form which is present over there. Submit that form then it will redirect you to the same page.

Step4 :-Now click over create website, within two to five minute your website will be hosted over AWS Cloud.

Step5 :-On home page there will be one more button named as Delete Project that button will help you to delete or down your website.

Also there will be one more button as, Project Detail that will be redirect you to new window where you can find all detail related your project.

METHODOLOGY:

Firstly, user will interact with server with the help of website. We have many option for user for their website as Flask Framework, Static, Django, Php and WordPress. Consider the user chooses for Flask Framework where user provide SSL certificate for his/her website. Then our website will visit our server where user detail is provided as login id, type of website, website pages, security last but not least the SSL certificate. Then user authenticated tab is already created by server, so server create session of Flask. There are template provided by our server like flask, WordPress etc.

As user website type is of flask so flask template, website pages, security, SSL and a instance is warped in box called "Terraform". Terraform is an open source infrastructure as code tool use for interaction with cloud. Terraform is launch on cloud with the instance of T2M (limit of 2000 user), flask website i.e. templates, security group i.e. interaction with 80 user only and SSL certificate is attached. After launching of instance in a cloud , then URL is provided by cloud to user

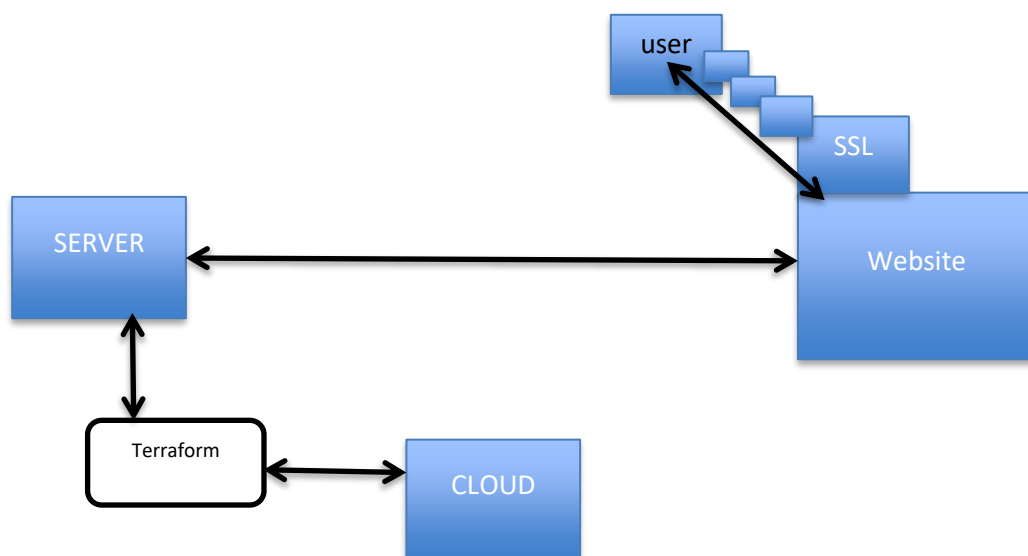


Fig.7.1 Methodology



ARCHITECTURE

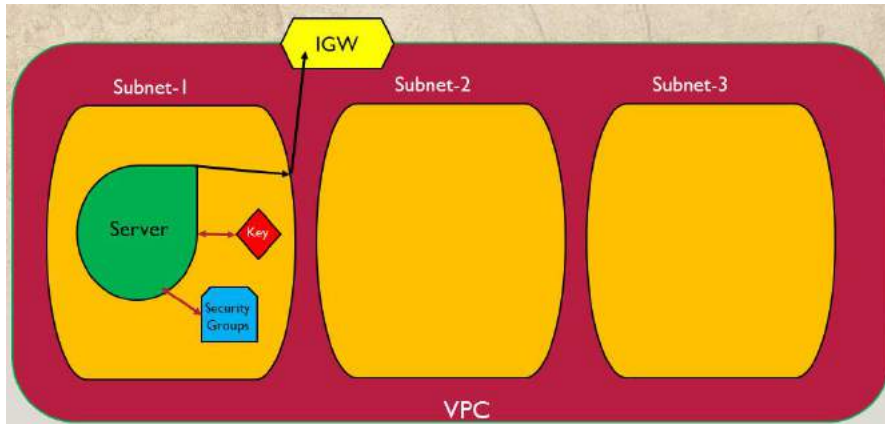


Fig.7.2 Architecture

SOFTWARE & HARDWARE REQUIREMENTS SPECIFICATIONS :

SOFTWARE REQUIREMENT :

- CLOUD AWS
- Programming Python
- Git-hub SCM
- IDE Visual Studio

HARDWARE REQUIREMENT :

- RAM : T2mirco
- Storage : 8GB

MODELLING & DESIGN :

USE CASES

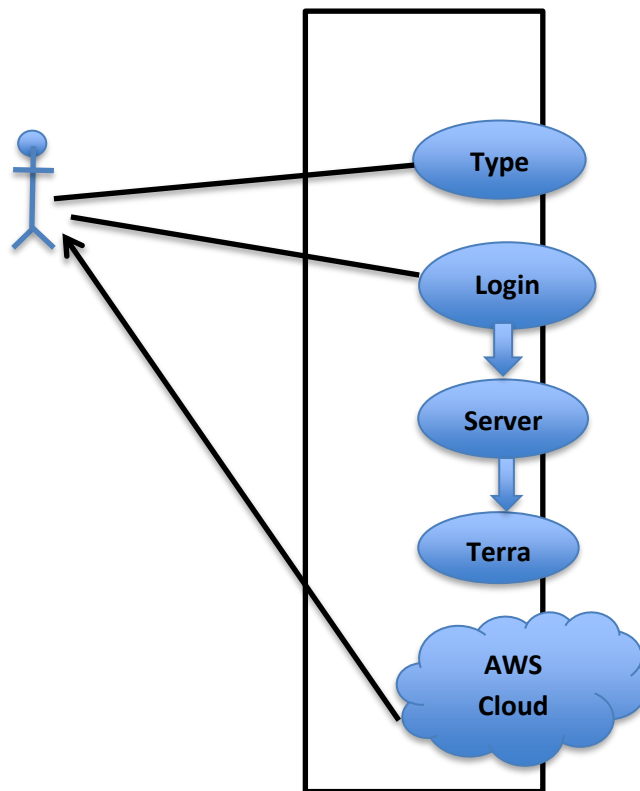


Fig Use case



**DATA MODELLING & DESCRIPTION
DATA OBJECTS AND RELATIONSHIPS**

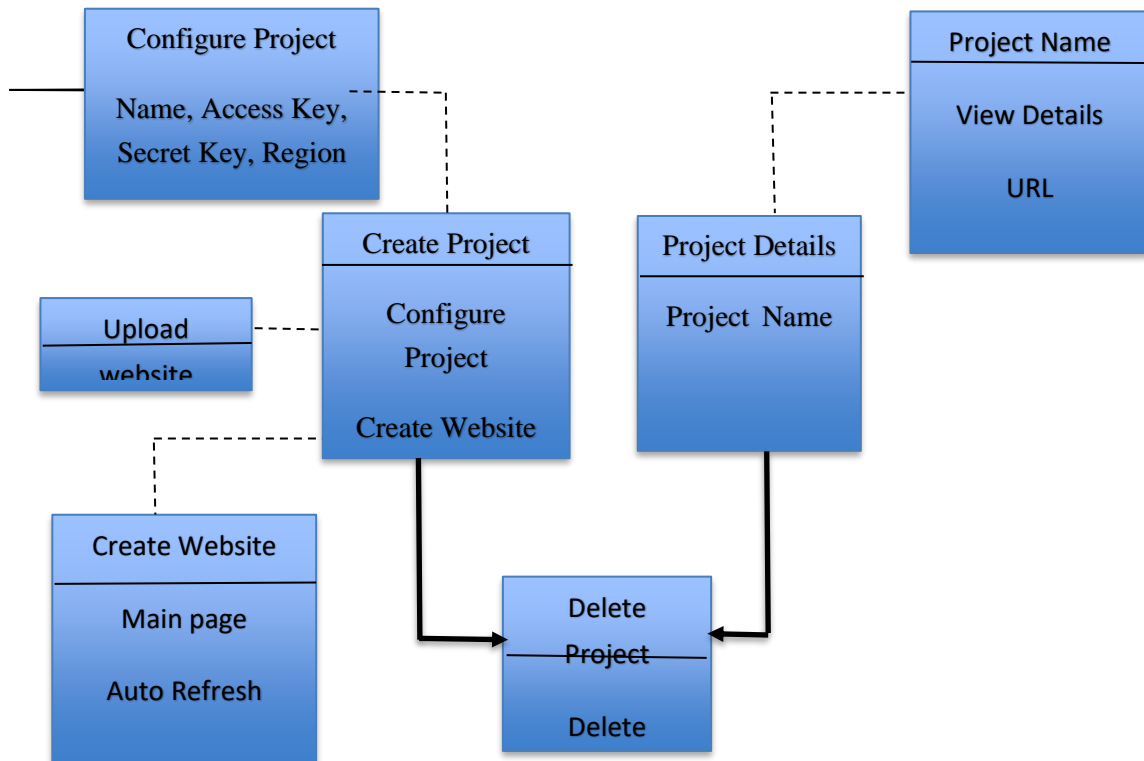


Fig. Data Objects & Relationship

**FUNCTIONAL MODEL & DESCRIPTION
DATA FLOW DIAGRAM**

DFD Level 0:

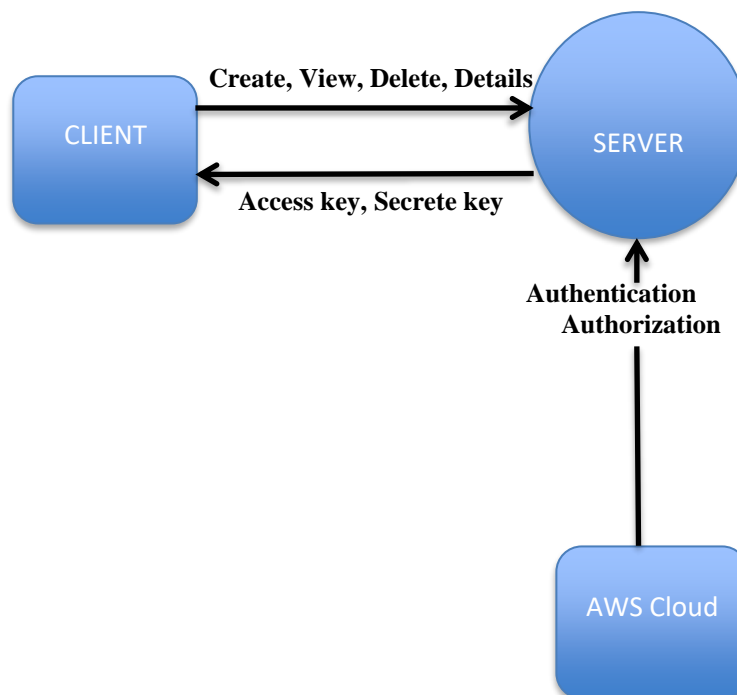
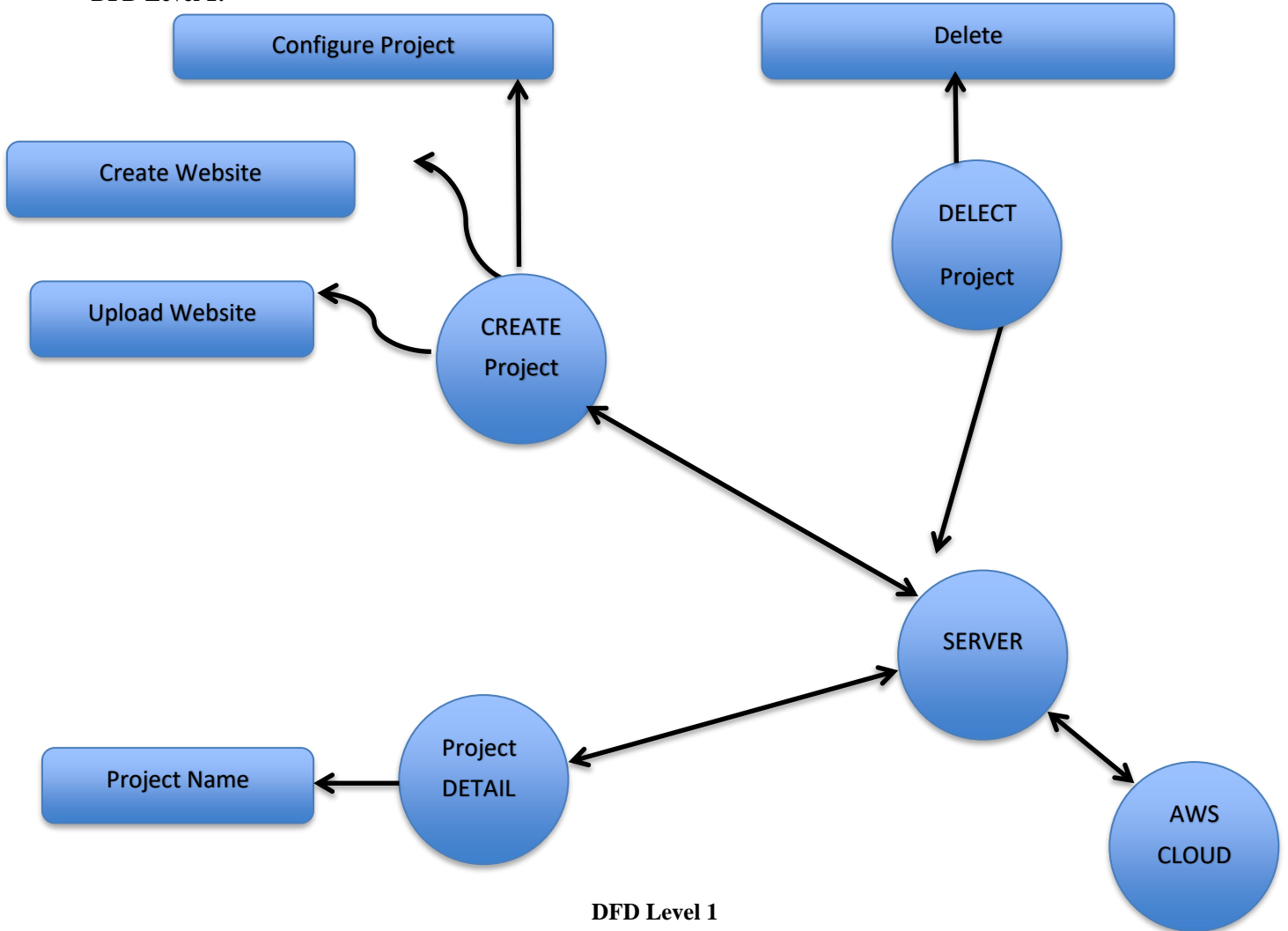


Fig. DFD Level 0



DFD Level 1:



DFD Level 1



DFD Level 2:



Fig. DFD Level 2



ACTIVITY DIAGRAM

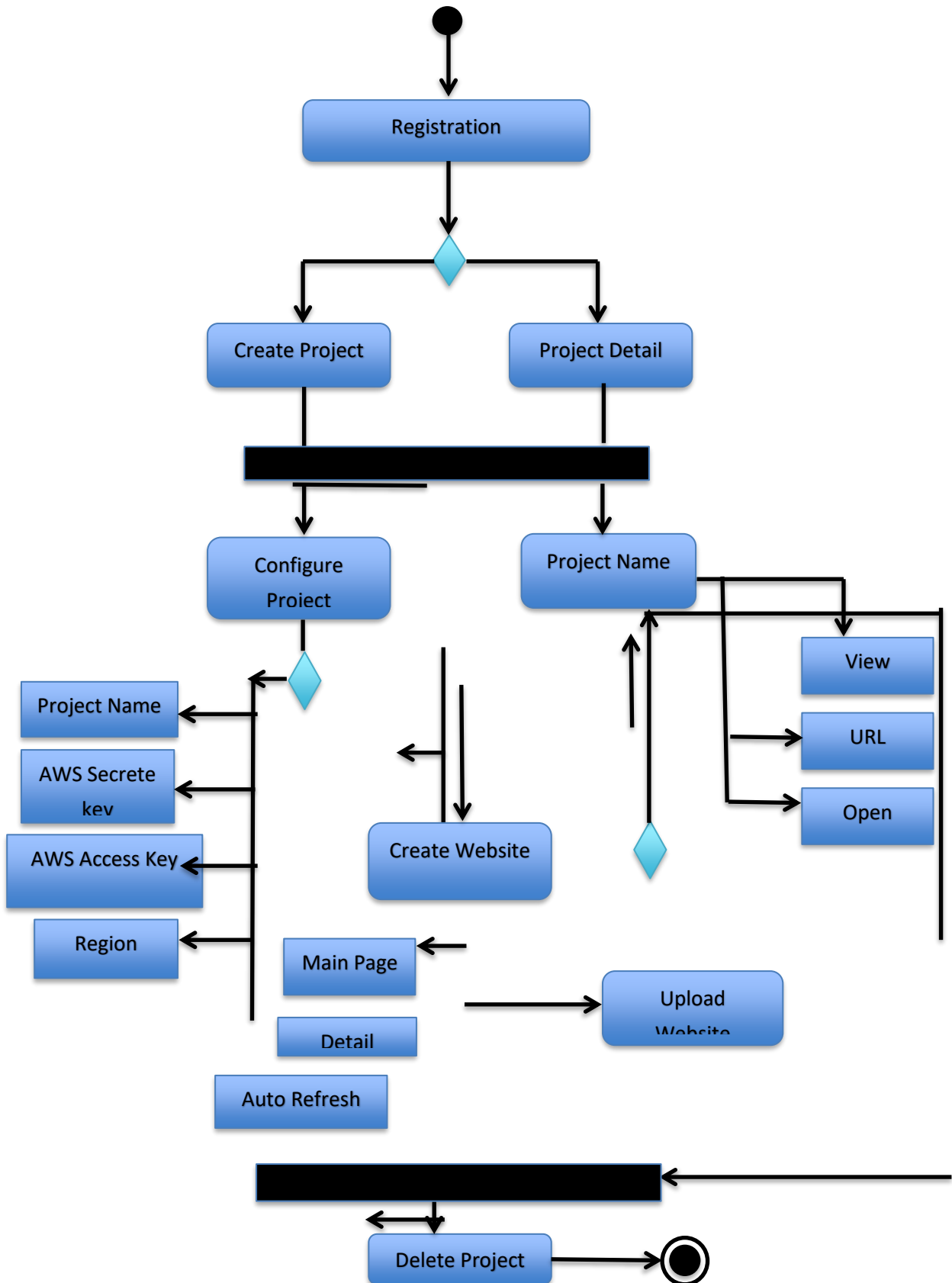


Fig. Activity Diagram

**CONCLUSION & FUTURE SCOPE**

Web hosting is the backbone of your website, and provides complete resources on which your website runs. It is very important to choose the right web hosting provider to ensure that your website never goes down and always performs error-free whenever someone visits it.

In future Latency will be minimize so that work will be easy to convey. We can host website in a minute.

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