Protection of Content Delivery Network in Pro Analysis Web Analytical Tool

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***Abstract*: The aim of this paper is to analysis the protection of the Pro Analysis tool against different hackers from attacking the CDN and inserting false data into the system. Generally speaking, taking a good analysis tool is more and more important when coming to this protection. The research is based about making the CDN more protected so that hackers cannot insert data into it. Because it accesses the backend operation across cross site so hackers can insert false data. Content Delivery Networks (CDNs) are generally believed to provide their customers with protection from application-delivery service (DoS). Indeed, a standard CDN with its large resources can absorb these attacks without any visible effect. This paper reveals the vulnerability that not only allows the attacker to enter the CDN protection, but actually uses the content delivery network to maximize the attack on the client site**.

Keywords:CDN,Proanalysis,Security,AES algorithm

I. INTRODUCTION

The sector is turning into an increasing number of aware that the net is evolving rapidly and constantly growing as increasingly users get on line. A presence inside the internet sphere is important for all groups and companies. The internet provides numerous multimedia capabilities allowing and changing the manner agencies speak with their customers, providers, competition and employees. The web sphere has a right away effect on a consumer's notion of business achievement and the strategic importance of internet context for current commercial enterprise. It additionally shifts several enterprise sports closer to the web developing within the same time new context of enterprise models so known as net enterprise models. consistent with [10], a business version is defined as a commercial enterprise approach utilized by a selected organization to generate revenue and upload new price to its product/services. The same writer has also distinguished nine basic classes of net enterprise models including: brokerage version, marketing version, version of records agent, business model, production model, affiliate/collaborative version, virtual network model, subscription model and application/ancillary offerings model.

II. EXISITING SYSTEM

In existing system user can modify the data inside the json data and modify it so user can insert false data to the system, and can destroy the entire system. Since the system is working on different domain so there the server has to accept all cross-domain requests. There is a loop hole that because there is chance of DDOS attack so that it will affect the system performance.

There are some reasons why DDoS assaults are a popular way to discover websites and take away them offline and because of this CDN safety is crucial. the primary motive why these assaults are so famous is that no hacking understanding is required, which makes them an easy manner to attack online. A botnet may be rented cost effectively and used to direct massive amounts of traffic to a website, greatly reducing loading instances, or making it inaccessible to the quit person absolutely. Consequently, it is not unexpected that the quantity and effect of DDoS attacks is increasing, which may be very damaging to this seeing the attack traffic reach a height of more than 1TB. Now, extra than ever, organizations need to develop their own security strategy to fight those dangers, this consists of investing in and growing CDN assets and facts centers to defend them from assault and, mainly, stay on line.

III. IMPROVING CDN SECURITY

- Giving a double validation of the data which is inserted into the system which means data is validated twice.
- Validate all data which is inserted in all stages ,giving validation in client and server side gives more security to the system
- Authenticate the user and website domain which is being used and make validation
- Making all sensitive data encrypted using encryption algorithm

IV. DOUBLE VALIDATION

When user enter to a website which is being connected with pro analysis, it automatically fetches the data of the user. But the hacker can insert false data but inspect element, because all data is fetched using Client-side scripting. But inspect element of browser the user can modify the data to backend which make data incorrect for resolving that problem, a double validation is given, which means user is validated twice, during the onclose event user is validated against the last inserted data. If the data is modified then the last inserted data is removed. Which make the data integrity, User details and website details are encrypted using AES algorithm so that it gives good level of security. This validation is triggered

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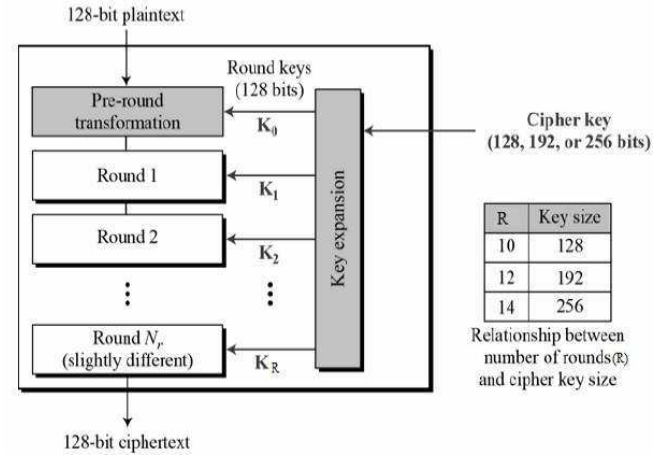
during the onclose event in the page.

```php
//fetch the domain name is correct or not
$fetchCurrentWebsite = "SELECT * from tbl_website where website_id='$websiteidOrginal'";
$fetchCurrentWebsiteResult = mysqli_query($connect, $fetchCurrentWebsite);
if (mysqli_num_rows($fetchCurrentWebsiteResult) > 0) {
    $fetchCurrentRow = mysqli_fetch_array($fetchCurrentWebsiteResult);
    $savedWebsitedomain = $fetchCurrentRow['website_domain'];
    $savedUserID = $fetchCurrentRow['user_id'];
    //check whether hosted domain and reglisted are same
    if ($currentdomain == $savedWebsitedomain) {
        //check whether ip address is valid or not
        if (filter_var($ipAddress, FILTER_VALIDATE_IP)) {
            $date = date("Y-m-d");
            $insertIntoDB = "INSERT INTO `tbl_data`(`data_user_id`, `data_website_id`, `data_Contient_name`, `data_ip`,
            `os_name`, `data_browser`, `data_device_type`, `data_country`, `data_browser_version`, `data_timezone`,
            `data_created_at`, `data_network_provider`,`data_region`,`data_latitude`,`data_longitude`) VALUES
            ('$userIdOrginal','$websiteidOrginal','$continment','$ipAddress','$osName','$browser_name','$devicetype',
            '$country_name','$browser_version','$timeZone','$date','$network_provider','$region','$latitude','$longitude')";
            $insertResult = mysqli_query($connect, $insertIntoDB);
            //fetch id of the last inserted data
            $last_id = mysqli_insert_id($connect);
        } else {
            $error = "ip address is invalid";
        }
    } else {
        $error = "domain name is invalid";
    }
```

Fig 1

```php
header("Access-Control-Allow-Origin: *");
header("Access-Control-Allow-Headers: X-Requested-With, Content-Type, Origin, Cache-Control, Pragma, Authoriz
//cross checking with last inserted data
if (isset($_POST['ValidateData'])) {
    extract($_POST);
    include "../cred/dbConnect.php";
    //fetch the last inserted data
    $lastInsertedData = mysqli_query($connect, "SELECT * FROM `tbl_data` WHERE data_id='$ValidateData'");
    $lastInsertedDataArray = mysqli_fetch_assoc($lastInsertedData);
    //success of function
    if ($lastInsertedDataArray['data_Contient_name'] == $continment) {
        if ($lastInsertedDataArray['os_name'] == $osName) {
            if ($lastInsertedDataArray['data_browser'] == $browser_name) {
                if ($lastInsertedDataArray['data_browser_version'] == $browser_version) {
                    if ($lastInsertedDataArray['data_device_type'] == $devicetype) {
                        $data = array("last_id" => "Sucesssssssss");
                    } else {
                        //update data to deactivate status
                        $data = array("last_id" => "error");
                        $resError = mysqli_query($connect, "UPDATE `tbl_data` SET `data_status`=0 WHERE data_
                    }
                } else {
                    //update data to deactivate status
                    $data = array("last_id" => "error");
                    $resError = mysqli_query($connect, "UPDATE `tbl_data` SET `data_status`=0 WHERE data_id='
                }
            } else {
                //update data to deactivate status
                $data = array("last_id" => "error");
                $resError = mysqli_query($connect, "UPDATE `tbl_data` SET `data_status`=0 WHERE data_id='$Val
            }
```

Fig 2



R	Key size
10	128
12	192
14	256

Relationship between number of rounds(R) and cipher key size

Fig 3

.

```php
// },
dataType: "json",
data: {
  websiteid: WebsiteId,
  userid: UserId,
  browser_name: result.parsedResult.browser.name,
  browser_version: result.parsedResult.browser.version,
  osName: result.parsedResult.os.name,
  ipAddress: data.ip,
  country_name: data.country_name,
  continment: data.continent_name,
  timeZone: data.timezone_name,
  network_provider: data.asn_org,
  currentdomain: current_domain,
  devicetype: devicetype,
  region: data.region,
  latitude: data.latitude,
  longitude: data.longitude,
  dummy: "dummy"
},
success: function (data, status) {
  console.log("success");
  ajfnajnafnjaf=data.last_id;
},
```

Fig 4

V. DOUBLE VALIDATION

1. Call new function during the on close event
2. Make ajax call to server with last inserted data
3. Validate with all fields and cross check if any alteration, if occurred change the status to inactive
4. Validate the IP address format in backend can decrease the rate of DDOS attack
5. Validate the domain and user in backend so that rate of DDOS attack can be decreased

VI. CONCLUSION

- As the modern businesses are more and more getting towards e-commerce,
- It is critical that the businesses have good web strategy and mechanism to measure
- Their return on investment on the web site. Web Analytics tools helps the businesses
- To achieve that objective.
- In business perspective there is no compromise in security so this model will be very useful .

A comparative study of the web analytics tools indicate furthermore, in line with the acquired effects, internet analytics equipment are most often used in advertising and business fashions wherein customers also expressed pleasure. additional effects indicated that the very best correlation between the usage frequency of internet analytics tools and the delight with such tools is observed within the brokerage version and within the advertising version. the expectancy become that more frequent utilization of internet analytics equipment inside the advertising model implies a better user satisfaction. This research has proven that use within the brokerage model is low, and the

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correlation among utilization frequency and utilization pleasure of web analytics tools is the best. It means that internet analytics equipment in the brokerage version are no longer recognized sufficient and promoting campaigns for added use inside the version is needed. The consequences presenting a correlation among frequency and pleasure for the referred to activities and a correlation between frequency and pleasure within the commercial enterprise fashions are as expected.

VII. Future Work

In this paper we had analysed the security of cdn and protection against DDOS attack. Double validation is taken place in onclose event ,but in new version of browser on close event work only if user had made any change action in the page .otherwise on close event doesn't work. For resolving the DDOS there is another method for by tracking the time interval of user staying in the particular webpage. We can find the continuous attack using time interval. Also make session and route-based analysis. This type of analysis is good and but it should handle more error as comparing because more data is fetched so it requires very good and efficient security than the proposed system.

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