

CC Mini project : Data storage management using cloud for Online store

Title: Implement data storage management for online store using cloud services.

Introduction: The term storage management encompasses the technologies and processes organizations use to maximize or improve the performance of their data storage resources. It is a broad category that includes virtualization, replication, mirroring, security, compression, traffic analysis, process automation, storage provisioning and related techniques.

OwnCloud : ownCloud is a suite of [client–server software](#) for creating [file hosting services](#) and using them. ownCloud is functionally very similar to the widely used [Dropbox](#), with the primary functional difference being that the Server Edition of ownCloud is [free and open-source](#), and thereby allowing anyone to install and operate it without charge on a [private server](#). It also supports extensions that allow it to work like [Google Drive](#), with online document editing, calendar and contact synchronization, and more. Its openness avoids enforced [quotas](#) on storage space or the number of connected clients, instead having hard limits (like on storage space or number of users) defined only by the physical capabilities of the server.

Implementation Details:

The cloud storage management portal mechanism provides a feature for data owners to publish and share data with other cloud consumers inside or outside of the cloud environment. Here we have one original file from which users can access data and on increasing number of requests file gets replicated based on some threshold value and users can access now from newly replicated files, by doing this we can manage the load or traffic on cloud. Also, we have divided MySQL data, i.e, tuples of table (500 tuples) into equal sized files (1 KB) on cloud in the form of buckets. Using form.html file we fetch the number of requests made by the user and using action.php we fetch the request and if no of request exceed the threshold value the data is replicated .

Codes:

form.html

```
<!DOCTYPE html>
<html>
<body>
<h2>Access to OwnCloud Storage</h2>
<p>Enter the Number of Times You Want To Request File:</p>
<form action="/action.php" method="post">
  Requests
  <input type="number" name="Requests">
  <input type="submit">
</form>
</body>
```

</html>

Action.php

```
<?php
$num="";
$count=0;
$num = $_POST['Requests'];
for ($x = 1; $x <= $num; $x++)
{
    if($x%50==0)
    {
        $count++;
        $a='data'. $count.'.txt';
        //$my_file = 'file.txt';
        //$handle = fopen($my_file, 'w') or die('Cannot open file: ' . $my_file);
        $fp = fopen('C:\xampp\htdocs\arti\data'. $count.'.txt', "wb");
        $content
=copy('C:\xampp\htdocs\arti\data0.txt','C:\xampp\htdocs\arti\data'. $count.'.txt');
        //fwrite($fp,$content);
        $logfile = 'C:\xampp\htdocs\arti\data'. $count.'.txt';
        $my_file = file_get_contents($logfile);
        echo $x . " ";
        echo $my_file ;
        echo "<br>";
        fclose($fp);
    }
    else
    {
        $logfile = 'C:\xampp\htdocs\arti\data'. $count.'.txt';
        $my_file = file_get_contents($logfile);
        echo $x . " ";
        echo $my_file ;
        echo "<br>";
    }
}
?>
```

connect.php

```
<?php
$servername = "localhost";
$username = "root";
$password = "password";
$dbname = "owncloud";
$count1=0;
$i=0;
$conn = new mysqli($servername, $username, $password, $dbname);
if ($conn->connect_error) {
```

```

        die("Connection failed: " . $conn->connect_error);
    }
    $sql = "SELECT id, first_name, last_name, email, gender,city, state FROM MOCK_DATA";
    $result = $conn->query($sql);
    if ($result->num_rows > 0) {
        $myfile = fopen('C:\xampp\htdocs\information\userdata'.$count1.'.txt', "w") or die("Unable to open file!");
        while($row = $result->fetch_assoc()) {
            if($i>1250)
            {
                $count1++;
                $myfile = fopen('C:\xampp\htdocs\information\userdata'.$count1.'.txt', "wb");// or
                die("Unable to open file!");
            }

            $txt = "User_id : ".$row["id"]. PHP_EOL;
            fwrite($myfile, $txt);
            $txt = "Firstname : ".$row["first_name"]. PHP_EOL;
            fwrite($myfile, $txt);
            $txt = "Last Name : ".$row["last_name"]. PHP_EOL;
            fwrite($myfile, $txt);
            $txt = "Email : ".$row["email"]. PHP_EOL;
            fwrite($myfile, $txt);
            $txt = "Gender : ".$row["gender"]. PHP_EOL;
            fwrite($myfile, $txt);
            $txt = "City : ".$row["city"]. PHP_EOL;
            fwrite($myfile, $txt);
            $txt = "State : ".$row["state"]. PHP_EOL;
            fwrite($myfile, $txt);
            $txt = PHP_EOL;
            fwrite($myfile, $txt);

            $filename =
            'C:\xampp\htdocs\information\userdata'.$count1.'.txt';
            $i=filesize($filename);
            clearstatcache();
        }
    } else {
        echo "0 results";
    }
    echo "Buckets Created";
    echo "<br>";
    $count1++;
    echo "Number of buckets formed ".$count1;
    $conn->close();
?>

```

Output Screens:

File handling


Maximum upload size (max. possible: 2 GB)

Access to OwnCloud Storage

Enter the Number of Times You Want To Request File:

Requests

Buckets Created
Number of buckets formed 56

 Files ▾

ownCloud 8.1.12 is available. Get more information on how to update.

admin ▾

All files

Favorites


Shared with you

Shared with others

Shared by link


External storage

Deleted files



Information

New



	Name ▲	Size	Modified
<div>owner: jill-1 Permissions: Local Network Status: 100 Size: 10</div>	userdata0.txt	1 kB	a day ago
<div>owner: jill-1 Permissions: Local Network Status: 100 Size: 10</div>	userdata1.txt	1 kB	a day ago
<div>owner: jill-2 Permissions: Local Network Status: 100 Size: 10</div>	userdata2.txt	1 kB	a day ago
<div>owner: jill-2 Permissions: Local Network Status: 100 Size: 10</div>	userdata3.txt	1 kB	a day ago
<div>owner: jill-3 Permissions: Local Network Status: 100 Size: 10</div>	userdata4.txt	1 kB	a day ago
<div>owner: jill-4 Permissions: Local Network Status: 100 Size: 10</div>	userdata5.txt	1 kB	a day ago
<div>owner: jill-5 Permissions: Local Network Status: 100 Size: 10</div>	userdata6.txt	1 kB	a day ago
<div>owner: jill-6 Permissions: Local Network Status: 100 Size: 10</div>	userdata7.txt	1 kB	a day ago
<div>owner: jill-7 Permissions: Local Network Status: 100 Size: 10</div>	userdata8.txt	1 kB	a day ago
<div>owner: jill-8 Permissions: Local Network Status: 100 Size: 10</div>	userdata9.txt	1 kB	a day ago

Server: 127.0.0.1 » Database: owncloud » Table: mock_data

Showing rows 0 - 24 (500 total, Query took 0.0048 seconds)

SELECT * FROM `mock_data`

Options: ☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

1 > >> | Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

				id	first_name	last_name	email	gender	city	state
<input type="checkbox"/>	Edit	Copy	Delete	1	Irwin	Byrcher	ibyrcher0@e-recht24.de	Male	Birmingham	Alabama
<input type="checkbox"/>	Edit	Copy	Delete	2	Pet	Boast	pboast1@cafeexpress.com	Female	Worcester	Massachusetts
<input type="checkbox"/>	Edit	Copy	Delete	3	Aland	Lelievre	alelievre2@samsung.com	Male	Olympia	Washington
<input type="checkbox"/>	Edit	Copy	Delete	4	Elisa	Blodgetts	eblodgetts3@columbia.edu	Female	Wilkes Barre	Pennsylvania
<input type="checkbox"/>	Edit	Copy	Delete	5	Vito	Kingman	vkingman4@google.ca	Male	El Paso	Texas
<input type="checkbox"/>	Edit	Copy	Delete	6	Sadye	Demageard	sdemageard5@vimeo.com	Female	Charleston	West Virginia
<input type="checkbox"/>	Edit	Copy	Delete	7	Byron	Hinckley	bhinckley6@forbes.com	Male	Chicago	Illinois
<input type="checkbox"/>	Edit	Copy	Delete	8	Tamma	Mayger	tmayger7@narod.ru	Female	El Paso	Texas
<input type="checkbox"/>	Edit	Copy	Delete	9	Steffen	Mundee	smundee8@usnews.com	Male	Honolulu	Hawaii
<input type="checkbox"/>	Edit	Copy	Delete	10	Igor	Bugler	ibugler9@msu.edu	Male	Chandler	Arizona
<input type="checkbox"/>	Edit	Copy	Delete	11	Rafi	Reinbeck	rreinbecka@latimes.com	Male	Tampa	Florida
<input type="checkbox"/>	Edit	Copy	Delete	12	Miguel	Stanner	mstannerb@shop-pro.jp	Male	Terre Haute	Indiana
<input type="checkbox"/>	Edit	Copy	Delete	13	Andris	Benne	abennecc@ihg.com	Male	Montgomery	Alabama
<input type="checkbox"/>	Edit	Copy	Delete	14	Ralph	Klugel	rklugeld@yahoo.co.jp	Male	Virginia Beach	Virginia

Conclusion: Data management is implemented using PHP script in which as soon as more users try to access the files present on cloud, the files are replicated and the new users access the new file. In this way, elasticity is shown in ownCloud. Data from MySQL is fetched and Buckets of 1 KB are created and stored on OwnCloud.