**Software Development for Cloud Computing**

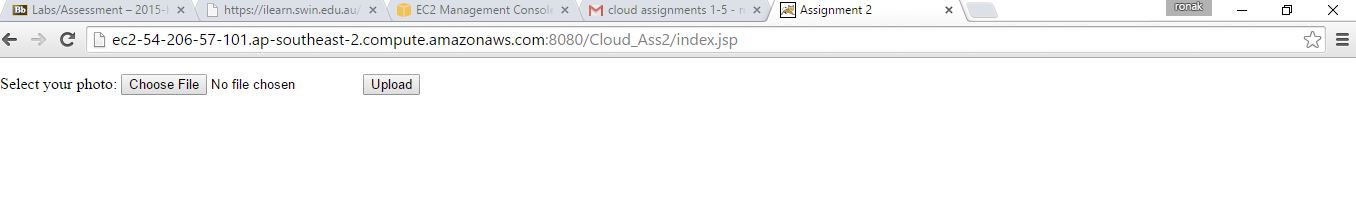
**Assignment 2**

**Name - Ronak Shah**

**Student Id - 4949773**

**Unit Code - COS80001**

**Title - Web album with Amazon EC2 and S3 (Submission for Assignment 2)**

**Index.jsp (picture)**

**Filedisplay.jsp (picture)**

**List of Programs**

**index.jsp**

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

<!DOCTYPE html>

<html lang = *"en"*>

<!-- This page shows option to upload the photo by browsing in the computer and upload it in bucket -->

<head>

<meta charset = *"utf-8"*/>

<meta name = *"description"* content = *"Index Page"*/>

<meta name = *"author"* content = *"Ronak Shah"*/>

<title> Assignment 2 </title>

</head>

<body>

<!-- This helps to browse in the computer -->

<form ENCTYPE = *"multipart/form-data"* ACTION = *"fileupload.jsp"* METHOD= *post*>

<p> Select your photo:

<input name=*"file"* type=*"file"*>

<input type=*"submit"* value=*"Upload"*>

</p>

</form>

</body>

</html>

**fileupload.jsp**

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">

<%@ page import=*"java.io.\*"*%>

<%@ page import=*"java.io.ByteArrayInputStream"*%>

<%@ page import=*"java.io.InputStream"*%>

<%@ page import=*"com.amazonaws.auth.BasicAWSCredentials"*%>

<%@ page import=*"com.amazonaws.services.s3.AmazonS3"*%>

<%@ page import=*"com.amazonaws.services.s3.AmazonS3Client"*%>

<%@ page import=*"com.amazonaws.services.s3.model.CannedAccessControlList"*%>

<%@ page import=*"com.amazonaws.services.s3.model.ObjectMetadata"*%>

<%

String save\_file = "";

String content\_type = request.getContentType();

// Means response that we are going to send to the client is one of the MIME type

**if**((content\_type != **null**) && (content\_type.indexOf("multipart/form-data")>=0)){

// Means if content\_type has some value then only we will proceed

DataInputStream in = **new** DataInputStream(request.getInputStream());

// DIS helps to write and read primitive data type to a media such as file

**int** length = request.getContentLength();

//gives length of the content

**byte** data\_bytes[] = **new** **byte**[length];

**int** bytes\_read = 0;

**int** total\_bytes\_read = 0;

**while** (total\_bytes\_read < length){

bytes\_read = in.read(data\_bytes, total\_bytes\_read, length);

total\_bytes\_read += bytes\_read;

}

String file = **new** String(data\_bytes);

// spplit the filename so that we can get the exact path

String new\_file = file;

save\_file = file.substring(file.indexOf("filename=\"")+10);

String[] part = new\_file.split("filename=\"");

String second\_part = part[1];

// Excat path is required to upload the photo at bucket

String right\_path = second\_part.split("\"")[0];

save\_file = save\_file.substring(0, save\_file.indexOf("\n"));

save\_file = save\_file.substring(save\_file.lastIndexOf("\\")+ 1, save\_file.indexOf("\""));

**int** last\_index = content\_type.lastIndexOf("=");

String boundary = content\_type.substring(last\_index + 1, content\_type.length());

**int** position;

position = file.indexOf("filename=\"");

position = file.indexOf("\n", position) + 1;

position = file.indexOf("\n", position) + 1;

position = file.indexOf("\n", position) + 1;

**int** boundary\_location = file.indexOf(boundary, position) - 4;

**int** start\_position = ((file.substring(0, position)).getBytes()).length;

**int** end\_position = ((file.substring(0, boundary\_location)).getBytes()).length;

String name = save\_file;

//save\_file = "C://Ronak/" + save\_file;

File files = **new** File(save\_file);

FileOutputStream file\_out = **new** FileOutputStream(files);

file\_out.write(data\_bytes, start\_position, end\_position - start\_position);

%>

<html>

<p>Successfully Uploaded the photo :)</p>

<p>With the name: </p>

<%

// bucket name

String bucket\_name = "r.shah";

// set the path that we got earlier

File file\_path = **new** File(right\_path);

**byte**[] content = **new** **byte**[(**int**) file\_path.length()];

**try** {

//set the credentials

AmazonS3 client = **new** AmazonS3Client(

**new** BasicAWSCredentials("AKIAIQK2HLYNPERVYG5Q",

"RppGRXgNfyYFDod8lCJpoWpPRZWG8P99xkd3dAXE"));

out.println(name);

InputStream in\_stream = **new** FileInputStream(right\_path);

ObjectMetadata meta\_data = **new** ObjectMetadata();

meta\_data.setContentLength(content.length);

meta\_data.setContentType("application/jpg");

client.putObject(bucket\_name, name, in\_stream, meta\_data);

client.setObjectAcl(bucket\_name, name, CannedAccessControlList.PublicRead);

%>

<%

}// if error occurs it will catch the exception

**catch** (Exception ex) {

System.out.println(ex);

}

file\_out.flush();

file\_out.close();

}

%>

</html>

**display.jsp**

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

<!DOCTYPE html>

<html lang = *"en"*>

<!-- This page will help to display the photo album -->

<head>

<meta charset = *"utf-8"*/>

<meta name = *"description"* content = *"Display Page"*/>

<meta name = *"author"* content = *"Ronak Shah"*/>

<title> Assignment 2 </title>

</head>

<body >

<!-- Filedisplay.jsp will be called on clicking click here -->

<form ACTION = *"filedisplay.jsp"* METHOD= *post*>

<p> Photos will we displayed in alphabetic order </p>

<br/>

<br/>

<p> To see photos

<input type=*"submit"* value=*"Click Here"*>

</p>

</form>

</body>

</html>

**filedisplay.jsp**

<%@ page language=*"java"* contentType=*"text/html; charset=ISO-8859-1"*

pageEncoding=*"ISO-8859-1"*%>

<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN" "http://www.w3.org/TR/html4/loose.dtd">

<html>

<head>

<meta http-equiv=*"Content-Type"* content=*"text/html; charset=ISO-8859-1"*>

<title>Insert title here</title>

</head>

<body>

<table>

<tr>

<%@page import = *"java.io.ByteArrayInputStream"*%>

<%@page import = *"java.io.File"*%>

<%@page import = *"java.util.List"*%>

<%@page import = *"com.amazonaws.auth.AWSCredentials"*%>

<%@page import = *"com.amazonaws.auth.BasicAWSCredentials"*%>

<%@page import = *"com.amazonaws.util.StringUtils"*%>

<%@page import = *"com.amazonaws.services.s3.AmazonS3"*%>

<%@page import = *"com.amazonaws.services.s3.AmazonS3Client"*%>

<%@page import = *"com.amazonaws.services.s3.model.Bucket"*%>

<%@page import = *"com.amazonaws.services.s3.model.CannedAccessControlList"*%>

<%@page import = *"com.amazonaws.services.s3.model.GeneratePresignedUrlRequest"*%>

<%@page import = *"com.amazonaws.services.s3.model.GetObjectRequest"*%>

<%@page import = *"com.amazonaws.services.s3.model.ObjectListing"*%>

<%@page import = *"com.amazonaws.services.s3.model.ObjectMetadata"*%>

<%@page import = *"com.amazonaws.services.s3.model.S3ObjectSummary"*%>

<%@page import = *"com.amazonaws.ClientConfiguration"*%>

<%@page import = *"com.amazonaws.Protocol"*%>

<%

// Enter the Credentials

String access\_key = "AKIAIQK2HLYNPERVYG5Q";

String secret\_key = "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";

AWSCredentials credential = **new** BasicAWSCredentials(access\_key, secret\_key);

// Creates connection to interact with the server

ClientConfiguration client\_config = **new** ClientConfiguration();

client\_config.setProtocol(Protocol.HTTP);

AmazonS3 conn = **new** AmazonS3Client(credential, client\_config);

conn.setEndpoint("s3-ap-southeast-2.amazonaws.com");

//List<Bucket> buckets = conn.listBuckets();

// Gets the list of object in the bucket and print it out

ObjectListing object = conn.listObjects("r.shah");

**do** {

**for** (S3ObjectSummary objects : object

.getObjectSummaries()) {

out.print("<td><img src=\"https://s3-ap-southeast-2.amazonaws.com/r.shah/"

+ objects.getKey() + "\"/></td>");

out.println(objects.getKey() + "\t" +

objects.getSize() + "\t" +

StringUtils.fromDate(objects.getLastModified()));

}

object = conn.listNextBatchOfObjects(object);

} **while** (object.isTruncated());

%>

</tr>

</table>

</body>

</html>