

Ezy Imaging Suite – Ezy Image Capture

Java Applet Version (v4.8.0) for Oracle Apex

Deployment Guide

Since we have bundled ALL our 6 different products available within Ezy Imaging Suite as one Oracle Apex sample application to make it easy to demo all the available functionalities and features of each product, you will only need to deploy this Zip file once. You can skip this Deployment Guide if you have already performed this task before.

- Unzip the Evaluation Version Zip file, **EIS_Applet_OracleApex_V480.zip**, into a temporary folder on your Web/Application Server deployment platform, which may be Apache Tomcat Server, Oracle GlassFish Server or Oracle WebLogic Server with Oracle REST Data Services (formerly Apex Listener) installed within this server.
- On your Web/Application Server platform that is used to serve requests for Oracle Apex applications, create a Virtual Path **“/EIS”** that maps to the physical filepath that will be used for downloading the Java JAR files to your client machine from its **‘java’** subfolder, and the sample Apex Application images from its **‘images’** subfolder.
- The sample Apex application uses this **“/EIS”** virtual path within 2 Substitution Variables, namely **“EIS_IMAGES_PATH”**, which currently points to **“http://asus-bob:8086/EIS/images/”** and **“EIS_JAVA_PATH”**, which points to **http://asus-bob:8086/EIS/java/**.

Following are the instructions on how to do this within the various deployment platforms under Windows environment, as an example. Similar settings need to be done under Linux/UNIX environment:

Apache Tomcat Server

In the **‘conf’** folder where Tomcat has been deployed, example, **‘C:\Program Files (x86)\Apache Software Foundation\Tomcat 8.5\conf’**, create the Context entry in the file called **‘server.xml’** inside the **‘Host’** tag, as follows:

```
<Host name="localhost" appBase="webapps"
      unpackWARs="true" autoDeploy="true">

    <Context path="/EIS" docBase="C:\Applications\EzyImagingSuite\Applet/"

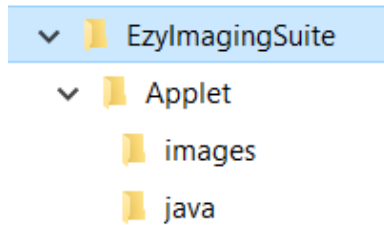
    <!-- SingleSignOn valve, share authentication between web applications
         Documentation at: /docs/config/valve.html -->
    <!--
    <Valve className="org.apache.catalina.authenticator.SingleSignOn" />
    -->

    <!-- Access log processes all example.
         Documentation at: /docs/config/valve.html
         Note: The pattern used is equivalent to using pattern="common" -->
    <Valve className="org.apache.catalina.valves.AccessLogValve" directory="logs"
          prefix="localhost_access_log" suffix=".txt"
          pattern="%h %l %u %t &quot;%r&quot; %s %b" />

</Host>
```

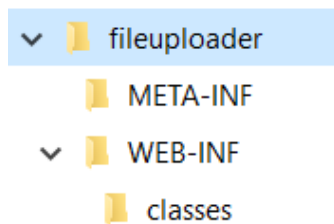
On your Tomcat deployment platform, create the physical folder as per your physical filepath specified above. Copy the subfolders, '**java**' and '**images**' from your temporary folder into this EIS root folder.

Example on Windows platform you should have:



If you intend to use the Web/Application Server folder(s) as your Imaging/PDF Documents URL Repository, you will need to deploy '**fileuploader.war**' from the unzipped temporary folder into Tomcat Server's deployment folder by copying this file into the '**webapps**' folder, eg, "C:\Program Files (x86)\Apache Software Foundation\Tomcat 8.5\webapps".

If Auto-Deployment has been set to be true, Tomcat will automatically deploy this file to create the following structure under 'webapps' folder:



In 'WEB-INF' folder there should be a file called '**web.xml**', and in 'classes' folder there should be a file called '**ReceiveFileServlet.class**'.

This Java Servlet is referenced and used by the Apex Application and the Java-side components (ie, Ezy Image Capture, Ezy Image Manager, Ezy PDF Capture and Ezy PDF Manager) to upload your Imaging/PDF document to any Web/Application Server folder, provided there are no restrictions to allow files to be written to the relevant folder during the upload process.

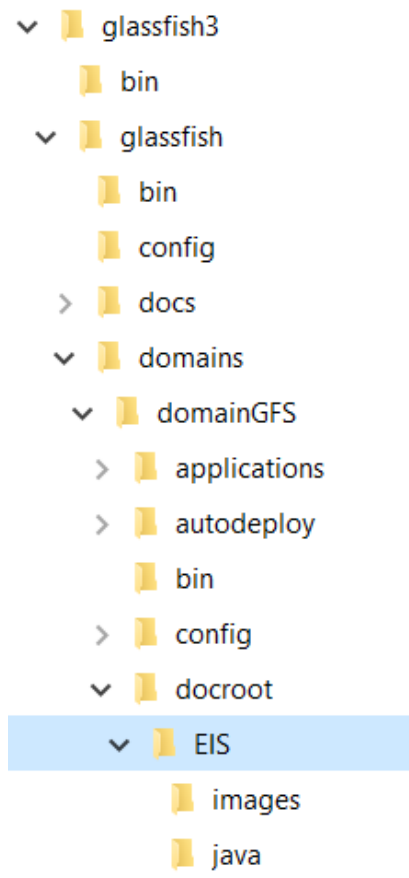
FYI, a substitution variable called '**EIS_FILEUPLOADER_PATH**' is defined within the sample Apex Application to make it easy to change the Fileuploader URL, depending on where you have deployed '**fileuploader.war**' file on.

This substitution variable is used within the 4 Apex Pages mentioned above within the Applet definition Region Source. Change the Hostname and Port according to your own environment setting.

Oracle GlassFish Server

To create the virtual path, create a folder called **'EIS'** under your Glassfish Domain's **'docroot'** folder, and copy both the **'images'** and **'java'** folders into this 'EIS' folder.

For example on a Windows platform, assuming that you have a domain called **'domainGFS'**, you should have a structure similar as follows:



To use the Web/Application Server folder(s) as your Imaging/PDF Documents URL Repository, auto-deploy **'fileuploader.war'** by copying this file from the unzipped temporary folder into your GlassFish domain's **'autodeploy'** folder.

This will automatically deploy the WAR file and create a similar structure to the one described within Apache Tomcat Server's notes on Page 2. This **'fileuploader'** structure will be created under the **'applications'** folder of your GlassFish Server domain.

Oracle WebLogic Server

Creation of the virtual path, **'/EIS'** is not straightforward within WebLogic Server. To provide a way of referencing the images and Java JAR files within the sample Apex application, one way of doing this is to create a Web Application and deploying its WAR file through WebLogic Admin Console, and defining the Virtual Directory Mapping within **'weblogic.xml'** file, which is as follows:

```
<?xml version="1.0" encoding="UTF-8"?>
<weblogic-web-app xmlns="http://www.bea.com/ns/weblogic/weblogic-web-app">
  <context-root>/EIS</context-root>
  <virtual-directory-mapping>
    <local-path>C:/Applications/EzyImagingSuite/Applet/</local-path>
    <url-pattern>/*</url-pattern>
  </virtual-directory-mapping>
</weblogic-web-app>
```

We have provided the sample WAR file, **"EISVirtualDirMapping.war"** within our Zip file, which only contains **web.xml** and **weblogic.xml**.

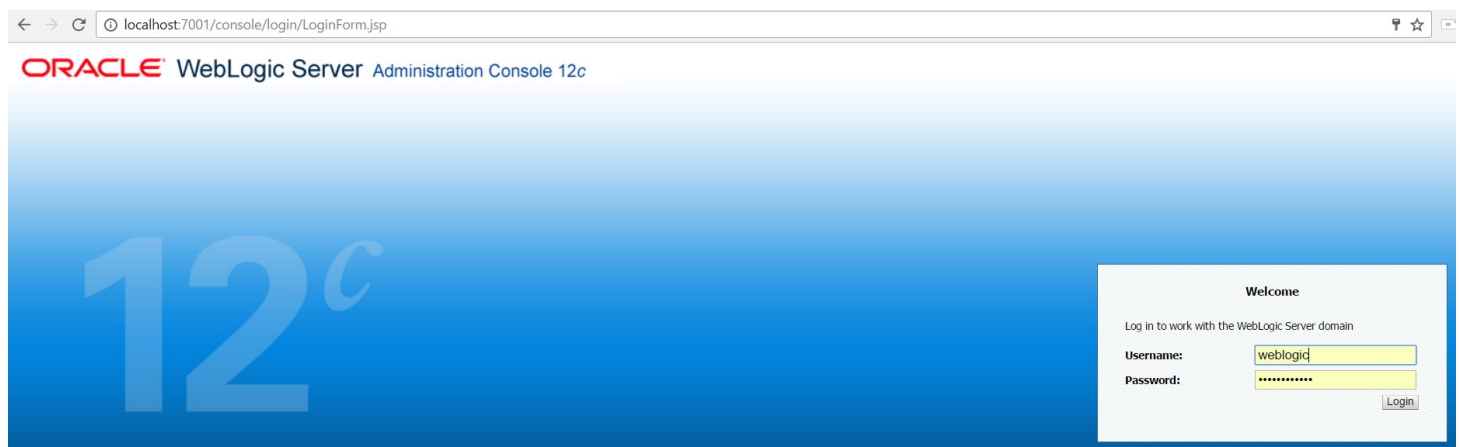
You can create a similar named Web Application Project using NetBeans or Eclipse or any other IDE, and copy both these files into the project's **WEB-INF** folder, and modify the **'<local-path>'** value to point to the physical folder that contains both your **'images'** and **'java'** folder within your WebLogic Server environment.

This project does not need any index.html or any other web page file. Once you have done this, you can build the project to generate its WAR file, as per the same name above.

To deploy this WAR file, access the WebLogic Server Administration Console. Open a web browser and enter the URL of the domain's administration console:

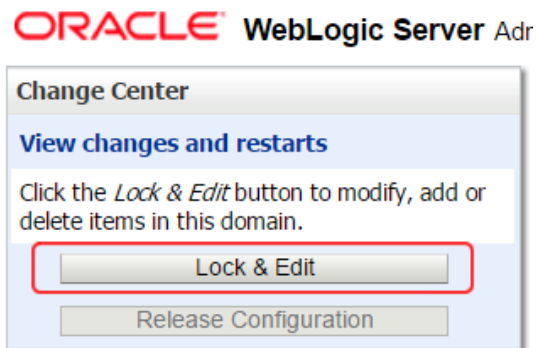
http://hostname:port/console

In this tutorial, that is: **http://asus-bob:7001/console**



Change the hostname and port according to your own environment. Log in as **'weblogic'** and its password and press **'Login'** button.

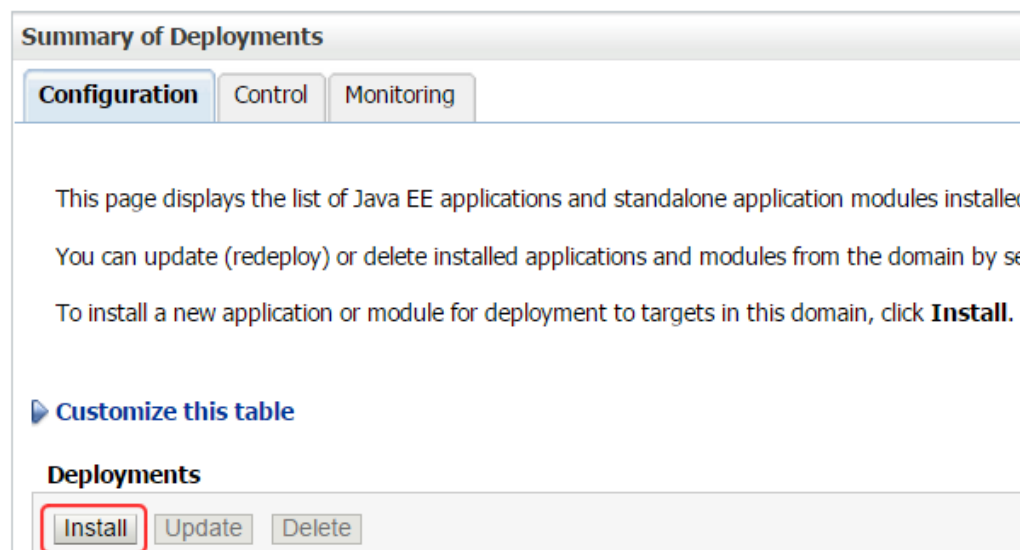
Deploying an application is a change to the domain's configuration, so it must first be locked. In the Change Center, click the **Lock & Edit** button, highlighted in a red border.



Under Domain Structure, click **Deployments**.



On the right, under Deployments, click the **Install** button.



Find the **Current Location** field. Use the links to browse to the location in which you placed the “**EISVirtualDirMapping.war**” file. There you will see this filename with a radio button next to it. Select that radio button. By using the links and the radio button, the console fills in the **Path** field for you.

Alternatively, you can type in the path and file name in the **Path** field yourself.

Then click **Next**.

Install Application Assistant

Back
Next
Finish
Cancel

Locate deployment to install and prepare for deployment
 Select the file path that represents the application root directory, archive file, exploded archive directory, or application module descriptor that you want to install. You can
 Note: Only valid file paths are displayed below. If you cannot find your deployment files, [Upload your file\(s\)](#) and/or confirm that your application contains the required

Path:
C:\Users\bob\Documents\NetBeansProjects\EISVirtualDirMapping\dist\EISVirtualDirMapping.war

Recently Used Paths:
C:\Users\bob\Documents\NetBeansProjects\EISVirtualDirMapping\dist
D:\LB_EzySolutions\EzyImageCapture\ProductDistribution\OracleApex

Current Location:
localhost \ C: \ Users \ bob \ Documents \ NetBeansProjects \ EISVirtualDirMapping \ dist

EISVirtualDirMapping.war

Back
Next
Finish
Cancel

On the next screen, ensure that **Install this deployment as an application** is selected.

Then click **Next**.

Install Application Assistant

Back
Next
Finish
Cancel

Choose installation type and scope
 Select if the deployment should be installed as an application or library. Also decide the scope of this deployment.
 The application and its components will be targeted to the same locations. This is the most common usage.

☒ **Install this deployment as an application**
 Application libraries are deployments that are available for other deployments to share. Libraries should be available on all of the targets running their referencing applications.

☐ **Install this deployment as a library**
 Select a scope in which you want to install the deployment.

Scope:
Global ▼

Back
Next
Finish
Cancel

On the next screen, select the servers and/or clusters to which you want to deploy this application.

Then click **Next**.

On my own WebLogic Server, I am deploying this to the Admin Server as well as 'cluster_forms' cluster. You should select the required deployment targets according to your own environment.

Install Application Assistant

Back

Next

Finish

Cancel

Select deployment targets

Select the servers and/or clusters to which you want to deploy this application. (You can reconfigure deployment targets later).

Available targets for EISVirtualDirMapping :

Servers

☒ AdminServer

Clusters

☒ cluster_forms

☒ All servers in the cluster
☐ Part of the cluster
☐ WLS_FORMS

☐ cluster_reports

☐ All servers in the cluster
☐ Part of the cluster
☐ WLS_REPORTS

Back

Next

Finish

Cancel

On the next screen, keep all the default values and click **Next**.

General

What do you want to name this deployment?

* Name:

Security

What security model do you want to use with this application?

☒ **DD Only:** Use only roles and policies that are defined in the deployment descriptors.

☐ **Custom Roles:** Use roles that are defined in the Administration Console; use policies that are defined in the deployment descriptor.

☐ **Custom Roles and Policies:** Use only roles and policies that are defined in the Administration Console.

☐ **Advanced:** Use a custom model that you have configured on the realm's configuration page.

Source Accessibility

How should the source files be made accessible?

☒ **Use the defaults defined by the deployment's targets**

Recommended selection.

☐ **Copy this application onto every target for me**

During deployment, the files will be copied automatically to the Managed Servers to which the application is targeted.

☐ **I will make the deployment accessible from the following location**

Location:

Provide the location from where all targets will access this application's files. This is often a shared directory. You must ensure the application files exist in this location and that each target can reach the location.

Plan Source Accessibility

How should the plan source files be made accessible?

☒ **Use the same accessibility as the application**

Recommended selection.

☐ **Copy this plan onto every target for me**

During deployment, the plan files will be copied automatically to the Managed Servers to which the application is targeted.

☐ **Do not copy this plan to targets**

You must ensure the plan files exist in the shared location and that each target can reach the location.

On the next screen, select **No, I will review the configuration later**. Then click **Finish**.

Install Application Assistant

Back Next Finish Cancel

Review your choices and click Finish

Click Finish to complete the deployment. This may take a few moments to complete.

Additional Configuration

In order to work successfully, this application may require additional configuration. Do you want to review this application's configuration after completing this assistant?

☐ Yes, take me to the deployment's configuration screen.

☒ No, I will review the configuration later.

Summary

Deployment: C:\Users\bob\Documents\NetBeansProjects\EISVirtualDirMapping\dist\EISVirtualDirMapping.war

Name: EISVirtualDirMapping

Staging Mode: Use the defaults defined by the chosen targets

Plan Staging Mode: Use the same accessibility as the application

Security Model: DDOnly: Use only roles and policies that are defined in the deployment descriptors.

Scope: Global

Target Summary

Components 	Targets
EISVirtualDirMapping	AdminServer, cluster_forms

Back Next Finish Cancel

Notice the messages that the deployment was installed, but changes must be activated. Also notice the **EISVirtualDirMapping** application listed in the Deployments table.

Home > Summary of Deployments

Messages

- ✓ The deployment has been successfully installed.
- ✓ You must also activate the pending changes to commit this, and other updates, to the active system.

Summary of Deployments

Configuration Control Monitoring

This page displays the list of Java EE applications and standalone application modules installed to this domain.

You can update (redeploy) or delete installed applications and modules from the domain by selecting the checkbox next to the application name and then using the controls on this page.

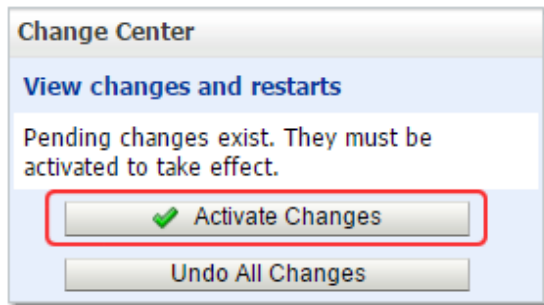
To install a new application or module for deployment to targets in this domain, click **Install**.

Customize this table

Deployments

Install Update Delete			Showing 1 to 10 of 61 Previous Next					
<input type="checkbox"/>	Name	State	Health	Type	Targets	Scope	Domain Partitions	Deployment Order
<input type="checkbox"/>	adf.oracle.businesseditor(1.0,12.2.1.1.0)	Active		Library	AdminServer, cluster_forms, cluster_reports	Global		100
<input type="checkbox"/>	adf.oracle.domain(1.0,12.2.1.1.0)	Active		Library	AdminServer, cluster_forms, cluster_reports	Global		100
<input type="checkbox"/>	adf.oracle.domain.webapp(1.0,12.2.1.1.0)	Active		Library	AdminServer, cluster_forms, cluster_reports	Global		100
<input type="checkbox"/>	coherence-transaction-rar	Active	✓ OK	Resource Adapter	AdminServer, cluster_forms, cluster_reports	Global		100
<input type="checkbox"/>	DMS Application (12.2.1.1.0)	Active	✓ OK	Web Application	AdminServer, cluster_forms, cluster_reports	Global		5
<input type="checkbox"/>	EISVirtualDirMapping	distribute Initializing		Web Application	AdminServer, cluster_forms	Global		100
<input type="checkbox"/>	em	Active	✓ OK	Enterprise Application	AdminServer	Global		400
<input type="checkbox"/>	emagentsdkimplpriv_jar(12.4,12.1.0.4.0)	Active		Library	AdminServer	Global		100
<input type="checkbox"/>	emagentsdkimpl_jar(12.4,12.1.0.4.0)	Active		Library	AdminServer	Global		100
<input type="checkbox"/>	emagentsdk_jar(12.4,12.1.0.4.0)	Active		Library	AdminServer	Global		100
Install Update Delete			Showing 1 to 10 of 61 Previous Next					

In the Change Center, click the **Activate Changes** button.



Notice the message that the changes have been activated. Also notice the **EISVirtualDirMapping** application listed in the Deployments table is now in the "Prepared" state.

<input type="checkbox"/>	EISVirtualDirMapping	Prepared	✓ OK	Web Application
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Click on the 'Control' tab, select the check box to the left of the **EISVirtualDirMapping** application in the Deployments table. Then use the **Start** drop-down list to select '**Servicing all requests**'.

Configuration **Control** Monitoring

You can start and stop applications and modules from the domain by selecting the checkbox next to the application name and then using the controls on this page.

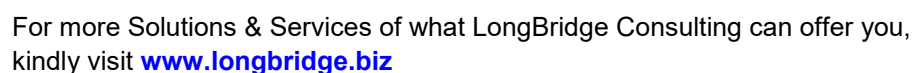
Deployments

In the 'Start Application Assistant' screen, click '**Yes**' button to continue.

A message is displayed indicating a start request was sent. Momentarily you will see the State of the **EISVirtualDirMapping** application become "Active." This means that the application is available to those that have access to the server.

To test if you can access one of the image files within your **'images'** folder, enter the following in another web browser session (change hostname and port according to your environment):

You should see displayed within the browser:



To use the Web/Application Server folder(s) as your Imaging/PDF Documents URL Repository, you will also need to deploy **'fileuploader.war'** using the same steps, from Page 5 to 11, as you had performed to deploy **'EISVirtualDirMapping.war'** file earlier.

For more information on how to deploy, update and undeploy applications on Oracle WebLogic Server, please refer to the following website:

<http://www.oracle.com/webfolder/technetwork/tutorials/obe/fmw/wls/12c/03-DeployApps/deployapps.htm>

Once deployed, to reference this **'ReceiveFileServlet'** Java class from the Apex Application, change the **Substitution variable** called **'EIS_ FILEUPLOADER _PATH'** within your Apex Application.

Let us suppose that the following are the hostname and port for the 3 different deployment platforms:

- **Apache Tomcat Server:** **<http://asus-bob:8086>**
- **Oracle GlassFish Server:** **<http://asus-bob:8087>**
- **Oracle WebLogic Server:** **<http://asus-bob:7001>**

When using Tomcat, change **'EIS_ FILEUPLOADER _PATH'** to be:

<http://asus-bob:8086/fileuploader/ReceiveFileServlet>

When using GlassFish, change **'EIS_ FILEUPLOADER _PATH'** to be:

<http://asus-bob:8087/fileuploader/ReceiveFileServlet>

When using WebLogic, change **'EIS_ FILEUPLOADER _PATH'** to be:

<http://asus-bob:7001/fileuploader/ReceiveFileServlet>

Confirm that you have the following image files within the 'images' subfolder of the EIS root folder:

- **EIS_Logo.png**
- **warnProgress.gif**

- Confirm that you have the following JAR files within the 'java' subfolder of the EIS root folder:

- **imgscalr-lib-4.2.jar**
- **jai_codec.jar**
- **jai_core.jar**
- **jai_imageio.jar**
- **jdeli.jar**
- **joda-time-2.7.jar**
- **jPDFNotes.jar**
- **LB_EIC_Applet.jar**
- **LB_EIM_Applet.jar**
- **LB_EIP_Applet.jar**
- **LB_EPC_Applet.jar**
- **LB_EPM_Applet.jar**
- **LB_EPP_Applet.jar**
- **morena.jar**
- **morena_license.jar**
- **morena_windows.jar**
- **ojdbc6.jar**
- **pdfbox-app-2.0.3.jar**
- **plugin.jar**
- **thumbnailator-0.4.3.jar**

- The sample Ezy Imaging Suite (EIS) Oracle Apex application provided uses a number of database objects, which need to be created under a database schema that needs to own these objects. This user needs to be created with CONNECT and RESOURCE database roles.

For the purpose of this Evaluation Version demo, create a schema called '**EISDEMO**' with a password of '**EISDEMO**' too.

This password is referenced, in clear text form, in the sample EIS application when showcasing how Image BLOB columns are stored and retrieved through JDBC calls within EIS Java-side components.

In your own real-life production environment, you will need to implement your own mechanism of how to pass in the schema owner's password that is not in clear text form, unless it is perfectly acceptable to do so.

NOTE:

For 11g and above databases, should you create the username with a case insensitive password, ie, '**eisdemo**', please alter within your D/B thru ALTER SYSTEM statement or Parameter setting in init<db>.ora file should your organization be using case insensitive passwords:

alter system set sec_case_sensitive_logon=false scope=spfile;

- Login as EISDEMO into SQL*Plus or TOAD or any other tool, and run the SQL file called '**cr_EIS_obj.sql**'. This will create 3 database tables, namely:
 - **LB_BLOB_DOCS**
 - **LB_IMAGE_BLOB_DOCS**
 - **LB_PDF_BLOB_DOCS**

Other objects are the table's Unique Indexes as well as 3 Database Sequences.

NOTE:

ONLY **LB_BLOB_DOCS** is a MANDATORY Temporary Table used by Ezy Imaging Suite Java components when using the Database Table as an Imaging/PDF Documents Repository. When a document is saved using the Database Server Table Repository, you will need to implement your own Apex routine that will copy the BLOB column from this temporary table into the actual database table that your application uses.

See Application Process '**odp_savelImageDoc_DB**' and '**odp_savePDFDoc_DB**' as examples of these routines that are used in our sample application.

- To import the Ezy Imaging Suite Oracle Apex sample application, developed using Application Express 4.2.6.00.03, into your Oracle Database Server, log into the **INTERNAL** Oracle Apex Workspace using the Apex **ADMIN** account, and create a Workspace called '**EIS**' for the purpose of this demo and associate the existing Schema **EISDEMO** to this Workspace.
- Log into **EIS** Workspace as **ADMIN** with the correct password and press '**Import**' button to import this sample EIS application. Choose the relevant Oracle Apex Application SQL file that is within your temporary folder on your deployment platform.

If you are using **Windows**, select **f500_DOS.sql**, otherwise if using **Linux/UNIX**, select **f500_UNIX.sql**.

- Select '**EISDEMO**' as the Parsing Schema and Reuse the same **Application ID 500** or any other ID & press 'Install Application' button.
- Since our sample application is based on Theme 24, ie, Cloudy Theme, there was a slight issue with multiple regions not being displayed with any margin between 2 or more regions. As such, we have made a small modification to the CSS file, '**4_1.css**' for this theme. You should copy this file from the unzipped temporary folder into the location of your Oracle Apex images folder, particularly, '**\$APEX_IMAGES_HOME\images\themes\theme_24\css**', where **\$APEX_IMAGES_HOME** represents the folder where you have deployed all the subfolders within the 'images' folder of your Oracle Apex installation into the deployment platform.

The change made to this CSS file is to '**section.uRegion**' class, where the following line has been modified on Line# 628:

```
margin:0px 0px 2px 2px !important
```

- Should everything be installed properly without any errors, you should be able to run the application to get a good overview all the features & functionalities of Ezy Imaging Suite products when integrated with an Oracle Apex application.

Pre-requisites to run the sample EIS application:

- Ensure that you always use the latest **JRE Plug-In** to run our Ezy Imaging Suite Oracle Apex sample application. You can download the latest JRE from:

<http://java.com/en/download/>

- ALL our JAR files are signed with LongBridge's Trusted Certificate which is valid until 21-May-2019.
- Since Google Chrome no longer supports Java Applets, it is **BEST** to use the latest **Internet Explorer browser** with our sample application.
- As for **Mozilla Firefox**, you need to install the **Extended Support Release Firefox 38.4.0esr**, which works with our 'Select Folder' API. Otherwise Firefox may have issues with JVM crashing especially during selection of the Folder location where you wish to store your newly captured imaging/PDF document into, or unless you use your own method or key in the correct folder name, which will be validated to exist within one of our Java methods.
- For more info on Extended Support Release of Mozilla Firefox, check out the following URL link:

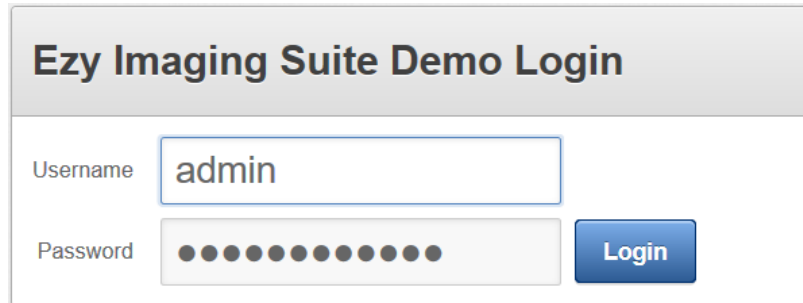
<https://support.mozilla.org/en-US/questions/1094365>

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- To run the sample application, enter a similar URL as follows in your browser (change Hostname & Port according to your environment):

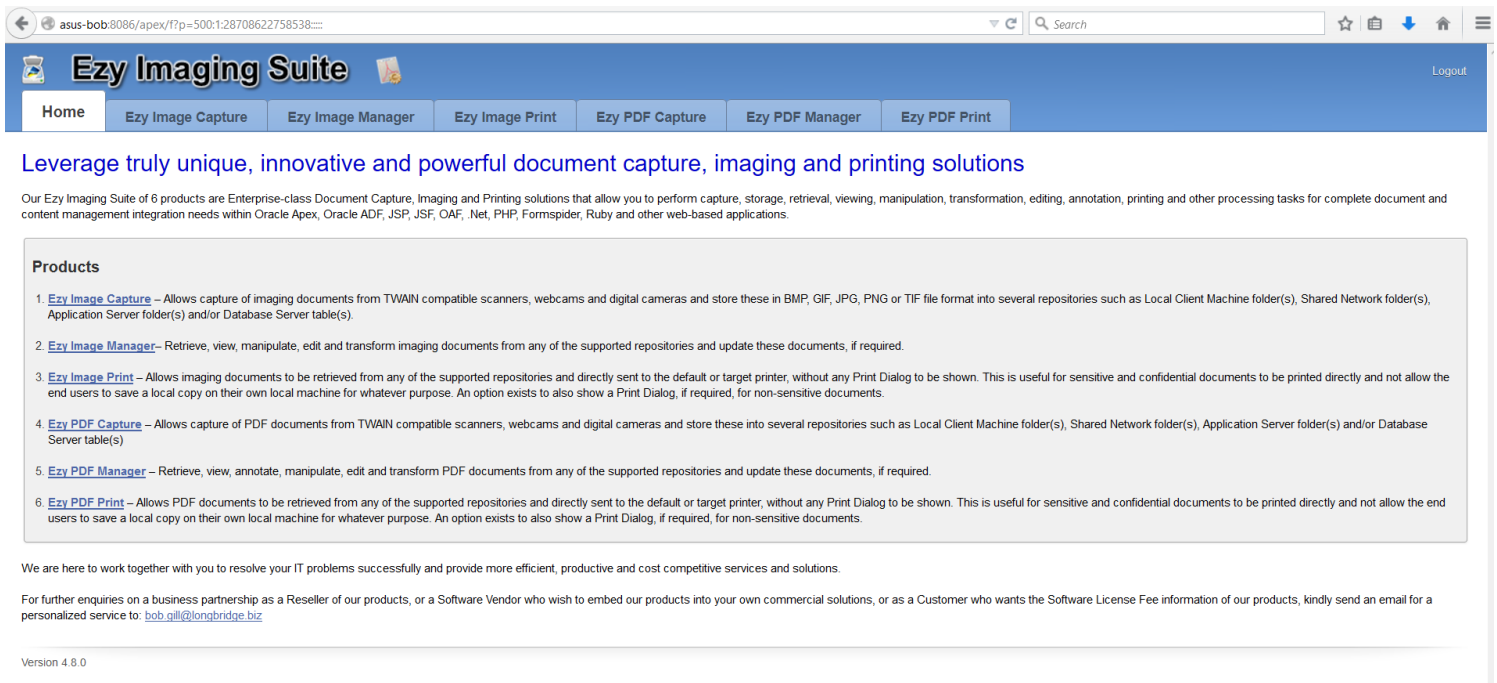
http://asus-bob:8086/apex/f?p=EIS

- Enter 'admin' and it's password in the following screen and press 'Login' button:



The login screen is titled "Ezy Imaging Suite Demo Login". It contains two input fields: "Username" with the text "admin" and "Password" with masked characters (dots). A blue "Login" button is positioned to the right of the password field.

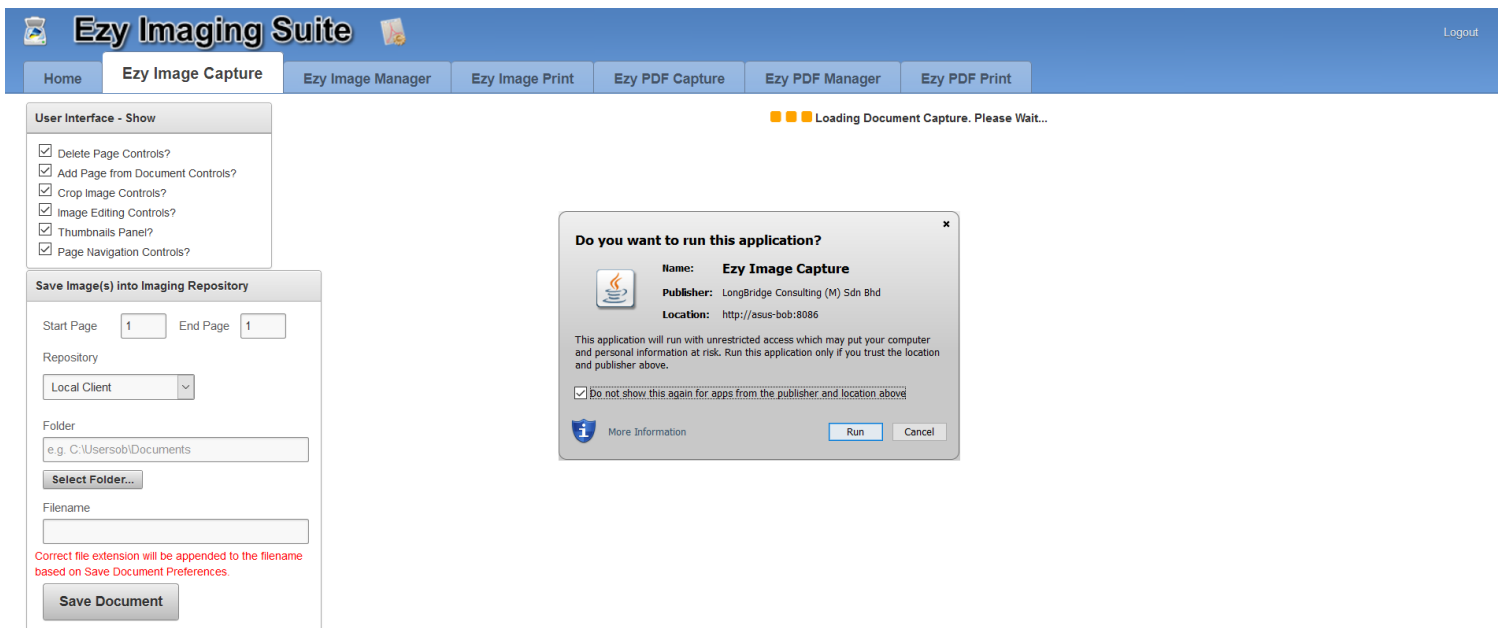
- This is the Home Page that will be presented upon successful login:



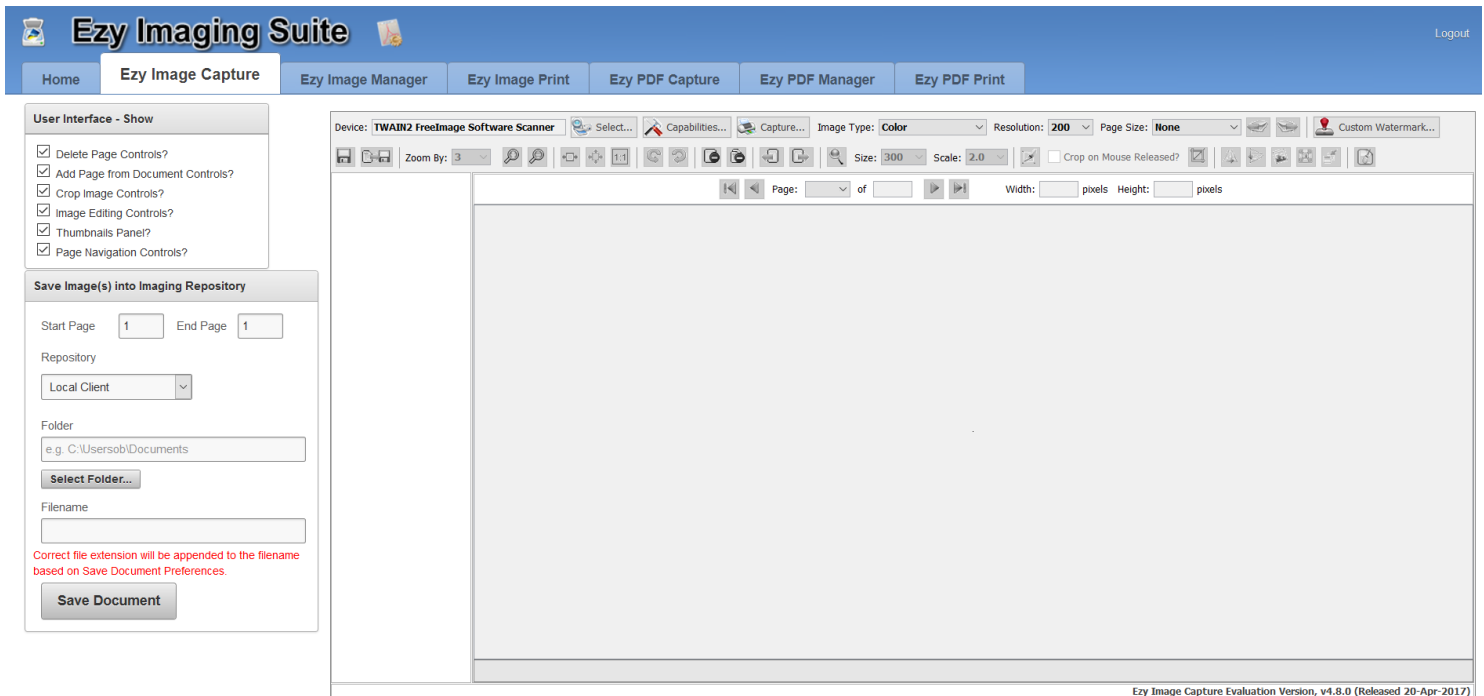
The screenshot shows the Ezy Imaging Suite Home Page. The browser address bar displays "asus-bob:8086/apex/f?p=500:1:28708622758538:...". The page has a blue header with the "Ezy Imaging Suite" logo and a "Logout" link. Below the header is a navigation bar with tabs: "Home", "Ezy Image Capture", "Ezy Image Manager", "Ezy Image Print", "Ezy PDF Capture", "Ezy PDF Manager", and "Ezy PDF Print". The main content area is titled "Leverage truly unique, innovative and powerful document capture, imaging and printing solutions". It includes a paragraph about the suite's capabilities and a "Products" section listing six items: Ezy Image Capture, Ezy Image Manager, Ezy Image Print, Ezy PDF Capture, Ezy PDF Manager, and Ezy PDF Print, each with a brief description. At the bottom, there is a footer with contact information and the version number "Version 4.8.0".

- The Home Page provides an overall summary of what Ezy Imaging Suite using our Java Applet components is all about, and a description of each of the 6 products that we currently have that can be integrated into any of the web-based technologies such as Oracle Apex, Oracle ADF, JSP, JSF, OAF, .Net, PHP, Formspider, Ruby and other web-based applications.
- Since our focus for this Tutorial is ONLY on Ezy Image Capture, please refer to the other products' Tutorial Guides on how to use the relevant product for integration into your own Enterprise Document / Content Management application.

- **Ezy Image Capture** is a product that allows capture of imaging documents from TWAIN compatible scanners, webcams and digital cameras and stores the captured page(s) in BMP, GIF, JPG, PNG or TIF file format into our supported repositories that includes Local Client Machine folder(s), Shared Network folder(s), Web/Application Server folder(s) and/or Database Server table(s).
- To navigate to the Apex Page that is integrated with this product, either click on the link '**Ezy Image Capture**' within the 'Products' region on the Home Page or click on its Tab folder.
- If this is the first time that you are visiting this Apex Page and you had not confirmed the acceptance of running Ezy Image Capture and allow our Trusted Certificate to be stored on your local client machine, then tick the checkbox that says 'Do not show this again for apps from the publisher and location above' and press the 'Run' button.



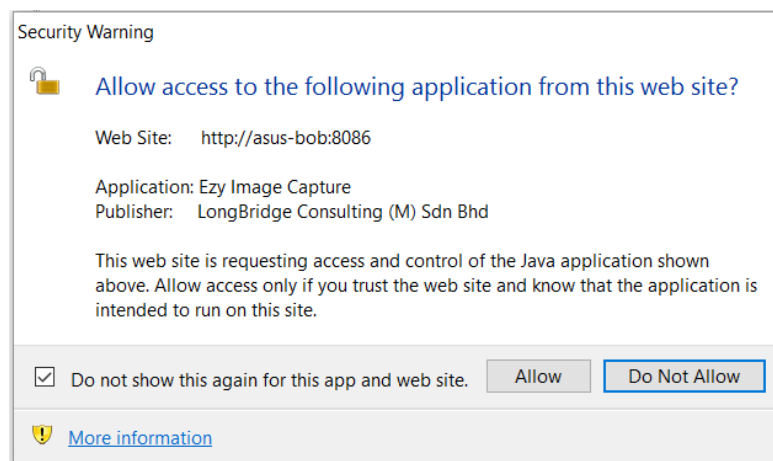
- The following screen will then be presented to you:

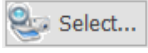


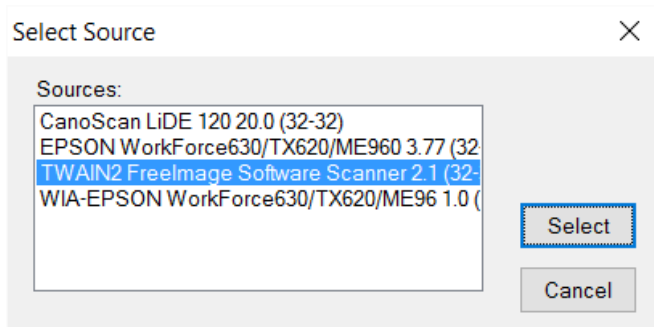
- The Apex Region **'User Interface – Show'** with some real-time configuration options are presented with all checkboxes already turned ON to display the relevant controls within the Document Capture Applet window. You may turn these controls ON or OFF at any time to suit your processing needs.

In a real live production environment, you may have already decided which User Interface components are required, and those that need to be hidden. As such you would set up your Applet parameters as desired to avoid having to provide the ability to show/hide components in real-time.

If you do call any JavaScript method that interfaces with Ezy Image Capture Java User Interface for the first time, you may be presented with the following popup. If so, tick the checkbox that says 'Do not show this again for this app and web site.' And press 'Allow' button.




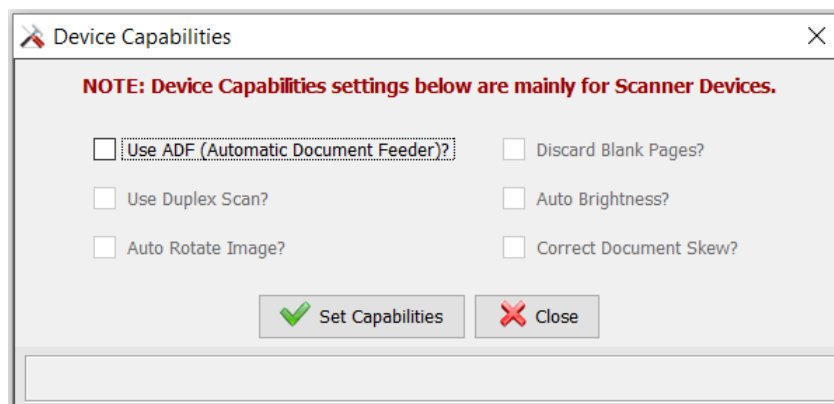
- To begin scanning, select an imaging device from the list of available devices that have already been installed on your client machine by pressing  button (Device Manager), this will pop up a similar box as follows:



- Notice that the last selected device will always be highlighted by default. If you wish to automatically select the last selected device without having to press this button upon navigating to this page, then change the parameter value from 'N' to 'Y' for '**setDefaultDevice**' parameter within the Document Capture Applet Definition, which is the following code within 'Document Capture' Region:

```
<PARAM name="setDefaultDevice" value="Y">
```

- Choose the device that you wish to capture the image(s) from and press '**Select**' button. In my case, I have selected 'TWAIN2 Freemage Software Scanner' as my device. This is a virtual scanner that can be used to quickly test the functionalities of Ezy Image Capture. Should the device be connected to your client machine and is ONLINE, you should see the 'Capabilities' & 'Capture' buttons; 'Image Type', 'Resolution' and 'Page Size' dropdown list items ENABLED, as shown on Page 20.
- Upon selecting an ONLINE device, Ezy Image Capture automatically determines the device capabilities to allow you to set only those capabilities that are available in case you need to set these without having to resort to using the device's own Native User Interface. If you press  (Set Device Capabilities) button, you should see a similar window as below:



- Set the capabilities, which are automatically ENABLED as required and press '**Set Capabilities**' or '**Close**' button to return back to the main window.

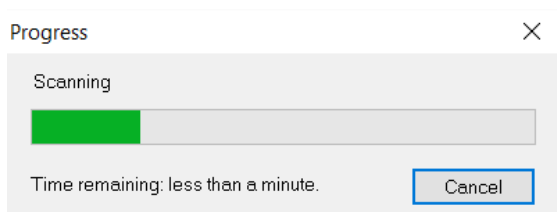
- **'Page Size'** dropdown list is also automatically populated with only those page sizes that are supported by your selected imaging device. If 'A4' paper size is available, it will be selected by default.
- **'Hide UI'** checkbox is not shown by default because at most times you do not want the selected device's Native UI to be displayed once you begin the document capture process, unless you wish to use some functions that have not been exposed by Ezy Image Capture.

The ONLY EXCEPTION to having 'Hide UI' checked but still having the Imaging Device native window displayed is when the device is a Non-WIA Scanner, Video or Camera Device.

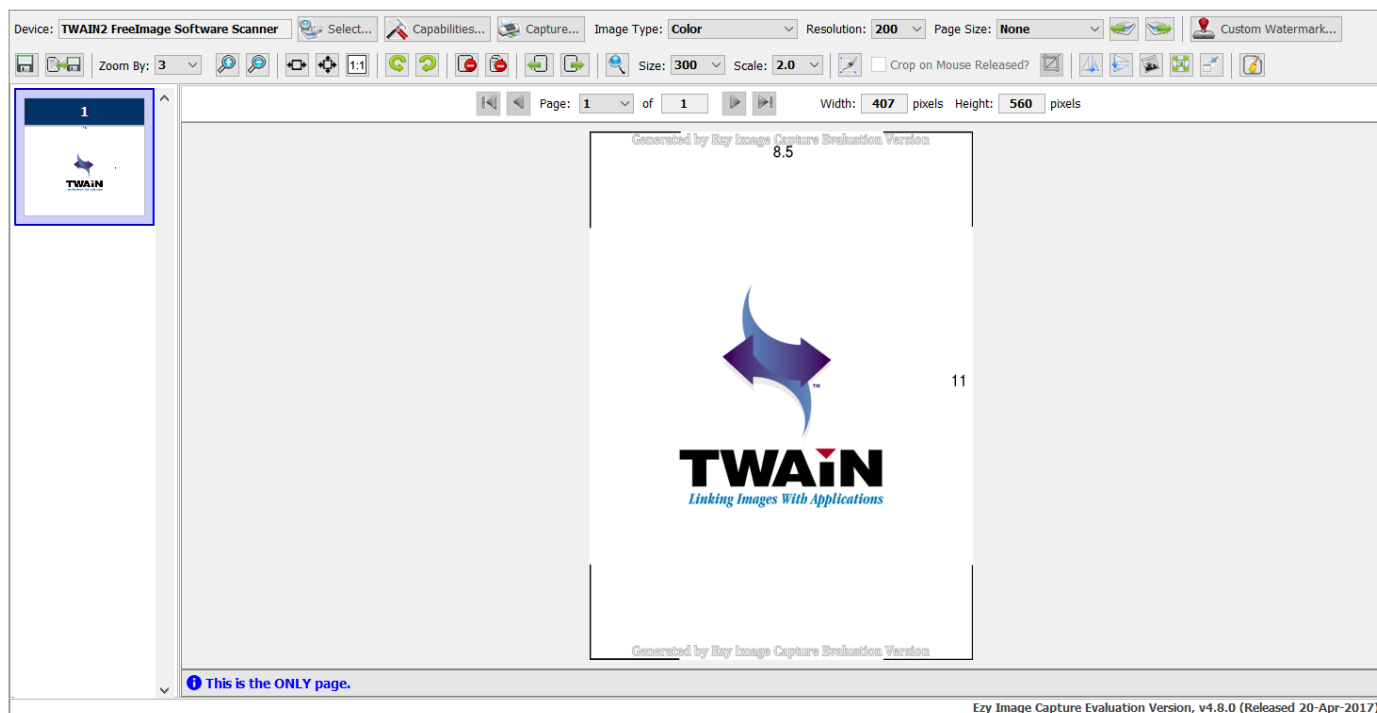
The following code in the 'Document Capture' Region has been set as default within the Document Capture Applet Definition:

```
<PARAM name="showDeviceUI" value="N">
```


- Upon pressing **'Capture...'** button, you should see the device's progress window as below, except when testing with 'TWAIN2 FreeImage Software Scanner':



- Once the image page(s) has/have been captured, depending on whether you were using an Automatic Document Feeder (ADF) or flatbed scanner platen, and with the unique and smart **"Auto-Crop on Acquire"** (checkbox defined as HIDDEN within the sample Applet definition) feature implemented within Ezy Image Capture, you should see the image as below after capturing 1 page:




- Once you have at least 1 image page captured, all the Image Manager's toolbar components, which is on the 2nd line within the Toolbar will be enabled accordingly.

The 2 buttons on the right within the Top Toolbar,,  ie, '**Add Page(s) Before Current Page from Device**' and '**Add Page(s) After Current Page from Device**', as seen above, will also be enabled to allow you to add additional page(s) from the imaging device anywhere within the existing document once it exists.

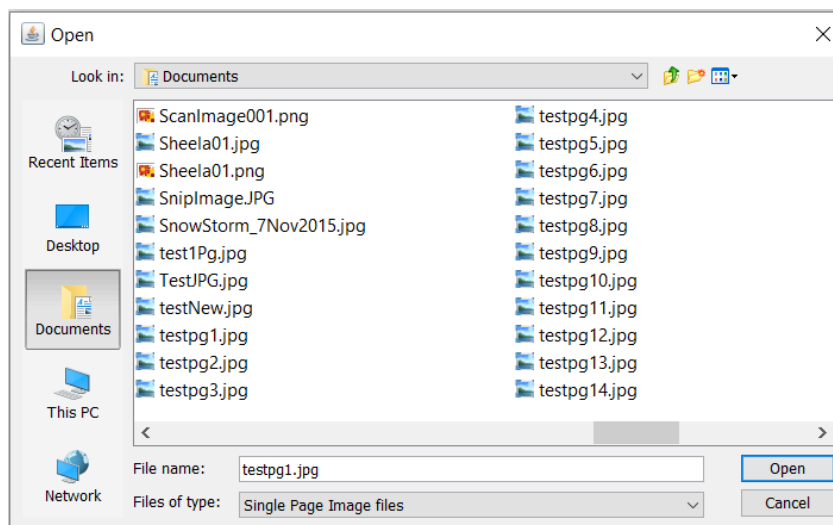
You may now perform any sort of image manipulation, cropping, editing, transformation and deletion as required before you decide to save the image page(s) into the document repository of your choice.

- Once the first image page using the virtual scanner, 'TWAIN2 FreeImage Software Scanner', has captured the first page, also available is the capability to add single page image files from existing imaging documents, which can have any of these file formats, ie, '**.bmp**', '**.gif**', '**.jpg**', '**.jpeg**', '**.png**'.

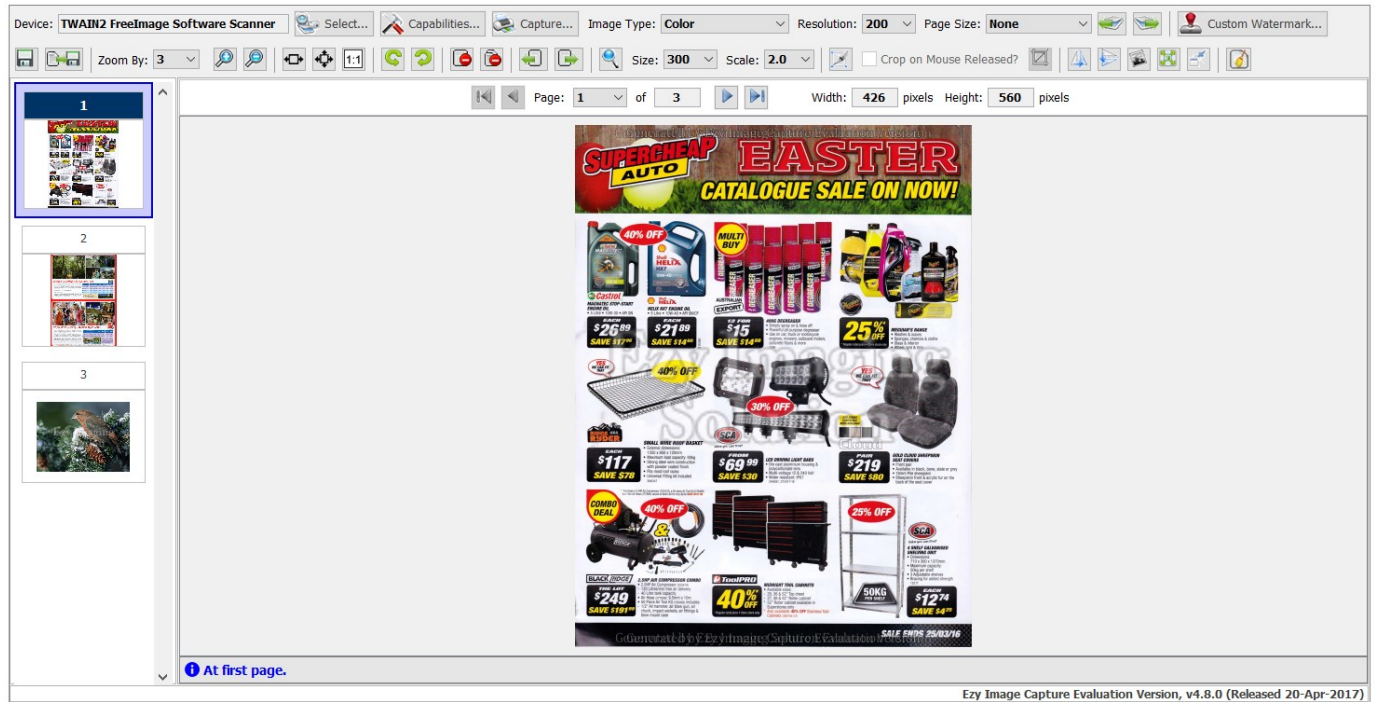
These 2 buttons,  , ie, '**Add 1 Page Before Current Page from Document** and '**Add 1 Page After Current Page from Document**, allows you to perform such a function.


Pressing any one of these 2 buttons will popup the 'Select File' Dialog Window that allows you to select any of the single page image file.

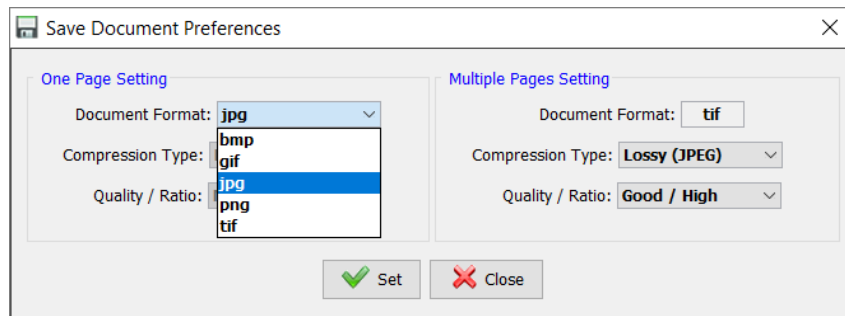
Upon selecting the required image file, and pressing 'Open' button, the image will be created before/after the current image page within the Image Viewer



- Below is an example of how the screen would look after adding 3 pages to the current document, and deleting the first page:



- To set your preferred image format every time you are saving a new document, you can set this through the 'Save Document Preferences' button, , as shown below:



- You would ONLY need to do this once unless you wish to use the default values (ie, 'jpg' and 'tif') as shown above that are already preset. For any document that only contains **1 page**, you have a choice of saving your document in the following supported formats: 'bmp', 'gif', 'jpg', 'png' or 'tif'.
- To save **multiple pages** document, 'tif' is the ONLY format supported within Ezy Image Capture. We recommend the default setting for Compression Type and Compression Quality / Ratio as provided already, unless you wish to change this to suit your organization's standards.
- Once you are done with the acquisition of images and necessary changes, you can save the document into your preferred Imaging Repository. Ezy Image Capture currently supports saving imaging documents into your Local Client Machine, Shared Network Folder(s), Web/Application Server Folder(s) or Oracle Database Server Table(s). In a real life scenario, you may also choose to record the physical imaging document location within your own transaction tables as per your application requirements.

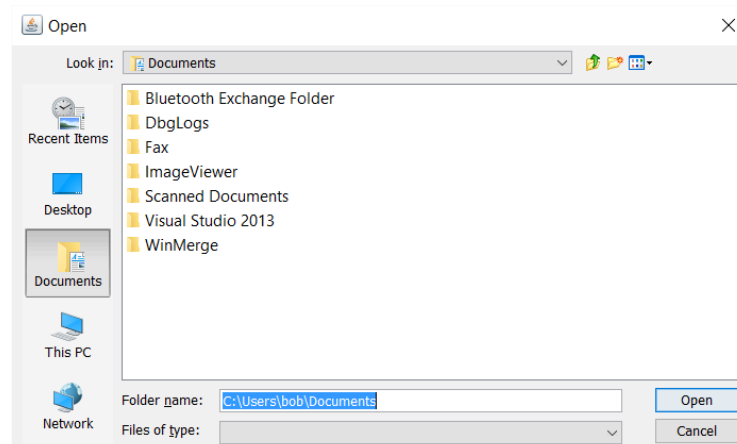
- The **'Save Image(s) into Imaging Repository'** region, as show below, allows you to select the required Imaging Repository and specify the Start and End Page of the image page(s) that you wish to save, as well as the Folder and Filename for a non-database imaging repository, ie, Local Client, Shared Network or URL (Web/App Server).

The following sections show how Ezy Image Capture can interface with all the 4 supported repositories to save your imaging documents into the chosen repository.

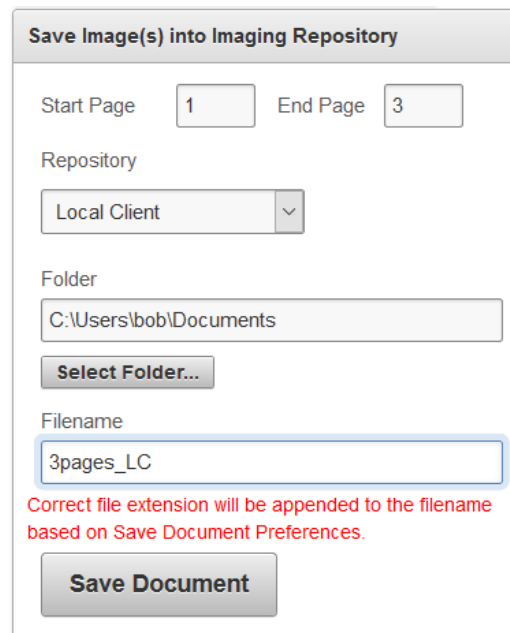
Local Client Repository

When **'Local Client'** is selected from the **Repository** dropdown list, you will notice that a "Value Placeholder", ie, "e.g. C:\Users\bob\Documents", ONLY visible in HTML5 supported browsers, will change the message within the 'Folder' field to provide a Hint as to the valid format that is expected to be entered for each different repository type.

To make it easy to choose a folder / directory when saving into the Local Client or Shared Network, press **'Select Folder...'** button, which will popup the **'Open Dialog' window** allowing you to select the relevant folder that you wish to save the current document into. See example of the window below:



Pressing '**Open**' button will copy the selected folder into the Apex screen field, 'Folder'. Here's the complete region filled and ready to be saved, which is done by pressing '**Save Document**' button:



It is up to the user to decide which pages need to be saved based on the available list of pages that have already been captured. Ezy Image Capture will use the Save Document Preferences settings to automatically provide the filename extension (ie, imaging document file format). If the document is a 1 Page file, then it will use the currently set file format for 'One Page Setting', otherwise for multiple pages, it will always be '.tif' file format.

Should the operation be successful, you would have a file called **3pages_LC.tif** created within your local client machine folder (in our example, "C:\Users\bob\Documents") specified above, and will see the following message at the bottom within the Status Line of the Java User Interface:

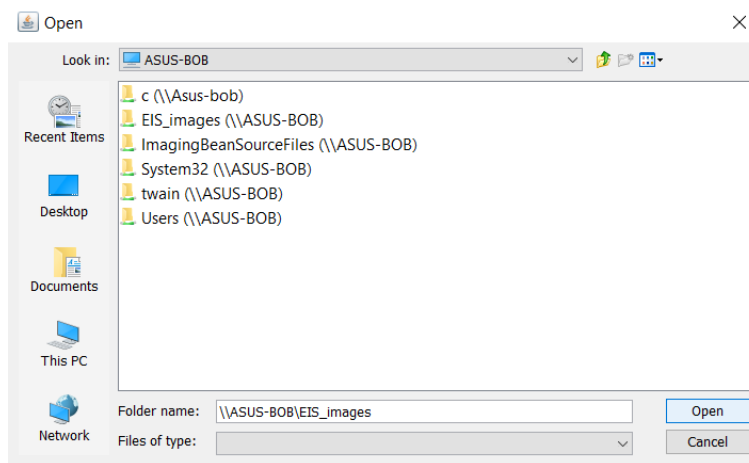
i Document has been saved successfully to the Local Folder

Shared Network Folder Repository

To save into this repository, which you should have write access to, change the **Repository** to '**Shared Network**', which will automatically change the "Value Placeholder" Hint within the Folder field to "e.g. \\ASUS-BOB\EIS_images", as per our sample application setting.

Enter the Start and End Page to be saved, as well as the filename, and to make it easy to select the desired Shared Folder, press '**Select Folder...**' button, which will popup the '**Open Dialog**' window. From the 'Look in' dropdown list of this window, select 'Network', which will list all the Network Drives from where you will be able to select your desired network folder to save the imaging document into.

The example below shows the selection of "\\ASUS-BOB\EIS_images" upon pressing the 'Open' button.



Here's the complete region filled and ready to be saved as 2 pages, ie, from Page 1 to 2, which is done by pressing '**Save Document**' button:

Save Image(s) into Imaging Repository

Start Page

1

End Page

2

Repository

Shared Network

Folder

\\ASUS-BOB\EIS_images

Select Folder...

Filename

2pages_SNF

Correct file extension will be appended to the filename based on Save Document Preferences.

Save Document

Should the operation be successful, you would have a file called **2pages_SNF.tif** created within the Shared Network Folder (in our example, "\\ASUS-BOB\EIS_images") specified above, and will see the following message at the bottom within the Status Line of the Java User Interface:

Document has been saved successfully to the Shared Network Folder

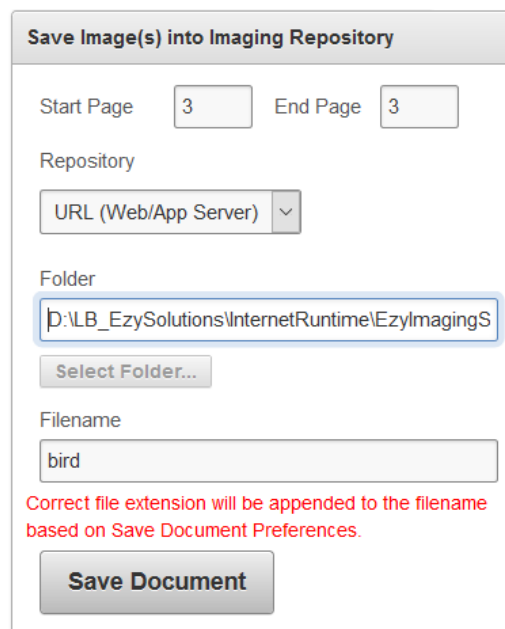
Web/Application URL Server Repository

To save into this repository, which you should have write access to, change the **Repository** to '**URL (Web/App Server)**', which will automatically change the "Value Placeholder" Hint within the Folder field to "Actual folder location on Web/App Server", as well as disabling the 'Select Folder...' button as it is not required.

For this example, we will save ONLY the 3rd page as a filename called 'bird' into the actual physical folder location on our Apache Tomcat Web Server called:

"D:\LB_EzySolutions\InternetRuntime\EzyImagingSuite\Applet\URL"

Here's the complete region filled and ready to be saved as 1 page, ie, Page 3, which is done by pressing '**Save Document**' button:



Save Image(s) into Imaging Repository

Start Page: 3 End Page: 3

Repository: URL (Web/App Server)

Folder: D:\LB_EzySolutions\InternetRuntime\EzyImagingS

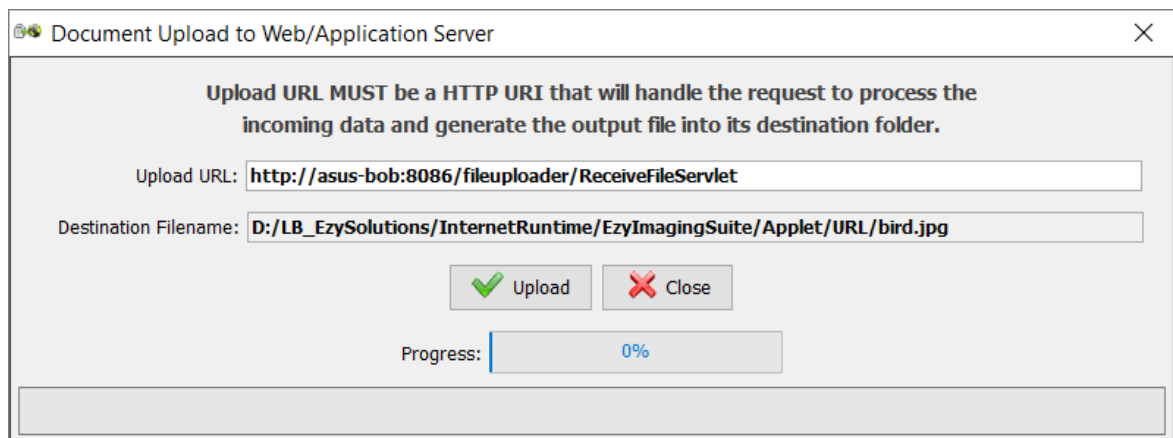
Select Folder...

Filename: bird

Correct file extension will be appended to the filename based on Save Document Preferences.

Save Document

The save action will popup the following window to allow you to decide if you wish to upload the captured image page(s) as an imaging document to the desired physical folder location on the Web/Application Server or close the window and return to the Ezy Image Capture Apex Page:



Document Upload to Web/Application Server

Upload URL MUST be a HTTP URI that will handle the request to process the incoming data and generate the output file into its destination folder.

Upload URL: http://asus-bob:8086/fileuploader/ReceiveFileServlet

Destination Filename: D:/LB_EzySolutions/InternetRuntime/EzyImagingSuite/Applet/URL/bird.jpg

Upload Close

Progress: 0%

Notice that the Upload URL is automatically set to the Parameter Value of the Substitution variable called 'EIS_FILEUPLOADER_PATH' within the Document Capture Applet Definition, ie:

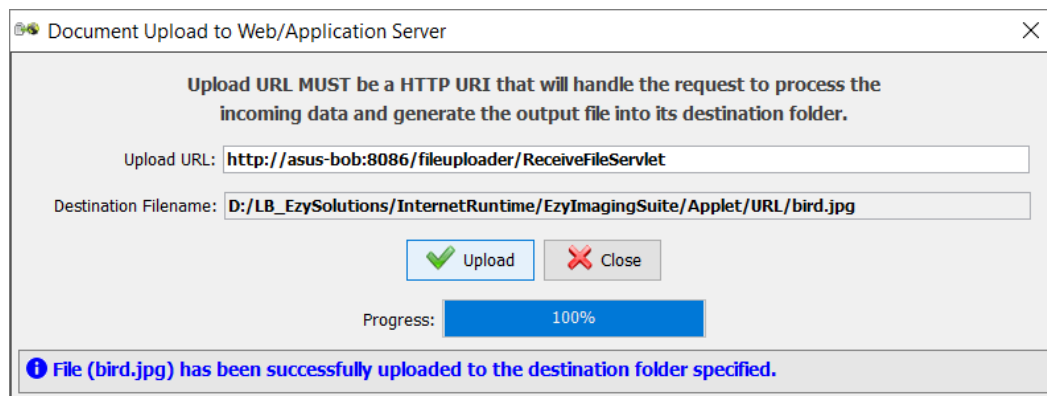
```
<!-- UploadURL MUST be a HTTP URI that will handle the request to process the incoming data
and generate the output file into its destination folder. -->
<!-- Change the Hostname/IP and Port within Substitution variable according to your own
environment where fileuploader.war has been deployed -->
<!-- ONLY REQUIRED if URL Repository is an option to store Imaging Documents within -->
<PARAM name="UploadURL" value=&EIS_FILEUPLOADER_PATH.>
```

Should your 'fileuploader.war' be deployed onto another host with a different port, then all you need to do is to change the value of the substitution variable above within your Apex application.

The filename is also automatically set as per the actual folder and filename specified with the correct file extension set, in this case '.jpg', as we are saving a single page image file, and '.jpg' has been set as our One Page File Format Setting.

Read the Deployment Guide to ensure that you have deployed 'fileuploader.war' into your deployment platform for the Document Upload process to work successfully.

Upon pressing the 'Upload' button, the imaging document (bird.jpg) will be uploaded and generated on the destination folder on the Web/App Server as per the screen below:



Press 'Close' button to return back to Ezy Image Capture Apex Page.

All Document Upload actions will generate a log file on the Web/Application Server for each document that is uploaded, overwriting its previous contents.

If you are running your Web/App Server software on **Windows Operating System**, kindly ensure that you have defined 'C:\Temp' folder.

If you are running on **UNIX/Linux Operating System**, kindly ensure that you have defined '/tmp' folder.

The above folder **MUST** be available for creation of files. The log file that is created within here is called 'ReceiveFileServlet.log'. You may inspect this file at any time after the document has been uploaded.

Database Server Repository

To save into this repository change the **Repository** to '**Database Server**', which will disable both the Folder and Filename fields and set them to blanks, as well disable the 'Select Folder...' button as these are not required.

'**Save Document**' button will actually call "**saveDocument()**" JavaScript function that evaluates which repository had been chosen for you to save the imaging document into. In the case of the Database Server, it will then call "**saveDocument_DB()**" JavaScript function that sets up the JDBC Connection to the Oracle Database and defines the temporary table (LB_BLOB_DOCS) that will be used as an interim table to store the imaging document as a BLOB column within this table.

The actual logic of copying this BLOB from the temporary table into the actual database table that records the transaction is handled by an AJAX process called "**odp_saveImageDoc_DB**", and you should see the following message at the bottom within the Status Line of the Java User Interface upon successfully performing this process:

i Document Capture transaction has been successfully inserted into your Database.

Refer to our sample Apex application to quickly copy and paste all the necessary routines that are needed for your own real life application when implementing Ezy Image Capture.

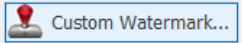
The flexibility provided by Ezy Image Capture allows you to capture imaging page(s) once and perform multiple save processes into different repository locations, with all sorts of image processing functions being carried out, before you return to your own application's Home or Main Page.

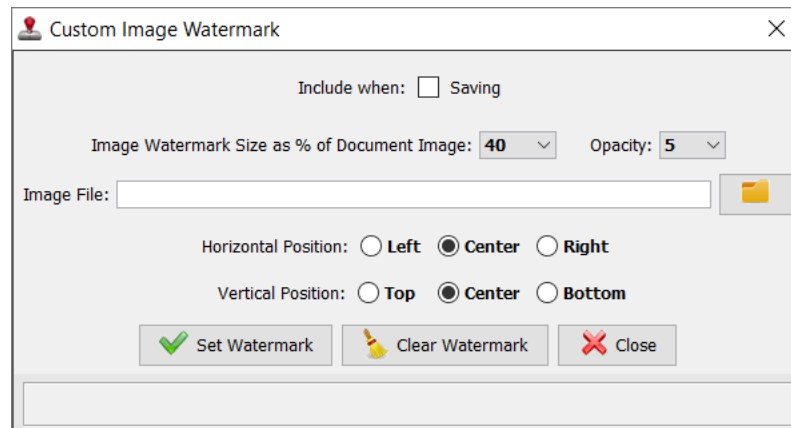
Other Features and Functionalities

- Although you can implement your own front-end logic to save scanned image(s), Ezy Image Capture also provides its own '**Save Document into Local or Network Folder**' function. Pressing this button, will open the following dialog window where you can enter the details as required and press 'Save' button to save the document. The flexibility is there for you to use whichever way is more convenient according to your application needs.

- It is also possible to hide this button if it is never ever required to be shown within the Java User Interface. To do so, all you need to do is to include the following within the Document Capture Applet Definition:

```
<PARAM name="showSaveDocBtn" value="N">
```

- If you intend to add your own **Custom Watermark** to your image page(s) as part of your confidential property, or to set a Company Logo on all archived documents, etc, pressing  button will popup the following window:

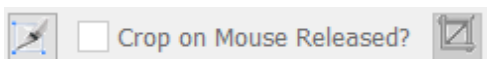



Tick the 'Saving' checkbox; set the Image Watermark Size as a percentage of each image page; set the Opacity (transparency) factor; choose the Image Watermark file (has to be a file with '.bmp', '.gif', '.jpg', '.jpeg' or '.png' format); set the preferred Horizontal and Vertical position of where you wish to include this watermark on each page, and press the 'Set Watermark' button.

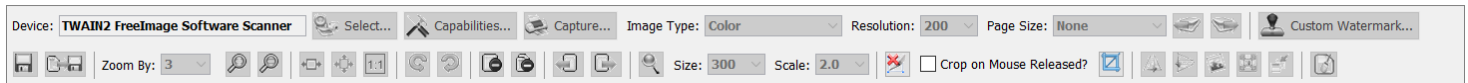
With the Custom Image Watermark set, each time an imaging document is saved within the current Apex session; it will apply the image watermark to each page. An example of an image page with a custom watermark (LongBridge Company Logo) placed at the bottom (centered horizontally) of the page is as follows:



- To allow **Image Cropping**, the following set of controls are available to perform such a function:



On pressing  ('**Enable Crop**') button, it will change the Toolbar controls to the following:

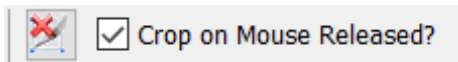



All other controls within the Toolbar are disabled; current cursor is changed to a crosshair symbol (+); and the following message is displayed in the Status Line of the Java User Interface:

Draw rectangular area within the image to crop & press 'Crop Image' button. Press 'Cancel Crop' to return to Normal mode

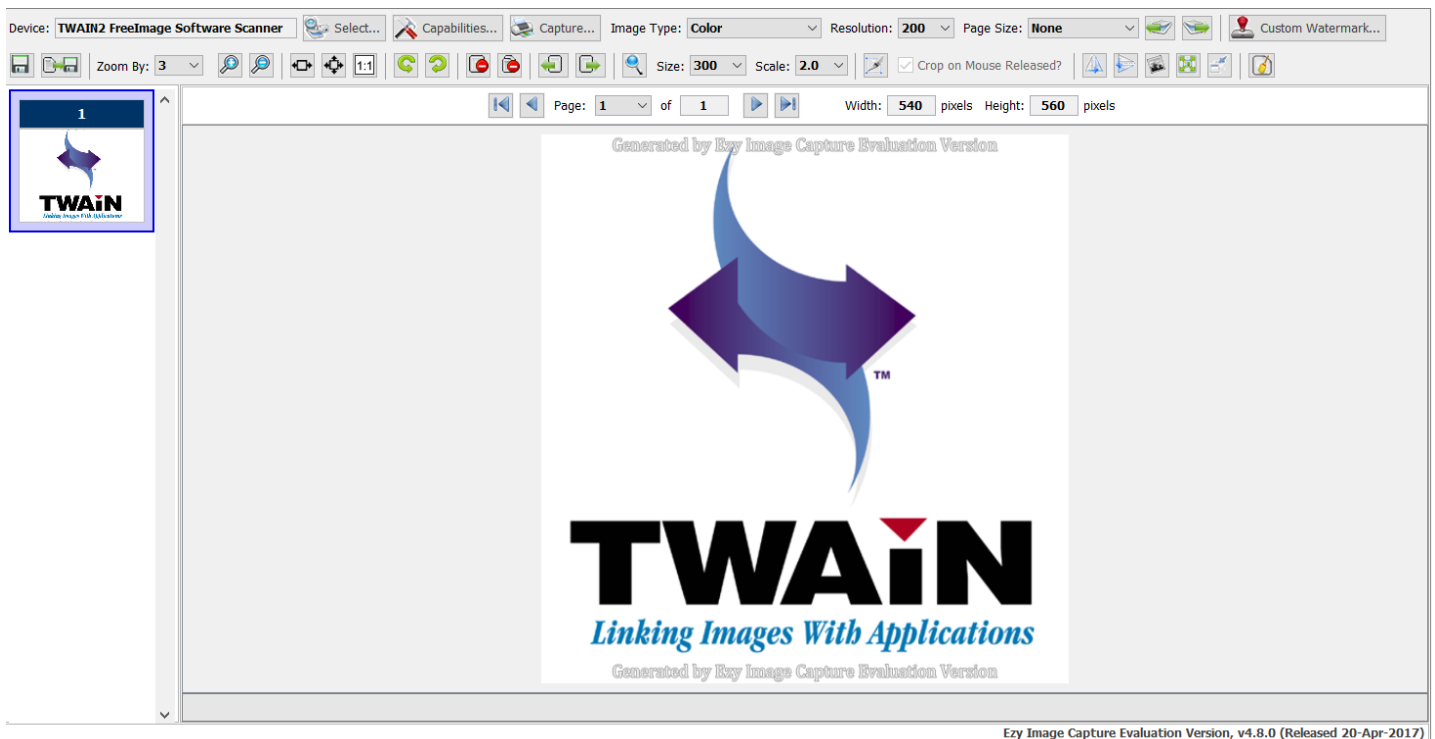
'Enable Crop' button has now become '**Cancel Crop**' button, with its icon changed as above, to allow the user to cancel the Image Cropping process, if required.


'**Crop on Mouse Released**' checkbox is enabled, and when checked allows the user to automatically crop the image on releasing the mouse after having drawn a rectangular area to crop the image, which saves 1 keyboard stroke. When this checkbox is ticked, it changes the Image Cropping controls to the following, with the 'Crop Image' button being hidden as it is not required:



Unselecting the checkbox above, displays the  ('**Crop Image**') button to allow the user to manually crop the image once you have decided on which portion of the image that needs to be cropped.

Once you have cropped the image, all the Toolbar controls that were disabled will be re-enabled; the Image Cropping controls will revert to its original state; and the newly cropped image will be updated within the Image Viewer as well as the Thumbnails panel, as shown below.




To restore the original image, once you have decided to save the current newly stored image into another document, you can always press the  ('**Restore Original Image**'). Every single image page that

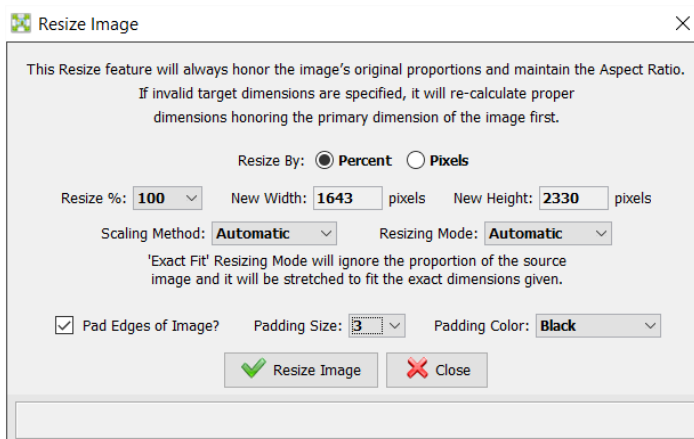
may have been transformed in any way can be restored back to its original state, if desired, within the current session. Thus, Ezy Image Capture allows you to manipulate the image page(s), store the modified page(s) as different imaging documents, and finally revert back to its original form to allow a new set of imaging functions to be performed.

- To allow **Image Editing**, the following set of controls are available to perform such functions:

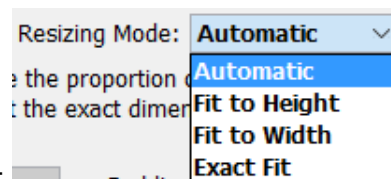
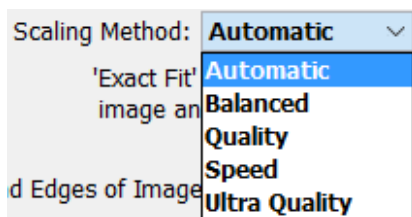


These are as follows, from left to right, ie, '**Flip Image Horizontally**', '**Flip Image Vertically**', '**Convert to Grayscale**' and '**Resize Image**'.

Whilst the first 3 are pretty straightforward, which the user can try to transform whichever image page, the  ('**Resize Image**') button when pressed will display the following popup window:



The functionalities that are available include the ability to resize any image page, by a Percentage (25 to 300%) or by Pixels using several Scaling Methods, as shown below:



and Resizing Mode as show here:

The recommended setting of 'Automatic' for both Scaling Method and Resizing Mode is the best to use to resize any image page, though you may try with other settings to suit your specific needs.

If you wish to pad your image page(s) with a colored box, tick the checkbox '**Pad Edges of Image?**' and set the **Padding Size** between 1 and 5, and choose your **Padding Color** accordingly from the list, before pressing '**Resize Image**' button and you should see the border as per your selection around your image, as per the example below that has a Blue Border of size 3:



Other controls as per the screen below, from left to right are:

- 'Zoom By Ratio', 'Zoom In' and 'Zoom Out' for Zooming functionality
- 'Fit to Width', 'Fit to Page' and 'Display Actual Size' for Page Display functionality
- 'Rotate Anti-Clockwise' and 'Rotate Clockwise' for Rotating Image functionality
- 'Delete Current Page' and 'Delete Page(s)' for Delete Image Page(s) functionality
- 'Add 1 Page Before Current Page from Document' and 'Add 1 Page After Current Page from Document' for Adding Page(s) from an existing imaging document functionality
- 'Use Magnifier', 'Magnifier Size' and 'Magnifier Scale' for Image Magnifier functionality



You may use some functions such as Rotating Image, Delete Page and Add Page from existing document as part of your Image Transformation functions, whilst the others are mainly used for viewing purposes.

Error Processing

Any validation or processing errors will automatically be displayed either on the Status Line of the Java User Interface, or Message Line of a Popup window, or as a popup Alert window to indicate the problem for each process being performed that does not provide the correct values or a processing error that had occurred during the execution of the chosen function.

Summary

Ezy Image Capture is the only known solution for a number of various application development technologies where both our **Java Applet version** suitable for **Oracle Apex, ADF, JSP, JSF, OAF, .Net, ASP, PHP, Ruby, Formspider, etc**, and the **Java Bean version** for **Oracle Forms applications** makes it the BEST and most cost effective and affordable solution that provides a uniform and consistent Look & Feel and User Experience across your organization's various application development platforms.

Although this sample Apex application has provided regions with Apex screen fields to showcase the features and functionalities of what Ezy Image Capture can do; in your own real live Apex production applications, you may just pass the necessary parameters to the various JavaScript functions that call the Java-side APIs that handle the same tasks that have been presented within this sample application.

The sample application provides you with the knowledge on how to integrate the various JavaScript functions and it's APIs into your own applications and makes it simple enough for you to just copy and paste the relevant sections to quickly implement this product within a period of 1 to 3 days for your own unique needs and requirements.

Most of the Java User Interface can be programmatically customized to suit your needs, and upon an interest to purchase this product, we will provide the Technical Guide on how to achieve the customizations where you just use the APIs and pass the relevant values to the Java methods, and quickly integrate Ezy Image Capture within your own Apex applications.

Technical Assistance & Support

Kindly contact Bob Gill on bob.gill@longbridge.biz for any technical assistance and support in case of any issues during deployment or evaluation of Ezy Image Capture for your Oracle Apex environment.

We are also happy to enhance and customize Ezy Image Capture to fit in with your specific needs and requirements. Please do not hesitate to contact Bob Gill for a further discussion on your project.