

# Ezy Imaging Suite – Ezy Image Manager

## 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/"

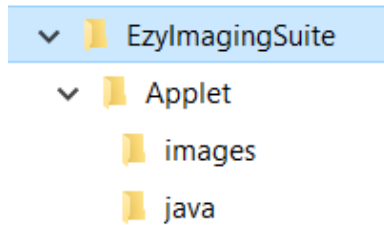
    <!-- SingleSignOn valve, share authentication between web applications
         Documentation at: /docs/config/valve.html -->
    <!--
    <Valve className="org.apache.catalina.authenticator.SingleSignOn" />
    -->

    <!-- 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>
```

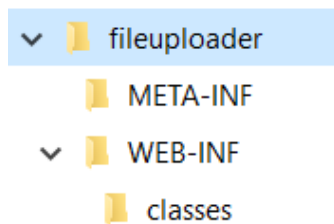
On your Tomcat deployment platform, create the physical folder as per your physical filepath specified above. Copy the subfolders, '**java**' and '**images**' from your temporary folder into this EIS root folder.

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.

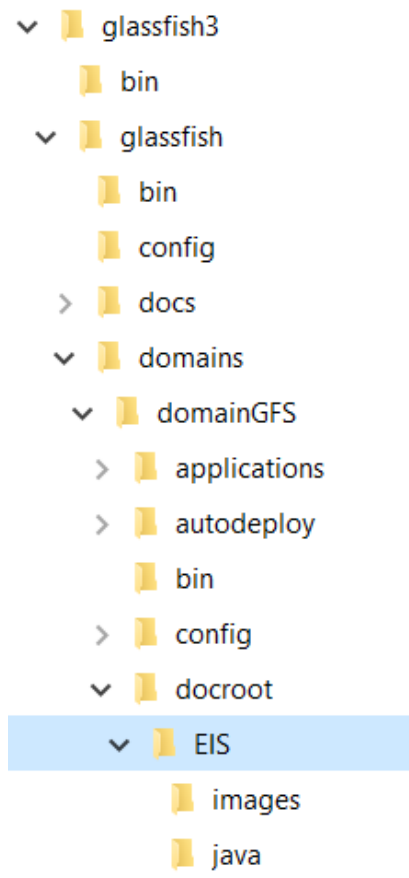
FYI, a substitution variable called '**EIS\_FILEUPLOADER\_PATH**' is defined within the sample Apex Application to make it easy to change the Fileuploader URL, depending on where you have deployed '**fileuploader.war**' file on.

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**.

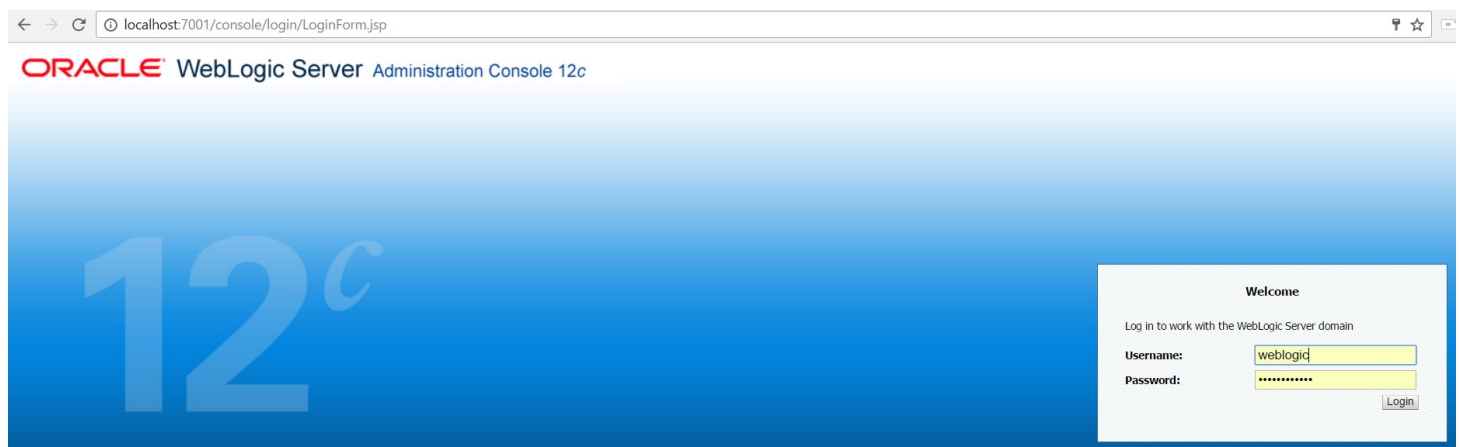
You can create a similar named Web Application Project using NetBeans or Eclipse or any other IDE, and copy both these files into the project's **WEB-INF** folder, and modify the '**<local-path>**' value to point to the physical folder that contains both your '**images**' and '**java**' folder within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

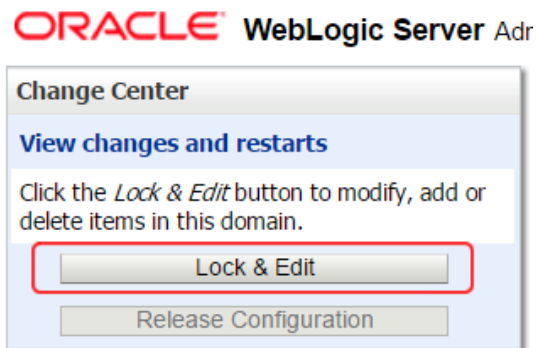
**`http://hostname:port/console`**

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.

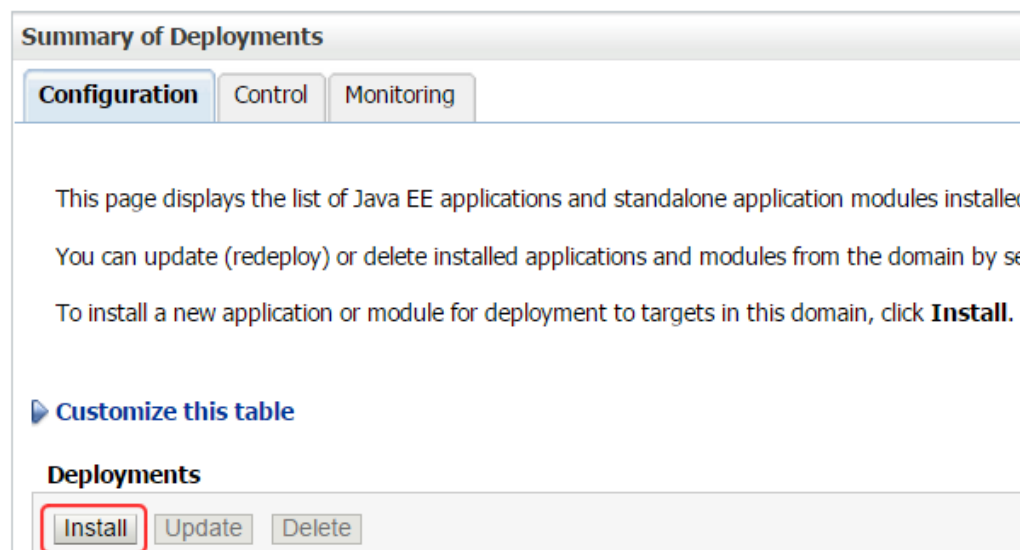
Deploying an application is a change to the domain's configuration, so it must first be locked. In the Change Center, click the **Lock & Edit** button, highlighted in a red border.



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

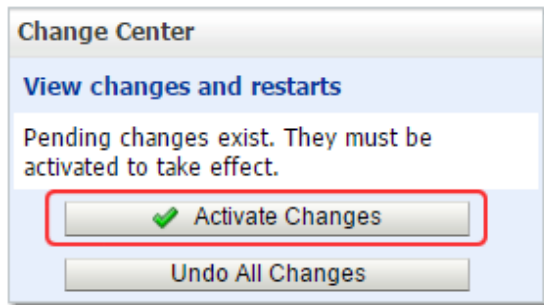
Showing 1 to 10 of 61 Previous Next

<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
--------------------------	----------------------	----------	------	-----------------

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**'.

### 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 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.

[Customize this table](#)

#### Deployments

<div> <div>Start</div> <div>Stop</div> </div> <div> <div>Servicing all requests</div> <div>Servicing only administration requests</div> </div>				
			Active	OK
		Resource Adapter		
<input type="checkbox"/>	DMS Application (12.2.1.1.0)	Active	OK	Web Application
<input checked="" type="checkbox"/>	EISVirtualDirMapping	Prepared	OK	Web Application

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

Start Application Assistant

Yes

No

Start Deployments

You have selected the following deployments to be started. Click 'Yes' to continue, or 'No' to cancel.

- EISVirtualDirMapping

Yes

No

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.

<input type="checkbox"/>	EISVirtualDirMapping	Active	OK	Web Application
--------------------------	----------------------	--------	----	-----------------

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):

**http://asus-bob:7001/EIS/images/EIS\_Logo.png**

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\_objs.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:

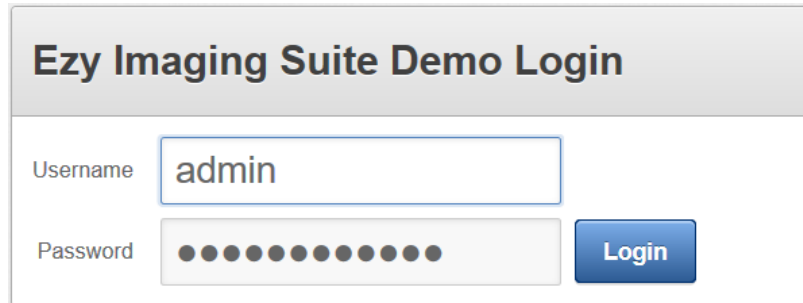
<https://support.mozilla.org/en-US/questions/1094365>

## Tutorial Guide

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

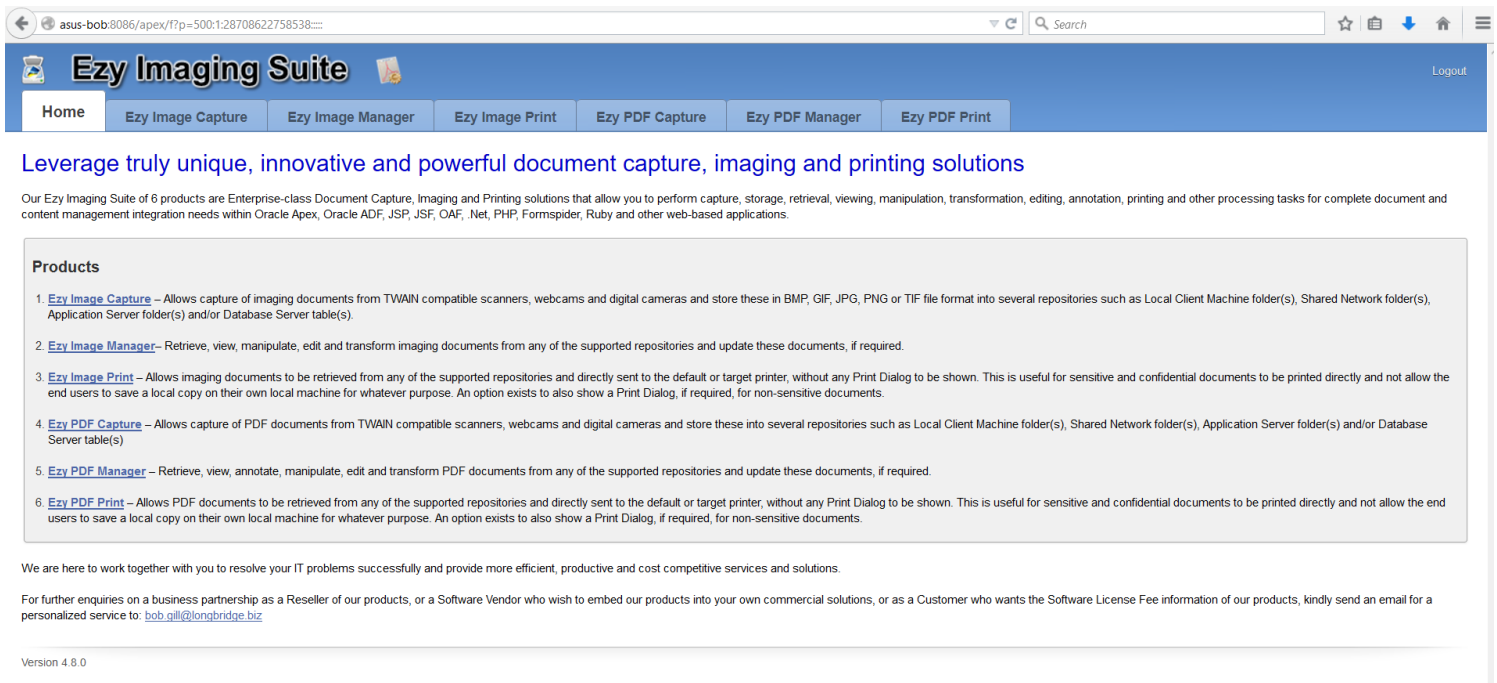
**http://asus-bob:8086/apex/f?p=EIS**

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



The image shows a login form titled "Ezy Imaging Suite Demo Login". It has two input fields: "Username" with the text "admin" and "Password" with masked characters (dots). To the right of the password field is a blue "Login" button.

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

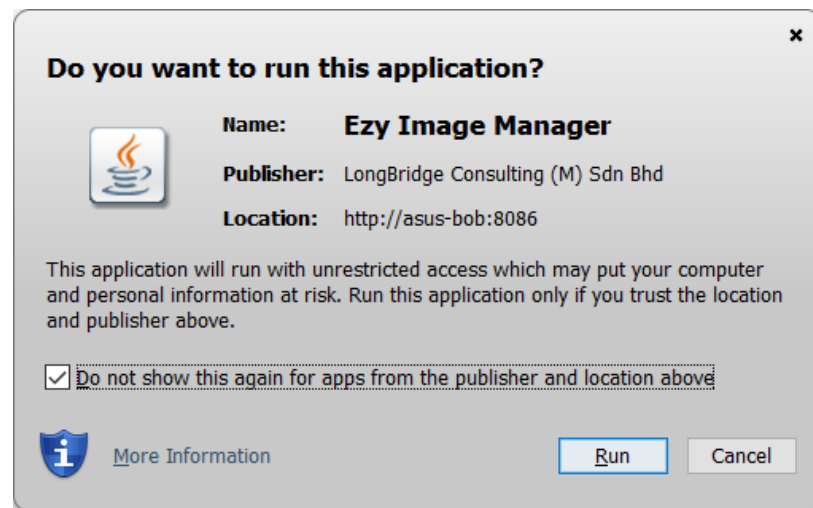


The screenshot shows the Ezy Imaging Suite Home Page. The browser address bar shows "asus-bob:8086/apex/f?p=500:1:28708622758538...". The page has a blue header with the "Ezy Imaging Suite" logo and a "Logout" link. Below the header is a navigation bar with tabs: "Home", "Ezy Image Capture", "Ezy Image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

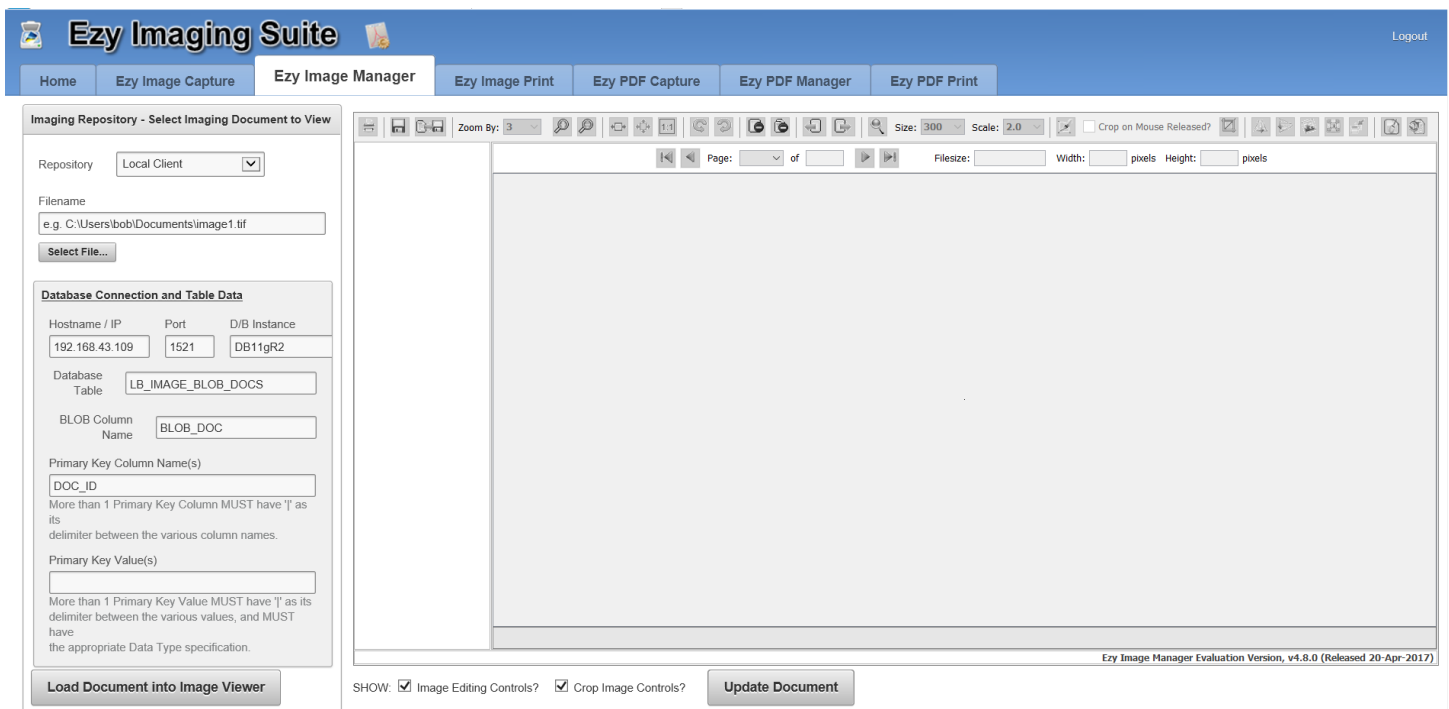
- The Home Page provides an overall summary of what Ezy Imaging Suite using our Java Applet components is all about, and a description of each of the 6 products that we currently have that can be integrated into any of the web-based technologies such as Oracle Apex, Oracle ADF, JSP, JSF, OAF, .Net, PHP, Formspider, Ruby and other web-based applications.
- Since our focus for this Tutorial is ONLY on Ezy Image Manager, 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 Manager** is a product that allows you to retrieve, view, manipulate, edit and transform imaging documents from any of the supported repositories that includes Local Client Machine folder(s), Shared Network folder(s), Web/Application Server URL(s) and/or Database Server table(s), and update these documents, if required.
- To navigate to the Apex Page that is integrated with this product, either click on the link '**Ezy Image Manager**' 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 Manager 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, when presented with the Applet Security popup alert window, as shown below:



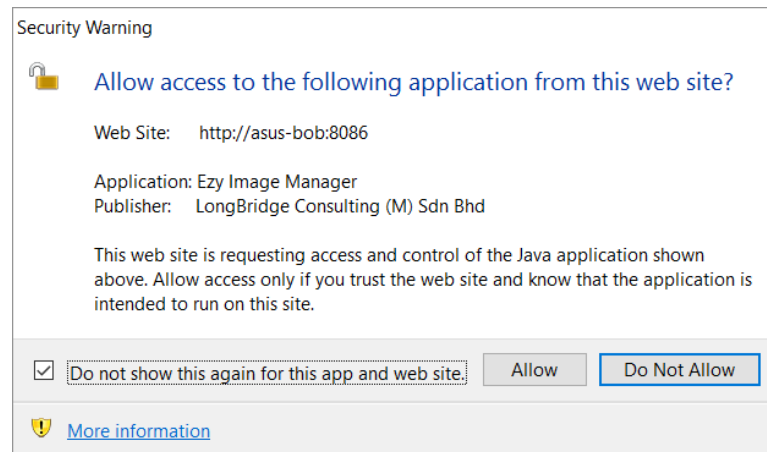
- Next, the following screen will then be presented to you, with all Toolbar controls disabled:



- The Apex Region at the bottom of the Image Viewer with 2 real-time configuration options are presented with all checkboxes already turned ON to display the relevant controls within the 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 Manager 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.



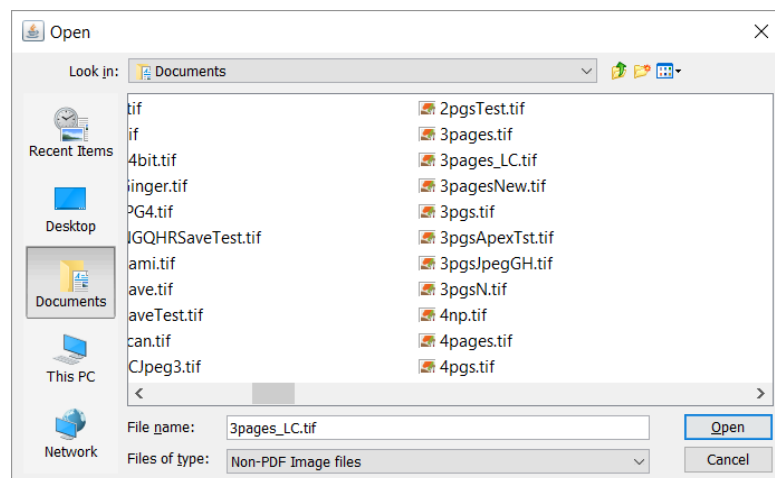
The following sections show how Ezy Image Manager can interface with all the 4 supported repositories to manage imaging documents from, and making whatever changes, if required, and updating them back into their original repository.

## **Local Client Repository**

With the **Repository** dropdown list item set to '**Local Client**', select the file called '**3pages\_LC.tif**' using the

**Select File...**

button, which will open the '**Open File Dialog**' window, as shown below:



Once you have selected the required file as shown above, press the **‘Open’** button. This will copy the selected file into the Apex application **‘Filename’** field, as shown below:

Imaging Repository - Select Imaging Document to View

Repository

Local Client

▼

Filename

C:\Users\bob\Documents\3pages\_LC.tif

Select File...

Database Connection and Table Data

Hostname / IP

192.168.43.109

Port

1521

D/B Instance

DB11gR2

Database Table

LB\_IMAGE\_BLOB\_DOCS

BLOB Column Name

BLOB\_DOC

Primary Key Column Name(s)

DOC\_ID

More than 1 Primary Key Column MUST have '|' as its delimiter between the various column names.

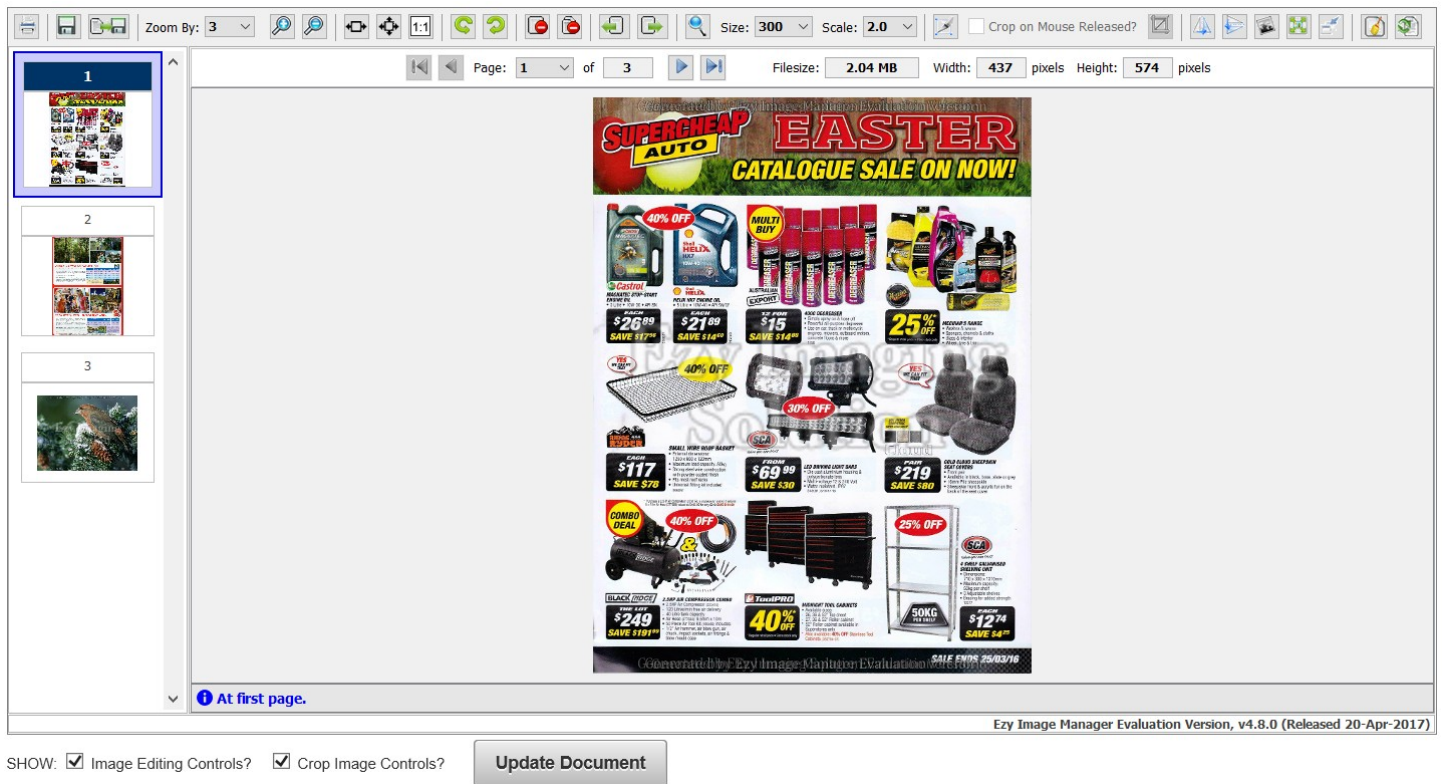
Primary Key Value(s)


More than 1 Primary Key Value MUST have '|' as its delimiter between the various values, and MUST have the appropriate Data Type specification.

Load Document into Image Viewer

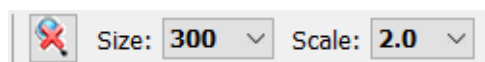
To load the imaging document into the Image Viewer, press **‘Load Document into Image Viewer’** button. This will load all the pages into the Image Viewer window as shown below, with each page being displayed within the Thumbnails panel and the first page displayed with a **‘Fit to Page’** display mode with all Toolbar controls enabled.

Page loading within Ezy Image Manager is very fast as it uses parallel processing technology to execute this function making page navigation between pages a breeze.



- Navigating to each page can be performed in a number of ways, which would load the image page into the main Image Viewer panel instantly. These are as follows:
  - Clicking on the required page within the Thumbnails panel.
  - Using the 'Page' dropdown list item, ie, Page: 2 of 3
  - Using the Page Navigation iconic buttons ⏪ ⏩ ⏴ ⏵
  - Using the keyboard keys such as 'home' (First Page); 'pgup' / Up Arrow (Previous Page); 'pgdn' / Down Arrow (Next Page); and 'end' (Last Page). The only pre-requisite is that you need to have clicked anywhere into the Image Viewer Applet window to pass Cursor Control Management to the Java-side component.
- To magnify a certain area of the currently displayed image page for a zoomed view of the particular area before deciding on what action may be required, you will need to activate the magnification function using the  (Use Magnifier) button.

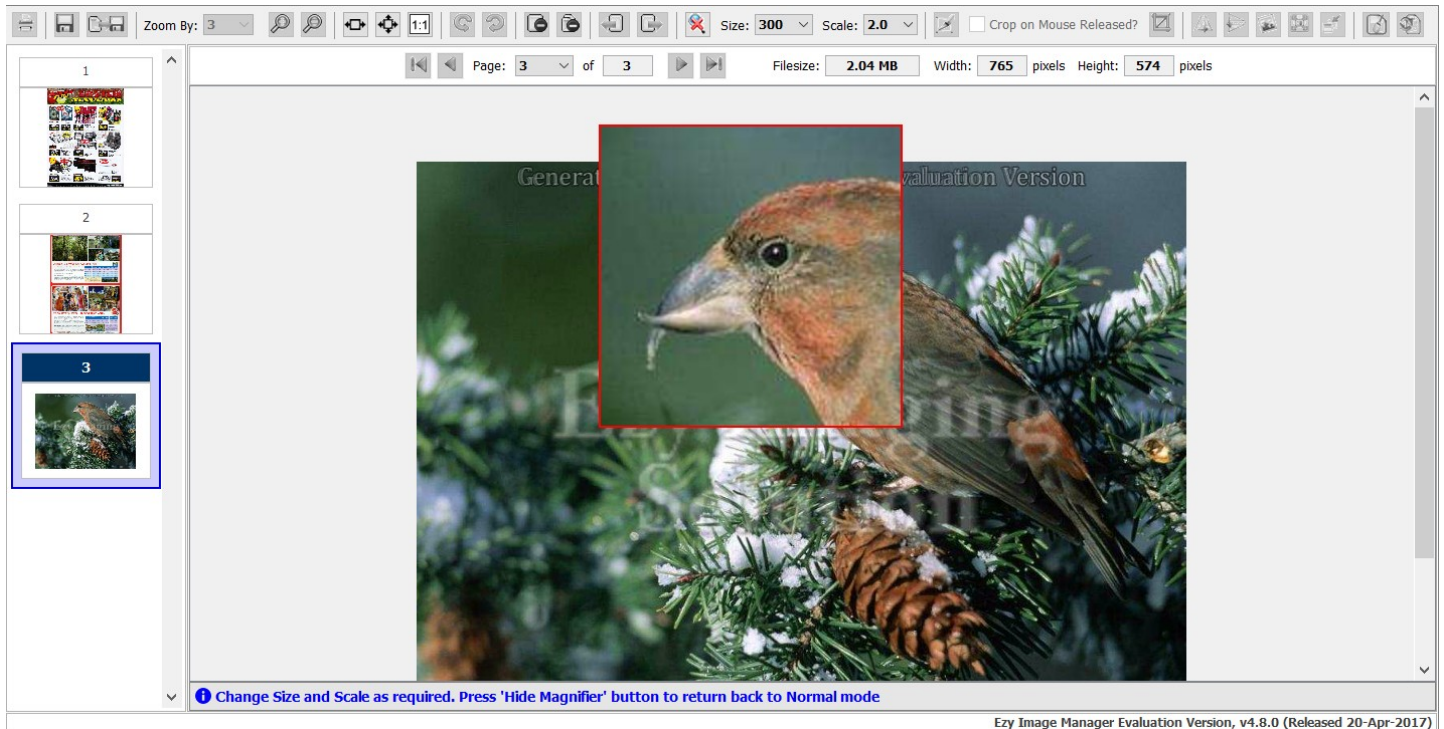
This will automatically disable all the Toolbar controls, except for the following:



'Use Magnifier' button has now become 'Hide Magnifier' button, with its icon changed as above, to allow the user to cancel the magnification function, once you are done with this task.


The magnifier size and scale dropdown list items allow you to change the magnifier rectangular area that is displayed within the current page to suit your sizing needs, and the magnifier scale allows you to display a smaller or bigger scaled image of the area where the Magnifier Tool is focused on the image according to your scaling needs.

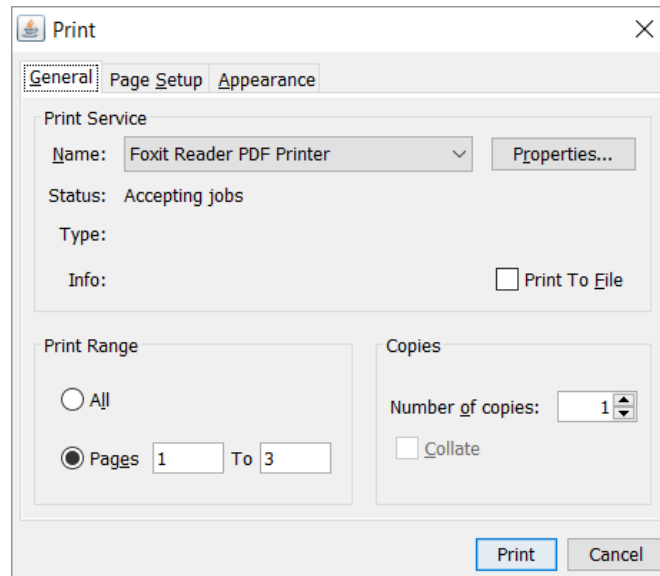
The screen below shows Page 3 of the document above using the magnification function. Notice that the image page is automatically adjusted to allow the Magnifier Tool to magnify the top and bottom of the image page so that the scaled image within the rectangular area is displayed correctly.



You can move the Magnifier Tool anywhere within the Image Viewer panel and also change the size and scale in real-time, which will automatically adjust the image page within its panel and magnifier tool's rectangular area.

To cancel the magnification function, pressing 'Hide Magnifier' button or clicking on any other image page within the Thumbnails panel will return the Image Viewer panel back to Normal mode.

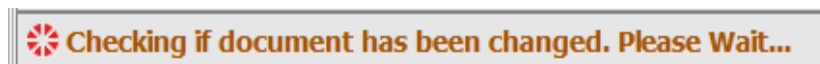
- To print the currently loaded imaging document with whatever changes made, ie, rotations, deletions, additions, editing and/or cropping, press the  ('**Print Document**') button. This will automatically display the Print Dialog window as shown below, with the pages automatically derived based on the number of pages within the currently displayed document.



Set whatever Printer properties as desired and press the **'Print'** button to send the imaging document to the Printer Queue, or press **'Cancel'** button to return back to the Image Viewer panel.

If you do not wish to see this Print Dialog and wish to send sensitive and confidential imaging documents directly to the default printer that is connected to your local client machine or send these documents to another targeted printer that is also connected to your local client machine, kindly have a look at our **Ezy Image Print** product.


- Pressing **'Update Document'** button will always perform a check to determine if any changes have been made to the current imaging document. This would display the following message in the Status Line of the Java User Interface with an animated icon to indicate that the document check process is in progress:



Should there be no changes made, the following message will then be displayed in the Status Line to inform the user of the current status:

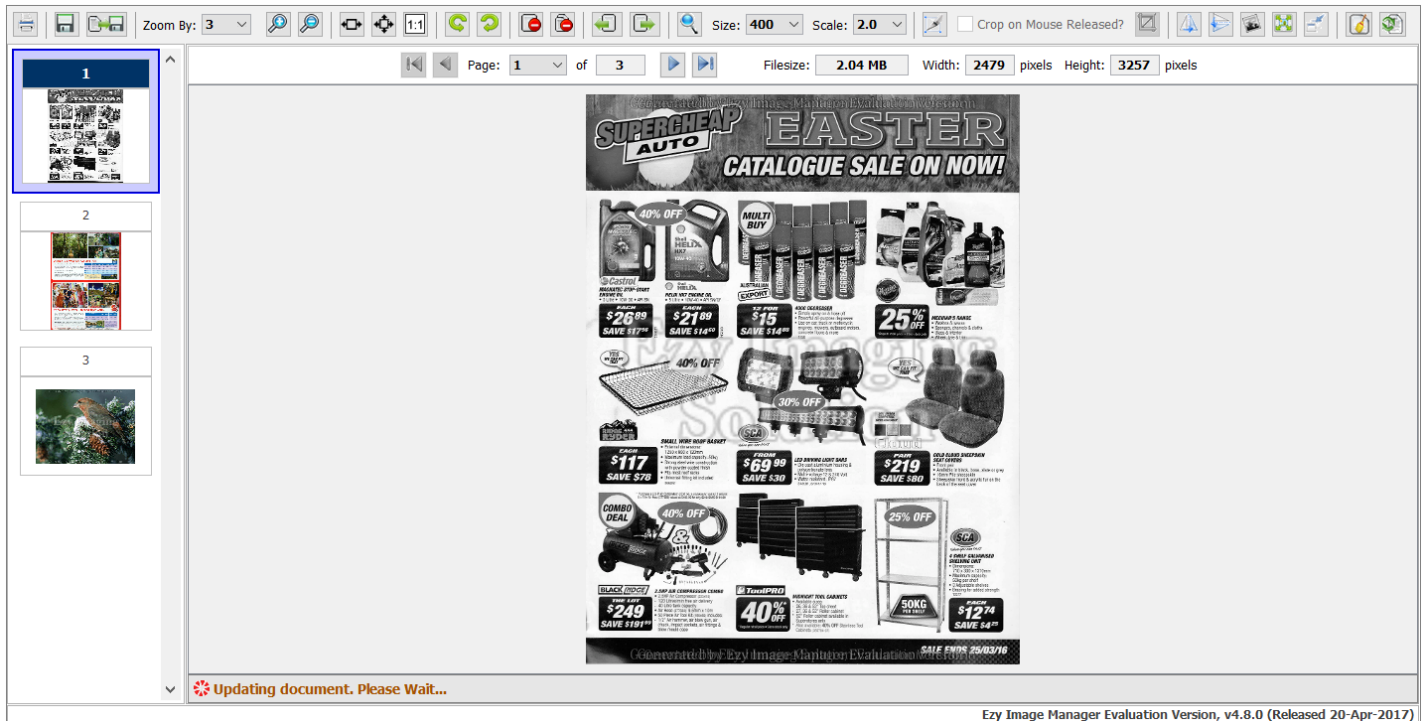


Any changes made to any image page within the current document would automatically update its thumbnail image within the Thumbnails panel too. As an example, let us convert the first image page to

grayscale using  (**'Convert to Grayscale'**) button and then press the **'Update Document'** button.


As you can see below, upon detecting that a genuine change has been made to the first page, after the Document Check message has been displayed, you would see the following screen with an animated icon to indicate that the updating document process is in progress:





Upon completion of the document update process, the Status Line message would be updated accordingly. Since we are updating the document from the Local Client Repository, the following message would be displayed:




- One excellent feature that Ezy Image Manager has once changes have been made to the current document and has been updated back into its repository, and the user wish to reload back the original document to do the changes again in case any unwanted changes had been performed incorrectly; can be done easily by pressing the  ('Reload Last Opened Document') button.

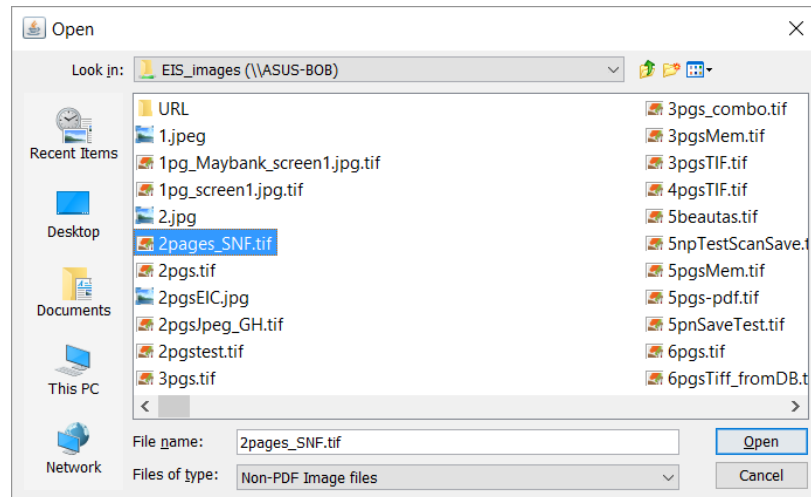
However, the user must at least do some changes to modify the previously updated document with the correct changes. Just pressing the 'Update Document' button, would display 'No changes made to document.' message on the Status Line.

If previous changes made have not been updated yet, then this feature allows you to start afresh again.

### Shared Network Folder Repository

To open an imaging document from this repository, which you should have read access from, change the **Repository** to '**Shared Network**', which will automatically change the "Value Placeholder" Hint within the Filename field to "e.g. \\ASUS-BOB\\EIS\_images\\image1.tif".

To select the desired Shared Folder Filename, press  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 filename to open the imaging document from.



Once you have selected the required file as shown above, ie, “\\ASUS-BOB\\EIS\_images\\2pages\_SNF.tif”, press the ‘Open’ button. This will copy the selected file into the Apex application ‘Filename’ field, as shown below:

**Imaging Repository - Select Imaging Document to View**

Repository Shared Network

Filename  
 \\ASUS-BOB\\EIS\_images\\2pages\_SNF.tif

Select File...

**Database Connection and Table Data**

Hostname / IP	Port	D/B Instance
192.168.43.109	1521	DB11gR2

Database Table LB\_IMAGE\_BLOB\_DOCS

BLOB Column Name BLOB\_DOC

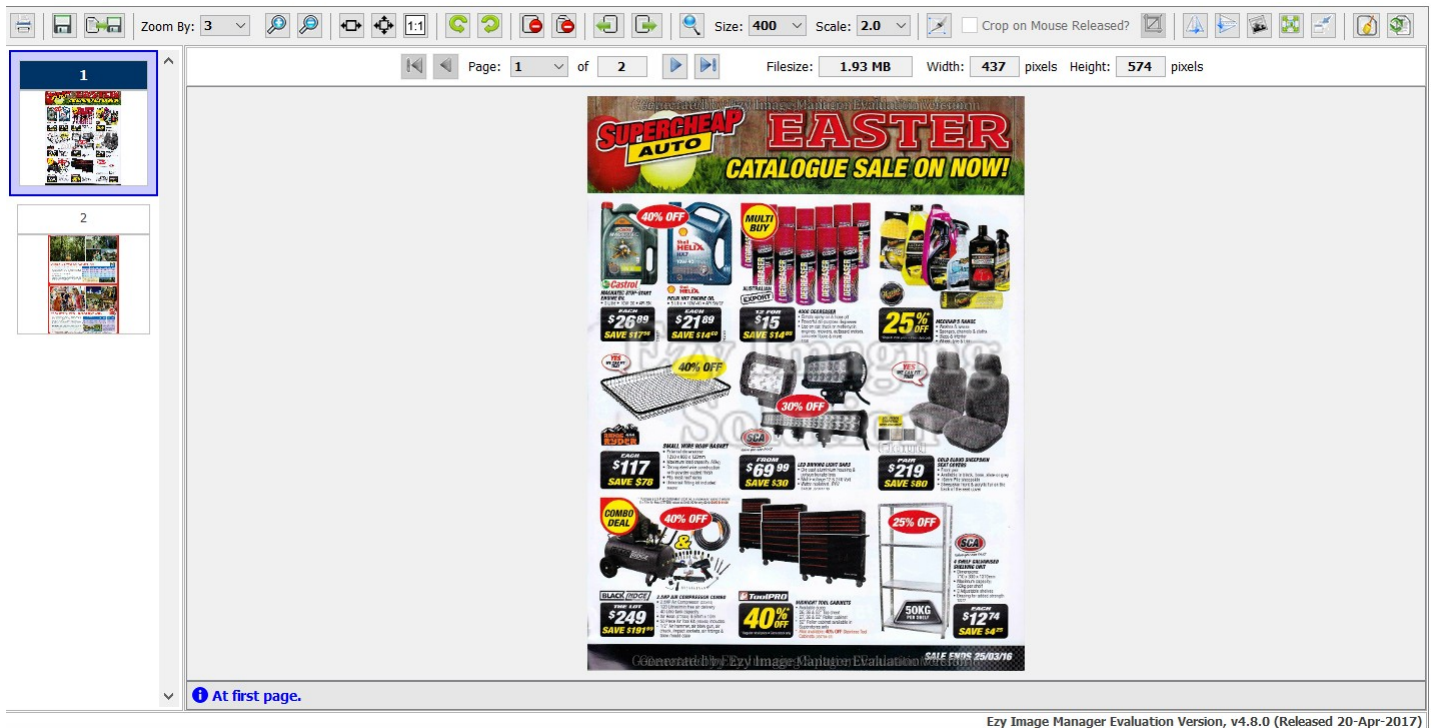
Primary Key Column Name(s)  
 DOC\_ID  
More than 1 Primary Key Column MUST have '|' as its delimiter between the various column names.

Primary Key Value(s)  
  
More than 1 Primary Key Value MUST have '|' as its delimiter between the various values, and MUST have the appropriate Data Type specification.

Load Document into Image Viewer



To load the imaging document into the Image Viewer, press **'Load Document into Image Viewer'** button. This will load all the pages into the Image Viewer panel as shown below, with each page being displayed within the Thumbnails panel and the first page displayed with a **'Fit to Page'** display mode with all Toolbar controls enabled.



Ezy Image Manager Evaluation Version, v4.8.0 (Released 20-Apr-2017)

Once the document has been loaded, the user is now free to view all the page(s) within the document, and do whatever changes as required, before deciding to update the document back into the Shared Network Folder Repository, provided that changes have been made.

Assuming that changes had been made, pressing **'Update Document'** button and upon completion of the document update process, the Status Line message would be updated accordingly. Since we are updating the document from the Shared Network Folder Repository, the following message would be displayed:

**i Image Document successfully updated in Shared Network Folder**

## Web/Application Server URL Repository

To open an imaging document from this repository, which you should have read access from, change the **Repository** to **'URL (Web/App Server)'**, which will automatically change the "Value Placeholder" Hint within the Filename field to "e.g. <http://asus-bob:8080/images/image1.tif>".

Since the 'Select File...' button is not required, it is disabled as well.

For URL locations to work, ensure that any Virtual Path that you had defined is accessible from the host and port that is being used as part of the filename. As explained within the Deployment Notes, it is pretty straightforward to define virtual paths within Apache Tomcat Server and Oracle GlassFish Server, while it takes some extra effort to do so within Oracle WebLogic Server.

Let us assume that we are using Apache Tomcat Server to store our previously captured imaging documents and saved them in the subfolder called 'URL' within the 'EIS' root folder. 'EIS' Virtual Path on Tomcat was defined to map against:

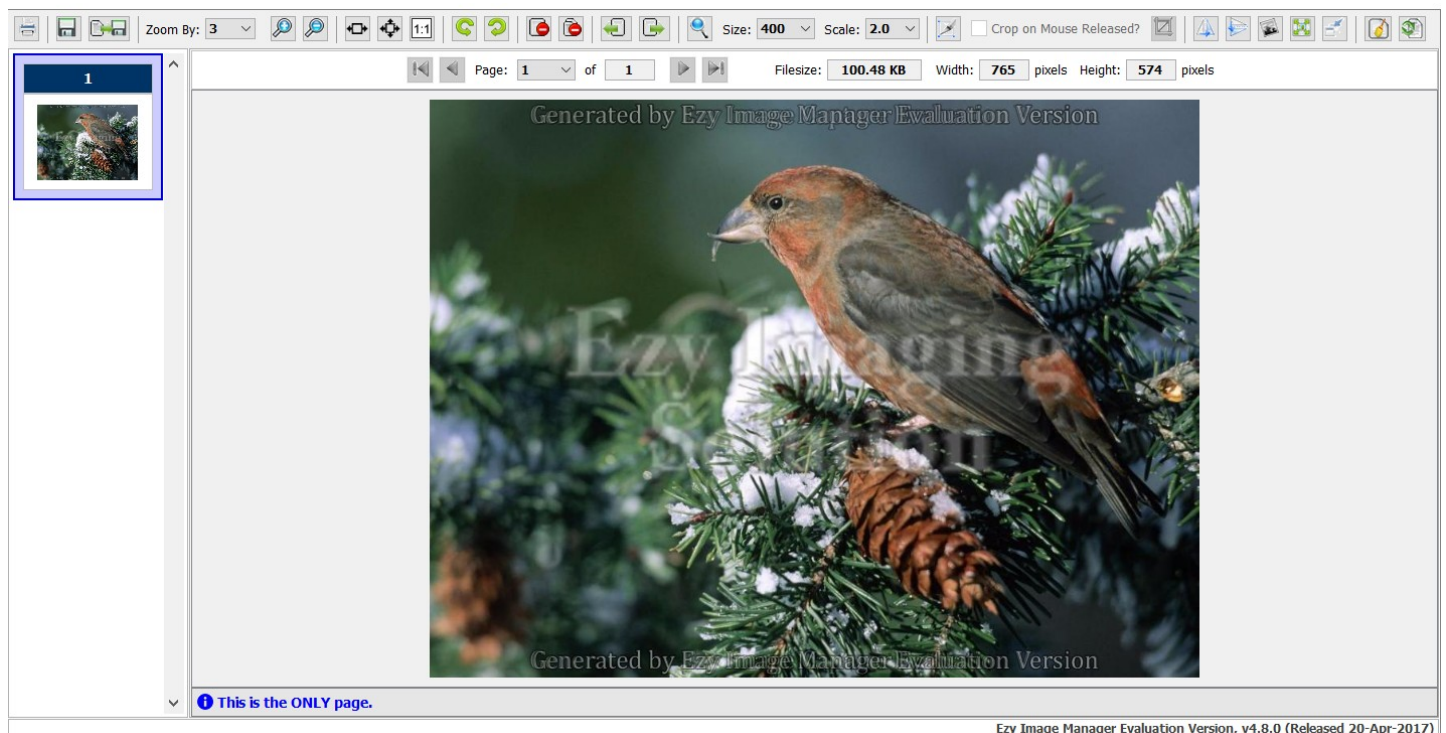
**'D:\LB\_EzySolutions\InternetRuntime\EzyImagingSuite\Applet'**

which means that a 'URL' subfolder had also been created within its 'Applet' parent folder.

By entering a valid URL location of an imaging document, example:

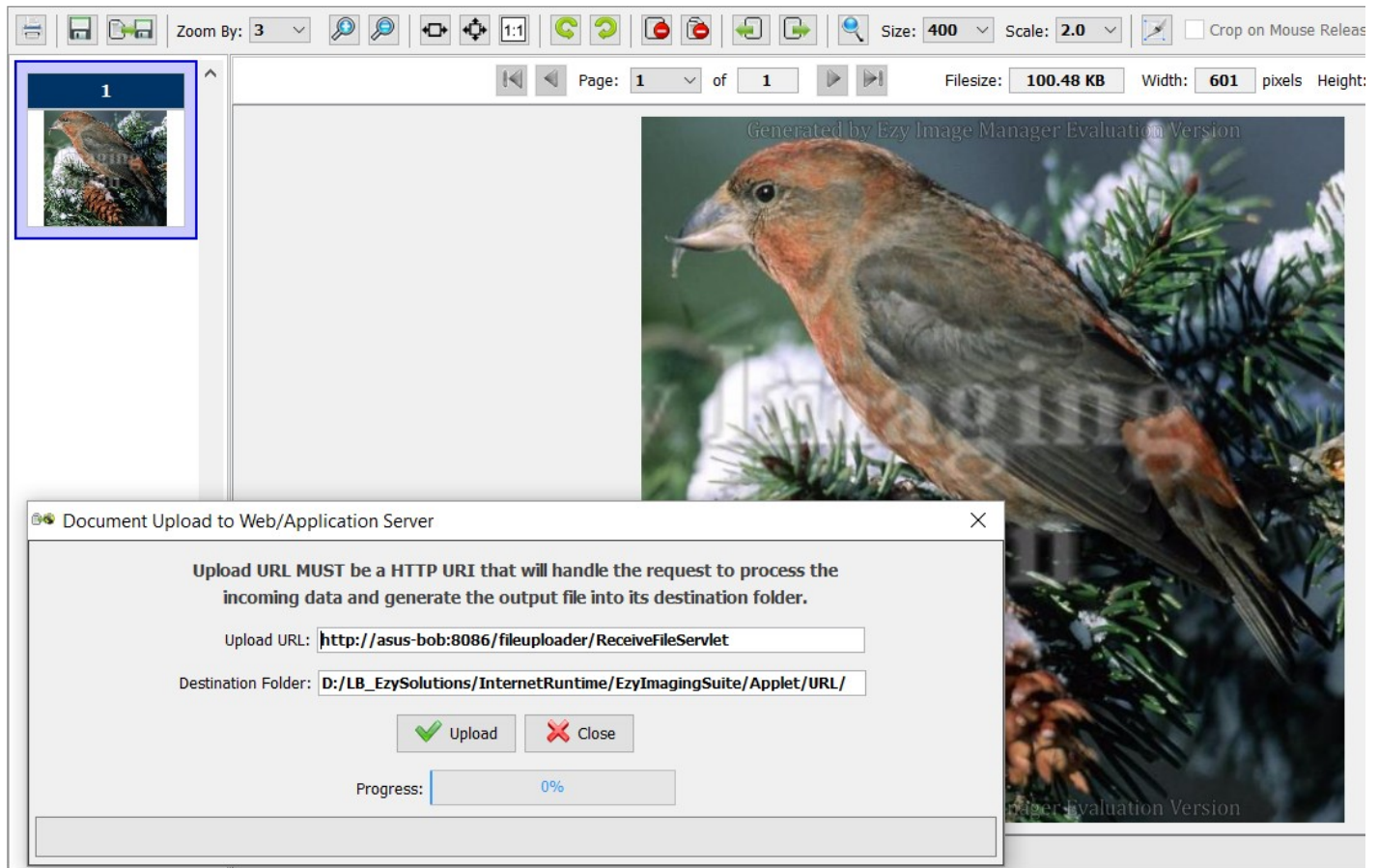
**'http://asus-bob:8086/EIS/URL/bird.jpg'**

and pressing **'Load Document into Image Viewer'** button, we will see the imaging document from this Web/Application Server URL location loaded into the Image Viewer, as shown below:



Once the document has been loaded, the user is now free to view all the page(s) within the document, and do whatever changes as required, before deciding to update and upload the document back into its Web/Application Server URL Repository, provided that changes have been made.

Assuming that the user had cropped the image, pressing **'Update Document'** button would display the following screen:



The '**Document Upload to Web/Application Server**' popup window will allow you to decide if you wish to upload the updated imaging document to the destination folder on the Web/Application Server or close the window and return to the Ezy Image Manager Apex Page.

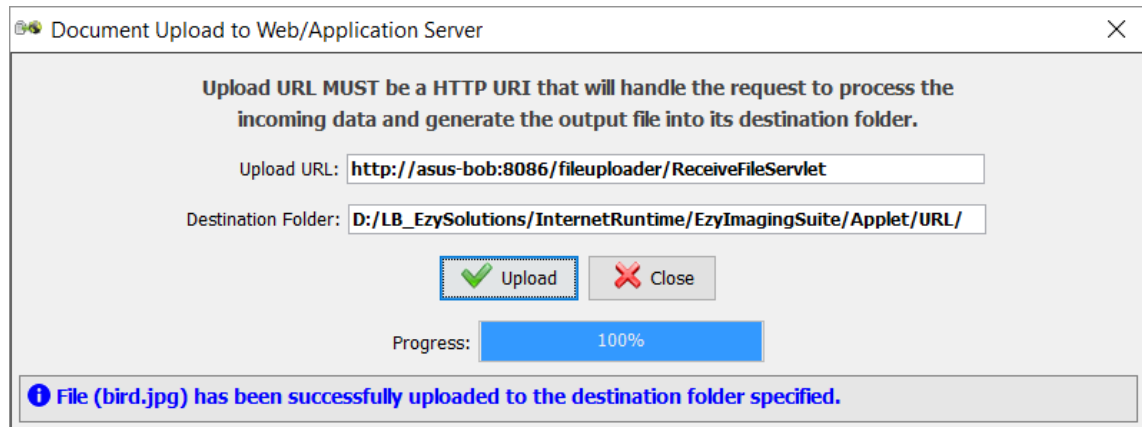
The Destination Folder had been setup within Image Viewer Applet Definition in the sample Apex application as follows:

```
<!-- UploadDestFolder is the destination folder where you wish to save the loaded Imaging Document that may have been updated. -->
<!-- Change the Destination Folder according to your own environment where uploaded files need to be stored into. -->
<PARAM name="UploadDestFolder"
value="D:\LB_EzySolutions\InternetRuntime\EzyImagingSuite\Applet\URL\">
```

It is your responsibility to ensure that your URL's physical location from where the imaging document has been opened matches the actual destination folder you are specifying so that the updated document can actually be updated back to its source location.

Pressing '**Upload**' button will start the process of transferring the file from the local client machine to the Web/App Server where the '**ReceiveFileServlet**' Java class will be running to perform initial validations before saving the received file into the destination folder that had been specified within this server environment.

A successful process will update the Progress Bar within the 'Document Upload to Web/Application Server' window and display the following message:



To provide the flexibility to define a different File Uploader URL location and the Destination Folder to use, as your real live environment may have different physical destinations where imaging documents are stored within, you can always call a JavaScript API that calls Ezy Image Manager's Java method that sets both these values.

To do this, you can code within your Apex application as follows:

```
var fileuploaderPath = '&EIS_FILEUPLOADER_PATH.';
ImageManager.EIS_setURLFormValues(fileuploaderPath, "D:/EIS/URL/");
```

This needs to be done in the 'updateDocument()' JavaScript function within the Apex application, and the code MUST be placed before your call to:

```
ImageManager.EIS_UpdateDocument();
```

In case you wish to update Imaging Documents within several Web/Application Server folder(s), then instead of using '&EIS\_FILEUPLOADER\_PATH.' you can use the actual URL Path of where 'fileuploader.war' has been deployed, eg, 'http://wls\_svr1:8080/fileuploader/ReceiveFileServlet'.

This would mean that any Web/Application Server that wishes to act as an Imaging Documents Repository needs our 'fileuploader.war' file to be deployed to the respective server. You would also need to define your Imaging Documents root folder's Virtual Path on this server where the documents are physically located so that you can use this URL link as part of the document filename when viewing these documents, eg: 'http://wls\_svr1:8080/imageRepository/Finance/Orci\_PO123456.tif'.

In the above example, the hostname 'wls\_svr1' and port of 8080 is where 'fileuploader.war' has been deployed, and also the root folder's Virtual Path of '/imageRepository' has been defined that maps to the some physical folder on the server where beneath it exists several other subfolders such as 'Finance', 'HR', 'Sales', etc, which contains all kinds of imaging documents that needs to be accessed by Ezy Image Manager as well as other EIS products.

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 open an imaging document from this repository, which you should have 'SELECT' privileges from the database server tables to be accessed, change the **Repository** to **'Database Server'**, which will automatically blank out the 'Filename' field, disable 'Select File...' button as they are not applicable, and position the cursor into the Primary Key Value(s) field.

For simplicity, we have provided default values within **'Database Connection and Table Data' Region** to reduce the time required to enter the values.

Refer to Application Process **'set\_JDBC\_app\_items'**, which is executed **'On Load: Before "Body" Region(s)'**, which sets the default values for Hostname, Port, Database Instance and Schema Owner.

The other default values for Database Table, BLOB Column Name and Primary Key Column Name(s) are set within Ezy Image Manager Apex Page fields. The sample Apex application is using **'LB\_IMAGE\_BLOB\_DOCS'** as the database table to store Imaging Documents into, and as such we have set this value in the field **'P20\_DB\_TABLE'** as its default value. **'P20\_BLOB\_COL\_NAME'** field has been set with a default value of **'BLOB\_DOC'** as this is the database column within the database table that has been defined as a BLOB Column to store the imaging document into. **'P20\_PK\_COLS'** field has been set with a default value of **'DOC\_ID'** as this is the 1 Column Primary Key that identifies the unique row to identify each record within this database table.

The screen below shows all the default values that have been set within this region:

Imaging Repository - Select Imaging Document to View

Repository
Database Server

Filename

Select File...

**Database Connection and Table Data**

Hostname / IP
Port
D/B Instance

192.168.43.109
1521
DB11gR2

Database Table
LB\_IMAGE\_BLOB\_DOCS

BLOB Column Name
BLOB\_DOC

Primary Key Column Name(s)
DOC\_ID

More than 1 Primary Key Column MUST have '|' as its delimiter between the various column names.

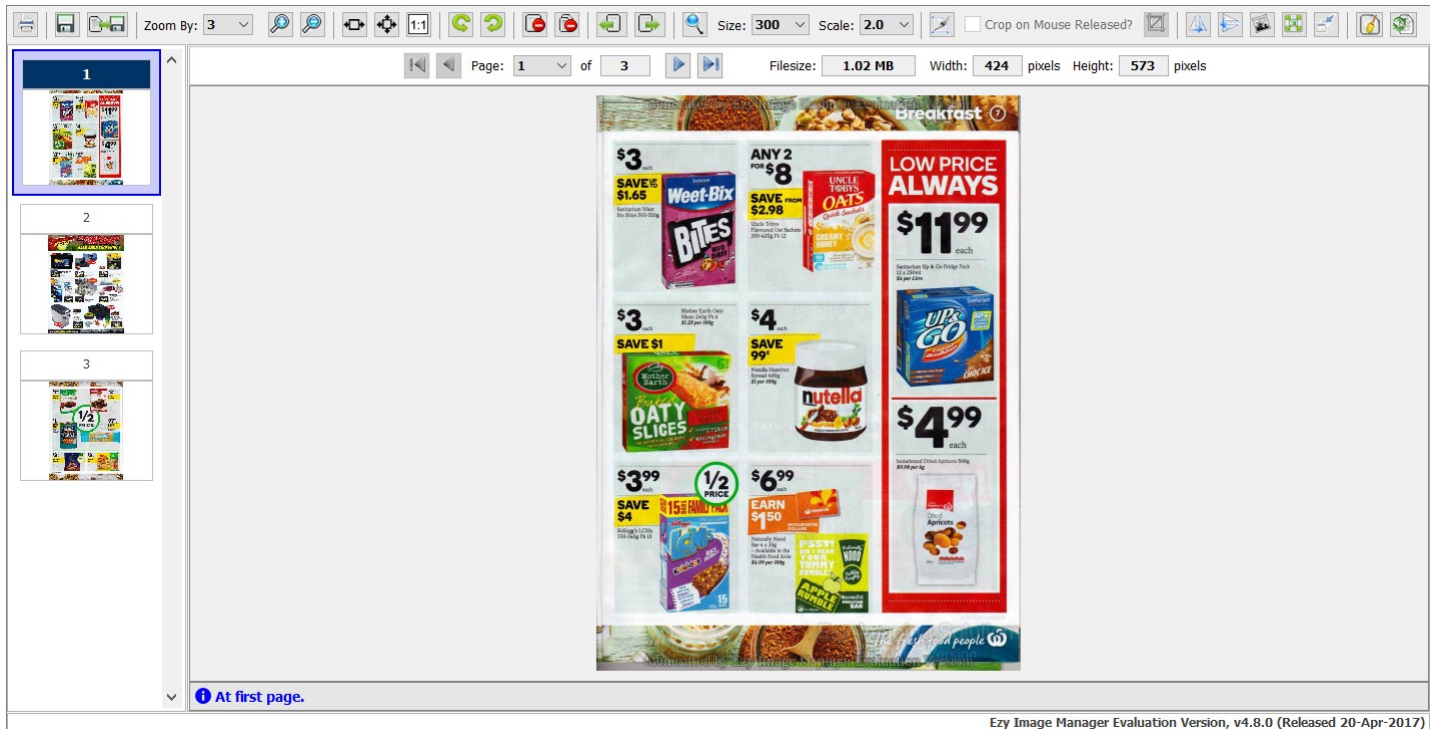
Primary Key Value(s)

More than 1 Primary Key Value MUST have '|' as its delimiter between the various values, and MUST have the appropriate Data Type specification.

Load Document into Image Viewer

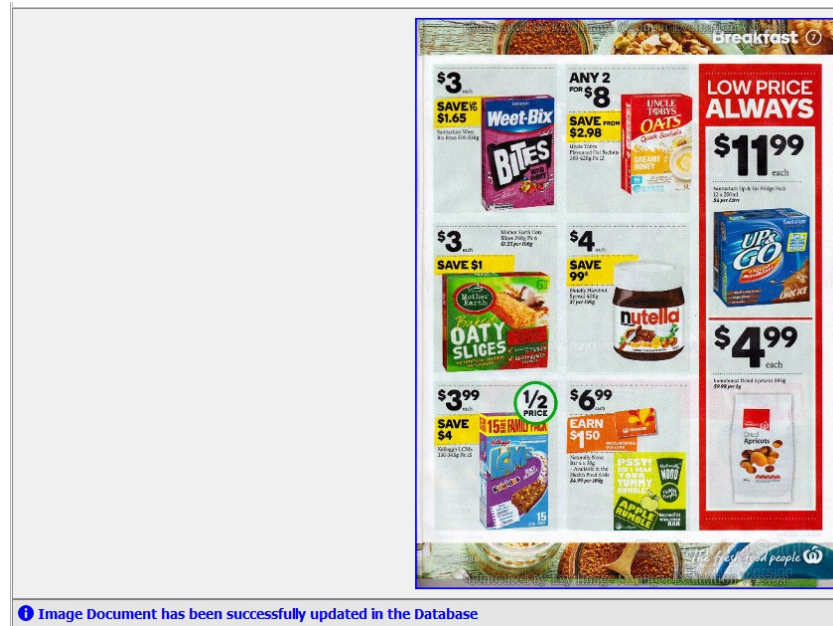
You need to look through your own LB\_IMAGE\_BLOB\_DOCS table to see what values exists for the DOC\_ID column amongst the records in this table after performing several Document Capture tasks using Ezy Image Capture to store the imaging documents in this Database Server table.

In my own table, I have a valid imaging document with a DOC\_ID value of 12, and upon keying in this value in the Primary Key Value(s) field, and pressing '**Load Document into Image Viewer**', I am presented with the following screen:



Once the document has been loaded, and in this example 3 pages were earlier captured within this imaging document, the user is now free to view all the page(s) within the document, and do whatever changes as required, before deciding to update and upload the document back into its Database Server Repository, provided that changes have been made.

Assuming that we decided to put a blue border around the first page, pressing '**Update Document**' button would automatically detect that changes had been made and would update the imaging document back into the database server, and display the following screen with the confirmation of a successful update message on the Status Line within the Java User Interface:



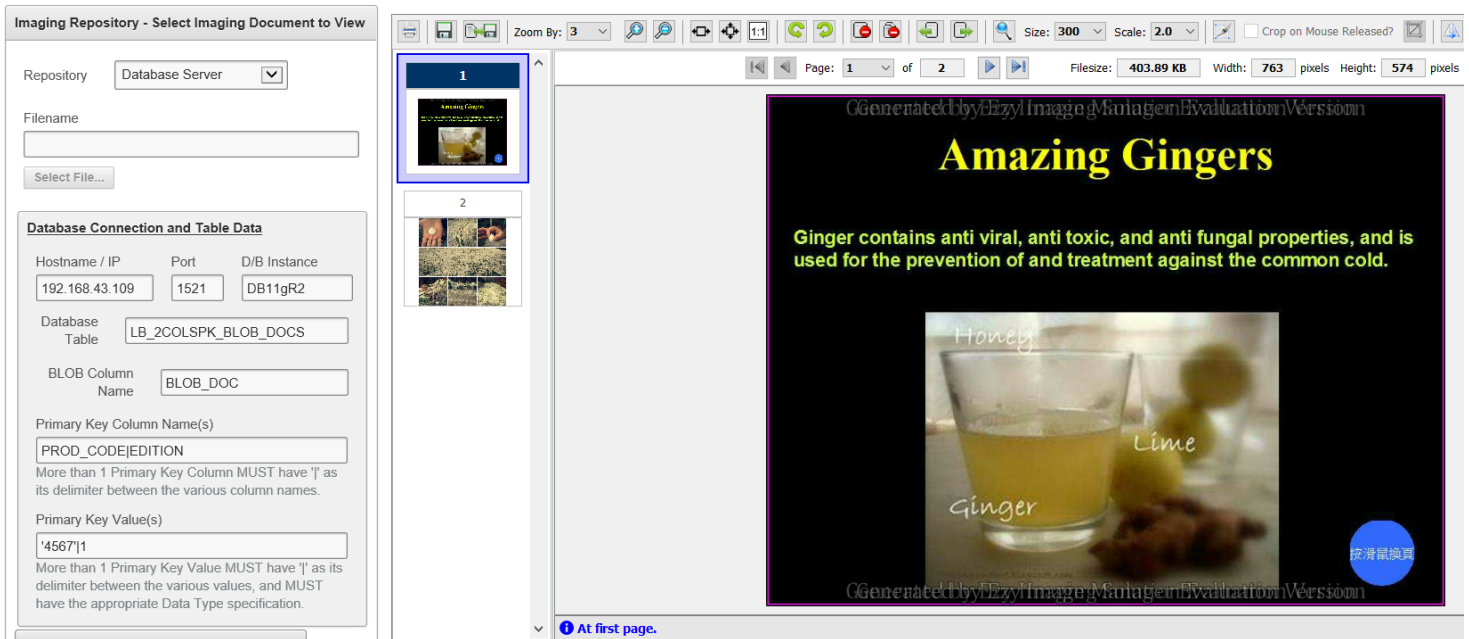
To help you understand how Ezy Image Manager is able to handle any number of Database Server Tables with any number of Primary Key Columns with the corresponding value(s) to be passed to the **'loadDocument'** JavaScript function that allows imaging documents stored as BLOBs to be opened, following is an example of a database server table with 2 Primary Key Columns.

Let us assume that we have a table called **'LB\_2COLSPK\_BLOB\_DOCS'** with the Primary Key Columns being **PROD\_CODE** defined as **VARCHAR2(20)**, and **EDITION** defined as **NUMBER**. As per the helpful information and comments in our sample Apex application that we have provided, more than 1 Primary Key Column MUST have **'|'** as its delimiter between the various column names for us to define the 2 columns that identifies each unique record within the 'Primary Key Column Name(s)' screen field. In this case, we will enter: **PROD\_CODE|EDITION** within this field.

To provide the corresponding values for both these fields within the screen field 'Primary Key Value(s)', more than 1 Primary Key Value MUST have **'|'** as its delimiter between the various values, and MUST have the appropriate Data Type specification. In this case, I have entered the following values within this field: **'4567'|1**.

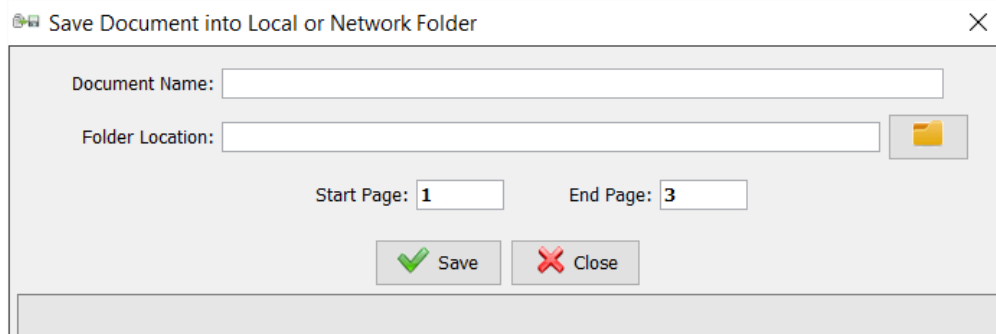
Since the first column is of type VARCHAR2, its value is a quoted literal, followed by **'|'** that acts as a delimiter to separate the first value from the second column's value that is of type NUMBER.

An example of the above is shown below on retrieving 2 pages of a TIF imaging document stored within the database table mentioned above with the Primary Key Value(s) as stated:



## Other Features and Functionalities

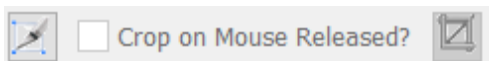
- Ezy Image Manager also provides its own 'Save Document into Local or Network Folder' function. Pressing this button, will open the following dialog window where you can enter the details as required and press 'Save' button to save the currently loaded document that you may have changed and wish to save into another document within the Local or Network Folder only. This flexibility is there for you to use whenever such an application need arises.




- 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 Image Viewer Applet Definition:

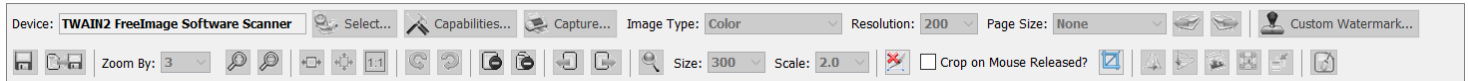
```
<PARAM name="showSaveDocBtn" value="N">
```

- 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:



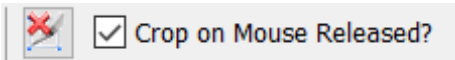


All other controls within the Toolbar are disabled; current cursor is changed to a crosshair symbol (+); and the following message is displayed in the Status Line of the Java User Interface:

**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:



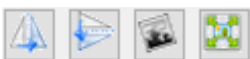
Unselecting the checkbox above, displays the **'Crop Image'** button to allow the user to manually crop the image once you have decided on which portion of the image that needs to be cropped.

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 for the 2<sup>nd</sup> image within my LB\_IMAGE\_BLOB\_DOCS table with a DOC\_ID = 12.




To restore the original image, once you have decided to update the current newly stored image into its original repository or save it as another document into the Local Client or Shared Network Folder (using the built-in 'Save' button), you can always press the  ('**Restore Original Image**') button. 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 Manager allows you to manipulate the image page(s), update/save the modified page(s), and finally revert back to its original form to allow a new set of imaging functions to be performed.

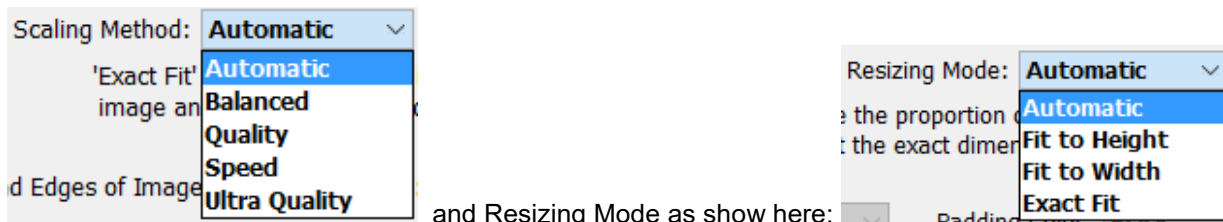
- To allow **Image Editing**, the following set of controls are available to perform such functions:



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 where we have added a Magenta Border of size 5:



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 Manager** 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 Manager 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 Manager within your own Apex applications.

## Technical Assistance & Support

Kindly contact Bob Gill on [bob.gill@longbridge.biz](mailto:bob.gill@longbridge.biz) for any technical assistance and support in case of any issues during deployment or evaluation of Ezy Image Manager for your Oracle Apex environment.

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