

# MST Applet Viewer Java

---

Getting Started Guide

Copyright © 2013 MS Technology. All rights reserved.

This guide and accompanying software are confidential and proprietary to MS Technology. No part of this document can be copied, modified, reproduced, republished, uploaded, or distributed in any form by any means without prior authorization of MS Technology. Unauthorized use of the information appearing here may violate copyright, trademark and other applicable laws, and could result in criminal or civil penalties.

The information provided in this document is used as a guide only and is subject to change without any notice. MS Technology reserves the rights to change and update their product or make changes in the context without any obligation to notify any person for such changes.

MS Technology,

P.O. Box 471843  
Charlotte, NC 28247

USA

Tel: 704-544-3403  
Fax: 704-544-0262

Email: [info@ms-technology.com](mailto:info@ms-technology.com)  
Website: [www.ms-technology.com](http://www.ms-technology.com)

If there is any typographical error in this manual, or has any thought of a way to make this manual better, we would love to hear, feel free to share with us at [info@ms-technology.com](mailto:info@ms-technology.com).

## Table of Contents

Introduction .....	5
Getting Started with MST Applet Viewer Java.....	6
About MST Applet Viewer.....	7
Install MST Applet Viewer.....	8
System Requirements .....	8
Configuration .....	10
On Client Side.....	<b>Error! Bookmark not defined.</b>
On Server Side.....	11
With ECM Repository.....	12
Installation .....	15
Create WAR.....	15
Deployment through Apache Tomcat Server .....	16
Deployment through IBM Web Sphere .....	17
Setting JVM Memory and Arguments in WebSphere .....	21
Deployment through Red Hat JBoss .....	21
Understanding Interface .....	23
Working with Working Sets .....	29
Append Documents in Working Sets .....	29
Save Document .....	29
Print Document.....	30
Annotations.....	31
Line.....	31
Rectangle .....	31
Circle .....	31
Arrow .....	31
Highlighter.....	31
Pen .....	32
Text .....	32
Stamp .....	32
Sticky Note .....	32

---

Redaction .....	32
Shortcut Keys .....	33
Advantages.....	34

---

## Introduction

If you have just a few minutes or want to know just the basics, this is the place to start. This guide provides a basic overview of using MST Applet Viewer.

This guide has been designed in such a way that the user is able to understand the software in an efficient and effective manner. MST recommends users to carefully go through the guide before launching the product and keep it in a safe, easily accessible place for future reference.

---

## Getting Started with MST Applet Viewer Java

This guide covers how to get start with MST Applet Viewer. After reading this guide, the reader will know:

- The general overview of MST Applet Viewer
- How to install MST Applet Viewer
- How to work with the Graphical User Interface of MST Applet Viewer, the menu options that are available in the viewer, and the functions they perform
- How to open/view documents in the viewer
- How to work with Working Sets
- How to save documents in the viewer
- Overview of annotations

---

## About MST Applet Viewer

MST Applet Viewer is an innovative thin-client, web-based version of the MST Viewer for .NET. It has all the great features and benefits of the MST Viewer for .NET. It is an image and document viewer that operates seamlessly on the Java platform and provides a vast array of standard features and functions as well as industry-specific options to meet the entire imaging requirements of an Enterprise Content Management (ECM) system. It is an applet viewer that enables users to view, manipulate, convert, annotate, and print documents and image file formats located in ECM from a single application.

---

## Install MST Applet Viewer

Before continuing further with the installation, please make sure that the system that the viewer will be deployed on meets the minimum system requirements. This section will guide the administrator on how to install the product.

### System Requirements

This section provides the minimum and recommended requirements for running MST Applet Viewer:

### Workstation Requirements

#### Operating System

- Windows XP
- Windows Vista (32 & 64 Bit Versions)
- Windows 7 (32 & 64 Bit Versions)
- Windows 8 (32 & 64 Bit Versions)
- MAC OSX
- LINUX

#### Compatible Internet Browsers

- Microsoft IE 6 or higher
- Chrome 15 or higher
- Mozilla Firefox 4 or higher
- Apple Safari 4.5 or higher
- Opera 7 or higher

#### Prerequisite

JRE 1.5 or higher

#### Minimum Workstation System Requirements

- Processor: Intel Pentium 4 1.0 GHz or higher, AMD Athlon 1.0 GHz or higher
- RAM: 512 MB
- 100 MB of available hard-disk space for installation
- 500 MB of additional hard-disk space for cache

#### Recommended Workstation System Requirements

- Processor: Intel Pentium 4 2.0 GHz or higher, AMD Athlon 2.0 GHz or higher

- RAM: 1GB
- 100 MB of available hard-disk space for installation

## Server Requirements

### Operating System

- Windows Server 2003 (32 & 64 Bit Versions)
- Windows Server 2008 R2 (32 & 64 Bit Versions)
- LINUX (RHEL or SUSE)

### Application Server

- Apache Tomcat 5.5.9 or higher
- JBoss 4.0 or higher
- IBM Web Sphere 6.1 or higher
- Oracle Web Logic 9.0 or higher
- Oracle Glass Fish

### Minimum System Requirements

- Processor: Intel Pentium 4 2.0 GHz or higher, AMD Athlon 2.0 GHz or higher
- RAM: 4 GB
- 100 MB of available hard-disk space for installation

### Recommended System Requirements

- Processor: Intel Pentium 4 2.0 GHz or higher, AMD Athlon 2.0 GHz or higher
- RAM: 8 GB
- 250 MB of available hard-disk space for installation

## Configuration

This section explains how to configure the MST Applet Viewer on the workstation and server.

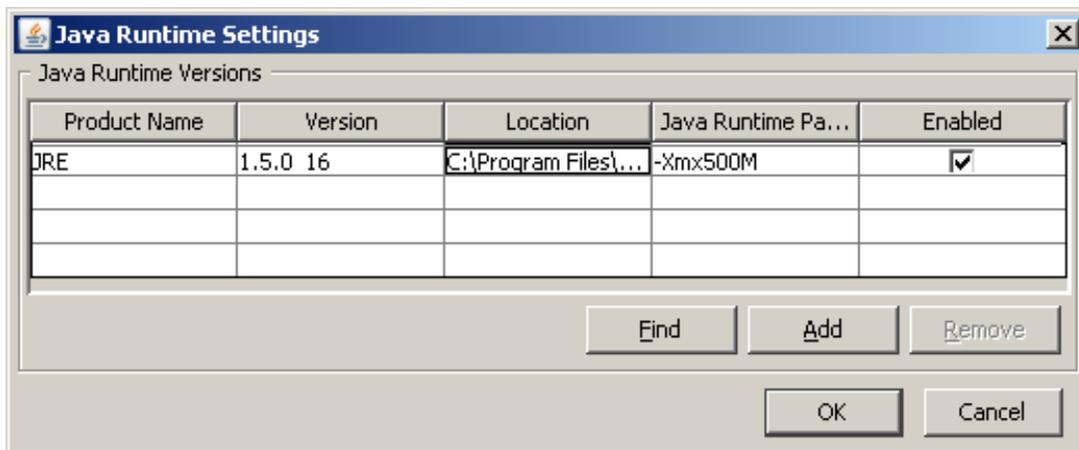
### Workstation:

1. Create Java Policy File in the current user directory.
2. Set the memory for the applet viewer. To do this, perform the following steps:

- Click **Start -> Control Panel -> Java**.
- Click the **Java** tab.



- Click **View**.
- The **Java Runtime Settings** dialog box appears.



- Provide the required memory in the **Java Runtime Parameter** field.
- Click **OK**.

### Server:

1. Open **MSTViewer.jsp**.
2. Configure the Port Number, Context and IP address of the Web/App server on which the MST Applet Viewer is configured.

```
<param name="Context" value="MSTViewer">
```

```
<param name="IP" value="192.168.10.22:8080">
```

```
// Application Name
```

```
Context=MSTViewer
```

```
// IP address and Port No. of the machine where  
"MSTViewer" is running.
```

```
IP=192.168.10.22:8080
```

3. Set the **configureTempPath** attribute value in **web.xml** file to configure the temporary file path for the PDF documents.

```
<context-param>
```

```
<param-name>configureTempPath</param-name>
```

```
<param-value>C:\Images\Temp\  
</param-value>
```

```
</context-param>
```

---

## With the ECM Repository

### Configuration of MST Applet Viewer with the Server Local File System

1. Open **mstconfig.properties** text file provided under ... \MSTViewer\WEB-INF\classes.
2. Provide the values in the below attributes:

```
filesystem.repository.Drive=C:/
```

```
filesystem.repository.Library=Images
```

#### This would be for where

“C” is the drive name and

“Images” is the folder name in C drive.

Place the sample files in the “C:/Images” folder

### Configuration of MST Applet Viewer with SharePoint Repository

1. Open **mstconfig.properties** text file provided under ... \MSTViewer\WEB-INF\classes.
2. Provide the values in the below attributes:

```
sharepoint.IP=192.168.10.30:120/SPWebIntegrator
```

#### This would be for where

“192.168.10.30” is an IP address and

“120” is the port number where **MSDocService** is running

3. Test **MSDocService**. For this, provide below complete URL with the service name in the browser from the server machine where application server is running.

```
http://192.168.10.30:120/ SPWebIntegrator/MSDocService.aspx
```

## Configuration of MST Viewer with Documentum Repository

1. Open **mstconfig.properties** text file provided under ... \MSTViewer\WEB-INF\classes.
2. Provide the values in the below attributes:

```
documentum.repository.cabinetNames=documentum:mst:System:Resources
```

```
mst.repository.repositoryName=documentum
```

### This would be for where

“documentum”, “mst”, “System” and “Resource” are the cabinet names of the ECM.

- ☞ The administrator can change the above values in the “documentum.repository.cabinetNames” attribute with any cabinet name which resides in the “Cabinets” root directory.
- ☞ “documentum” is the doc base name (repository name) of “mst.repository.repositoryName” attribute in Documentum ECM.

3. Open **dfc.properties** text file provided under ... \MSTViewer\WEB-INF\classes.
4. Provide the values in the below attributes:

```
dfc.docbroker.host[0]=WEBTOP
```

```
dfc.docbroker.port[0]=1489
```

```
dfc.globalregistry.repository=documentum
```

### This would be for where

“WEBTOP” is the computer name,

“1489” is the port number where documentum service is running and

“documentum” is the ECM repository name

## Configuration of MST Viewer with IBM FileNet Repository

1. Open **filenetConfiguration.properties** text file provided under ...\**MSTViewer**\WEB-INF\classes.
2. Provide the values in the below attributes:

```
WorkPlace_URL=http://mf451:9080
```

### This would be for where

“mf451” is the machine name or IP Address and

“9080” is the port Number of Application Server on which FileNet is configured.

3. Go to the directory in which application.war is placed (e.g. “C:\Program Files\IBM\WebSphere\AppServer\profiles\AppSrv01\installedApps\mf451Node01Cell\Workplace.ear\app\_engine.war”).
4. Make a **lib** folder and place all the four jar files named **activation.jar**, **mail.jar**, **mailapi.jar** and **MSTViewer.jar**.
5. Place MSTClient.jsp at location “C:\Program Files\IBM\WebSphere\AppServer\profiles\AppSrv01\installedApps\mf451Node01Cell\Workplace.ear\app\_engine.war” and change the following parameters:

```
<param name="Context" value="MSTViewer">
```

```
<param name="IP" value="192.168.10.57:8080">
```

### This would be for where

“MSTViewer” is the name of application that is deployed and

The IP is the IP Address of the system, including Port Number, of Application Server

6. Open **content\_redir.properties** text file provided under “C:\Program Files\FileNet\Config\AE\”.
7. Change the filename of the JSP file to MSTViewer.jsp corresponding to those MIME types that are to open in the MST Viewer.

For Example:

```
image/tiff=/MSTViewer.jsp?{JSP_QUERY_STRING}
```

```
application/pdf=/MSTViewer.jsp?{JSP_QUERY_STRING}
```

8. To load the viewer, forward the request from **ExecuteSearch.jsp** to **MSClientServer.jsp** with parameters objectStoreName, userName, password, docid.

## Installation

Before starting the installation of the MST Applet Viewer, download the application zip file to the server that the viewer will be deployed on. The following are the steps to assist the administrator with installing the viewer.

1. Extract the **MST Viewer** zip file.
2. The folder contains sub folders:
  - Images
  - Lib
  - OcrDll
  - WEB-INF
  - LoginPage.htm
  - MS\_SCAN.dll
  - MS\_SCAN.tlb
  - MSBrowseDetect.js
  - MSMainDocument.jsp
  - MSTViewer.jsp
  - MSTURL.js
  - RegisterScandll.bat
  - twain.dll
  - twain\_32.dll
  - Un-RegisterScandll.bat
  - validateDocList.jsp

### Create WAR

1. Open the **Command Prompt**.
2. Execute the following jar command to create jar file:

```
jar - cvf "MSTViewer.war" *.*
```

3. The jar file should now be created inside the MST Viewer folder.

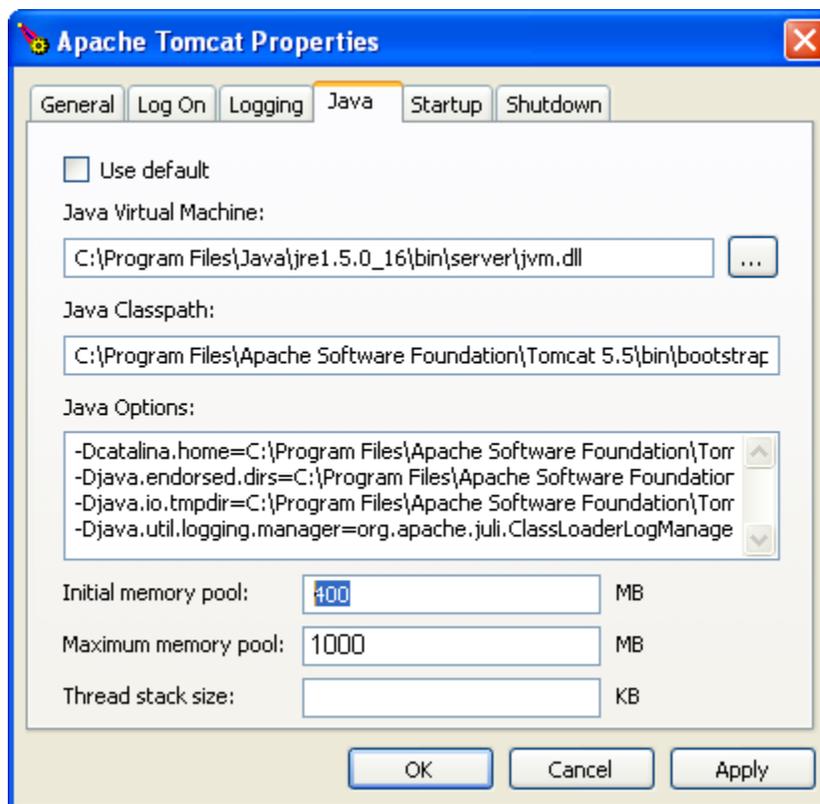
## Deployment with Apache Tomcat Application Server

Perform the following steps to deploy MSTViewer.war with Apache Tomcat Application Server:

1. Click **Start -> Programs -> Apache Tomcat 5.5 -> Tomcat Manager** to launch Tomcat Manager.
2. Use the **WAR file to deploy** option from Tomcat Manager to deploy **MSTViewer.war** file.
3. For Office 97-2003 Support:
  - **For a Window Server:** Place all deliverable files from the **Office dll's\Windows\v32** for Windows 32 bit systems or from **Office dll's\Windows\v64** for Windows 64 bit systems in the **IBM\WebSphere\AppServer1\bin** folder.
  - **For Linux Server:** Copy the installation package from **Office dll's\Linux** to Red Hat Enterprise Linux systems and run the **install.sh** shell script.

 This will install Office engine libraries to **/usr/lib** directory.

4. Open **Configure Tomcat** provided from **Start -> Programs -> Apache Tomcat 5.5 -> Configure Tomcat** to set the memory for the application.
5. The **Apache Tomcat Properties** dialog box appears.
6. Go to **Java** tab.
7. Set the memory for the application from the **Initial Memory Pool**.



8. Go to the **General** tab.
9. Click **Start** to start the Tomcat Application Server.
10. Click **OK**.

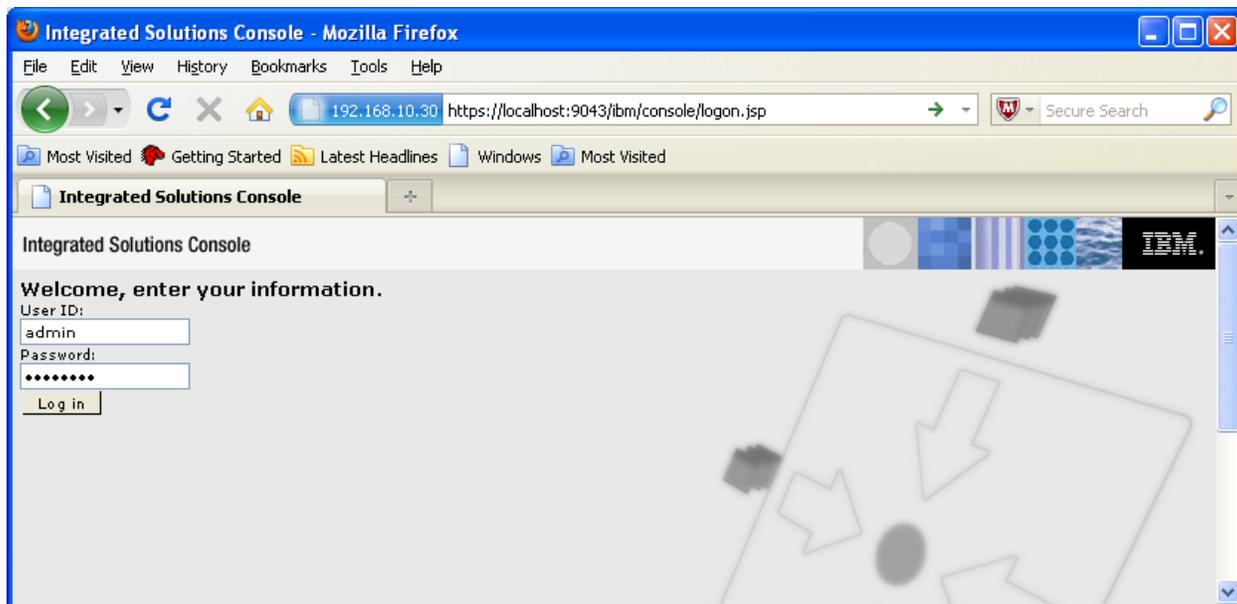
## Deployment with IBM WebSphere

Perform the following steps to deploy the MSTViewer.war with IBM WebSphere:

1. For Office 97-2003 Support
  - **For Window Server:** Place all deliverable files from the **Office DII's\Windows\v32** for Windows 32 bit systems or from **Office DII's\Windows\v64** for Windows 64 bit systems in the **IBM\WebSphere\AppServer1\bin** folder.
  - **For Linux Server:** Copy the installation package from **Office DII's\Linux** to Red Hat Linux machine and run the **install.sh** shell script.

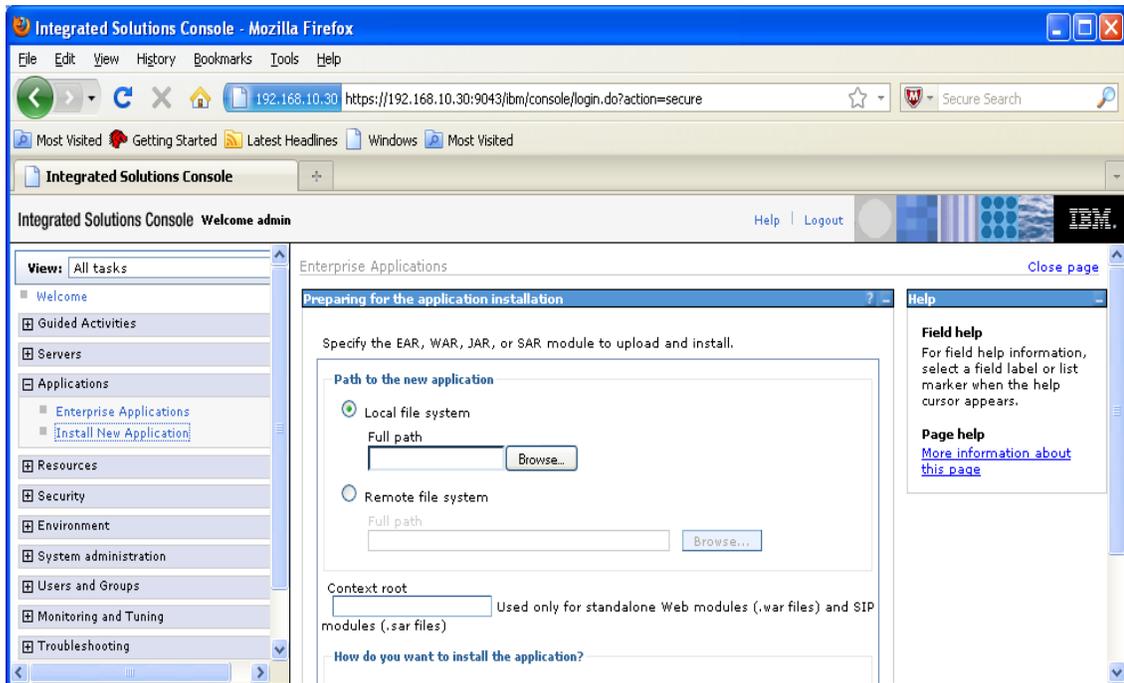
 This will install Office engine libraries to **/usr/lib** directory.

2. Start **WebSphere Application Server 6.1**, by going to **Start -> Programs -> IBM WebSphere -> Application Server v 6.1 -> Profiles -> AppSrv01 -> Start the server**.
3. Open **Administrative Console** by going to **Start -> Programs -> IBM WebSphere -> Application Server v 6.1 -> Profiles -> AppSrv01 -> Administrative Console**.
4. The **Integrated Solutions Console** screen appears.

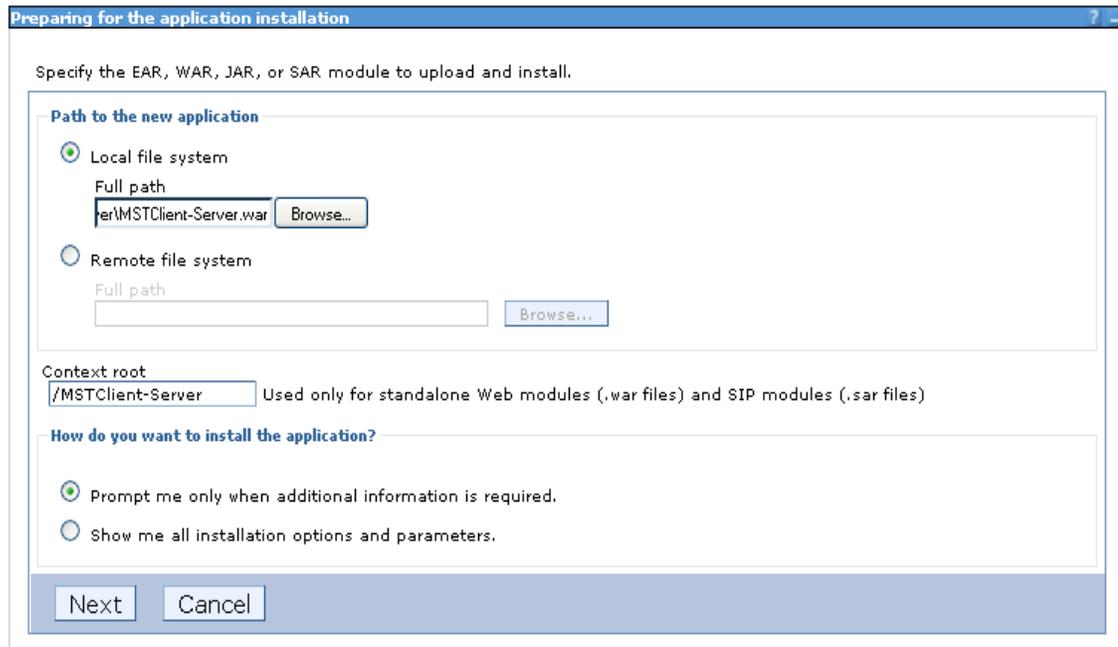


5. Provide the User ID and Password in the respective fields.

- The home screen will appear.
- Go to **Applications** -> **Install New Application**.

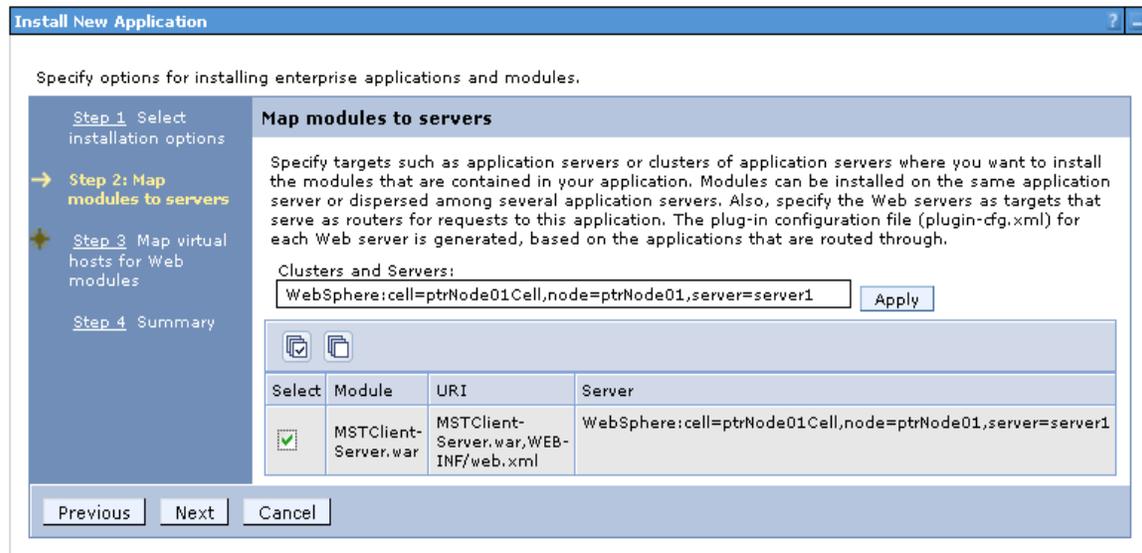


- Click **Browse** and navigate to the path where the MSTViewer.war file is stored.
- Provide the value in the **Context root** field.

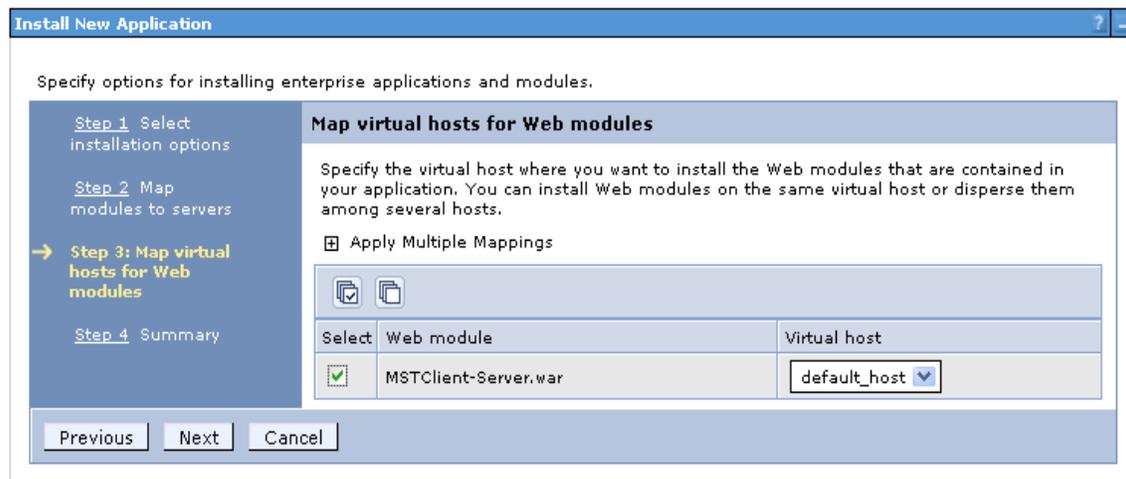


- Click **Next**.

11. Select **Installation Options** from the list of available options for installing enterprise application.
12. Click **Next**.



13. Select the checkbox to map modules to server.
14. Click **Next**.



15. Select the checkbox to map virtual host for web modules.
16. Click **Next**.
17. Click **Finish**.

**Installing...**

**If there are enterprise beans in the application, the EJB deployment process can take several minutes. Please do not save the configuration until the process completes.**

Check the SystemOut.log on the Deployment Manager or server where the application is deployed for specific information about the EJB deployment process as it occurs.

ADMA5016I: Installation of MSTClient-Server\_war started.

ADMA5067I: Resource validation for application MSTClient-Server\_war completed successfully.

ADMA5058I: Application and module versions are validated with versions of deployment targets.

ADMA5005I: The application MSTClient-Server\_war is configured in the WebSphere Application Server repository.

ADMA5053I: The library references for the installed optional package are created.

ADMA5005I: The application MSTClient-Server\_war is configured in the WebSphere Application Server repository.

ADMA5001I: The application binaries are saved in C:\Program Files\IBM\WebSphere\AppServer\profiles\AppSrv01\wstemp\92668751\workspace\cells\ptrNode01Cell\applications\MSTClient-Server\_war.ear\MSTClient-Server\_war.ear

ADMA5005I: The application MSTClient-Server\_war is configured in the WebSphere Application Server repository.

SECJ0400I: Successfully updated the application MSTClient-Server\_war with the appContextIDForSecurity information.

ADMA5011I: The cleanup of the temp directory for application MSTClient-Server\_war is complete.

ADMA5013I: Application MSTClient-Server\_war installed successfully.

Application MSTClient-Server\_war installed successfully.

To start the application, first save changes to the master configuration.

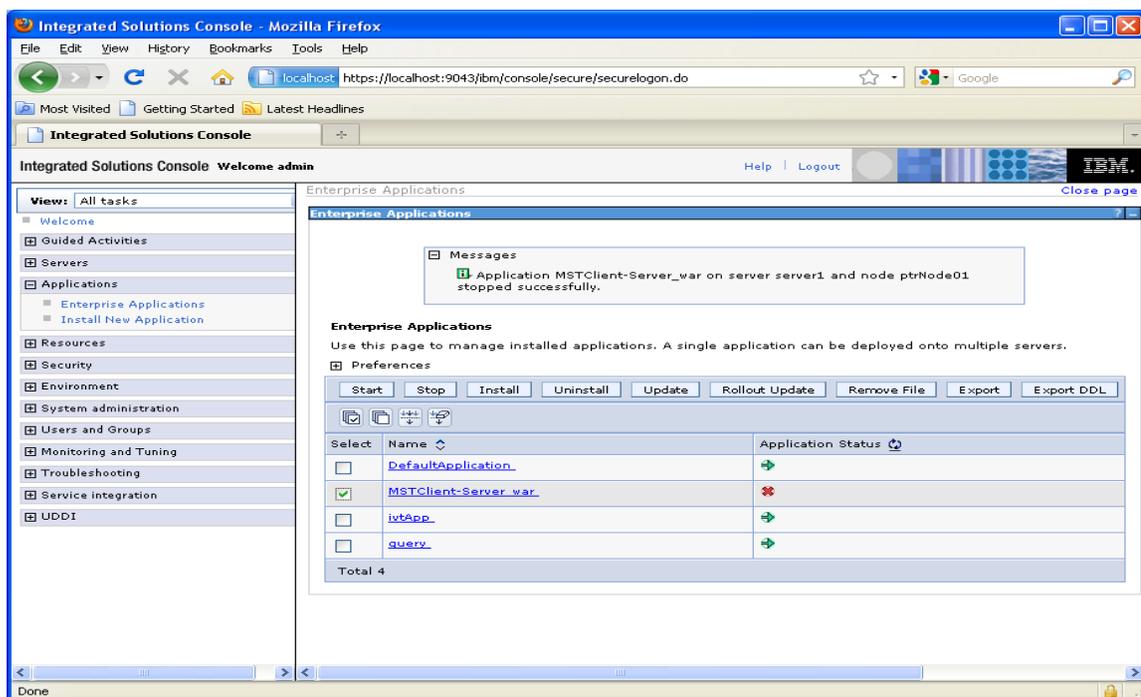
Changes have been made to your local configuration. You can:

- [Save](#) directly to the master configuration.
- [Review](#) changes before saving or discarding.

To work with installed applications, click the "Manage Applications" button.

[Manage Applications](#)

18. Click **Save** to save master configuration.
19. Start the MST Viewer Web Application by going to **Applications -> Enterprise Application**.
20. Select the **MSTClient-Server.war** checkbox.



21. Click **Start** to start MST Viewer application.

## Setting JVM Memory and Arguments in WebSphere

The JVM memory settings must be changed for production environments and/or when processing large volume in non-production.

The WebSphere application server's memory size but be adjusted to operate correctly. Perform the following steps to set the JVM memory size.

1. Connect to the WebSphere administrative console by using the following URL:

```
http://WebSphere Host:WebSphere Admin Port/admin
```

 The default WebSphere administrative console ports are 9060, 9061 or 9080.

2. Select **Servers** -> **Application Servers**.
3. Select the correct server name.
4. Go to **Server Infrastructure**, and then click **Java and Process Management**.
5. Select **Process Definition**.
6. Go to **Additional Properties**, and then click **Java Virtual Machine**.
7. Enter **1280** for Maximum Heap Size (depends upon requirement).
8. Enter “-Xjit:disableLocalVP, disableGlobalVP” for Generic JVM arguments.
9. Click **OK**.
10. Click **Save** to commit the setting.

## Deployment with Red Hat JBoss

Perform the following steps to deploy the MSTViewer.rar with Red Hat JBoss:

1. For Office 97-2003 Support
  - **For Window Server:** Place all deliverable files from **Office Dll's\Windows\v32** for Windows 32 bit servers or from **Office Dll's\Windows\v64** for Windows 64 bit servers in the **/opt/IBM/WebSphere/AppSCellerver/profiles/AppSrv01/installedApps/RHLWS7 Node01** folder.
  - **For Linux Server:** Copy the installation package from **Office Dll's\Linux** to Red Hat Linux machine and run the **install.sh** shell script.

 This will install Office engine libraries to **/usr/lib** directory.

2. Place the application war file to the following path of JBoss Server:

```
JBOSS_HOME\server\default\deploy\
```

3. Remove **xml-apis.jar**, **xercesImpl.jar**, **servlet-api.jar** from **MSTViewer** package (**MSTViewer/WEB-INF/lib**).

4. Set the environment variable in JBoss

```
Djboss.vfs.forceCaseSensitive=true
```

```
Djboss.vfs.forceVfsJar=true
```

It will be look like this:

```
set "JAVA_OPTS=-Djboss.vfs.forceCaseSensitive=true -  
Djboss.vfs.forceVfsJar=true"
```

5. **Configure JVM Memory Settings**

Run the bat file in the bin folder that contains the JVM parameters that includes the memory configuration. From the production server, confirm that these values are correctly set. For example, the following sets the minimum and maximum heap size as 1GB.

```
set JAVA_OPTS=%JAVA_OPTS% -Xms1024m -Xmx1024m
```

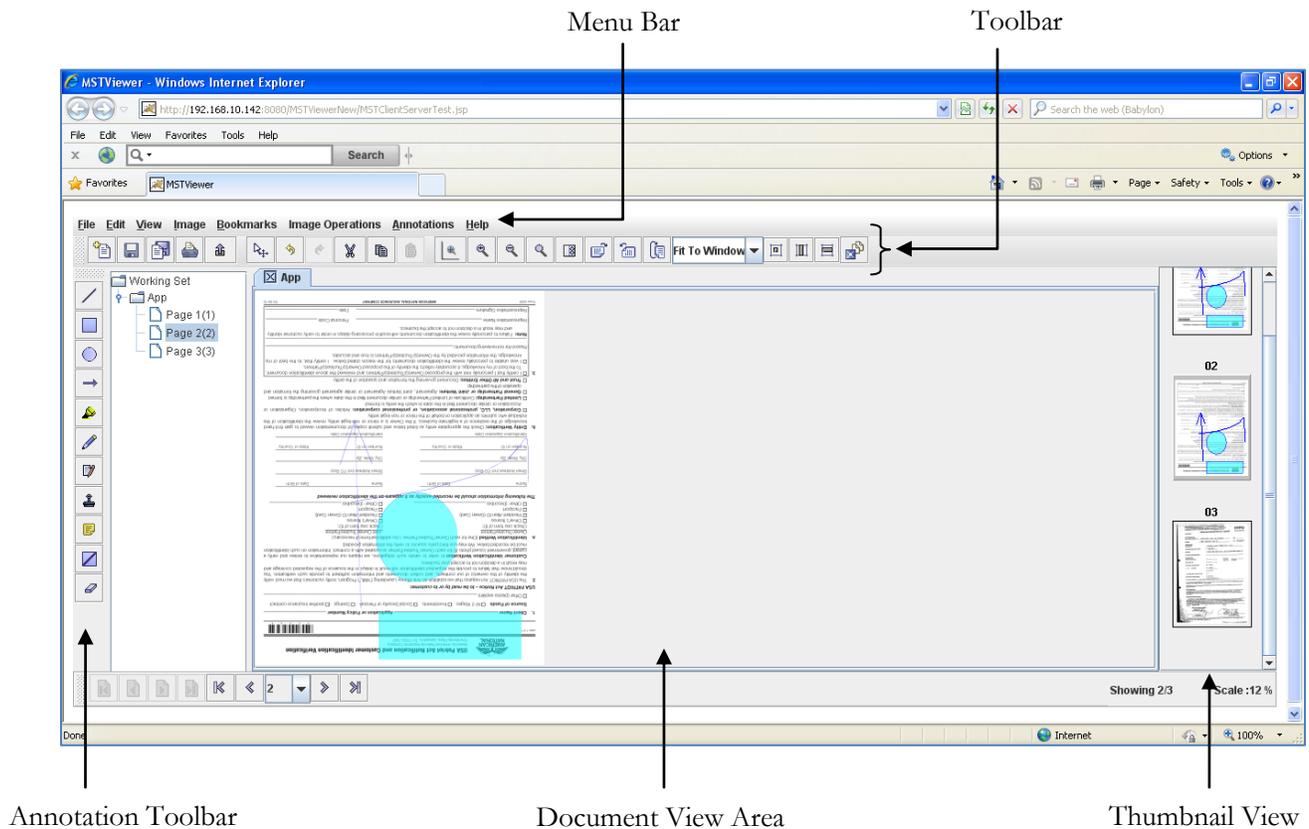
It is a good idea to keep these identical for performance reasons. The actual heap size setting will depend on the application requirements and also on the RAM available of the server machine.

6. Run **run.bat** file to start JBoss Server. The path to run the file is:

```
JBOSS_HOME\bin\run.bat
```

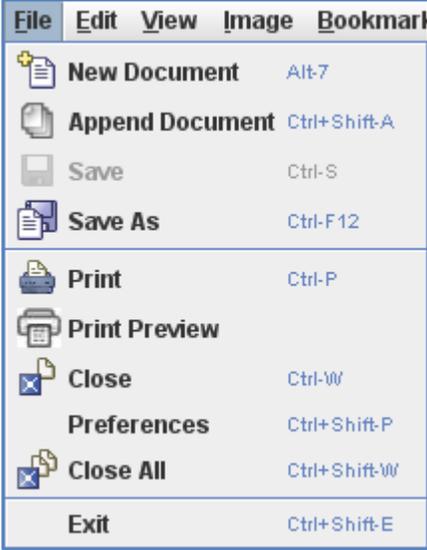
## Understanding Interface

The MST Applet Viewer interface is user friendly, and provides quick access to all important functions the user needs.



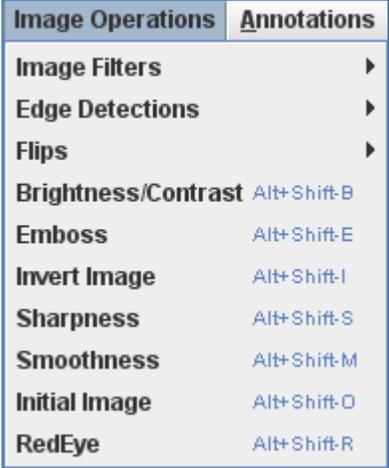
The following are the components of the application user interface.

- **Menu Bar:** The top most bar of the application interface that contains all the available features of the application. It has eight menu options:
  - File
  - Edit
  - View
  - Image
  - Bookmarks
  - Image Operations
  - Annotation
  - Help

Menu	Options	Options Description
File		<p><b>New Document:</b> Creates a new Working Set</p> <p><b>Append Document:</b> Appends documents in a Working Set</p> <p><b>Save:</b> Saves an active document with its current filename and location</p> <p><b>Save As:</b> Saves an active document to another location with the same or different filename</p> <p><b>Print:</b> Prints an active document</p> <p><b>Print Preview:</b> Shows how the file will look when it will print</p> <p><b>Close:</b> Closes an active document</p> <p><b>Close All:</b> Closes all opened documents</p> <p><b>Exit:</b> Closes all opened documents and quit application</p>
Edit		<p><b>Cut Page:</b> Cuts the selected text or image from a page</p> <p><b>Copy Page:</b> Copies the selected text or image from a page</p> <p><b>Paste Page:</b> Inserts the copied text or image at the insertion point (cursor)</p> <p><b>Redo:</b> Redo a previously undone change</p> <p><b>Undo:</b> Reverses the effect of the most recent image editing or filtering operation</p> <p><b>Delete Page:</b> Deletes selected document from the Working Set</p> <p><b>PDF Text Search:</b> Searches text in a PDF file</p>

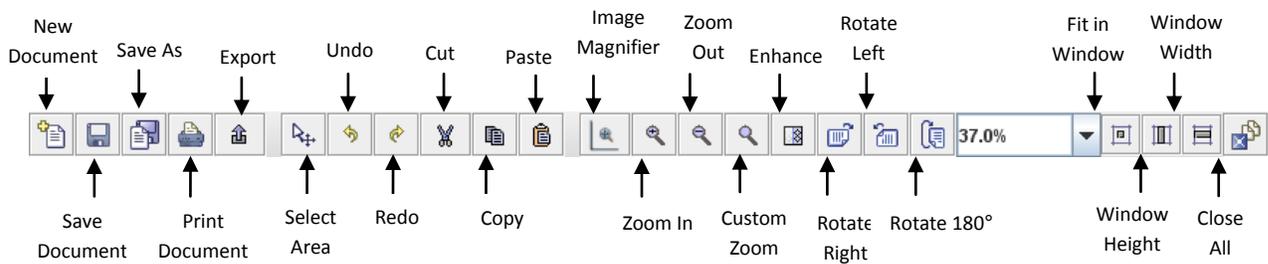
View		<p><b>First Page:</b> Display the first page of an active document</p> <p><b>Previous Page:</b> Display the previous page of an active document</p> <p><b>Next Page:</b> Display the next page of an active document</p> <p><b>Last Page:</b> Display the last page of an active document</p> <p><b>Go To Page:</b> Go to the specified page of a document</p> <p><b>Operation Toolbar:</b> Display the operation tool bar</p> <p><b>Status Bar:</b> Display the Status bar</p> <p><b>Thumbnails:</b> Display the thumbnail view of the documents opened in a Working Set</p> <p><b>Ruler:</b> Display ruler on the page</p> <p><b>Hide Annotations:</b> Hide annotation toolbar and option from the menu bar</p>
------	---	---

<p>Image</p>		<p><b>Enhance:</b> Magnify the view of the page of a document</p> <p><b>Zoom In:</b> Increases the magnification percentage of a document</p> <p><b>Zoom Out:</b> Decreases the magnification percentage of a document</p> <p><b>Custom Zoom:</b> Resize the document with a specified size</p> <p><b>Actual Size:</b> Bring the document in its actual size</p> <p><b>Fit in Window:</b> Resize the document to fit entirely in the window</p> <p><b>Fit To Width:</b> Resize the document to fit the width of the window</p> <p><b>Fit To Height:</b> Resize the document to fit the height of the window</p> <p><b>Rotate Right:</b> Rotate the page of an active document in a clockwise direction</p> <p><b>Rotate Left:</b> Rotate the page of an active document in an anticlockwise direction</p> <p><b>Rotate 180 degrees:</b> Rotate the page of an active document in a 180° direction</p> <p><b>Image Magnifier:</b> Magnifies a specific part of an image</p> <p><b>Split Window:</b> Divide documents either horizontally or vertically</p> <p><b>Redact Page:</b> Redactions will not move and will be saved permanently</p> <p><b>Image Properties:</b> Displays properties of an image</p>

<p>Bookmarks</p>		<p><b>Add Bookmark:</b> Add bookmark to an active page of a document</p> <p><b>Add Multiple Bookmark:</b> Add multiple bookmarks on a document</p> <p><b>Remove Bookmark:</b> Remove added bookmark from a document</p> <p><b>First Bookmark:</b> Display first bookmark in a document</p> <p><b>Next Bookmark:</b> Display next bookmark in a document</p> <p><b>Previous Bookmark:</b> Display previous bookmark in a document</p> <p><b>Last Bookmark:</b> Display last bookmark in a document</p> <p><b>Go to Bookmark:</b> Go to the specified bookmark in a document</p> <p><b>Remove All Bookmark:</b> Delete all the added bookmarks in a document</p>
<p>Image Operations</p>		<p><b>Image Filters:</b> Apply various effects on an image</p> <p><b>Edge Detections:</b> Identifying and locating sharp discontinuities in an image</p> <p><b>Flips:</b> Rotate image either vertically, horizontally or diagonally</p> <p><b>Brightness/Contrast:</b> Change the brightness and contrast of an image</p> <p><b>Emboss:</b> Emboss an image</p> <p><b>Invert Image:</b> Invert color of an image</p> <p><b>Sharpness:</b> Makes an image sharper</p> <p><b>Smoothness:</b> Makes an image smoother</p> <p><b>Initial Image:</b> Bring an image into its actual look</p> <p><b>RedEye:</b> Appearance of red pupil in the eyes of humans and animals</p>

Help		<p><b>Help:</b> Open user manual for assistance</p> <p><b>About:</b> Check the product version and licensing information</p>
------	--	--

- Toolbar:** The MST Applet Viewer has floating toolbars with several buttons that can be easily accessed to quickly perform any action. The toolbars can be dragged to any location to prevent obstructing the view of the document. The toolbars can also be temporarily hidden by going to: **View -> Toolbars**.



---

## Working with Working Sets

A Working Set is a collection of documents that can be viewed as one continuous document. Working Sets enable users to:

- View multiple documents in a single document window.
- Browse documents and pages from Tree-View or Thumbnail.
- Scan documents and add them into a working set.
- Create custom documents in a working set which can be converted to single or multi-page documents.

### Append Documents in Working Sets

Within a working set, documents can be appended to the current working set by performing the following steps:

1. On the **File** menu, click **Append Document**.
2. The **Select Location** dialog box appears.
3. Navigate to find the desired file and click **Append**.
4. If the selected file is supported will be opened in the viewer.
5. Repeat the process to append another document to the working set.

## Save Document

The document can be saved in a number of file formats to the user's workstation (if they have permission), to a folder on a network drive, or back to the ECM repository. MST Applet Viewer supports saving files to the following formats:

- WBMP
- TIFF
- JPEG
- GIF
- Bitmap
- MODCA
- IOCA
- PDF

---

Perform the following steps to save a document:

1. From the **File** menu, click **Save** or click the **Save** button displayed in the Standard toolbar.

Perform the following steps to save a document in a different format:

1. Click **Save As** button displayed on the Standard toolbar or select **Save As** from the File Menu.
2. From the dialog box, in the navigation pane (the left pane), select the folder to where the document needs to be saved to.
3. In **File Name** box, enter the name of the file.
4. From **Select as type** drop down box, select the new file format type of the document.
5. Select one of the following required save options from the list:
  - **Current Page:** Save the current page only.
  - **Current Document:** Save all pages of the current document.
  - **Pages:** Save some specified pages, and then enter the page numbers using arrow keys.
6. Click **Settings** for **BMP Compressions**.
7. Once done, click **Save** to save the document in a different format.

## Print Document

Documents can be printed by performing the following steps:

1. While viewing a document, from the **File** menu, click **Print**.
2. Once the **Print** dialog box is displayed, from the **Printer** group, select the printer to use (if it is not selected).
3. From the **Print Range** group, specify the portion of the document that the user wants to print. If the user clicks on **Pages**, they have to enter the page numbers or range to print.
4. From the **Copies** group, select the number of copies of the document to print.
5. To adjust page settings, go to **Page Setup** tab.
6. Once done, click **OK**.

---

## Annotations

Annotations are comments, notes, explanations, or other types of external remarks that can be added to a document to provide additional information or emphasis.

The MST Applet Viewer provides tools to enable the user to freely write their own comments to the document to collaborate with others. It provides the ability to add comments via sticky notes, apply digital stamps, and much more, making MST Applet Viewer an ideal solution for business workflows. It also allows the user to save, copy, paste and print annotations.

Annotation marks are saved within a unique file that stores the annotation data. When the user makes an annotation, a file with the same name, with an extension `.t_1` is created in the same directory. Any annotation that is NOT burned-in (embedded) is put into this file. The `.t_1` file is a GOCA type file. These marks can also be merged with the image data in a process known as “burned-in”. Once annotations are burned-in a document, they become part of the base image and cannot be manipulated by the annotation functions.

MST Applet Viewer has a full range of annotation tools for users. The following is a list of the annotation and markup tools included in the viewer, with a description of their functionality.

### Line

This annotation tool draws a horizontal, vertical, or lines at 45° with adjustments: color, thickness, and transparency.

### Rectangle

This annotation tool draws a rectangle with adjustments: line and fill color, thickness, and transparency.

### Circle

This annotation tool draws a circle with adjustments: line and fill color, thickness, and transparency.

### Arrow

This annotation tool draws a horizontal, vertical or 45° arrow with adjustments: color, thickness, arrowhead length and angle.

### Highlighter

This annotation tool provides the ability for the user to highlight an area or text of a document.

---

## **Pen**

This annotation tool draws freehand lines and shapes with adjustments: color, thickness, and transparency.

## **Text**

This annotation tool enters text with adjustments: size and color of the fonts and the text box.

## **Stamp**

The user can stamp images and/or text anywhere on a document. The user can choose either from a list of predefined stamps or create their own stamps.

## **Sticky Note**

Post notes to documents that stand out to other users. Sticky Notes enable users to create text notes for easier collaboration between team members.

## **Redaction**

This annotation tool is used to hide sensitive/confidential information of a file or document.

## Shortcut Keys

Short Cut keys provide an easier and quicker method of navigating and using software. Short Cut keys are commonly accessed by using **ALT**, **CTRL**, or **SHIFT** in conjunction with a single letter.

The following shortcut keys that will work with all PC compatible computers and software programs and it is highly recommended that all users keep a good reference of them.

Command	Short Cut Key
Open	Ctrl + O
Close	Ctrl + W
Close All Documents	Ctrl + Shift + W
Save As	F12
Print	Ctrl + P
Cut	Ctrl + X
Copy	Ctrl + C
Paste	Ctrl + V
Insert Page	Insert
Delete Selected	Delete
Delete Document	Ctrl + Delete
Delete All Document	Ctrl + Shift + Delete
Select All Pages	Ctrl + Shift + A
Deselect All Pages	Ctrl + Shift + D
Crop Page	Ctrl + Shift + C
First Page	Home
Previous Page	Page Up
Last Page	End
Next Page	Page Down
Go To Page	Ctrl + G
First document	F7
Next Document	Ctrl + Page up
Last Document	Ctrl + Page Down
Previous Document	F8
Thumbnails	Ctrl + F11
Hide Annotations	F11
Enhance	Ctrl + E
Zoom In	+
Zoom Out	-
Custom Zoom	Ctrl + M
Actual Size	Shift + A
Fit in Window	Shift + F
Fit to Width	Shift + W
Fit to Height	Shift + H

Rotate Right	Ctrl + Arrow Right
Rotate Left	Ctrl + Arrow Left
Rotate 180	Ctrl + Arrow Down
Invert	Ctrl + Alt + I
Magnifying Lens	Alt + L
Image Properties	Ctrl + Alt + Enter
Pen	Ctrl + Alt + P
Highlighter	Ctrl + Alt + H
Rectangle	Ctrl + Alt + R
Circle	Ctrl + Alt + C
Line	Ctrl + Alt + L
Arrow	Ctrl + Alt + A
Sticky Note	Ctrl + Alt + N
Stamp	Ctrl + Alt + S
Text	Ctrl + Alt + T

## Advantages

- **Reduce Overhead and Increase Productivity:** Allows companies to reduce a number of applications to one efficient universal document and image viewer.
- **File Formats:** Supports over 75 common and proprietary file formats.
- **Email and Fax:** Email and/or fax images and documents directly from the viewer.
- **Annotations:** Access to a number of different annotations including, but not limited to redaction, line, arrow, rectangle, circle, text, note, highlighter, pen stamp, watermark and eraser.
- **Internal Development:** All file formats are developed by in-house MST developers and do not use any third party APIs. This allows MST to provide customizations, prompt resolutions to issues, and release control.
- **Individual Release Control:** Reduces deployment and upgrade cost. Every customer has their own release version of the product.