

# IBM Problem Determination Tools Studio README

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## Overview

IBM Problem Determination Tools Studio is a standalone Eclipse-based environment that provides workstation users with easy access to the power of the IBM Problem Determination Tools for z/OS family of products:

- IBM Application Performance Analyzer for z/OS
- IBM Debug Tool for z/OS
- IBM Fault Analyzer for z/OS
- IBM File Manager for z/OS
- IBM Workload Simulator for z/OS & OS/390

## Hardware Requirements

The following minimum hardware levels are required:

- CPU - 1 GHz or faster 32-bit (x86) or 64-bit (x64) processor, dual or quad core recommended
- RAM - 2.0 GB minimum, 3.0 GB recommended
- Hard disk - at least 500 MB available space

## Supported Platforms

One of the following levels of the Microsoft Windows operating system:

- Microsoft Windows XP 32-bit
- Microsoft Windows Vista 32-bit
- Microsoft Windows 7 32-bit
- Microsoft Windows Server 2008 32-bit

## Software Requirements

Any combination of one or more of the following IBM Problem Determination Tools for z/OS products:

- IBM Application Performance Analyzer for z/OS V12.1, or later
- IBM Debug Tool for z/OS V12.1, or later
- IBM Fault Analyzer for z/OS, V12.1, or later
- IBM File Manager for z/OS V12.1, or later
- IBM Workload Simulator for z/OS & OS/390 V1.1, or later

## Installing IBM Problem Determination Tools Studio

To install Problem Determination Tools Studio:

1. Download the installation zip file ( `PD_Tools_Studio_v xxxxxx .32bit.zip` ) from the IBM Problem Determination Tools Studio [file repository](#)
2. Extract the contents of the zip file into a folder of your choice. Ensure that the directory you choose does not contain any other files

## Getting Started With IBM Problem Determination Tools Studio

The following are some steps to get you started once you have installed the Problem Determination Tools Studio.

1. Double-click the `PD_Tools.exe` file from where you extracted the install zip file
2. Specify a workspace location for the Problem Determination Tools Studio. We recommend a new folder on your system
3. The Problem Determination Tools Studio product will appear displaying its Welcome page. The Welcome page includes links to a basic overview and first steps to creating and managing your connections to host systems
  1. Click **Overview**
  2. Click any of the links on the left column to open any of the IBM Problem Determination Tools for z/OS plug-ins overview help content
  3. Click any of the links on the right column to open any of the IBM Problem Determination Tools for z/OS plug-ins
  4. The Problem Determination Tools Studio help documentation is integrated with the product. To display the help documentation, from the main menu bar, click **Help > Help Contents**. The help contents provide detailed help for all components of the offering, along with help for using Problem Determination Tools Studio with each of the individual Problem Determination Tools products. There is also basic help for:
    1. Eclipse (Workbench User Guide) - this is useful if you are new to using an Eclipse environment offering
    2. Problem Determination Tools for z/OS Common Component - contains help details on setting up your host connections
    3. z/OS Explorer User Guide - Contains details on the included z/OS perspectives and views as well as further information on managing your configuration and working with host data sets, JCL files, and submitting batch jobs to the host and viewing output
  5. Each of the IBM Problem Determination Tools for z/OS plug-in perspectives can be opened from **Window > Open Perspective > Other...**; their views can be opened from **Window > Show View > Other...**
4. If you are using Application Performance Analyzer with Problem Determination Tools Studio, there is some connections/credentials setup that is unique to Application Performance Analyzer that must be performed because Application Performance Analyzer uses its own listener.
  1. Start the Problem Determination Tools Studio
  2. Click **Window > Manage Connections**
  3. Under Connections select **Application Performance Analyzer**, then click **Add...**
  4. In Add APA Connection enter the **Host name** and **Port number** of the APA listener, then click **Save and Connect**
  5. Once a connection is established, you will be asked to select the APA started task (STC) that you desire to connect to. Enter that started task.
  6. Create a credentials entry for yourself, with your user name and password (or it can be a passphrase if used on the machine).
5. If you are using the Debug Tool DTCN function, you will need to establish a connection between the DTCN Profiles view for CICS and your z/OS system by following the steps described in [DTCN tips](#).

## Establishing a connection between the DTCN Profiles view for CICS and your z/OS system

Specify the settings needed to establish a connection between the DTCN profiles view and your z/OS system by doing the following steps:

1. Click Window > Show view > Other
2. Type "DTCN" in the text box at the top of the window. Select DTCN profiles and click OK
3. Click Window > Show view > Other
4. Type "Host Connections" in the text box at the top of the window. Select Host Connections and click OK
5. In the Host Connections view, select DTCN and click Add to create a connection to DTCN.
6. Specify the settings in the following fields and click Save and Close:

### Name

The name of the connection. If left blank will be auto-filled by combining the host name and port number entered separated by ":"

### Host name

The TCP/IP name or address of the z/OS system as described in "Defining the CICS TCPIP SERVICE resource" in the Debug Tool Customization Guide

### Port number

The port number of the z/OS system as described in "Defining the CICS TCPIP SERVICE resource" in the Debug Tool Customization Guide

7. Select the DTCN connection you created, and click Connect.
8. In the DTCN Signon window, specify the settings in the following fields, or select "Use existing Credentials" if you have at least one credential defined, and click OK.

### Credentials Name

The name of the credential

**User ID**

The ID that you use to log on to the CICS system

**Password or Passphrase**

The password or passphrase that you use to log on to the CICS system

A successful connection is indicated through a green icon for the DTCN connection. Otherwise, review the values you entered, correct any mistakes, and try the connection test again. You can also review the trace file (as described in Debug Tool User's Guide Appendix I section "Locating the trace file of the DTCN Profiles or DTSP Profile view") for diagnostic information that can help identify the cause of the connection error. In the DTCN Profiles view, you can right click anywhere to see a list of actions available.

**Note:** If you want require a secured connection, you will need to follow the steps in the section, [Establishing a secured communication between the DTCN profile view for CICS and your z/OS system](#)

## Establishing a secured communication between the DTCN profile view for CICS and your z/OS system

These steps help you enable secure communication via Secure Sockets Layer (SSL) between DTCN profile view and your z/OS system. The communication between the client and server uses the HTTP protocol.

### Server side setup

To enable SSL communication, do the following tasks for Server side:

1. Generate key pair and self-signed certificate using Rexx RACF command.
  1. Use RACF GENCERT command to create a key entry for the CICS region owner. The key entry contains the key pair and self-signed certificate.  
Example (Create a key entry for user USERID with label: USERID-DTCNPLG-CERT):

```
/* generate key entry */
"RACDCERT ID(USERID) GENCERT",
" SUBJECTSDN(CN(
'your_host_name.com'
) ",
"          T ('USERID-DTCNPLG-CERT' ) ",
"          OU('IBM' ) ",
"          O ('IBM' ) ",
"          L ('San Jose' ) ",
"          SP('CA' ) ",
"          C ('US' ))",
" NOTBEFORE (DATE(2011-02-28) TIME(20:00:00) )",
" NOTAFTER (DATE(2031-12-31) TIME(19:59:59) )",
" WITHLABEL(
USERID-DTCNPLG-CERT
)",
" SIZE (1024 )"

```

2. Connect the key entry to a key ring that belongs to the CICS region owner ID. The common name of the subject DSN must be the host name of the server that the client uses to connect to host.  
Example (Connect it to a key ring named USERID):

```
/* connect key entry to key ring */
" RACDCERT ID(
USERID
) ",
" CONNECT( RING (
USERID
) ",
"          LABEL(
USERID-DTCNPLG-CERT
))"

```

- Export the certificate and store it in a data set using the printable encoding format defined by the internet RFC 1421 standard

Example (Export the certificate to a data set: USERID.DTCNPLG.CERT)

```

/* export certificate to a data set                                */
"RACDCERT EXPORT(LABEL('USERID-DTCNPLG-CERT' ) ),
" ID(
USERID
) ",
" DSN(
'USERID.DTCNPLG.CERT'
) ",
" FORMAT(CERTB64                                         )))"

```

## 2. Initialize parameters in CICS region

- Add the KEYRING parameter in the CICS region start up job and point to the key ring created for the region owner ID.
- The following example adds SYSIN DD data set of CICS region startup job:

```
KEYRING=USERID
```

## 3. Define TCPIPService resource

- Add a TCPIPService resource definitions, see example below in bold texts. Change the SSL and Certificate attributes.

```

TCpipservice      : EQAHTP8S
GRoup             : GROUP_NAME
DEscription      :
Urm              : EQADPAN0          no Analyzer program is used
PORtnumber       : 30009             1-65535
STatus           : Open              Open | Closed
PROtocol         : HTTP              Iiop | Http | Eci | User
TRAnSACTION      : CWXN
Backlog          : 00030             max backlog requests allowed
TSqprefix        :
Host             : ANY
(Mixed Case)     :
Ipaddress        :
SOcketclose      : No                No | 0-240000 (HHMSS)
Maxdatalen       : 008192            3-524288
SECURITY
SSL              :
Yes
Yes | No | Clientauth
CERTificate      :
USERID-DTCNPLG-CERT
(Mixed Case)
PRIVacy          : Supported          Notsupported|Required|Supported
CIPhERS          : 050435363738392F303132330A1613100D0915120F0C03060201
AUTHenticate     : Basic              No|Basic|Certificate|AUTOREGISTER | AUTOMATIC | ASSERT
:I a Realm      :
(Mixed Case)
ATTachsec        :                    Local | Verify
DNS CONNECTION BALANCING
DNsgroup         :
GRPcritical      : No                No | Yes
DEFINITION SIGNATURE
DEFInetime       : 02/14/11 18:56:32
CHANGETime       : 03/16/11 14:04:57
CHANGEUsrid      : USERID
CHANGEAGent      : CSDApi            CSDApi | CSDBatch
CHANGEAGRel      : 0660

```

## Client side setup

To enable SSL communication, complete the following tasks for the client side:

1. Install server certificate

Because the certificate server generated is not from an authorized certificate authority (CA), to solve this issue, you need to install the certificate to your JDKs keystore.

1. Download copy of the certificate in text mode that the server has exported into your workstation directory
2. Import the downloaded certificate into your JREs keystore. The following is an example how to import the certificate into keystore using keytool provided by java

```
Keytool import alias myprivateroot keystore ..\lib\security\cacerts file dtcnplg.cer
dtcnplg.cer is the downloaded copy of the server certificate.
The initial password for the cacerts keystore is changeit.
```

**Note:** If you are using CICS Explorer, the keytool utility can be found in the Java installation bin directory, C:\CICS\_Explorer\_HOME\_DIRECTORY\jre\bin.

If you are using PD Tools Studio, the keytool utility can be found in the Java installation bin directory, C:\PD\_Tools\_Studio\_V121000.32bit\_HOME\_DIRECTORY\PDT\_Studio\_plugins\_x86\jre\bin

## Updating IBM Problem Determination Tools Studio

1. Click **Help > Check for Updates**
2. If there are any updates found, Available Updates will appear, click **Select All**
3. Click **Next**
4. In Install Details click **Next**
5. Review and accept the terms in the license agreements, and then click **Finish**
6. If the Security Warning dialog appears click **OK**
7. Click **Restart Now** to successfully complete the update

## Technical support

IBM Problem Determination Tools Studio is available at no charge to all licensed users of any of the following five IBM Problem Determination Tools for z/OS products:

1. IBM Application Performance Analyzer for z/OS V12.1, or later
2. IBM Debug Tool for z/OS V12.1, or later
3. IBM Fault Analyzer for z/OS, V12, or later
4. IBM File Manager for z/OS V12.1, or later
5. IBM Workload Simulator for z/OS & OS/390 V1.1, or later

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