

Installation Manual for mPass Server

mPass Help Document

Version 1.0

Title







Table of Contents

TABLE OF CONTENTS	.2
1. INTRODUCTION	.3
1.1 Purpose	.3
2. TYPICAL SETUP ARCHITECTURE	.3
3. PRE-REQUISITES FOR INSTALLATION	.4
 3.1 HARDWARE AND SOFTWARE REQUIREMENTS	.4 .4 .5
 3.4 DATABASE REQUIREMENTS	.5 .5 .6
4. MPASS SETUP	.6
 4.1 INSTALLATION PROCESS OVERVIEW 4.2 DETAIL PROCESS 4.2.1 Database Setup 4.2.2 mPass Installation 4.2.3 mPass Datasource Setup and configuration 4.2.4 Enabling mPass applications 4.2.5 Deployment status checking and logs 	.6 .7 .7 .7 16 26 27
5. UNINSTALLING MPASS	28
6. FAQS AND TROUBLESHOOTING	29
 6.1 NO CONNECTIVITY WITH DB SERVER	29 29





1. Introduction

The mPass authentication server is an OATH compliant comprehensive solution for enabling multi-factor authentication for enterprise applications such as VPN Systems, Outlook Web Access (OWA), Windows Servers/Desktops and SSO such as Active Directory Federation Services ADFS or any in house developed applications.

1.1 Purpose

The purpose of this document is to help technical personnel to install mPass authentication server and configure on windows platform.





© Innovative Solutions





3. Pre-requisites for Installation

3.1 Hardware and Software requirements

Server Type	Purpose	Quantity	Software	Hardware
mPass Application Server	Server to deploy mPass Authentication Server	1	Windows Server 2012 R2 64-bit edition or higher	4 CPU8 GB Memory100 GB Storage
mPass DB Server	Database Server to store mPass server data.	1	Windows Server 2012 R2 64-bit edition or higher MS SQL Server 2012 or higher with SQL Server Management Studio.	 4 CPU 8 GB Memory 200 MB storage

3.2 License Requirements

- 1. IP Address of the mPass Application Server
- 2. MAC address of the mPass Application Server





3.3 Network Requirements

Req #	Source	Destination	Protocol	Port	Description
1	mPass Application Server	mPass DB Server	TCP/IP	1433	To retrieve and store data
2	mPass Application Server	Enterprise AD	TCP/IP	389	To validate user credentials

3.4 Database Requirements

Requirement	Parameters
Server Information	1. IP
	2. Port
	3. Database Name
	4. SQL Instance Name
User Credentials	1. Username and Password (Local
	Authentication)
	2. Domain Username (if using Integrated
	Authentication)

3.5 Active Directory Requirements

Requirement	Parameters
Server Information	 IP Port Domain name UPNSuffix (should be the same as domain name if not different) Mobile number attribute field name
Service Account (Required to read mobile number or other attributes form AD)	User name and password





3.6 Required Setup Files and associate files

S.No	mPass File Name	Description
1	mPass Setup v 2.0.exe	Executable file which installs mPass authentication server
2	01_ddl.sql	DB Schema definition file
3	02_inserts.sql	DB Initial scripts
4	license.dat	License file of the server which contains the IP, MAC and validity date and time
5	Tokens.xml	Tokens license file

4. mPass Setup

4.1 Installation Process Overview







4.2 Detail Process

4.2.1 Database Setup

Note: This operation should be performed on the Database server

Connect to the required SQL Server instance using the SQL Server Management studio installed.

4.2.2 mPass Installation

Note: This operation should be performed on the mPass Application server

This is the first step of the installation of the mPass authentication server. After copying the provided setup files to the target Windows server, the administrative privileged user should execute the mPass Setup v 2.0.exe.

🐻 mPass Setup v 2.0.exe

Following wizard is displayed on the screen.







Please click the Next button in the above screen.





Please read the following important information before continuing.		mi	PA33
Please read the following License Agreement. You must accept the ter agreement before continuing with the installation.	ms of t	his	
User License Agreement for mPass Innovative Solutions,www.is.com.sa		^	
End User License Agreement			
This license applies to the licensed version of mPass.			
NOTICE TO USER You should read the following terms and conditions carefully before in software. Be aware that your use, distribution, or installation of this mPass indicates your acceptance of this License.	istalling copy of	this 🗸	
○ I accept the agreement			
I do not accept the agreement			

After reading the license terms, click the radio button before the 'I accept the agreement' and click Next button.





🚽 Setup - mPass	_		×
Ready to Install Setup is now ready to begin installing mPass on your computer.		Π	IPASS
Click Install to continue with the installation.			
< Back	Install	Can	cel

Click the Install button in the above screen.





Setup - mPass	—	
Installing Please wait while Setup installs mPass on your computer.		MPASS
Extracting files		
C:\Program Files\mPass\unins000.exe		

It requires few minutes to extract and copy the required files to the destination locations.







The next screen displays an option to Run service.bat. This is required to run the mPass Authentication server as a Windows Service.

Click the Finish button.

mPass	Name
<u>Start</u> the service	🧠 Microsoft (R) Diagnostics H 💁 Microsoft Account Sign-in
	🎑 Microsoft App-V Client
Description:	🍓 Microsoft iSCSI Initiator Ser
WildFly Application Server	🎑 Microsoft Key Distribution S
	🎑 Microsoft Passport
	🎑 Microsoft Passport Container
Ι	🎑 Microsoft Software Shadow
	🥋 Microsoft Storage Spaces S
	mPass

After the above wizard is completed. Navigate to the 'Services' window as displayed above. The mPass service should be displayed in stopped state.





mPass Properties (Local Computer)	×
General Log On	Recovery Dependencies	
Service name:	mPass	
Display name:	mPass	
Description:	WildFly Application Server	
Path to executable "C:\Program Files\	e: mPass\wildfly-17.0.0.Final\bin\service\amd64\wildfly-se	n
Startup type:	Manual ~	
Service status:	Stopped	.
Start	Stop Pause Resume	
You can specify th from here.	e start parameters that apply when you start the service	
Start parameters:]
	OK Cancel Apply	

Double clicking on the mPass service will display the above dialog form.

Update the Startup type as Automatic and click Apply button.





Pass Properties (Local Com	puter)		×
ieneral Log On	Recovery	Dependencies		
Log on as:				
Local System a	account			
Allow servic	ce to interac	t with desktop	 	
O This account:			Browse	
Password:				
Confirm passw	ord:			

If the MS-SQL Server requires an Integrated authentication mode, click the Log On tab and specify the domain name and password in the 'This account' Option. Please see the sample below.





mPass Properties (Local Computer)						
General Log On	Recovery	Dependencies				
Log on as:						
C Local System	account ce to interac	t with desktop				
This account:	mpa	ass_srv		Browse		
Password:	•••	•••••	••			
Confirm passw	Confirm password:					
		ОК	Cancel	Apply		

After specifying a valid domain username and password, click Apply button

mPass	Name	Description	Status
<u>Stop</u> the service <u>Restart</u> the service	 Microsoft (R) Diagnostics H Microsoft Account Sign-in Microsoft App-V Client Microsoft iSCSI Initiates See 	Diagnostics Enables use Manages A	
Description: WildFly Application Server	Microsoft ISCSI Initiator Ser Microsoft Key Distribution S Microsoft Passport	Manages In This service Provides pr Manages Io	
	Microsoft Software Shadow Microsoft Storage Spaces S	Manages so Host service	D :
	See mPass	WildFly App	Running





From the Services Windows start the mPass windows service.

4.2.3 mPass Datasource Setup and configuration

Once the mPass windows service is started, the next step is to define the mPass Datasource to integrate between the application and database server.

From the windows server, navigate to the below URL:

http://localhost:9990/console/index.html



n Required - Mozilla Firefox	×
http://localhost:9990 is requesting your usemame and password. The site says: "ManagementRealm"	
mpassadmin	
OK Cancel	
	Reported - Modila Frefore Mitry/Academic Streeting your usemance and password. The site says: massadmin meassadmin OK Canced

The user should be prompted for the username and password.

The default username and password is

mpassadmin

Mpass@13579

To ensure safety, the administrator should change the password from the command line interface by executing the

JBOSS_HOME\bin\add-user.bat file.





Balances laptop Management: × + ← → © © localhost 9990/tonsole/index.html HAL Management Console Homepage Deployments Configuration Runtime Patching Access Control	- □ ×
HAL Management Console Deployments Ad and manage deployments Deploy an application to the server 1. Use the Yadd Deployment witard to deploy the application 2. Guide the deployment	Configuration Configure subsystem settings -Crees a Darsonorm Is started by deployed applications. The proper JOBC driver must be deployed and registered. 1. Safets the Datasuruses subsystem 2. Add a form Adv and Addamance 3. Use the Crees Datasources
Kontor server status Monitor server status Monitor for Server San O View unstmee information such as server status, J/M status, and server log files. Setup ter server 2. View log files or J/M usage	Access Control Manage user and group permissions for management operations -Atage there failer Source Assign roles to users or groups to determine access to system resources. Add an envire or group Anogen one or more roles to that user or group
Patching Manage Wildfly Full parches	Need Help? General Resources Gene Help Widtly form Access touristic and quickstarts Widtly Documentation User Forums Model Reference Documentation BC Browse Issues Developers Mailing List Laters News Developers Mailing List

Above administrator console is displayed after providing the valid credentials.

													-	
bsaleem-laptop	Management X	+									S			×
€) ⇒ G 6	I U 🛈 locali	host:9990/console/index	.html#configi	uration;path=co	nfiguration~subsy	ystei	mslcss~datasourcesldat	a-soui •		Q Search	III/ @			=
HAL Manageme	ent Console									ව Reloa	d Required	🗶 🛓 r	npassadı	min ~
Homepage	Deployments	Configuration	Runtime	Patching	Access Cont	rol								
Configuration		Subsystem (30)		Datasources	& Drivers		Datasource	⊛~ 2	Data	ources				
Subsystems	>	Fiter by: name or subtitle		Datasources		>	Filter by: name, xa,/dis	Add Dataso	urce asource	neral types of resources are	referred to	as datasou	rces and	I XA
		Batch	^				No items			s.				
Interfaces	>	jouree		JDBC Drivers		>	No tems		tra	nsactions, or applications wh	ich use trar	isactions wit	th a sing	jle
Socket Bindings	>	Core Management							da • XA	tabase. • datasources are used by ap	plications v	/hose transa	actions a	are
		Datasources & Drivers	>						dis ad	tributed across multiple data ditional overhead.	bases. XA d	atasources	introduc	:e
Paths		Delesso												
System Properties		Deployment Scanners												
		Discovery												
		Distributable Web												
		EE												
		EJB												
		Ю												
		Infinispan	> v											
										0 3	2.0.Final		02 S	ettings

To define a new Datasource, navigate to Home->Configuration->Subsystems->Datasources & Drivers->Datasources->Datasource->Add Datasource





Add Datasource					×
Choose Template	Attributes	JDBC Driver	Connection	Test Connection	Review
Choose one of the prede Custom H2 PostgreSQL MySQL Oracle Microsoft SQLServer IBM DB2 Sybase	fined templates to quic	kly add a datasource or cho	oose "Custom" to specify :	your own settings.	
				Cancel	< Back Next >

Above wizard is displayed.

Select Microsoft SQL Server as the Template type and click Next.





Add Datasource				×
Choose Template Attrib	utes JDBC Driver	Connection	Test Connection	Review
🕑 Help				
Name *	mpass			
JNDI Name *	java:/mpass			
	Required fields are marked with *			
			Cancel	< Back Next >

Define the following attributes as shown above and click Next:





Add Datasource					
Choose Template	Attributes	JDBC Driver	Connection	Test Connection	Review
Help Driver	Name * sqlser	ver			~
⑦ Help Driver Driver Modul	Name * sqlser e Name com.r	ver nicrosoft			~

Define the attributes as shown above and click Next:

Confidentiality: Public

Next >

< Back

Cancel





hoose Template	Attributes	JDBC Driver	Connection	Test Connection	Review
⑦ Help					
Connectio	n URL jdbc:sqls	erver://localhost:1433;dat	abaseName=mpass		
User	Name ••				۲
Pass	sword	•			۲
Security Do	omain				۲

Define the attributes as shown below and click Next:

1. Connection URL(for DB Local user authentication):

jdbc:sqlserver://<HostName or IP address>:1433;databaseName=mpass

2. Connection URL(for Integrated authentication):

jdbc:sqlserver:// <HostName or IP address>::1433;databaseName=mpass;integratedSecurity=true

- 3. User Name (for DB Local user authentication): privileged user name
- 4. Password (for DB Local user authentication): password for above username





(1)		JDBC Driver	Connection	Test Connection	Review
On this page you can tes	st the connection of you	r datasource.			
Please note that testing	the connection changes	the semantics of this wizar	d:		
 If you press Test 	Connection for the first	st time , the datasource is c	reated in advance.		
 If you go back an 	nd change settings, this	will modify the newly creat	ed datasource. Please no	te that you cannot change the i	name and JNDI
 If you cancel the 	wizard, the datasource	created. will be removed again. Thi	s might require a reload	of the server.	
	e without testing the co	nnection the datasource w	ill be created after finishi	ng the wizard.	
It you choose to continu	e manour testing the co		in be created after finish		
If you choose to continu					
IT you choose to continu					
IT you choose to continu		Test Con	nection		
IT you choose to continu		Test Con	nection		

Click the Test Connection Button to test the connection.

Confidentiality: Public

Cancel < Back

Next >

Add Datasource					
Choose Template	Attributes	JDBC Driver	Connection	Test Connection	F
			•		
		Test Connecti	on Successful		
		Successfully tested connect	tion for datasource mpas	S.	
				Cancel	< Ba
If the connection is Click the Next butto	successful abov on to continue.	e screen message	e should be displ	Cancel	< Ba
If the connection is Click the Next butto	successful abov on to continue.	e screen message	e should be displ	Cancel	< Ba
If the connection is Click the Next butto	successful abov on to continue.	e screen message	e should be displ	Cancel	< Ba
lf the connection is Click the Next butto	successful abov	e screen message	e should be displ	Cancel	< Ba
lf the connection is Click the Next butto	successful abov	e screen message	e should be displ	Cancel	< Ba
If the connection is Click the Next butto	successful abov	e screen message	e should be displ	Cancel	< Ba





					×
JDBC D	river Conn	ection	Test Connection	Review	
mpass					
java:/mpass					
jdbc:sqlserver://localhos	::1433;databaseName=y	vesser2fa			
sqlserver2008					
•• @					
•••••• •					
	putes JDBC D JBC D 3 mpass java:/mpass java:/mpass java:/mpass sqlserver://localhost sqlserver2008 •• •	putes JDBC Driver Conn mpass java:/mpass jdbc:sqlserver://localhost:1433;databaseName=y sqlserver2008 	mpass java:/mpass jdbc:sqlserver://localhost:1433;databaseName=yesser2fa sqlserver2008	Dutes JDBC Driver Connection Test Connection 3 4 5 mpass iava:/mpass java:/mpass jdbc:sqlserver://localhost:1433;databaseName=yesser2fa sqlserver2008	putes JDBC Driver Connection Test Connection Review 3 4 5 mpass java:/mpass jdbc:sqlserver://localhost:1433;databaseName=yesser2fa sqlserver2008 •••●

Cancel < Back Finish

Click the Finish button in the above screen.

12855							
Add Datasource							
Choose Template	Attributes	JDBC Driver	Connection	n Test Con	nection		
			•				
		Operation S	Successful				
		Datasource mpass s	successfully added.				
					Cancel		
lick the close butto low, revisit the serv	n of the wizard vices window a	l. nd stop and start t Name	he mPass wir	ndows service.	Cancel		
lick the close butto low, revisit the serv mPass <u>Stop the service</u> <u>Restart</u> the service	n of the wizard	I. nd stop and start t Name Microsoft (R) D Microsoft Acco	he mPass wir iagnostics H unt Sign-in V Client	Description Diagnostics Enables use Manages In	Cancel		
lick the close butto low, revisit the serv mPass Stop the service Restart the service Description: WildFly Application Se	n of the wizard vices window an	I. nd stop and start t Name Microsoft (R) D Microsoft Acco Microsoft App- Microsoft SCSI Microsoft Key D Microsoft Passp Microsoft Passp Microsoft Stora	he mPass wir iagnostics H unt Sign-in V Client Initiator Ser Distribution S port port Container vare Shadow ge Spaces S	Description Diagnostics Enables use Manages A Manages In This service Provides pr Manages Io Manages so Host service	Cance		





4.2.4 Enabling mPass applications

The mPass Administrative application and the mPass user portal applications are disabled by default. The Wildfly server administrator should enable the applications.

Navigate to the below URL from the windows server:

http://localhost:9990/console/index.html

and provide the mpassuser credentials as mentioned above.

HAL Menagement Console 🗙 +			💿 –	\times
← → C @ 0 localhost:9990/console/index.html		···· 🖾 🗘 🔍 Search		=
	Authenication Required - Massile Finders Image: Authenication Required - Massile Finders Image: Authenication Required - Massile Finders User Name: Imagestabring Password: Imagestabring Password: Imagestabring Imagestabring			
Navigate to Home->Deployments	section.			

Following list of mPass applications should be displayed.

bsaleem-laptop Management 🗙 🔤	÷					-	٥	×
\leftrightarrow \rightarrow C $\textcircled{0}$ $\textcircled{0}$ localho	ost:9990/console/index.html#deployments;path=deplo	yment~dply-mpassear	ሙ 🖸 🏠 🔍 Search	lii\	0			Ξ
HAL Management Console					1		mpassadr	nin ~
Homepage Deployments	Configuration Runtime Patching	Access Control						
Deployment (2) 🕑 - 💈	mpass.ear							
mpass.ear View ~	The deployment mpass.ear is stopped. Enable							
mpassup-web.war	Main Attributes							
	Name:	mpass.ear						
	Runtime Name:	mpass.ear						
	Enabled, Managed, Exploded:	x ~ x						
	Status:	STOPPED						
	Last enabled at:	4/3/20, 10:01 PM						
	Last disabled at:	4/3/20, 10:05 PM						





Click the 'mpass.ear' deployment and click the Enable Hyperlink in the right.

Click the 'mpassup-web.war' deployment and click the Enable Hyperlink in the right.

Both the applications should be started in few minutes.

bsaleem-laptop	Management 🗙	+										-	٥	\times
← → ⊂ ŵ	0 i localh	ost:9990/console/inde	x.html#deploym	ents;path=dep	loyment~dply-mpassup-web	war	⊠ ☆	Q Search		1111	0	D se	٢	≡
HAL Manageme	HAL Management Console 🖉 🛓 mpassadmin 🗸													
Homepage	Deployments	Configuration	Runtime	Patching	Access Control									
<u>Deployment (2)</u>	⊛~ 2	mpassup-w	eb.war											
Filter by: name or de	oloyment status		ent mpassup-web	war is stopped	1. Enable									
mpass.ear			en inpussup irei											
mpassup-web.	View ~	Main Attributes												
		Name:			mpassup-web.war									
		Runtime Name:			mpassup-web.war									
		Enabled, Managed,	Exploded:		x ~ x									
		Status:			STOPPED									
		Last enabled at:			4/3/20, 10:01 PM									
		Last disabled at:			4/3/20, 10:05 PM									

4.2.5 Deployment status checking and logs

To check the status of the deployment and start configuration. Navigate to the following URL from the windows server.

http://127.0.0.1/mpass-web

Following screen should be displayed.







5. Uninstalling mPass

mPass can be easily uninstalled from the windows server.

Step1: Stop the mPass service from the Services window.

mPass	Name	Description	Status
o	🔍 Microsoft (R) Diagnostics H	Diagnostics	
Stop the service	🎑 Microsoft Account Sign-in	Enables use	
restart the service	🎑 Microsoft App-V Client	Manages A	
	Alicrosoft iSCSI Initiator Ser	Manages In	
Description:	Alicrosoft Key Distribution S	This service	
WildFly Application Server	🎑 Microsoft Passport	Provides pr	
	🎑 Microsoft Passport Container	Manages Io	
	🎑 Microsoft Software Shadow	Manages so	
	🎑 Microsoft Storage Spaces S	Host service	
	🧠 mPass	WildFly App	Running

Step2: Uninstall the mPass Server from the following:

Navigate to Control Panel->Programs and Features

Click the mPass Program and click the Uninstall button above follow the wizard.





0	Programs and Features —								
	← → × ↑ □ > Control Pa	Search Pro	ograms and Features						
	Control Panel Home View installed updates Turn Windows features on or	Uninstall or change a program To uninstall a program, select it from the list and the	n click Uninstall, Change, or Repair.						
	off	Organize 🔻 Uninstall							
	nstall a program from the network	Name	Publisher	Installed On	Size	Version			
		mPass	Innovative Solutions	4/3/2020	787 MB	2.0			
		🔐 Notepad++ (64-bit x64)	Notepad++ Team	3/26/2020	11.0 MB	7.5.5			

6. FAQs and Troubleshooting

6.1 No Connectivity with DB Server

Please consult the networking team to check the network firewall rules.

6.2 Authentication failed with DB server

Please review the password and check the connection privileges for the user.