mFino System Deployment Guide

# Deployment Package Content

Inside the deployment package, you will have this document, “backup.sql”, “AdminApplication.war”, “Scheduler.war” and “Backend.tar.gz”.

|  |  |
| --- | --- |
| Backup.sql | The mFino database backup from EC2 instance |
| AdminApplication.war | The main web application |
| Scheduler.war | The web application that handles all background processes, e.g. offline reports, merchant retire, MDN retire, Pocket Retirement etc |
| Backend.tar.gz | Message bus and transaction platform |

# Prerequisite

* Ubuntu Linux 32bit server or other major Linux distro equivalent
* Tomcat or other enterprise level Java application server
* MySql 5.1 or above
* Sun Java6 Runtime
* OpenSSL library
* Linux-PAM library
* kernel aio access library

To install all these dependencies except Java application server, you can simple run the command below:

sudo apt-get install mysql-server gsoap libssl-dev libpam0g-dev libmysql++-dev sun-java6-jdk libaio1

# Deployment Steps

## System setup

### Dependant Server Host Resolution

You need to set up two domain name resolutions on your application server: mfinodbserver and mfinomailserver.

On Ubuntu the hosts files is at /ect/hosts. Insert two lines similar to this. Change the IP address of mfinodbserver to your real db server’s IP. mfinomailser is the email smtp server used to send out nofication and error emails. For now we can leave it as is for testing purposes, this IP is a Gmail server.

127.0.0.1 mfinodbserver

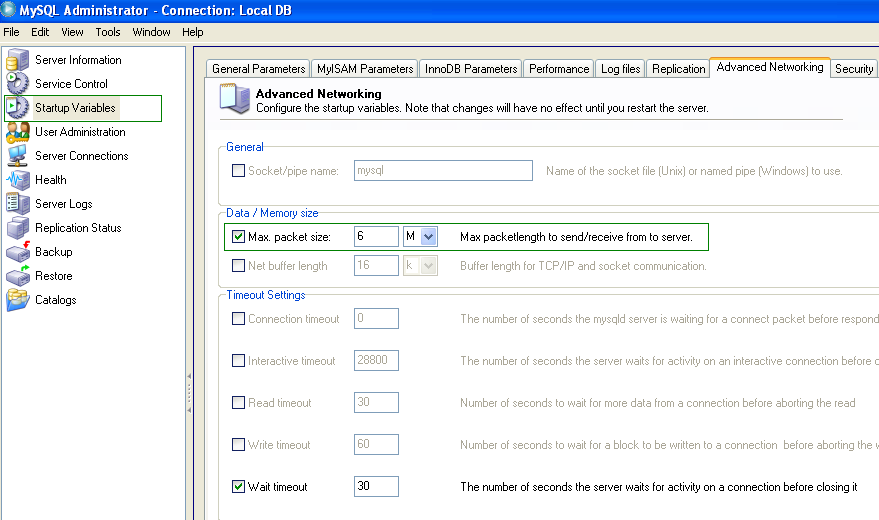
74.125.93.111 mfinomailserver

### Database

Create a new database with name “mfino”.

Create a new db user with name “mfino” and password “mFino260”. Give the user all privileges with database “mfino” and the ability to access the db server from application server. MySql by default installation, only allows connection from localhost, you will need to change the my.ini to enable remote access. Please make sure to test the connection using some GUI tools from the application sever to make sure it works.

Change MySql max packet size. This is related to the web file upload size configuration. The uploaded file size has to be compatible with the size that is supported by the backend DB server. The default setting is 6MB. Set the Max Packet Size to 6MB using the GUI or a command like option. Using MySQL Administrator GUI: StartUpVariables->Advanced Networking->Data/Memory Size



Use the “backup.sql” to restore mfino database with test data from EC2.

If there is no backup or we are doing a complete fresh install, below are the steps need to be completed:

* Run DBCreator or we provide a schema script, TODO: use schema export from hibernate to generate a schema script during build.
* Role and permission scripts
* Run static data scripts to generate the enums
* Add a record in mFinoServiceProvider table, TODO: create a static sql script that has all the static data described below. During build, we can combine all these scripts into one.
* Static scripts for default pocket templates
* Default\_MDN\_For\_LOP\_Distribute
* Default\_MDN\_For\_Empty\_SVA\_Pocket
* Source\_MDN\_For\_Postpaid
* Source\_MDN\_For\_Prepaid
* Create the distribution chains and special pockets, need more details

## AdminApplication.war and Scheduler.war

For these two Java web applications, you simple drop them into the “webapps” folder of Tomcat. The applications will expand and install themselves. It should take 10 to 20 seconds. You can check the log of Tomcat to get the exact status. Afterwards, you should be able to access AdminApplication at <http://[YourMachineIP]:[YourTomCatPort]/AdminApplication>

Scheduler is a background task runner, it does not have any UI component.

## Tomcat Setup

Enable compression of Javascript files on tomcat. You will need to change the “server.xml” in your Tomcat configuration directory. For Ubuntu it is in /etc/tomcat6/server.xml. You need to change the connector section similar to this one listed below. Similarly, you can also enable compression on css files.

<Connector port="8080" protocol="HTTP/1.1"

connectionTimeout="20000"

redirectPort="8443"

compression="on"

compressableMimeType="text/javascript"

/>

Extend PermGen size on tomcat server. This will expand the default setting on the JVM which is fairly small. This is an optional step. The application will run without this but for better performance and stability, this step is recommended. Set the maximum size of PermSize to 512m and initial size to 128m in your Tomcat default settings file. In Ubuntu it is in /etc/default/tomcat6. Please add a line similar to below.

JAVA\_OPTS=”-XX:PermSize=128m -XX:MaxPermSize=512m”

## Backend.tar.gz

This is a C++ package that contains the backend transaction platform and the service processes.

* Unzip the package into a folder of your choice.
* Install this unzipped folder to the final location. The folder contains everything.

To run the service, simply run StartMultixTpm.sh. You can stop the service by running StopMultixTpm.sh

The configuration of the backend is controlled by TpmConfig.xml. Most of the configuration parameters are self explanatory by the name of it. Because we are using the database from EC2, so we can minimize the change to it.

Here is a list of parameters you need to change to fit in your system.

### Mail server

The system comes with a default configuration that uses the Gmail SMTP server to send out email messages. This configuration will work anywhere. But it should be only considered as a test configuration. In production environment, the host should provide a dedicated SMTP server to send out transactional and report emails.

There are two places you will need to change the email server setting. One is in the web Java properties file. The other is the backend xml configuration file.

#### mfino.properties

This file is located in the WEB-INF folder of your exploded web apps. The property names should be self explanatory. The email related settings are:

mfino.mail.server=smtp.gmail.com

mfino.mail.server.auth\_name=donotreply.mfino@gmail.com

mfino.mail.server.auth\_password=donotreplymFino260

mfino.mail.server.from\_name=dev.mfino.com

mfino.mail.server.port=465

mfino.mail.server.require\_auth=true

mfino.mail.server.require\_ssl=true

#### TpmConfig.xml

Below is the configuration for Gmail SMTP server. To configure a local SMTP server, simply change the “RemoteAddress” to the server’s domain name or IP and the “RemotePort”. If the server is not using SSL authentication, please change “API” item value in “SSLParams” section to “NOSSLAPI”. Also change “SenderName”, “SenderPassword” and “IsRequireAuth” accordingly based on your SMTP server setting.

<MultiXTpm:Link>

<MultiXTpm:ID>601</MultiXTpm:ID>

<MultiXTpm:Description>gmail smtp server</MultiXTpm:Description>

<MultiXTpm:LinkType>MultiXLinkTypeTcp</MultiXTpm:LinkType>

<MultiXTpm:OpenMode>MultiXOpenModeClient</MultiXTpm:OpenMode>

<MultiXTpm:Raw>true</MultiXTpm:Raw>

<MultiXTpm:LocalAddress></MultiXTpm:LocalAddress>

<MultiXTpm:LocalPort></MultiXTpm:LocalPort>

<MultiXTpm:RemoteAddress>mFinoMailServer</MultiXTpm:RemoteAddress>

<MultiXTpm:RemotePort>465</MultiXTpm:RemotePort>

<MultiXTpm:SSLParams>

<MultiXTpm:API>OpenSSL</MultiXTpm:API>

<MultiXTpm:ClientAuthenticationRequired>false</MultiXTpm:ClientAuthenticationRequired>

<MultiXTpm:ServerAuthenticationRequired>false</MultiXTpm:ServerAuthenticationRequired>

<MultiXTpm:ServerNameVerificationRequired>false</MultiXTpm:ServerNameVerificationRequired>

<MultiXTpm:TrustStoreFile>cacerts.pem</MultiXTpm:TrustStoreFile>

<MultiXTpm:TrustStoreDirectory></MultiXTpm:TrustStoreDirectory>

<MultiXTpm:CertificateFile>LocalMultiXTpmServer.pem</MultiXTpm:CertificateFile>

<MultiXTpm:PrivateKeyFile>LocalMultiXTpmServer.pem</MultiXTpm:PrivateKeyFile>

<MultiXTpm:PrivateKeyPassword>password</MultiXTpm:PrivateKeyPassword>

<MultiXTpm:PrivateKeyPasswordFile></MultiXTpm:PrivateKeyPasswordFile>

<MultiXTpm:RSAPrivateKeyFile></MultiXTpm:RSAPrivateKeyFile>

<MultiXTpm:DHFile></MultiXTpm:DHFile>

</MultiXTpm:SSLParams>

<MultiXTpm:Params>

<MultiXTpm:Param>

<MultiXTpm:ParamName>SenderName</MultiXTpm:ParamName>

<MultiXTpm:ParamValue>backend@mfino.com</MultiXTpm:ParamValue>

</MultiXTpm:Param>

<MultiXTpm:Param>

<MultiXTpm:ParamName>SenderPassword</MultiXTpm:ParamName>

<MultiXTpm:ParamValue>welcome</MultiXTpm:ParamValue>

</MultiXTpm:Param>

<MultiXTpm:Param>

<MultiXTpm:ParamName>Server\_Type</MultiXTpm:ParamName>

<MultiXTpm:ParamValue>Mail</MultiXTpm:ParamValue>

</MultiXTpm:Param>

<MultiXTpm:Param>

<MultiXTpm:ParamName>IsRequireAuth</MultiXTpm:ParamName>

<MultiXTpm:ParamValue>1</MultiXTpm:ParamValue>

</MultiXTpm:Param>

</MultiXTpm:Params>

</MultiXTpm:Link>

### Gelmato HTTP server URL

This is the root URL for Gelmato to call mFino system. The port is the same, you will need to change the IP for new environment.

<MultiXTpm:Param>

<MultiXTpm:ParamName>HTTPServerURL</MultiXTpm:ParamName>

<MultiXTpm:ParamValue>http://10.16.254.167:30001/</MultiXTpm:ParamValue>

</MultiXTpm:Param>

### CBOSS Connection Params

We don’t have to change it if we are using the same CBOSS as EC2.

<MultiXTpm:Param>

<MultiXTpm:ParamName>DatabaseAPIPassword</MultiXTpm:ParamName> <MultiXTpm:ParamValue>32552492</MultiXTpm:ParamValue>

</MultiXTpm:Param>

<MultiXTpm:Param>

<MultiXTpm:ParamName>DatabaseAPIRole</MultiXTpm:ParamName>

<MultiXTpm:ParamValue>ADMIN</MultiXTpm:ParamValue>

</MultiXTpm:Param>

<MultiXTpm:Param>

<MultiXTpm:ParamName>DatabaseAPIUser</MultiXTpm:ParamName>

<MultiXTpm:ParamValue>TestPermit</MultiXTpm:ParamValue>

</MultiXTpm:Param>

<MultiXTpm:Param>

<MultiXTpm:ParamName>DatabaseHost</MultiXTpm:ParamName>

<MultiXTpm:ParamValue>//10.17.24.21:1521/cboss</MultiXTpm:ParamValue>

</MultiXTpm:Param>

<MultiXTpm:Param>

<MultiXTpm:ParamName>DatabasePassword</MultiXTpm:ParamName>

<MultiXTpm:ParamValue>12345678</MultiXTpm:ParamValue>

</MultiXTpm:Param>

<MultiXTpm:Param>

<MultiXTpm:ParamName>DatabaseUser</MultiXTpm:ParamName>

<MultiXTpm:ParamValue>mfin</MultiXTpm:ParamValue>

</MultiXTpm:Param>

### Sinarmas Bank Gateway

This is the connection to Sinarmas bank, need to change the “RemoteAddress” and “RemotePort” field to the correct value.

<MultiXTpm:ID>401</MultiXTpm:ID>

<MultiXTpm:Description>Sinarmas Bank Gateway - ISO 8583</MultiXTpm:Description>

<MultiXTpm:LinkType>MultiXLinkTypeTcp</MultiXTpm:LinkType>

<MultiXTpm:OpenMode>MultiXOpenModeClient</MultiXTpm:OpenMode>

<MultiXTpm:Raw>true</MultiXTpm:Raw>

<MultiXTpm:LocalAddress></MultiXTpm:LocalAddress>

<MultiXTpm:LocalPort></MultiXTpm:LocalPort>

<MultiXTpm:RemoteAddress>localhost</MultiXTpm:RemoteAddress>

<MultiXTpm:RemotePort>2530</MultiXTpm:RemotePort>

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### Artajasa Gateway

This is similar to Sinarmas bank gateway, we need to configure the right value for remote IP and port.

<MultiXTpm:ID>701</MultiXTpm:ID>

<MultiXTpm:Description>Artajasa Gateway - ISO 8583</MultiXTpm:Description>

<MultiXTpm:LinkType>MultiXLinkTypeTcp</MultiXTpm:LinkType>

<MultiXTpm:OpenMode>MultiXOpenModeClient</MultiXTpm:OpenMode>

<MultiXTpm:Raw>true</MultiXTpm:Raw>

<MultiXTpm:LocalAddress></MultiXTpm:LocalAddress>

<MultiXTpm:LocalPort></MultiXTpm:LocalPort>

<MultiXTpm:RemoteAddress>localhost</MultiXTpm:RemoteAddress>

<MultiXTpm:RemotePort>11815</MultiXTpm:RemotePort>

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### XLink Gateway

This is similar to Sinarmas bank gateway, we need to configure the right value for remote IP and port.

<MultiXTpm:ID>901</MultiXTpm:ID>

<MultiXTpm:Description>Sinarmas Bank Gateway - ISO 8583 - XLink Gateway</MultiXTpm:Description>

<MultiXTpm:LinkType>MultiXLinkTypeTcp</MultiXTpm:LinkType>

<MultiXTpm:OpenMode>MultiXOpenModeClient</MultiXTpm:OpenMode>

<MultiXTpm:Raw>true</MultiXTpm:Raw>

<MultiXTpm:LocalAddress></MultiXTpm:LocalAddress>

<MultiXTpm:LocalPort></MultiXTpm:LocalPort>

<MultiXTpm:RemoteAddress>localhost</MultiXTpm:RemoteAddress>

<MultiXTpm:RemotePort>30340</MultiXTpm:RemotePort>

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