

MSGGS Configuration guide

MSGGS-CG-15/03/06

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1 Server configuration files

```

<configuration>
<configSections>
<section name='tkxsvrserverconsole'
    type='Tkx.TkxSvr.Configuration.TkxSvrConfigurationSectionHandler,
Tkx.TkxSvr' ></section>
</configSections>
<tkxsvrserverconsole>
<servers>
<umss>
<server assembly='Tkx.TkxSvr.Umss.Server.dll'
    class='Tkx.TkxSvr.Umss.Server.TkxSvrUmssServer' >
</server>
<configuration>
<communication>
<commserver>
<plugin assembly='Tkx.TkxSvr.Server.dll'
    class='Tkx.TkxSvr.Server.Communication.TkxSvrCommRemotingServer' >
</plugin>
<configuration>
<system.runtime.remoting>
<application></application>
</system.runtime.remoting>
<servernode id='UMSS' ></servernode>
</configuration>
</commserver>
<commserver>
<plugin assembly='Tkx.TkxSvr.Server.dll'
    class='Tkx.TkxSvr.Server.Communication.TkxSvrCommRemotingServer' >
</plugin>
<configuration>
<system.runtime.remoting>
<application></application>
</system.runtime.remoting>
<servernode id='UMSSSECURE' ></servernode>
<securestream>
<plugin assembly='Tkx.TkxSvr.dll'
    class='Tkx.TkxSvr.Communication.TkxSvrSecureStreamRSA' >
</plugin>
<configuration keysize='512' ></configuration>
</securestream>
</configuration>
</commserver>
</communication>
<requestprocessormanager>
<requests _external='TkxSvrUmssRequestProcessors.config' ></requests>
</requestprocessormanager>
<storage>
<plugin assembly='Tkx.TkxSvr.Server.dll'
    class='Tkx.TkxSvr.Server.Storage.OleDbStorage.TkxSvrOleDbStorage' >
</plugin>

```

```

<configuration>
  <databaseadapter>
    <connection>
      <connectionstring>Data Source=localhost; </connectionstring>
      <connectionstring>User ID=sa; </connectionstring>
      <connectionstring>Initial Catalog=UMSS; </connectionstring>
      <connectionstring>Auto Translate=True; </connectionstring>
      <connectionstring>Integrated Security=SSPI; </connectionstring>
      <connectionstring>Tag with column collation when possible=False;
    </connectionstring>
      <connectionstring>Use Procedure for Prepare=1; </connectionstring>
      <connectionstring>Provider="SQLOLEDB.1"; </connectionstring>
      <connectionstring>Persist Security Info=False; </connectionstring>
      <connectionstring>Use Encryption for Data=False; </connectionstring>
      <connectionstring>Packet Size=4096 </connectionstring>
    </connection>
    <settings sqlsyntax='mssql' verifydatabase='true' ></settings>
  </databaseadapter>
  <datadefinition _external='TkxSvrUmssDataDefinition.config' ></datadefinition>
  <diagnostics>
    <logsql log='true' location='logServer' format='logUmssSQL.txt' ></logsql>
  </diagnostics>
</configuration>
</storage>
<otherserverclients> </otherserverclients>
<derivedpermissions _external='TkxSvrUmssDerivedPermissions.config'
></derivedpermissions>
<settings serverinstanceid='UMSS01'
  threadcycle='100'
  sessiontimestampresolution='1000'
  otherserverretryconnectperiod='1000'
  requestretrydelay='20'
  maxprocessorthreads='10'
  permissionssynccheckperiod='10000'
  servermaintenanceperiod='180000'
  deadsessionage='36000000'
  stillaliveperiod='600000' >
</settings>
<diagnostics indentxml='true'
  localcustomcodemodules='false'
  _protocolschema='TkxSvr_Proto_100.xsd' >
  <logtransaction log='true' location='logServer' format='Umss' ></logtransaction>
  <logdiag log='true' location='logServer' format='logUmssDiag.txt' ></logdiag>
</diagnostics>
</configuration>
</umss>
</servers>
<settings culture='en' ></settings>
</tkxsvrserverconsole>
</configuration>
<configuration> element

```

The document element of the configuration file.

Child elements:

Element	Occurrence
<configSections>	1
<tkxsvrserverconsole>	1

<configSections> element

Defines standard .NET configuration section handlers.

Parent: [<configuration>](#)

Child elements:

Element	Occurrence
<section>	0..n

<section> element

Describes a .NET section handler.

Parent: [<configSections>](#)

Attributes:

Name	Default value	Description
name	mandatory	Specifies the element name of the configuration section.
type	mandatory	Specifies the assembly and type of the configuration section handler

<tkxsvrserverconsole> element

The element contains common information about the server console or the server service.

Parent: [<configuration>](#)

Child elements:

Element	Occurrence
<servers>	1
<settings>	1

<servers> element

The element contains the list of servers handled by the server service or server console.

Parent: [<tkxsvrserverconsole>](#)

Child elements:

Element	Occurrence
<umss>	1

<umss> element

The element contains the configuration of the MSGS or UMSS server. Any element name is allowed here.

Parent: [<servers>](#)

Child elements:

Element	Occurrence
<server>	1
<configuration>	1

<server> element

The element defines the code implementing the server.

Parent: [<umss>](#)

Attributes:

Name	Default value	Description
assembly	mandatory	Name of the assembly implementing the server.
class	mandatory	Type of the class implementing the server.

<configuration> element

The element contains the complete configuration of the server.

Parent: [<umss>](#)

Child elements:

Element	Occurrence
<communication>	1
<licenseprovider>	1
<requestprocessormanager>	1
<storage>	1
<otherserverclients>	1
<derivedpermissions>	1
<settings>	1
<diagnostics>	1

<communication> element

The element contains the communication configuration of the server.

Parent: [<configuration>](#)

Child elements:

Element	Occurrence
<commserver>	1
<commserver>	1

<commserver> element

Server specific communication settings.

Parent: <communication>

Child elements:

Element	Occurrence
<plugin>	1
<configuration>	1

<plugin> element

Defines the module implementing the server side communication.

Parent: <commserver>

Attributes:

Name	Default value	Description
assembly	mandatory	Name of the assembly implementing the communication module.
class	mandatory	Type of the class implementing the communication module.

<configuration> element

Configuration of the communication module loaded.

Parent: <commserver>

Child elements:

Element	Occurrence
<system.runtime.remoting>	1
<servernode>	1

<system.runtime.remoting> element

Standard .NET remoting configuration section.

Parent: <configuration>

Child elements:

Element	Occurrence
<application>	1

<application> element

All application-specific information should be placed inside this tag. Only one of these elements is allowed.

Parent: [<system.runtime.remoting>](#)

<servernode> element

Defines a unique identity of the server within the server node. There may be several servers running on the same server console or server service. They are all listening on the same address and port.

Parent: [<configuration>](#)

Attributes:

Name	Default value	Description
id	mandatory	Unique server node ID.

<securestream> element

Specifies the module providing encryption services for secure communication between the client and the server.

Parent: [<configuration>](#)

Child elements:

Element	Occurrence
<plugin>	1
<configuration>	1

<plugin> element

Defines the module implementing the secure communication.

Parent: [<securestream>](#)

Attributes:

Name	Default value	Description
assembly	mandatory	Name of the assembly implementing the secure communication.
class	mandatory	Type of the class implementing the secure communication.

<configuration> element

Contains initialization information for the secure communication module.

Parent: [<securestream>](#)

Attributes:

Name	Default value	Description
keysize	512	Encryption key size.

<requestprocessormanager> element

Contains definition of the request processors.

Parent: [<configuration>](#)

Child elements:

Element	Occurrence
<requests>	1

<requests> element

Placeholder for the request processors configuration located in an external file.

Parent: [<requestprocessormanager>](#)

Attributes:

Name	Default value	Description
_external	mandatory	Specifies the name of the external configuration file containing the definition of request processors.

<storage> element

The element defines the storage configuration of the server. The storage module performs low level data operations like querying or modifying data.

Parent: [<configuration>](#)

Child elements:

Element	Occurrence
<plugin>	1
<configuration>	1

<plugin> element

Defines the assembly implementing the server storage.

Parent: [<storage>](#)

Attributes:

Name	Default value	Description
assembly	mandatory	Name of the assembly implementing the server storage.
class	mandatory	Type of the class implementing the server storage.

<configuration> element

Configuration of the server storage module.

Parent: [<storage>](#)

Child elements:

Element	Occurrence
<databaseadapter>	1
<datadefinition>	1

Element	Occurrence
< diagnostics >	1

<databaseadapter> element

Configuration of the physical database handler.

Parent: <[configuration](#)>

Child elements:

Element	Occurrence
< connection >	1
< settings >	1

<connection> element

Contains the elements of the OLE-DB connection string.

Parent: <[databaseadapter](#)>

Child elements:

Element	Occurrence
< connectionstring >	1..n

<connectionstring> element

Contains an element of the OLE-DB connection string.

Parent: <[connection](#)>

<settings> element

General settings of the database adapter.

Parent: <[databaseadapter](#)>

Attributes:

Name	Default value	Description
sqlsyntax	mandatory	Controls SQL language variations.
verifydatabase	mandatory	Controls if complete database verification is performed at startup.

<datadefinition> element

Contains the definition of the server database.

Parent: <[configuration](#)>

Attributes:

Name	Default value	Description
_external	mandatory	The name of the data structure definition file.

<diagnostics> element

Diagnostics related settings of the server storage.

Parent: <[configuration](#)>

Child elements:

Element	Occurrence
<logsql>	1

<logsql> element

Specifies settings controlling the optional logging of all SQL commands.

Parent: <diagnostics>

Attributes:

Name	Default value	Description
log	false	Switches logging on or off.
location	mandatory	Location where the log file is created.
format	mandatory	Log file name format. The actual log file name is derived from this value.

<otherserverclients> element

This element contains the configuration of other client modules, connecting the server to other TkxSvr servers. Typically the MSGS server connects to the UMSS server and vice versa.

Parent: <configuration>

<derivedpermissions> element

This element defines extra server permissions. Certain permissions give access not only to a single primary data item but to several secondary data items. These assignments are defined by this element. The actual definition is in an external configuration file.

Parent: <configuration>

Attributes:

Name	Default value	Description
_external	mandatory	Specifies the name of the external configuration file containing the definition of the derived permissions.

<settings> element

This element allows switching generic server features.

Parent: <configuration>

Attributes:

Name	Default value	Description
serverinstanceid	mandatory	Unique ID of the server instance. There may be more than one server instances.

Name	Default value	Description
		working on the same server database. This ID allows identifying them.
threadcycle	100	Server background thread cycle time (in milliseconds).
sessiontimestampresolution	1000	Period of re-checking session state on the database (in milliseconds).
otherserverretryconnectperiod	1000	Period (in milliseconds) of re-trying connection to other servers. After startup, the server tries to connect to other servers periodically, until success.
requestretrydelay	20	Concurrency may cause that the processing of a request must be re-tried. This delay (in milliseconds) is applied before retrying.
maxprocessorthreads	10	The maximal number of request processor threads the server starts.
permissionssynccheckperiod	10000	Time period (in milliseconds) controlling how often the state of the permission system is checked on the database.
servermaintenanceperiod	10000	Period (in milliseconds) of maintenance tasks performed by the server.
deadsessionage	600000	Time period (in milliseconds) controlling dead session recognition. Sessions having no activity for at least this period are terminated.
stillaliveperiod	600000	Period (in milliseconds) of sending StillAlive message to other servers to avoid losing the session, if there is no activity.

<diagnostics> element

Defines diagnostics related settings of the server.

Parent: [<configuration>](#)

Attributes:

Name	Default value	Description
indentxml	false	Specifies if XML format communication is nice formatted for human reading or is left unformatted for better performance.
localcustomcodemodules	false	Controls how custom code modules are loaded. If this attribute is true, custom code modules are loaded from local file system allowing debugging of them.
_protocolschema	mandatory	File name of the XML schema for request / response validation.

Child elements:

Element	Occurrence
<logtransaction>	1
<logdiag>	1

<logtransaction> element

Specifies settings controlling the optional logging of all requests / responses of the server.

Parent: [<diagnostics>](#)

Attributes:

Name	Default value	Description
log	false	Switches logging on or off.
location	mandatory	Location where the log file is created.
format	mandatory	Log file name format. The actual log file name is derived from this value.

<logdiag> element

Specifies settings controlling the optional logging of all requests / responses of the server.

Parent: [<diagnostics>](#)

Attributes:

Name	Default value	Description
log	false	Switches logging on or off.
location	mandatory	Location where the log file is created.
format	mandatory	Log file name format. The actual log file name is derived from this value.

<settings> element

Defines general settings of the server console or the server service.

Parent: [<tkxsvrserverconsole>](#)

Attributes:

Name	Default value	Description
culture	mandatory	Specifies the culture code to active localized features of the server. If not specified, the default local culture is used.

2 MMC snap-in configuration files

```

<configuration>
<configSections>
<section name='tkxsvr'
    type='Tkx.TkxSvr.Configuration.TkxSvrConfigurationSectionHandler,
Tkx.TkxSvr' >
</section>
</configSections>
<tkxsvr>
<tkxsvrservers>
<tkxsvrserver>
<mmcclient assembly='Tkx.TkxSvr.Umss.Client.Admin.dll'
    class='Tkx.TkxSvr.Umss.Client.Admin.TkxSvrUmssAdmin' >
<configuration>
<client></client>
</configuration>
</mmcclient>
</tkxsvrserver>
</tkxsvrservers>
<settings culture='en' ></settings>
</tkxsvr>
</configuration>

```

The document element of the configuration file.

Child elements:

Element	Occurrence
<configSections>	1
<tkxsvr>	1

[<configSections>](#) element

Defines standard .NET configuration section handlers.

Parent: [<configuration>](#)

Child elements:

Element	Occurrence
<section>	0..n

[<section>](#) element

Describes a .NET section handler.

Parent: [<configSections>](#)

Attributes:

Name	Default value	Description
name	mandatory	Specifies the element name of the configuration section.

Name	Default value	Description
type	mandatory	Specifies the assembly and type of the configuration section handler

<tkxsvr> element

The root element of the TlxSvr specific configuration.

Parent: [<configuration>](#)

Child elements:

Element	Occurrence
<tkxsvrservers>	1
<settings>	1

<tkxsvrservers> element

The element contains the collection of possible servers which the TlxSvr Server Management snap-in can handle.

Parent: [<tkxsvr>](#)

Child elements:

Element	Occurrence
<tkxsvrserver>	1..n

<tkxsvrserver> element

Describes a server which the TlxSvr Server Management snap-in can handle.

Parent: [<tkxsvrservers>](#)

Child elements:

Element	Occurrence
<mmclient>	1

<mmclient> element

Describes the client side administration module of the server.

Parent: [<tkxsvrserver>](#)

Attributes:

Name	Default value	Description
assembly	mandatory	The name of the assembly implementing the client side administration module of the server.
class	mandatory	The type of the class implementing the client side administration module of the server.

Child elements:

Element	Occurrence
<configuration>	1

<configuration> element

Defines configuration of the server administration client.

Parent: [<mmclient>](#)

Child elements:

Element	Occurrence
<client>	1

<client> element

Contains the complete configuration of a server client. See the client configuration reference for a complete description.

Parent: [<configuration>](#)

<settings> element

Defines general settings of the server console or the server service.

Parent: [<tkxsvr>](#)

Attributes:

Name	Default value	Description
culture	mandatory	Specifies the culture code to active localized features of the server. If not specified, the default local culture is used.

3 Client configuration files

```

<configuration>
<configSections>
<section name='tkxsvr'
    type='Tkx.TkxSvr.Configuration.TkxSvrConfigurationSectionHandler,
Tkx.TkxSvr' >
</section>
</configSections>
<tkxsvr>
<clients>
<umss>
<client>
<communication>
<plugin assembly='Tkx.TkxSvr.Client.dll'
    class='Tkx.TkxSvr.Client.Communication.TkxSvrCommRemotingClient' >
</plugin>
<configuration>
<system.runtime.remoting>
<application>
<client url='tcp://localhost:8989' >
<activated
type='Tkx.TkxSvr.Communication.TkxSvrCommRemotingServerAgent,
    Tkx.TkxSvr' >
</activated>
</client>
<channels>
<channel ref='tcp' ></channel>
</channels>
</application>
</system.runtime.remoting>
<servernode id='UMSSSECURE' ></servernode>
<securestream>
<plugin assembly='Tkx.TkxSvr.dll'
    class='Tkx.TkxSvr.Communication.TkxSvrSecureStreamRSA' >
</plugin>
<configuration keysize='512' ></configuration>
</securestream>
</configuration>
</communication>
<protocolmanager>
<requests _external='TkxSvrUmssRequests.config' ></requests>
</protocolmanager>
<settings threadcycle='100'
    requesttimeout='500000'
    querypermissionsolder='100'
    querypermissionsmin='10'
    querypermissionsmax='50' >

```

```

</settings>
<logonconfig logonmode='umss'
    forecelogondialog='false'
    defaultusername='Administrator'
    defaultpasswordhash='6DD115...' >
</logonconfig>
<diagnostics indentxml='true' >
<logtransaction log='true' location='logClient' format='Umss'
></logtransaction>
<logdiag log='true' location='logClient' format='logUmssDiag.txt' ></logdiag>
</diagnostics>
</client>
</umss>
</clients>
</tkxsvr>
</configuration>

```

<configuration> element

The document element of the configuration file.

Child elements:

Element	Occurrence
<configSections>	1
<tkxsvr>	1

<configSections> element

Defines standard .NET configuration section handlers.

Parent: <configuration>

Child elements:

Element	Occurrence
<section>	0..n

<section> element

Describes a .NET section handler.

Parent: <configSections>

Attributes:

Name	Default value	Description
name	mandatory	Specifies the element name of the configuration section.
type	mandatory	Specifies the assembly and type of the configuration section handler

<tkxsvr> element

The root element of the TkxSvr specific configuration.

Parent: [<configuration>](#)

Child elements:

Element	Occurrence
<clients>	1

<clients> element

Contains a collection of TkxSvr client configurations.

Parent: [<tkxsvr>](#)

Child elements:

Element	Occurrence
<umss>	1..n

<umss> element

This element defines the configuration of a TkxSvr server client module. Any tag name is allowed.

Parent: [<clients>](#)

Child elements:

Element	Occurrence
<client>	1

<client> element

Specifies the configuration of a client.

Parent: [<umss>](#)

Child elements:

Element	Occurrence
<communication>	1
<protocolmanager>	1
<settings>	1
<logonconfig>	1
<diagnostics>	1

Parent: [<configuration>](#)

<communication> element

Communication configuration of the client.

Parent: [<client>](#)

Child elements:

Element	Occurrence
<plugin>	1
<configuration>	1

<plugin> element

Definition of the module implementing the communication module.

Parent: [<communication>](#)

Attributes:

Name	Default value	Description
assembly	mandatory	Name of the assembly implementing the communication module.
class	mandatory	Type of the class implementing the communication module.

<configuration> element

Configuration of the communication module.

Parent: [<communication>](#)

Child elements:

Element	Occurrence
<system.runtime.remoting>	1
<servernode>	1
<securestream>	1

<system.runtime.remoting> element

Container of the standard .NET remoting configuration.

Parent: [<configuration>](#)

Child elements:

Element	Occurrence
<application>	1

<application> element

All application-specific information should be placed inside this tag. Only one of these elements is allowed.

Parent: [<system.runtime.remoting>](#)

Child elements:

Element	Occurrence
<client>	1
<channels>	1

[<client>](#) element

Zero or more client tags can be specified under <application> Specifies objects the application consumes.

Parent: [<application>](#)

Attributes:

Name	Default value	Description
url	mandatory	Specifies the URL that will be used to locate the activator for the attribute

Child elements:

Element	Occurrence
<activated>	1

[<activated>](#) element

Contains information about client-activated objects the application wants to publish. Zero or more of these elements can be placed under the <service> or <client> tags

Parent: [<client>](#)

Attributes:

Name	Default value	Description
type	mandatory	Type and assembly to be activated.

[<channels>](#) element

When this element is placed inside the <application> tag, it is used to configure existing channels defined under <system.runtime.remoting>. To define new channels, place a <channels> tag directly under <system.runtime.remoting>. Default channels are defined in the machine.config file, so unless you are registering a new channel, there is no need to define any channels at this level.

Parent: [<application>](#)

Child elements:

Element	Occurrence
<channel>	1

<channel> element

Zero or more <channel> tags can be placed inside the application channel node to configure individual channels. Remember that the attributes placed on a channel are determined by the channel, not by remoting. For example, someone can build an entirely new channel that does not require any of the attributes we describe in this document.

Parent: [<channels>](#)

Attributes:

Name	Default value	Description
ref	mandatory	The channel template being referenced.

<servernode> element

Parent: [<configuration>](#)

Attributes:

Name	Default value	Description
id	mandatory	Server node identifier. Because several TkxSvr servers may run using the same network address, the server node ID is used to identify the server.

<securestream> element

Specifies the module providing encryption services for secure communication between the client and the server.

Parent: [<configuration>](#)

Child elements:

Element	Occurrence
<plugin>	1
<configuration>	1

<plugin> element

Defines the module implementing the secure communication.

Parent: [<securestream>](#)

Attributes:

Name	Default value	Description
assembly	mandatory	Name of the assembly implementing the secure communication.
class	mandatory	Type of the class implementing the secure communication.

<configuration> element

Contains initialization information for the secure communication module.

Parent: [<securestream>](#)

Attributes:

Name	Default value	Description
keysize	512	Encryption key size.

<protocolmanager> element

Defines the external file containing the definition of the protocol manager.

Parent: [<client>](#)

Child elements:

Element	Occurrence
<requests>	1

<requests> element

Placeholder for the included configuration file.

Parent: [<protocolmanager>](#)

Attributes:

Name	Default value	Description
_external	mandatory	Defines the name of the external configuration file holding the real protocol manager description.

<settings> element

Contains generic settings of the client module.

Parent: [<client>](#)

Attributes:

Name	Default value	Description
threadcycle	100	Time period (in milliseconds) between runnings of the background thread of the client.
requesttimeout	5000	Timeout (in milliseconds) of request. If the server is not answering within this time, the client indicates an error.
querypermissionsolder	100	Time period (in milliseconds) after which the client turns to the server to query a permission. If the application queries a permission not stored in the cache of the client, the client puts the permission into a waiting list. After this period expires, the client queries the permission from the server. This feature avoids turning to the server too often.
querypermissionsmin	mandatory	Number of permission queries to collect before turning to the server. When an application queries a permission not stored in the cache of the client, the permission is put into a waiting list. If the number of permissions in the waiting list reaches this number the client queries them from the server. This feature avoids turning to the server too often.
querypermissionsmax	mandatory	Maximal number of permissions queried in a batch from the server. This parameter is used to avoid sending too big requests to the server.

<logonconfig> element

Defines UMSS logon configuration.

Parent: [<client>](#)

Attributes:

Name	Default value	Description
logonmode	umss	UMSS logon mode. Possible values: umss, windows, mixed.
forecelogondialog	true	If true, the logon dialog is shown unconditionally.
defaultusername	mandatory	Default UMSS user name.
defaultpasswordhash	mandatory	Hash of default password.

<diagnostics> element

Defines diagnostics related settings of the client.

Parent: [<client>](#)

Attributes:

Name	Default value	Description
indentxml	false	Specifies if XML format communication is nice formatted for human reading or is left unformatted for better performance.

Child elements:

Element	Occurrence
<logtransaction>	1
<logdiag>	1

<logtransaction> element

Specifies settings controlling the optional logging of all requests / responses of the client.

Parent: [<diagnostics>](#)

Attributes:

Name	Default value	Description
log	false	Switches logging on or off.

Name	Default value	Description
location	mandatory	Location where the log file is created.
format	mandatory	Log file name format. The actual log file name is derived from this value.

<logdiag> element

Specifies settings controlling the optional diagnostical logging.

Parent: [<diagnostics>](#)

Attributes:

Name	Default value	Description
log	false	Switches logging on or off.
location	mandatory	Location where the log file is created.
format	mandatory	Log file name format. The actual log file name is derived from this value.