

XML Reliabit MDDS Configuration How To
Reliabit, LLC
Version 1.3.x Reliabit MDDS
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In a large architecture it is cumbersome to use the web interface to create the configuration of each node. Thus, knowing how to configure Reliabit MDDS configuration file by hand with a text editor can save the architect or administrator time. A common configuration file can be copied to all computers in a large architecture. In addition, it is useful to know how to hand edit the configuration file if the node has been configured not to have a web interface.

The Reliabit Multicast Data Distribution System (MDDS) is configured with an Extensible Markup Language (XML) file. This file defines product information and a system architecture(s).

The XML configuration file is checked against a Document Type Definition (DTD) file provided. If the XML file does not match the document definition the MDDS will not start. The DTD can be useful to verify the XML configuration when editing the configuration file with a third party XML editor.

Locating the mdds.xml and mdds.dtd files

On linux the mdds.xml file is installed into the following location:

```
/opt/reliabit/mdds/etc/mdds.xml  
/opt/reliabit/mdds/etc/mdds.dtd
```

On Mac OS X the mdds.xml file is installed into the following location:

```
/Library/reliabit/mdds/etc/mdds.xml  
/Library/reliabit/mdds/etc/mdds.dtd
```

Example XML configuration file:

```
<!DOCTYPE mdds SYSTEM "/opt/reliabit/mdds/etc/mdds.dtd">  
<mdds>  
  <productinfo><license key="" name="unregistered"/>  
    <version vers="1.3.5"/>  
  </productinfo>  
  <architecture name="network1">  
    <autoconfig maddr="224.5.5.5" passphrase="xxxxxx" port="5555" refresh="60" ttl="11"/>  
    <edgegroup name="all"/>  
      <security certfilepath="/opt/reliabit/mdds/keys/mycert.crt" keyfilepath="/opt/reliabit/mdds/keys/priv.key"  
mcastencrypttype="blowfish" name="secure" passphrase="xxxxxxx" unicastsstype="SSLv23"/>  
      <security certfilepath="" keyfilepath="" mcastencrypttype="none" name="nonsecure" passphrase=""  
unicastsstype="none"/>  
      <network ipaddr="any" hostname="devlinuxa" keepalive="true" mstimeout="20000" name="devlinuxa_net" port="5678"  
securityref="secure"/>  
      <network ipaddr="any" hostname="devlinuxa" keepalive="true" mstimeout="20000" name="devlinuxa_guinet" port="7778"  
securityref="secure"/>  
      <log logfile="/var/log/mdds.log" name="linuxlogs"/>  
      <sysinfo contentroot="/var/mdds_docroot" name="linuxsys" os="linux" relaypath="/opt/reliabit/mdds/init.d/mdds_relayd"  
relayxmlpath="/opt/reliabit/mdds/etc/mrelay.xml" scriptpath="/opt/reliabit/mdds/scripts"/>  
      <gui name="devlinuxa_gui" networkref="devlinuxa_guinet" webroot="/opt/reliabit/mdds/webroot">  
        <user ftpomedir="/" ftpurl="ftp://ftpdude@devlinuxa" homedir="/" httpauth="xxxxxxx" name="admin">  
          <permissions activity="true" sysgui="false" check="true" copy="true" enabled="true" flush="true" ftp="true"  
logs="true" prefs="true" remove="true" restart="true" shutdown="true"/>  
          <mcastsettings classdaddr="224.5.5.5" delaytime="5" errkbps="500" kbps="500" loopback="false" name="settingA"  
timeout="20000" ttl="12">  
            <edgegroupmember name="all"/>  
          </mcastsettings>  
        </user>  
      </gui>  
    </node guiref="devlinuxa_gui" logref="linuxlogs" name="devlinuxa" networkref="devlinuxa_net" sysinfoforef="linuxsys">  
      <transmitports end="11010" start="11000"/>  
      <transmitids end="1000000" start="1"/>  
      <edgegroupmember name="all"/>  
      <pre scriptpath="/opt/reliabit/mdds/scripts/pre.pl"/>  
      <post scriptpath="/opt/reliabit/mdds/scripts/post.pl"/>  
    </node>  
  </architecture>  
</mdds>
```

Definitions of elements and attributes

Element: mdds

The mdds element is the root element of the configuration file.

Attributes:

none.

Element: productinfo

The productinfo element encapsulates product related information.

The productinfo element contains a license element and a version element.

Attributes:

none.

Element: license

The license element contains product license information.

Attributes:

name: The license owner of the license key.

key: A license key obtained from Reliabit.

Element: version

The version element contains product version information.

Attributes:

vers: The product version number.

Element: architecture

The architecture element encapsulates a relationship of a set of nodes. There can be multiple architectures in the configuration file.

An architecture element can contain one or more edge group elements, one or more security elements, one or more network elements, one or more log elements, one or more sysinfo elements, zero or more gui elements and one or more node elements.

Note: The installed start up script will launch an architecture named "network1."

Attributes:

name: The id name of the architecture.

Element: autoconfig

Autoconfig specifies basic network configuration that is used to broadcast a nodes configuration to other nodes on the network.

Note: All nodes in a given architecture use the same autoconfig settings.

Attributes:

maddr: The multicast address in which to transmit configuration information.

passphrase: A password phrase used to encrypt the multicast data.

port: The port that will be used to send the configuration data.

refresh: This indicates how often the node will transmit its configuration information.

ttd: A time to live number that defines the number of routers the broadcast will travel through.

Element: edgegroup

The edgegroup element defines a group for an architecture.

Attributes:

name: The id name of the group.

Element: edgegroupmember

The edgegroupmember element identifies a node or user to be a member of a group.

Attributes:

name: An id reference reference to a edgegroup name.

Element: security

The security element defines a collection of security related information.

Attributes:

name: The id name of the element. Used with references.

certfilepath: A path to a certificate file to be used with SSL connections.

keyfilepath: A path to a key file to be used with SSL connections.

mcastencrypttype: The broadcast data encryption type. Either "none" or "blowfish".

passphrase: A password phrase used to authenticate SSL socket connections.

unicastssltype: The type of SSL connection. Can be "none", "SSLv2", "SSLv3", or "SSLv23".

Element: network

The network element defines a collection of network related information.

Attributes:

name: The id name of the network element. Used with references.

ipaddr: An IP address that a service will bind to. A special case for web servers is the "any" string which means bind to any address. Otherwise, a service will require an IP address. If this attribute is not specified a default value of "any" will be used.

hostname: The host name of the computer.

keepalive: Keep a socket connected if there is inactivity. This can either be "true" or "false. If this attribute is not specified the default value is "true".

mstimeout: A timeout in milliseconds used in socket connections. If the timeout is not specified it will have a default value of 10000.

port: A port number to be used by the service. If the port is not specified it will have a default value of 5678.

securityref: A reference to a security element. The id name of a security element.

maxchildren: A number that specifies the maximum number of server threads. If this number is not specified the default value is 100.

depth: Specifies the maximum pending number of connections to the server. If this attribute is not specified a default of 20 will be used.

Element: log

The log element defines how the service should configure the logs.

Attributes:

- name:** The id name of the log element. Used with references.
- logfile:** The path to the log file.
- logrollover:** The maximum size of the log before it is rolled over and compressed. If this number is not specified it will be assumed to be 200.

Element: sysinfo

The sysinfo element defines general computer system information.

Attributes:

- name:** The id name of the sysinfo element. Used with references.
- contentroot:** A path to the content directory.
- os:** The name of the operating system. It can be assigned either "mac", "win" or "linux". If the os attribute is not specified it defaults to "linux".
- relaypath:** The path to the relay executable.
- relayxmlpath:** The path to the relay xml configuration file.

Element: gui

The gui element defines a gui service for an architecture. In addition the gui element encapsulates all user information.

A gui contains one or more user elements.

Attributes:

- name:** The id name of the gui element. Used with references.
- networkref:** A reference to a network element name.
- webroot:** A path to the Reliabit web servers content directory.
(not distributed content)

Element: user

A user element has user information and encapsulates user permission settings and user multicast settings. It contains edgegroupmember elements to define the users group membership.

A user element contains one permissions element and one or more mcastsettings elements.

Attributes:

- name:** The id name of the user element. Used with references.
- ftphomedir:** A directory offset path in a ftp url.
- ftpurl:** The protocol, user and host portion of the ftp url. If this attribute is not defined a value of "ftp://anonymous@localhost" will be used.
- homedir:** A relative path to the users home directory in the content root.
- httpauth:** A Base64 "username:password" string used for basic http authentication.

Note: To create a base64 string do the following:

```
> openssl base64 -in in.txt -out out.txt
```

Where in.txt would contain a string "admin:password". The out.txt would contain the base64 string that you could use with the httpauth attribute.

Element: permissions

The permissions element defines settings that enable or disable certain program functionality on a user basis. The permissions element also indicates if the user account is enabled or disabled.

Attributes:

- enabled:** Either "true" or "false". Indicates if this user account is active or not active.
- sysgui:** Either "true" or "false". True causes pages to use browser's default buttons.
- activity:** Either "true" or "false". Enables the activity button in main portal window.
- check:** Either "true" or "false". Enables the check button in main portal window.
- copy:** Either "true" or "false". Enables the copy button in main portal window.
- ftp:** Either "true" or "false". Enables the ftp button in main portal window.
- logs:** Either "true" or "false". Enables the logs button in main portal window.
- prefs:** Either "true" or "false". Enables the prefs button in main portal window.
- remove:** Either "true" or "false". Enables the remove button in main portal window.
- restart:** Either "true" or "false". Enables the restart button in main portal window.
- shutdown:** Either "true" or "false". Enables the shutdown button in main portal window.
- flush:** Either "true" or "false". Enables the flush button in main portal window.

Element: mcastsettings

The mcastsettings element defines multicast settings for a particular user.

A mcastsettings element contains zero or more edgegroupmember elements.

Attributes:

- name:** The id name of the mcastsettings element. Used with references.
- classdaddr:** A class D IP Address for use with a multicast broadcast.
- delaytime:** The time in seconds to enable the system to contact target machines before a multicast broadcast starts.
- errkbps:** The maximum rate of packet correction used with multicast broadcasts.
- kbps:** The maximum rate of the multicast broadcast.
- timeout:** A timeout in milliseconds used with the broadcast.
- ttl:** A time to live number that defines the number of routers the broadcast will travel through.
- loopback:** Enables the multicast broadcast loopback.

Element: node

The node element ties all the information together necessary to run a core service and optionally a gui service. It encapsulates port and id information specific to the node. It contains pre and post script execution information. It contains edgegroupmember elements to define the nodes group membership.

A node element contains a transmitports element, a transmitids element, one or more edgegroupmember elements, zero or more pre elements and zero or more post elements.

Attributes:

- name:** The id name of the node.
- guieref:** A reference id name to a gui element.
- logref:** A reference id name to a log element.
- networkref:** A reference id name to a network element.
- sysinforef:** A reference id name to a sysinfo element.

Element: transmitports

The transmitport element defines a range of ports that a node will use when transmitting data.

Attributes:

- start:** The beginning of the port range.
- end:** The end of the port range.

Element: transmitids

The transmitids element defines a range of id numbers that a node will use when transmitting data. Each transmission uses a unique id number.

Attributes:

- start:** The beginning of the id range.
- end:** The end of the id range.

Element: pre

The pre element contains information necessary to launch a script when a service is starting.

Attributes:

- scriptpath:** A path to a script to execute.

Element: post

The post element contains information necessary to launch a script when a service is stopping.

Attributes

- scriptpath:** A path to a script to execute.