

MAST for IBM DataPower™ 2.0.1

MAST Web GUI Manual

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MAST for IBM DataPower™ 2.0.1

MAST Web GUI Manual

Table of Contents

[Table of Contents](#)

[Introduction](#)

[Running mast-web](#)

[mastd](#)

[Windows](#)

[Linux](#)

[mast-web](#)

[Configuring mast-web](#)

[Getting started](#)

[accounts](#)

[list groups](#)

[add group](#)

[del group](#)

[list users](#)

[add user](#)

[del user](#)

[change password](#)

[force change password](#)

[list rbm fallback](#)

[add rbm fallback](#)

[del rbm fallback](#)

[flush aaa cache](#)

[flush ldap pool cache](#)

[flush rbm cache](#)

[Backups](#)

[restore normal backup](#)

[do normal backup](#)

[secure backup](#)

[restore secure backup](#)

[list checkpoints](#)

[remove checkpoint](#)

[rollback checkpoint](#)

[set checkpoint](#)

[Deployment](#)

[set file](#)

[get file](#)

MAST for IBM DataPower™ 2.0.1

MAST Web GUI Manual

[del file](#)

[clean up](#)

[predeploy](#)

[deploy](#)

[postdeploy](#)

[Developer](#)

[flush document cache](#)

[flush stylesheet cache](#)

[import](#)

[export](#)

[Network](#)

[check connectivity](#)

[tcp connection test](#)

[display routing table](#)

[display ethernet interface](#)

[list host aliases](#)

[add host alias](#)

[del host alias](#)

[list secondary addresses](#)

[add secondary address](#)

[del secondary address](#)

[list static hosts](#)

[add static host](#)

[del static host](#)

[list static routes](#)

[add static route](#)

[del static route](#)

[flush arp cache](#)

[flush dns cache](#)

[flush nd cache](#)

[flush pdp cache](#)

[SSH](#)

[Status](#)

[System](#)

[xor](#)

[flush aaa cache](#)

[flush arp cache](#)

[flush dns cache](#)

[flush document cache](#)

[flush ldap pool cache](#)

[flush nd cache](#)

MAST for IBM DataPower™ 2.0.1

MAST Web GUI Manual

[flush nss cache](#)
[flush pdp cache](#)
[flush rbm cache](#)
[flush stylesheet cache](#)
[save](#)
[quiesce service](#)
[unquiesce service](#)
[list domains](#)
[add domain](#)
[del domain](#)
[quiesce domain](#)
[unquiesce domain](#)
[disable domain](#)
[enable domain](#)
[quiesce appliance](#)
[unquiesce appliance](#)
[reboot appliance](#)
[shutdown appliance](#)
[reload appliance](#)
[firmware upgrade](#)
[get encrypted filesystem](#)
[get temporary filesystem](#)
[get filestore](#)
[copy file](#)
[set file](#)
[get file](#)
[del file](#)
[get error reports](#)
[copy directory](#)
[fetch logs](#)
[get pmr info](#)
[object audit](#)
[get status](#)
[get config](#)
[clean up](#)
[Conclusion](#)

MAST for IBM DataPower™ 2.0.1

MAST Web GUI Manual

Introduction

Welcome to the MAST Web GUI Manual. In this document we will try to walk you through the important parts of the MAST for IBM DataPower 2.0.1 Web GUI. This interface has been designed to be easy to use and as functional as possible.

Running mast-web

There are two ways to start the MAST Web GUI, through mastd or through mast-web. Both executables are in \$MAST_HOME. The process differs between platforms for mastd, but it is the same for mast-web. Below we will describe how to launch each one:

mastd

mastd is the preferred method of hosting mast-web because it can be configured to start on boot. The method for setting this up varies by platform.

Windows

The script mastd.bat can be used to install, start, stop and restart the mastd Windows service. In order to install mastd as a Windows service you can issue the following command:

```
C:\mast\> mastd.bat install
```

After issuing this command, you can configure, start, stop and restart just like any other Windows service, but mastd.bat can also be used for the same purpose. There are also a number of parameters which can be provided to mastd.bat install which can configure things like which user to run as or whether to start on boot. Please see the output of mastd.bat install /? for all of your options.

Linux

The script mastd can be used to start, stop, restart and to query the status of the mastd daemon. In order to achieve maximum flexibility in supported Linux distributions and their choice in init systems we have chosen to allow the user to configure mastd as a service through their distribution's init system. Please consult your Operating System's documentation on how to do this. If you have any trouble please don't hesitate to contact us at support@mcindi.com as we have experts in most Linux distributions standing by.

MAST for IBM DataPower™ 2.0.1

MAST Web GUI Manual

mast-web

as an alternative to mastd, we also have a script which allows you to start MAST Web as a non-privileged user in an ad-hoc manner. The process is the same for Windows or Linux, simply execute `$MAST_HOME/mast-web` and your Web GUI will be started for you.

Configuring mast-web

Whichever way you choose to start mast-web, the process for configuration is the same. Simply copy `$MAST_HOME/etc/default/server.conf` to `$MAST_HOME/etc/local/server.conf`, and edit the copy you just made (It is important to remember to never edit a configuration file in `$MAST_HOME/etc/default/` as these files can be overwritten during an upgrade to MAST). There is documentation in the configuration file for what each option means, but we will cover the most important ones here.

In the `[server]` stanza, you will find the most important options. The most important options are `cert`, `key` and `cacert`. This is because every copy of MAST for IBM DataPower ships with the same key-pair, so it would be trivial for an attacker to decrypt your traffic. Please substitute your own key-pair as soon as MAST is installed.

The next important option is `host`, as this configures which address mast-web is listening to. By default mast-web is only listening to `localhost` so no other machines can connect. In order to allow any machine to connect change this to `0.0.0.0`.

You may also wish to change the port to a privileged port such as 443 in order for your users to be able to type a friendly address into the address bar of their browser. For instance if you change port to 443 you can type <https://mast-server> into the address bar (substitute `mast-server` for the actual hostname or ip address of the server).

Getting started

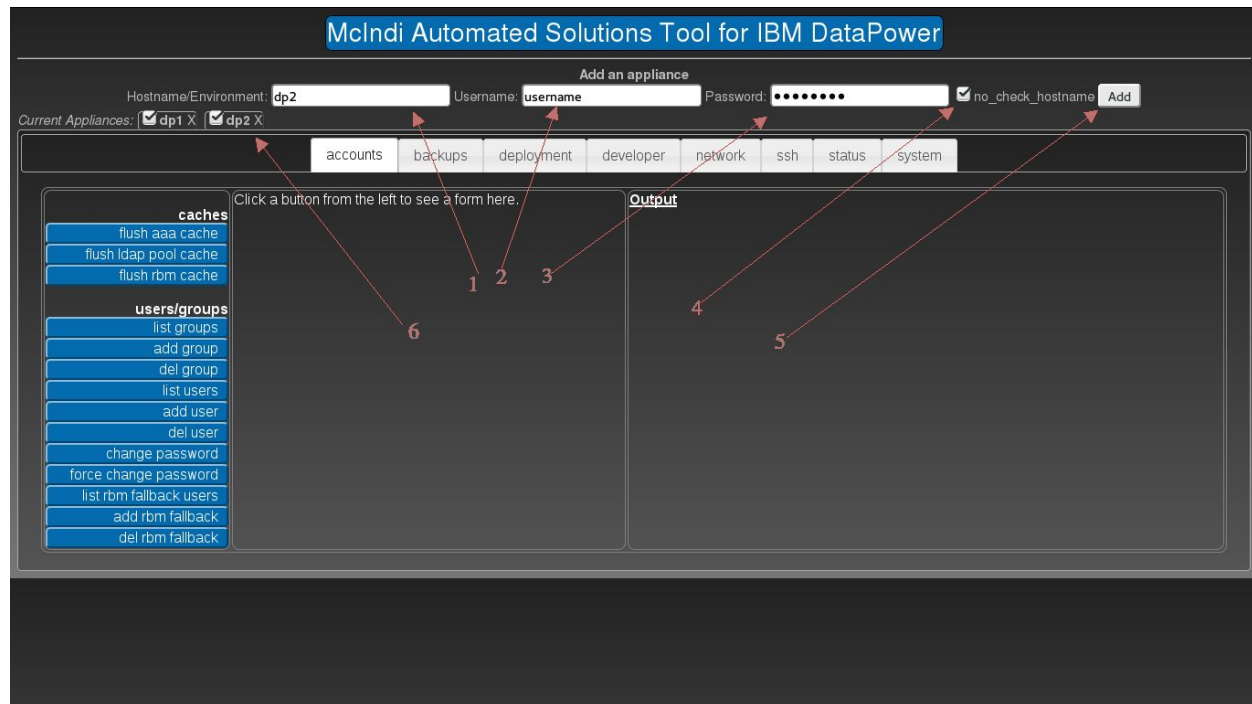
The first thing we should note is that we have made the decision to offload RBM and access controls to the investment you have made into these areas on your datapower appliances.

Because of this anyone who can connect to MAST Web will not be prompted to log in, but rather they will need to provide credentials for each of the appliances they would like to connect to.

That being said, when you load the MAST Web GUI in the browser you will be greeted with a screen which looks like this:

MAST for IBM DataPower™ 2.0.1

MAST Web GUI Manual



1. Hostname/Environment - In this box, you can enter the hostname or ip address of an appliance as well as an alias configured in hosts.conf or the name of an environment configured in environments.conf.
2. Username - This is the username you will use to authenticate to the appliance(s) you are connecting to.
3. Password - This is the password for the username you entered in box 2.
4. no_check_hostname - Check this box if the certificate presented by the appliance(s) will not be trusted by your system for instance if it is self-signed.
5. Add - Click this button to add the appliance(s) to the list of connected appliances.
6. Appliances - This is a list of currently connected appliances. If the background color shows up as red then there was an error connecting to the xml management interface, if it's yellow then there was a problem connecting to the appliance via ssh. There is also a checkbox for each appliance, if you'd like to exclude that particular appliance from any action simply uncheck the box.

So there are a few steps to working with MAST Web, and the first is to add appliances by supplying the hostname, username, password and clicking "Add". Once you have a list of appliances built, you can start interacting with them. There are a number of tabs each one focusing on a different area of functionality.

1. accounts
2. backups
3. deployment
4. developer
5. network

MAST for IBM DataPower™ 2.0.1

MAST Web GUI Manual

6. ssh
7. status
8. system

We will go over each one individually.

accounts

This tab provides functionality related to user groups, user accounts and RBM settings. Each of the buttons in the left-most pane provides a single piece of functionality. When you click one, a form will be presented in the center pane, and when you fill out that form and click submit the results will be presented in the right-most pane. We will briefly review each button and it's purpose:

list groups

This command will list the groups present on each appliance as well as the groups common to all appliances.

add group

This command will add a user group to the appliances.

IMPORTANT: The functionality to add access-policies to the user group being created is currently broken. It will only accept one access policy. We are working to find an acceptable solution to the problem.

del group

This command will delete a user group from the appliances.

list users

This command lists the local users on the appliances as well as the users common to all appliances

MAST for IBM DataPower™ 2.0.1

MAST Web GUI Manual

add user

This command will add a user to the appliances.

del user

This command will delete a user from the appliances.

change password

This command will change a local user's password on the appliances.

force change password

This command will force a local user to change their password during the next login on the appliances.

list rbm fallback

This command will list RBM fallback users on the appliances.

add rbm fallback

This command will add a user to the RBM fallback users of the appliances.

del rbm fallback

This command will remove a user from the RBM fallback users of the appliances.

flush aaa cache

MAST for IBM DataPower™ 2.0.1

MAST Web GUI Manual

This command will flush the AAA cache on the appliances.

flush ldap pool cache

This command will flush the LDAP Pool cache on the appliances.

flush rbm cache

This command will flush the RBM cache on the appliances.

Please see the help menu for each of these commands (by passing the “-h” flag on the command line) for what information needs to be provided for the subcommands.

Backups

This tab groups functionality related to checkpoints, normal backups and secure backups. Each of the buttons in the left-most pane provides a single piece of functionality. When you click one, a form will be presented in the center pane, and when you fill out that form and click submit the results will be presented in the right-most pane. We will briefly review each button and it's purpose:

restore normal backup

This command will Restore a normal backup to the specified domains on the appliances.

do normal backup

This command performs a normal backup of the specified domain(s) on the appliances.

secure backup

This command will perform a secure backup of the appliances.

MAST for IBM DataPower™ 2.0.1

MAST Web GUI Manual

restore secure backup

This command will Restore a secure backup to specified appliances.

list checkpoints

This command will List the checkpoints which are currently in the specified domain on the appliances.

remove checkpoint

This command will Delete a checkpoint from the specified domain on the appliances.

rollback checkpoint

This command will roll back the specified domain to the named checkpoint on the appliances.

set checkpoint

This command will Set a checkpoint in the given domain(s) on the appliances.

Deployment

This tab groups functionality related to deploying applications in accordance with best practices as well as some related functionality. Each of the buttons in the left-most pane provides a single piece of functionality. When you click one, a form will be presented in the center pane, and when you fill out that form and click submit the results will be presented in the right-most pane. We will briefly review each button and its purpose:

set file

This command will Upload a file to the specified destination on the appliances.

MAST for IBM DataPower™ 2.0.1

MAST Web GUI Manual

get file

This command will download a file from the specified appliances.

del file

This command will delete the specified file from the appliances.

clean up

This command will clean up the specified appliances temporary filesystem.

predeploy

This command is used to perform routine pre-deployment actions. Everything is optional, but if you wish to perform an action, you must provide the necessary arguments.

deploy

This command is used to perform a deployment/migration of a service/object to an IBM DataPower appliance. This script will try to perform the deployment/migration in a manner consistent with best practices.

postdeploy

This command will allow you to unquiesce your domain or appliances after you quiesce them for a deployment. Also this will allow you to save the config.

MAST for IBM DataPower™ 2.0.1

MAST Web GUI Manual

Developer

This tab groups functionality related to the development of objects and services for IBM Datapower appliances. Each of the buttons in the left-most pane provides a single piece of functionality. When you click one, a form will be presented in the center pane, and when you fill out that form and click submit the results will be presented in the right-most pane. We will briefly review each button and it's purpose:

flush document cache

This command will flush the Document Cache for the specified xml_manager in the specified domain on the appliances.

flush stylesheet cache

This command will flush the Stylesheet Cache for the specified xml_manager in the specified domain on the appliances.

import

This command will import a service/object into the specified domain on the appliances.

export

This command will Export a service or object from the specified domain on the appliances.

Network

This tab groups functionality which allows you to view, edit, create and delete network related configuration. Each of the buttons in the left-most pane provides a single piece of functionality. When you click one, a form will be presented in the center pane, and when you fill out that form and click submit the results will be presented in the right-most pane. We will briefly review each button and it's purpose:

MAST for IBM DataPower™ 2.0.1

MAST Web GUI Manual

check connectivity

This command will check the connectivity of the three mgmt interfaces (xml, web and cli) on the specified appliances.

tcp connection test

This command will perform a TCP Connection Test from each appliance to each remote_host at each remote_port.

display routing table

This command will display the routing table for the specified appliances

display ethernet interface

This command will display the details of the specified ethernet interface on the specified appliances.

list host aliases

This command will list the host aliases of the specified appliances as well as the host aliases common to all specified appliances.

add host alias

This command will Add a host alias to the specified appliances.

del host alias

MAST for IBM DataPower™ 2.0.1

MAST Web GUI Manual

This command will remove a host alias from the specified appliances.

list secondary addresses

This command will list the secondary IP Addresses on the specified Ethernet Interface for the specified appliances.

add secondary address

This command will add a secondary IP address to the specified appliances on the specified ethernet interface.

del secondary address

This command will remove a secondary IP address from the specified appliances on the specified ethernet interface

list static hosts

This command will list the static hosts on the specified appliances.

add static host

This command will add a static host to the specified appliances.

del static host

This command will remove a static host from the specified appliances.

list static routes

MAST for IBM DataPower™ 2.0.1

MAST Web GUI Manual

This command will list all of the static routes on the specified ethernet interface on the specified appliances.

add static route

This command will add a static route to the specified appliance on the specified ethernet interface.

del static route

This command will removes a static route from the specified appliance on the specified ethernet interface.

flush arp cache

This command will flush the ARP Cache on the specified appliances.

flush dns cache

This command will flush the DNS Cache for the specified appliances.

flush nd cache

This command will flush the ND cache on the specified appliances.

flush pdp cache

This command will flush the PDP cache on the specified appliances for the specified XACMLPDP.

MAST for IBM DataPower™ 2.0.1

MAST Web GUI Manual

SSH

This tab is different from the others, instead of a group of buttons, it provides a single text input which will accept a cli command to be issued to each appliance you are connected to. If you wish to exclude an appliance when issuing a command, simply uncheck the checkbox next to that appliance's hostname at the top of the page.

Status

This tab is also different from the rest of the tabs. There is a start/stop button at the top of the tab which when clicked will start real-time monitoring of the appliances you have checked up at the top of the page. Under the start/stop button, there is a link which when clicked will allow you to select additional metrics to monitor.

It is a good idea to stop the monitoring before changing the metrics you are watching or the appliances you have selected.

System

This tab groups functionality related to system administration and operations. Each of the buttons in the left-most pane provides a single piece of functionality. When you click one, a form will be presented in the center pane, and when you fill out that form and click submit the results will be presented in the right-most pane. We will briefly review each button and it's purpose:

xor

This will xor encode and base64 encode the given string suitable for use in passing credentials to MAST CLI commands. This is a useful utility for scripting multiple MAST CLI commands since your credentials will not be in plain text.

flush aaa cache

This command will flush the AAA Cache for the specified AAPolicy in the specified Domain on the specified appliances.

MAST for IBM DataPower™ 2.0.1

MAST Web GUI Manual

flush arp cache

This command will flush the ARP cache on the specified appliances.

flush dns cache

This command will flush the DNS cache on the specified appliances.

flush document cache

This will flush the document cache for the specified xml_manager in the specified domain on the specified appliances.

flush ldap pool cache

This command will flush the LDAP Pool Cache for the specified xml_manager in the specified domain on the specified appliances

flush nd cache

This command will flush the ND cache for the specified appliances.

flush nss cache

This will flush the NSS cache for the specified ZOSNSSClient in the specified domain for the specified appliances.

flush pdp cache

MAST for IBM DataPower™ 2.0.1

MAST Web GUI Manual

This command will flush the PDP cache for the specified XACML_PDP for the specified appliances.

flush rbm cache

This command will flush the RBM cache in the specified domain for the specified appliances.

flush stylesheet cache

This command will flush the stylesheet cache for the specified xml_manager in the specified Domain on the specified appliances.

save

This command will save the configuration in the given domain(s) on the appliances.

quiesce service

This command will quiesce a service in the specified domain on the specified appliances.

unquiesce service

This command will unquiesce a service in the specified domain on the specified appliances.

list domains

This command will List the domains on the specified appliances as well as domains common to all appliances.

add domain

MAST for IBM DataPower™ 2.0.1

MAST Web GUI Manual

This command will add a domain to the specified appliances.

del domain

This command will remove a domain from the specified appliances

quiesce domain

This command will quiesce a domain on the specified appliances

unquiesce domain

This command will unquiesce a domain on the specified appliances

disable domain

This command will disable a domain on the specified appliances.

enable domain

This command will enable a domain on the specified appliances.

quiesce appliance

This command will quiesce the specified appliances.

unquiesce appliance

This command will quiesce the specified appliances.

reboot appliance

MAST for IBM DataPower™ 2.0.1

MAST Web GUI Manual

This command will reboot the specified appliances

shutdown appliance

This command will shutdown the specified appliances

reload appliance

This command will quiesce the specified appliances.

firmware upgrade

This command will attempt to upgrade the firmware of the specified appliances.

get encrypted filesystem

This command will get a directory listing of all locations within the encrypted filesystem.

get temporary filesystem

This command will get a directory listing of all locations within the temporary filesystem.

get filestore

This command will get the directory listing of the specified location.

copy file

This command will Copy a file from src to dst (both src and dst are on the appliance) optionally overwriting dst.

MAST for IBM DataPower™ 2.0.1

MAST Web GUI Manual

set file

This command will upload a file to the specified appliances.

get file

This command will upload a file to the specified appliances.

del file

This command will delete a file from the appliances.

get error reports

This command will attempt to retrieve any error reports from the currently configured location on the DataPower appliances.

copy directory

This command will get all of the files from a directory on the appliances in the specified domain.

fetch logs

This command will fetch all log files from the specified appliances

get pmr info

This command will get all possible troubleshooting information from the specified appliances.

object audit

MAST for IBM DataPower™ 2.0.1

MAST Web GUI Manual

This command will get a "diff" of the current and persisted configuration

get status

This command will query the status of the specified appliances in in the specified Domain for the specified status providers.

get config

This command will get the config of obj_name from the specified domain on the specified appliances.

clean up

This command will clean up the specified appliances temporary filesystem.

Troubleshooting

If you have issues in the ssh tab or the status tab, your best resource is the files in \$MAST_HOME/var/log/, but for any other tab more information is provided in the GUI itself. When the output is displayed after clicking the "Submit" button on one of the forms there is a link near the top of the output which normally will allow you to download a request/response history between MAST and the appliances, but in the event of an unhandled exception, this will be a traceback which can be very valuable in troubleshooting (even if you are not comfortable reviewing tracebacks, it will assist in diagnosing problems when submitting an issue to mcindi support).

Conclusion

In this manual we covered the basics of interacting with the MAST Web GUI and went through the functionality provided by each tab. Hopefully, you have learned enough to get you started using the MAST Web GUI effectively.

If you have any problems, questions or concerns please contact us at support@mcindi.com.

MAST for IBM DataPower™ 2.0.1

MAST Web GUI Manual

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