Ports Used by MapR

Services and Ports Quick Reference

The table below defines the ports used by a MapR cluster, along with the default port numbers.

Service	Source IP	Destination IP	Port	Purpose	Parameter and File where Port is Configured
CLDB	Nodes running any MapR services, clients interacting with MapRFS	Cluster nodes running CLDB services	7222	MapR-FS API calls	`/opt/mapr/conf/cldb.conf`, `/opt/mapr/conf/warden.conf` , `/opt/mapr/conf/mapr clusters.conf`
CLDB JMX monitor port	Nodes running CLDB services	CLDB JMX monitor port	7220	The port on which Collectd gathers CLDB metrics via JMX.	N/A
CLDB web port	Nodes/clients connecting to the CLDB GUI	Cluster nodes running CLDB services	7221	CLDB GUI	`/opt/mapr/conf/cldb.conf`
Data Access Gateway	Clients using the MapR-DB JSON REST API with HTTPS	Cluster nodes running the Data Access Gateway service	8243	The port used to connect to the Data Access Gateway using HTTPS	`rest.https.port` in `/opt/mapr/data-access-gateway/conf/properties.cfg`
DNS	All cluster nodes	Server running DNS	53	Domain Name Service	N/A
Drill JMX Port	Nodes running the Drillbit	Drill JMX Port	6090	The port on which Collectd gathers Drill metrics via JMX.	
Drill Web UI	Nodes running the Drillbit service	Nodes running the Drillbit service	8047	TCP port needed for the Drill Web UI and clients using REST API and nodes running the Drillbit service.	`drill.exec.http.port` in `/opt/mapr/drill/drill-<version>/conf/drill-override.conf`
Drill	Nodes running the Drillbit service and clients using JDBC/ODBC and nodes running the Drillbit service.	Nodes running the Drillbit service	31010	TCP user port address. Used between nodes in a Drill cluster. Needed for an external client, such as Tableau, to connect into the cluster nodes. Also needed for the Drill Web UI. You can also use this port to connect directly to a Drillbit.	`drill.exec.rpc.user.server.port` in `/opt/mapr/drill/drill-<version>/conf/drill-override.conf`
Drill	Nodes running the Drillbit service	Nodes running the Drillbit service	31011	TCP port that controls the port address. Used between nodes in a Drill cluster. Needed for multi-node installation of Drill.	`drill.exec.rpc.bit.server.port` in `/opt/mapr/drill/drill-<version>/conf/drill-override.conf`
Drill	Nodes running the Drillbit service	Nodes running the Drillbit service	31012	TCP data port address. Used between nodes in a Drill cluster. Needed for multi-node installation of Drill.	`drill.exec.rpc.bit.server.port + 1` in `/opt/mapr/drill/drill-<version>/conf/drill-override.conf`

Service	Source IP	Destination IP	Port	Purpose	Parameter and File where Port is Configured
Drill	Clients using JDBC/ODBC and nodes running ZooKeeper services.	Nodes running the Drillbit service	5181	ZooKeeper port used to connect to Drill through the JDBC driver.	`See the ZooKeeper entry in this table.`
Elasticsearch	Non-Elasticsearch components, such a web browser, curl, and Kibana, that connect to Elasticsearch.	Nodes running Elasticsearch for MapR Monitoring use cases	9200	Non-Elasticsearch components use this port when communicating with Elasticsearch.	You can configure different port for MapR Monitoring use cases when you run configure.sh (configure.sh.html#configure.sh) with the `-ES` parameter.
	Nodes running Elasticsearch	Nodes running Elasticsearch for MapR Monitoring use cases	9300	Elasticsearch uses this port for communications between Elasticsearch daemons.	
File Migration Service			9444	File Migration service UI	`/opt/mapr/conf/conf.d/warden.filemigrate.conf`
Gateway	Nodes sending operations to replicate	Nodes running the gateway service	7660	The port used by gateway services to listen for incoming replication operations.	
Grafana	Web browsers	Nodes running Grafana for MapR Monitoring use cases.	3000	Web browsers use this port when connecting to Grafana.	N/A
HBase Thrift Server		Nodes running HBase Thrift Server	9090		
HBase REST Server		Nodes running HBase REST Server	8085		
HistoryServer RPC		Nodes running MapReduce JobHistory Server	10020		
HistoryServer Web UI and REST APIs	Clients that access Job History Server UI in a non-secure cluster	Secure nodes running MapReduce JobHistory Server in a non-secure cluster	19888	Non-secure HistoryServer Web UI and REST APIs	see mapred-site.xml (mapred-site.xml.html)
	Clients that access Job History Server UI in a secure cluster	Secure nodes running MapReduce JobHistory Server in a secure cluster	19890	Secure HistoryServer Web UI and REST APIs	see mapred-site.xml (mapred-site.xml.html)
Hive Metastore	Nodes/clients performing Hive queries/operations	Nodes running the Hive metastore services	9083	Used by Hive clients to query/access the Hive metastore	`/opt/mapr/hive/hive-<version>/conf/hive-site.xm`
Hiveserver2	Nodes or clients performing hive queries using JDBC/ODBC	Nodes running Hiveserver2	10000		
Httpfs	Nodes/clients accessing httpfs services	Nodes running httpfs services	14000	Used by httpfs file clients to access the httpfs server	`/opt/mapr/httpfs/httpfs-<version>/etc/hadoop/httpfs-env.sh`

Service	Source IP	Destination IP	Port	Purpose	Parameter and File where Port is Configured
Hue Webserver	Nodes/clients accessing Hue web services	Nodes running Hue web services	8888	Used by Hue webserver clients to access the Hue webserver	`/opt/mapr/hue/hue*/desktop/conf/hue.ini`
Impala Catalog Daemon	Nodes running Impala Daemon	Nodes running Impala Catalog Daemon	25020	Catalog service web interface for monitoring and troubleshooting. Available in Impala 1.2 and higher.	
Impala Daemon	Clients using JDBC/ODBC and nodes running Impala Daemon	Nodes running Impala Daemon	21000	Used to transmit commands and receive results by `impala-shell` .	
Impala Daemon	Nodes running Impala Daemon	Nodes running Impala Daemon	21050	Used by applications, such as Business Intelligence tools, to transmit commands and receive results using JDBC.	
Impala Daemon	Nodes running Impala Daemon	Nodes running Impala Daemon	25000	Impala web interface for monitoring and troubleshooting.	
Impala StateStoreDaemon	Nodes running Impala Daemon	Nodes running Impala StateStore Daemon	25010	StateStore web interface for monitoring and troubleshooting.	
KSQL	All cluster nodes	Nodes running KSQL	8084	KSQL	`$KSQL_INSTALL_DIR/etc/ksql/ksqlserver.propertie`
Kafka Connect	All cluster nodes	Nodes running Kafka Connect	8083	Kafka Connect REST API calls	`/opt/mapr/kafka/kafka-<version>/config/connect-distributed.properties`
Kafka REST	All cluster nodes	Nodes running Kafka REST	8082	Kafka REST API calls	`/opt/mapr/kafka-rest/kafka-rest-<version>/config/kafka-rest.properties`
Kibana	Web browsers	Nodes running Kibana for MapR Monitoring use cases	5601	Web browsers use this port when connecting to Grafana.	N/A
LDAP	All cluster nodes	Server running LDAP	389		
LDAPS	All cluster nodes	Server running LDAP SSL	636		
maprlogin utility	Connections via the maprlogin utility	Cluster nodes running CLDB services	7443	When security is enabled for a cluster, the CLDB listens for connections on port 7443. If security is disabled, the `maprlogin` utility is unable to reach the CLDB.	
MapR-FS server	Nodes running any MapR services, clients interacting with MapRFS	Nodes running FileServer services	5660, 5692, 5724, and 5756		

Service	Source IP	Destination IP	Port	Purpose	Parameter and File where Port is Configured
	Nodes running the gateway service	Nodes running MapR-FS	6660	The port on which gateway nodes send replicated operations to nodes in destination clusters.	
MapR-FS server instances			See Ports for Multiple Instances of MapR-FS (../AdministratorGuide/Multi-MFS-Overview.html#Multi-MFS-Overview__ports)	Multiple MapR-FS instances	
MySQL	Nodes running the `mapr-metrics` package	Nodes running the MySQL database for system metrics and jobs display	3306	Used for mySQL traffic between the web services client and its mySQL backend server	
NFS	Nodes/clients accessing MapRFS via the NFS protocol	Nodes running MapR NFS Services	2049	NFSv3 access to MapR-FS	
	Nodes running NFS services	Nodes running NFS services	9997	NFS VIP Management	`/opt/mapr/conf/nfsserver.conf`
			9998		`/opt/mapr/conf/nfsserver.conf`
NodeManager JMX Port	Nodes running NodeManager	NodeManager JMX Port	8027	The port on which Collectd gathers metrics from NodeManager nodes via JMX.	
NodeManager	Nodes running NodeManager		8099		`yarn.nodemanager.address` in `/opt/mapr/hadoop/hadoop-<version>/etc/hadoop/yarn-site.xml`
NodeManager Localizer RPC	Nodes running NodeManager		8040		`yarn.nodemanager.localizer.address` in `/opt/mapr/hadoop/hadoop-<version>/etc/hadoop/yarn-site.xml`
NodeManager Web UI and REST APIs	External Web browsers and REST clients accessing NodeManager services in a non-secure cluster	Nodes running NodeManager services in a non-secure cluster	8042		`yarn.nodemanager.webapp.address` in `/opt/mapr/hadoop/hadoop-<version>/etc/hadoop/yarn-site.xml`
	External Web browsers and REST clients accessing NodeManager services in a secure cluster	Secure nodes running NodeManager	8044	Specifies NodeManager https port	`yarn.nodemanager.webapp.https.address` in `/opt/mapr/hadoop/hadoop-<version>/etc/hadoop/yarn-site.xml`
NTP	All cluster nodes	Server running NTP	123	Network Time Protocol	
Oozie	Nodes/clients accessing Oozie services in a non-secure cluster	Nodes running Oozie services in a non-secure cluster	11000	Used by Oozie clients to access the Oozie server in a non-secure cluster	`/opt/mapr/oozie/oozie-<version>/conf/oozie-env.sh`
	Nodes/clients accessing Oozie services in a secure cluster	Nodes running Oozie services in a secure cluster	11443	Used by Oozie clients to access the Oozie server in a secure cluster	`/opt/mapr/oozie/oozie-<version>/conf/oozie-env.sh`

Service	Source IP	Destination IP	Port	Purpose	Parameter and File where Port is Configured
OpenTSDB	OpenTSDB clients, such as Collectd.	Nodes running OpenTSDB for MapR Monitoring use cases.	4242	Collectd uses this port to write metrics to OpenTSDB.	You can configure a different port for MapR Monitorin use cases when you run configure.sh (configure.sh.html#configure.sh) with the -OT parameter.
Port mapper	Nodes running MapR NFS Services	Nodes/clients accessing MapRFS via the NFS protocol	111	RPC Portmap services used to connect to MapR-FS via NFSv3	
ResourceManager JMX Port	Nodes running ResourceManager	ResourceManager JMX port	8025	The port on which Collectd gathers metrics from the ResourceManager via JMX.	
ResourceManager Admin RPC	Applications that access the ResourceManager	Nodes running ResourceManager	8033		`yarn.resourcemanager.admin.address` in `/opt/mapr/hadoop/hadoop-<version>/etc/hadoop/yarn-site.xml`
ResourceManager Client RPC	Clients that submit YARN applications	Nodes running ResourceManager	8032		`yarn.resourcemanager.address` in `/opt/mapr/hadoop/hadoop-<version>/etc/hadoop/yarn-site.xml`
ResourceManager Resource Tracker RPC (for NodeManagers)	Applications that access the ResourceManager	Nodes running ResourceManager	8031		`yarn.resourcemanager.resource-tracker.address` i `/opt/mapr/hadoop/hadoop-<version>/etc/hadoop/yarn-site.xml`
ResourceManager Scheduler RPC (for ApplicationMasters)	Applications that access the ResourceManager	Nodes running ResourceManager	8030	The port on which the applications in the cluster talk to the ResourceManager.	`yarn.resourcemanager.scheduler.address` in `/opt/mapr/hadoop/hadoop-<version>/etc/hadoop/yarn-site.xml`
ResourceManager Web UI (HTTP)	Clients that access ResourceManager UI in a non-secure cluster	Nodes running ResourceManager master in a non-secure cluster	8088	ResourceManager Web UI	`yarn.resourcemanager.webapp.address` in `/opt/mapr/hadoop/hadoop-<version>/etc/hadoop/yarn-site.xml`
	Clients that access ResourceManager UI in a secure cluster	Nodes running ResourceManager master in a secure cluster	8090	ResourceManager Web UI	`yarn.resourcemanager.webapp.address` in `/opt/mapr/hadoop/hadoop-<version>/etc/hadoop/yarn-site.xml`
Shuffle HTTP		Shuffle HTTP	13562		
SMTP			25		
Spark Standalone Master (RPC)			7077	The port on which to submit jobs in a Spark standalone cluster.	`SPARK_MASTER_PORT` in `SPARK_HOME/conf/spark-env.sh`
Spark Standalone Master (Web UI)	Nodes/clients accessing Spark services in a non-secure cluster	Nodes running Spark services in a non-secure cluster	8580	The port on which browsers connect to Spark master in a non-secure Spark standalone cluster.	`SPARK_MASTER_WEBUI_PORT` in `SPARK_HOME/conf/spark-env.sh`
	Nodes/clients accessing Spark services in a secure cluster	Nodes running Spark services in a secure cluster	8980	The port on which browsers connect to Spark master in a secure Spark standalone cluster.	`spark.ssl.standalone.port` in `SPARK_HOME/conf/spark-defaults.conf` (starting from Spark-2.2.1)
Spark Standalone Worker			8081	The port on which browsers connect to Spark worker in a Spark standalone cluster.	`SPARK_WORKER_WEBUI_PORT` in `SPARK_HOME/conf/spark-env.sh`

Service	Source IP	Destination IP	Port	Purpose	Parameter and File where Port is Configured
Spark Thrift Server (if start and stop server using Spark scripts)			10000	The port on which JDBC clients connect to Spark Thrift server.	`hive.server2.thrift.port` in `SPARK_HOME/conf/hive-site.xml`
Spark Thrift Server (if start and stop server through Warden, starting in MEP 4.0)			2304	The port on which JDBC clients connect to Spark Thrift server.	`hive.server2.thrift.port` in `SPARK_HOME/conf/hive-site.xml`
Spark History Server	Clients that access Spark Job History in a non-secure cluster	Nodes running Spark History Server in a non-secure cluster	18080	The port on which browsers connect to a non-secure Spark history server.	`spark.history.ui.port` in `SPARK_HOME/conf/spark-default.conf"`
	Clients that access Spark Job History in a secure cluster	Nodes running Spark History Server in a secure cluster	18480	The port on which browsers connect to a secure Spark history server.	`spark.ssl.historyServer.port` in `SPARK_HOME/conf/spark-defaults.conf (starting from Spark-2.2.1)`
Spark External Shuffle Service			7337	The port on which Spark jobs connect to External Shuffle server.	`spark.shuffle.service.port` in `SPARK_HOME/conf/spark-default.conf`
Sqoop2 Server	Nodes/clients accessing Sqoop2 services	Nodes running Sqoop2 services	12000	Used by Sqoop2 clients to access the Sqoop2 server	
SSH	Nodes/client running `mapr-support-collect.sh` or `maprcli disk` API calls	Nodes running any MapR services	22	The `mapr-support-collect.sh` leverages SSH over port 22 to connect to a shell environment on cluster nodes in which the `mapr-support-dump.sh` script will be run	N/A
Timeline Server (Hive-on-Tez UI)			10200		
Timeline Server (Hive-on-Tez) Web Interface (HTTP)			8188		
Timeline Server (Hive-on-Tez) Web Interface (HTTPS)			8190		
Tomcat Port (Hive-on-Tez UI)			9383		
Web UI	External web browser accessing non-secure cluster	Nodes running MapR MCS Web UI in a non-secure cluster	8443	MapR Control System Web UI	`/opt/mapr/apiserver/conf/properties.cfg`
	External web browser accessing secure cluster	Nodes running MapR MCS Web UI in a secure cluster		MapR Control System Web UI	
Zeppelin			9995	The port you use to connect to the Zeppelin Docker container	Configurable by setting `ZEPPELIN_SSL_PORT` when running the Zeppelin Docker image

Service	Source IP	Destination IP	Port	Purpose	Parameter and File where Port is Configured
ZooKeeper	Nodes running ZooKeeper services, clients executing ZooKeeper API calls	Nodes running ZooKeeper services	5181	ZooKeeper API calls	`/opt/mapr/zookeeper/zookeeper-<version>/conf/zoo.cfg`, `/opt/mapr/conf/warden.conf`, `/opt/mapr/conf/cldb.conf`, `/opt/mapr/hbase/hbase-<version>/conf/hbase-site.xml`, `/opt/mapr/hive/hive-<version>/conf/hive-site.xml`
ZooKeeper follower-to-leader communication	Nodes running ZooKeeper services	Nodes running ZooKeeper services	2888	ZooKeeper Server > Server Communication	`/opt/mapr/zookeeper/zookeeper-<version>/conf/zoo.cfg`
ZooKeeper leader election	Nodes running ZooKeeper services	Nodes running ZooKeeper services	3888	ZooKeeper Server > Server Communication	`/opt/mapr/zookeeper/zookeeper-<version>/conf/zoo.cfg`

Avoiding Port Conflicts

To avoid eventual trouble with port conflicts on your MapR clusters, try these tips:

- Remap the ports for the HBaseMaster and HBaseRegionServer services to ports below 32768.
- Set the ephemeral port range to stop at 50029 by changing the value in the file `/proc/sys/net/ipv4/ip_local_port_range`. Note that this setting changes the available number of ephemeral ports from the default of 28,233 ports to 17,233.