

Ports checklist

On the specified servers (**Destination server: APP, BEP Agent**, and so on), open the ports (column **Port to open**) to the required servers (column **Source Server**). If the **Source server** cell contains "all", you must open the corresponding port in both ways: to ALL servers and from ALL servers. The **Service name** column contains the list of services, for which the open ports are required.

For basic setup

Port to open	Source server	Service name	Open (yes/no)
Destination server: APP			
80, 443/tcp	all	HAProxy (proxy for Control Tower, Workspace, bot-manager, AutoQC, Nexus, Minio, Tinymce, Kibana)	☐
8443/tcp	APP	nginx (proxy for Control Tower, Workspace, bot-manager, AutoQC, Nexus, Minio, Tinymce, Kibana)	☐
8202/tcp	all	HAProxy (proxy for Vault)	☐
4084/tcp	APP	nginx (mTLS proxy for SQC)	☐
22/tcp	APP	SSH	☐
8200/tcp	APP	Vault (secure store)	☐
45672/tcp	APP	nginx (proxy for RabbitMQ api)	☐
5672/tcp	all	RabbitMQ queue	☐
2181/tcp	all	zookeeper	☐
4567-4571/tcp, 15072/tcp	all	logstash	☐
9200/tcp	APP	ElasticSearch	☐

9092/tcp	APP	nginx (mTLS proxy for task dispatcher service)	☐
8480/tcp	APP, BEP Agent	nginx (proxy for marathon)	
5050/tcp	APP, BEP Agent	mesos-master	☐
32768-61000/tcp+udp	BEP Agent, APP	mesos-master, filebeat, heartbeat, metricbeat	☐
111/tcp+udp	BEP Agent	NFS	☐
2049/tcp+udp	BEP Agent	NFS	☐
20048/tcp+udp	BEP Agent	NFS	☐
9063/tcp	APP	nginx (mTLS proxy for hazelcast server)	☐
9093/tcp	APP	nginx (mTLS proxy for worker-management service)	☐
9073/tcp	APP, RPA, BEP Agent	nginx (mTLS for AutoML gateway-service)	☐
9075/tcp	APP	nginx (mTLS proxy for AutoML model-service)	☐
9076/tcp	APP	nginx (mTLS proxy for AutoML model-management-service)	☐
9702/tcp	APP, BEP Agent,RPA	hazelcast server communication port	☐
Destination server: BEP Agent			
5051/tcp	APP, BEP Agent	mesos-slave	☐
32768-61000/tcp+udp	APP	mesos-slave, filebeat, heartbeat, metricbeat	☐

22/tcp	APP	SSH	☐
Destination server: RPA			
8443/tcp	APP	nginx (proxy for RPA hub)	☐
5986/tcp	APP	WinRM	☐
3389/tcp	APP	RDP	☐
Destination server: BI			
80, 443/tcp	all	Apache (proxy for Tableau Web Interface)	☐
5986/tcp	APP	WinRM	☐
Destination server: MS SQL			
1433	all	MS SQL	☐
Destination server: OCR			
8443/tcp	APP	nginx (proxy for OCR rest API)	☐
22/tcp	APP	SSH	☐

For HA setup and update from earlier versions

Port to open	Source server	Service name	Open (yes/no)
Destination server: APP			
80, 443/tcp	all	HAProxy (proxy for Control Tower, Workspace, bot-manager, AutoQC, Nexus, Minio, Tinymce, Kibana)	☐
8443/tcp	APP, INT	nginx (proxy for Control Tower, Workspace, bot-manager, AutoQC, Nexus, Minio, Tinymce, Kibana)	☐
8202/tcp	all	HAProxy (proxy for Vault)	☐
4084/tcp	APP	nginx (mTLS proxy for SQC)	☐
22/tcp	APP	SSH	☐
Destination server: INT			
8443/tcp	APP	nginx (proxy for Nexus, Minio and RabbitMQ api)	☐
8200/tcp	APP	Vault (secure store)	☐
45672/tcp	APP	nginx (proxy for RabbitMQ api)	☐
5672/tcp	all	RabbitMQ queue	☐
2181/tcp	all	zookeeper	☐
4567-4571/tcp, 15072/tcp	all	logstash	☐
9200/tcp	APP, INT	ElasticSearch	☐
9092/tcp	BEP Master, APP	nginx (mTLS proxy for task dispatcher service)	☐

22/tcp	APP	SSH	☐
Destination server: OCR			
8443/tcp	APP	nginx (proxy for OCR rest API)	☐
22/tcp	APP	SSH	☐
Destination server: BEP			
8480/tcp	APP, BEP Agent	nginx (proxy for marathon)	☐
5050/tcp	APP, BEP Agent	mesos-master	☐
32768-61000/ tcp+udp	BEP Agent, INT	mesos-master, filebeat, heartbeat, metricbeat	☐
111/tcp+udp	BEP Agent	NFS	☐
2049/tcp+udp	BEP Agent	NFS	☐
20048/ tcp+udp	BEP Agent	NFS	☐
22/tcp	APP	SSH	☐
9063/tcp	APP	nginx (mTLS proxy for hazelcast server)	☐
9093/tcp	APP	nginx (mTLS proxy for worker-man- agement service)	☐
9073/tcp	APP, RPA, BEP Agent	nginx (mTLS for AutoML gateway-ser- vice)	☐
9075/tcp	APP, BEP Master	nginx (mTLS proxy for AutoML model- service)	☐
9076/tcp	APP, BEP Master	nginx (mTLS proxy for AutoML model- management-service)	☐
9702/tcp	APP, BEP Mas-	hazelcast server communication port	☐

	ter, BEP Agent,RPA		
Destination server: BEP Agent			
5051/tcp	BEP Master, BEP Agent	mesos-slave	☐
32768-61000/ tcp+udp	BEP Master, INT	mesos-slave, filebeat, heartbeat, met- ricbeat	☐
22/tcp	APP	SSH	☐
Destination server: RPA			
8443/tcp	APP	nginx (proxy for RPA hub)	☐
5986/tcp	APP	WinRM	☐
3389/tcp	APP	RDP	☐
Destination server: BI			
80, 443/tcp	all	Apache (proxy for Tableau Web Inter- face)	☐
5986/tcp	APP	WinRM	☐
Destination server: MS SQL			
1433	all	MS SQL	☐

Destination server: INT			
2888,3888/tcp	INT	Zookeeper cluster services	☐
4369,25672/ tcp 35672-35682/ tcp	INT	RabbitMQ discovery services	☐

9300	INT	Elasticsearch cluster services	☐
Destination server: APP (WF Control Tower)			
80, 443/tcp	LB	Control Tower, Workspace, Bot Manager, AutoQC, Nexus, Minio, Kibana, OCR, Mesos, Marathon, RabbitMQ	☐
8202/tcp	LB	Vault	☐
Destination: Load balancer			
80/tcp	all	Control Tower, Workspace, Bot Manager, AutoQC, Nexus, Minio, Kibana, OCR, Mesos, Marathon, RabbitMQ	☐
443/tcp	all	Control Tower (mTLS), Bot Manager (mTLS), Task Dispatcher Service, Worker Management Service, AutoML Gateway Service, AutoML Model Service, AutoML Model Management Service, AutoQC, Nexus, Minio, Kibana, OCR, Mesos, Marathon, RabbitMQ	☐
8202/tcp	all	Vault	☐

Additional ports for external NFS server

Open the following ports on the specified servers, if you use an external NFS.

Port to open	Source server	Service name	Open (yes/no)
APP			
111/tcp+udp	all	NFS	☐
2049/cp+udp	all	NFS	☐

Additional ports for Mesos and Marathon

Open the following ports on the operators' workstations.

Port to open	Source server	Service name	Open (yes/no)
Operators' workstations			
5050	APP	Mesos-master	☐
5051	BEP Agent	Mesos-agent	☐
8480	APP	Mesos-master	☐