

# System Requirements

The following sections describe the minimum and recommended configurations for an AtScale installation, as well as its ingress and egress requirements.

## System Requirements

The following sections describe the minimum system requirements and recommended configuration for an AtScale installation. If you are installing AtScale in a production environment, you should refer to the recommended configuration.

### Minimum Requirements

The following are required for a minimum AtScale installation.



**Note:** If you are installing AtScale in a production environment, you should use the recommended requirements described in the next section.

Property	Requirements
Cluster	Three-node cluster
RAM	64 GB
CPU	12 main cores (24 hyperthreaded)
Disk	<p>128 GB where the built-in telemetry services can store data. Alternatively, these streams can be stored in an S3 bucket.</p> <p>128 GB for the internal database.</p> <p>128 GB for caching.</p>

### Recommended Configuration

The following are recommended to install AtScale in a production environment.

Property	Requirements
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Cluster	Three-node cluster
RAM	128 GB
CPU	32 main cores (64 hyperthreaded)
Disk	<p>256 GB where the built-in telemetry services can store data. Alternatively, these streams can be stored in an S3 bucket.</p> <p>256 GB for the internal database.</p> <p>256 GB for caching.</p>

## Ingress Ports

The AtScale services require the following ports. These should be reserved for use by AtScale alone.

Port	Service	Path	Handled by	Purpose
443	Engine	/engine	Engine	Internal
443	XMLA	/engine/xmla	Engine	Microsoft Excel, Microsoft Power BI
443	API	/api	API	API / Public API
443	Web UI	/	WebUI	UI
443	Observability Dashboarding	/monitoring	Observability Dashboarding	Monitoring, dashboarding
443	Identity Broker	/auth	Identity Broker	Authentication / authorization
443	Object Store (optional)	/minio	Object Store	S3

443	Secrets Broker (optional)	/vault	Secrets Broker	Secret Storage
1111	Thrift		Engine	Thrift protocol for BI tools
15432	Pgwire (SQL) Interface		Engine	SQL Protocol for BI Tools

## Egress URIs

AtScale uses the following URIs for outbound data.

URI	Purpose
license-prod-us.atscaleservices.com	License validation checks
billing-prod-us.atscaleservices.com	Usage data