

Course Guide

IBM Aspera Console Administration

Course code WT012 / ZT012 ERC 1.0



April 2020 edition

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Course description

IBM Aspera Console Administration

Duration: 1 day

Purpose

This course is intended to teach the necessary knowledge and skills to install, configure, and use the IBM Aspera Console to manage an Aspera environment.

Audience

This course is intended for administrators of IBM Aspera Console.

Prerequisites

- Successful completion of the WT011G or ZT011G course.

Objectives

- Identify the key features of IBM Aspera Console
- Explain the function of the processes of Aspera Console
- Install and configure Aspera Console
- Add managed and unmanaged nodes to Aspera Console
- Define and use both simple and smart transfers
- Create and run standard and custom reports
- Perform basic maintenance tasks

Agenda



Note

The following unit and exercise durations are estimates, and might not reflect every class experience.

Day 1

- (00:15) Course introduction
- (00:30) Unit 1. Overview of IBM Aspera Console
- (00:30) Unit 2. IBM Aspera Console Architecture
- (00:45) Unit 3. Installing and configuring IBM Aspera Console
- (01:00) Exercise 1. Installing and configuring IBM Aspera Console
- (00:45) Unit 4. Adding and configuring Console nodes
- (00:45) Exercise 2. Adding and configuring Console nodes
- (00:30) Unit 5. Managing Console users and groups
- (00:30) Exercise 3. Managing Console users and groups
- (00:45) Unit 6. Creating and managing Console transfers
- (00:45) Exercise 4. Creating and managing Console transfers
- (00:25) Unit 7. Configuring and generating Console reports
- (00:20) Exercise 5. Configuring and running Console reports
- (00:30) Unit 8. Basic Console maintenance tasks

Unit 1. Overview of IBM Aspera Console

Estimated time

00:30

Overview

This unit provides an introduction to the features of the IBM Aspera Console application.

Unit Objectives

- Identify the primary features and benefits of IBM Aspera Console
- Outline the kinds of information that is provided in the Console tabs

[Overview of IBM Aspera Console](#)

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Figure 1-1. Unit Objectives

Topics

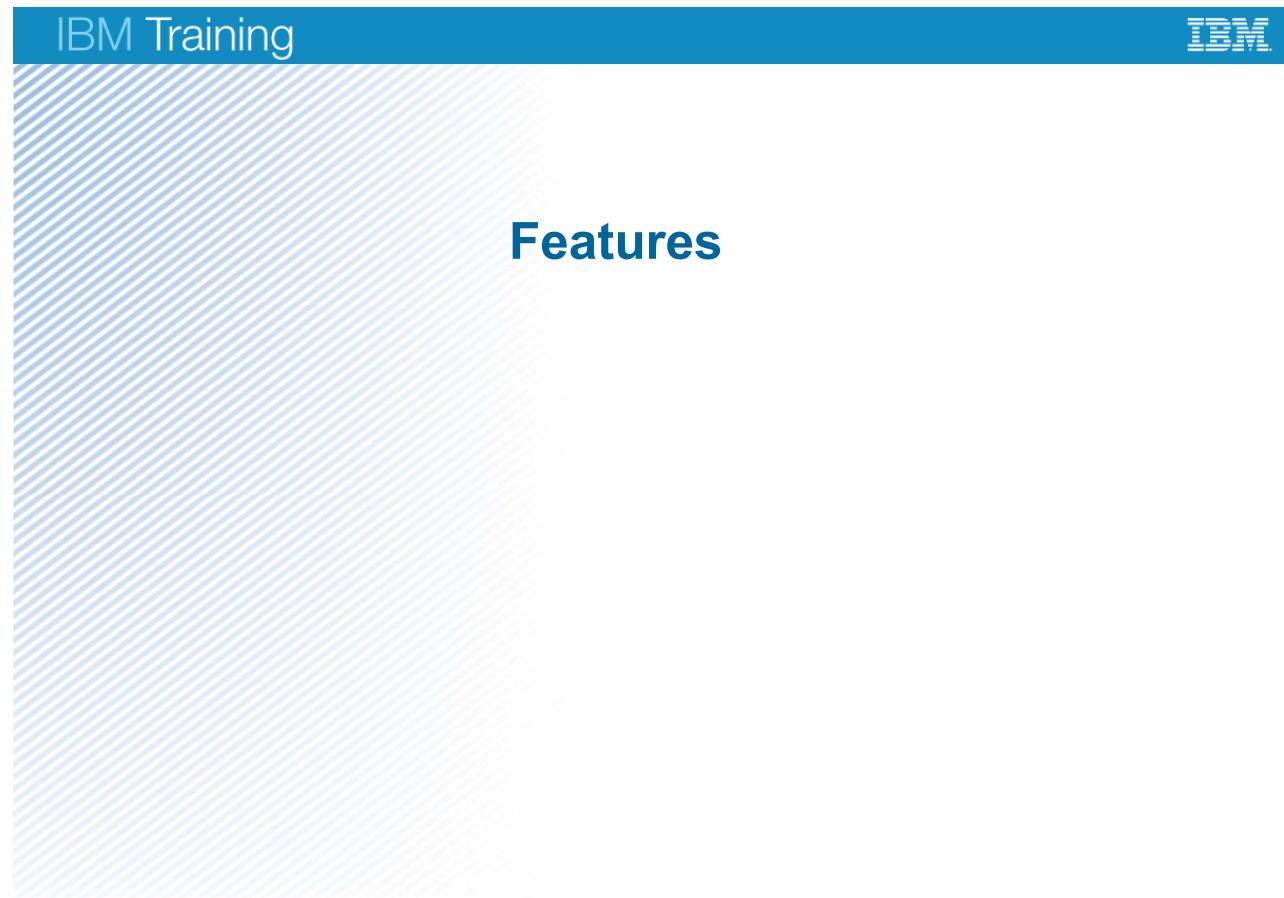
- Features
- Application pages

Overview of IBM Aspera Console

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Figure 1-2. Topics

1.1. Features



Overview of IBM Aspera Console

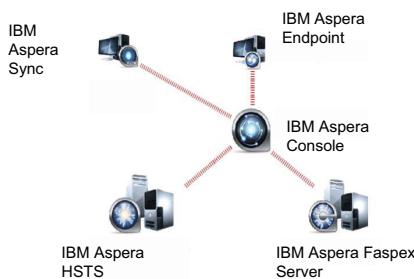
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Figure 1-3. Features

Key features

- Centralized management of Aspera environment
- Web-based application accessible from standard browser
- Support on multiple operating systems
- Automated or ad-hoc transfers between nodes
- Configuration of all managed Aspera nodes
- Centralized transfer history database with backup and purging
- Customizable reporting engine with user-defined reports
- Support for SAML and Directory Services
- Failover & load balancing for Console-based transfers

FEATURES



[Overview of IBM Aspera Console](#)

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Figure 1-4. Key features

IBM Aspera Console is a web-based application that provides centralized management of the entire Aspera environment.

Aspera Console is available for multiple operating systems such as Microsoft Windows, Linux, and Mac OS., and provides monitoring and management of Aspera nodes, such as IBM Aspera High-Speed Transfer Server, IBM Aspera High-Speed Endpoint, and IBM Aspera Shares.

Aspera Console collects the transfer statistics in a MySQL database, along with the configuration details of each managed node.

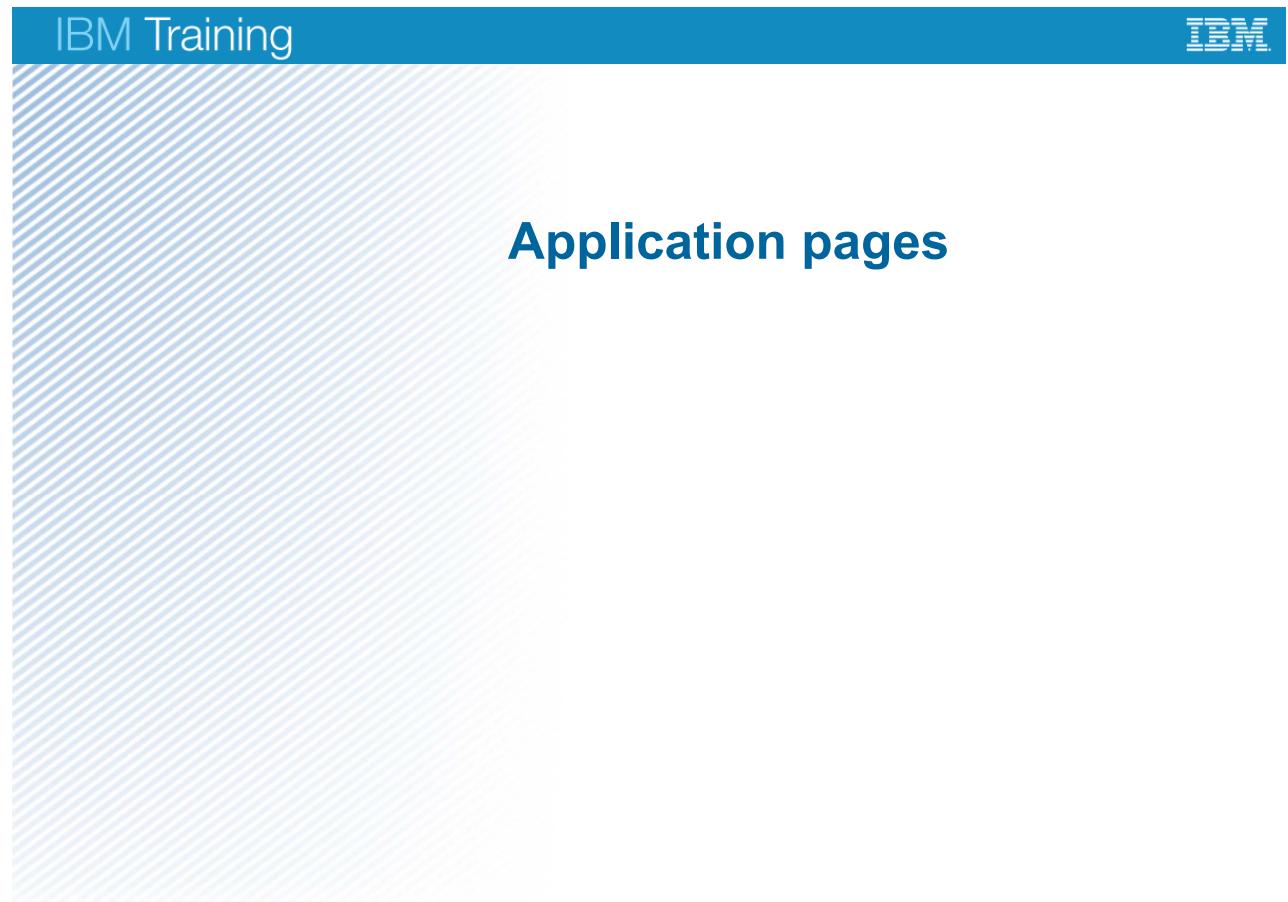
This stored data is used to create meaningful reports so organizations can assess their transfer performance and loads across the entire organization.

Aspera Console can initiate transfers between Aspera transfer servers on demand and as scheduled transfers for regular exchange of files. IBM Aspera Console can remotely monitor, initiate, and control transfers in near real time to make sure that high-priority content is delivered on time

Aspera Console can be configured to perform load balancing and transfer server failover when managing file transfers and even multiple Console servers can be implemented within the Aspera transfer environment. Additionally, if Console becomes unavailable for any reason, transfer statistics are maintained on each transfer server (up to 24 hours). After Console is available, these

statistics are collected, thus minimizing the possibility of lost transfer statistics, even when Console is down!

1.2. Application pages



Overview of IBM Aspera Console

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Figure 1-5. Application pages

The next few pages present the main pages from the Console application. These main pages provide access to configuration details for various tasks.

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Dashboard overview

Real-time monitoring of enterprise-wide transfer activity



- Web-based application
- Centralized view of all managed nodes
- Tabular view of all transfer activity
- Secure connections to node available
- Map view of managed nodes
- Graphical view of bandwidth usage

Overview of IBM Aspera Console

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Figure 1-6. Dashboard overview

The Dashboard page provides an overview of all transfer activities and the status of nodes for which you have monitoring permissions. Dashboard gives continuous updates and helps identify transfer and node problems.

The transfer monitoring includes:

- Current transfers in process
- Scheduled transfers
- Recent transfers
- Transfers that experience problems
- A map view of managed nodes which can indicate transfers between nodes and node problems
- Bandwidth usage between nodes

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Activity overview

Individual transfer status & performance

The screenshot shows the Aspera Console interface with the 'Activity' tab selected. On the left, there's a sidebar with search filters: 'Search by:' (Name, File name, Contact), 'History' (Past hour, Scheduled, Status: All), 'Search' (File name start), and 'advanced...'. The main area displays a table of completed transfers under the 'Past' section. The columns are NAME, DETAILS, START, END, STATUS, AVG RATE, and ACTIONS. The data is as follows:

NAME	DETAILS	START	END	STATUS	AVG RATE	ACTIONS
newspapersubway720.gft	root (beh), 127.0.0.1 to node	9:27pm	9:27pm	Completed	9.4 Mbps	
RHDSsetup.log	→ /data/v root (beh), nodes.aspera.us	9:18pm	9:18pm	Completed		
RHDSsetup.log	→ /data/v root (beh), nodes.aspera.us	9:15pm	9:15pm	Completed		

Details available per entry

Overview of IBM Aspera Console

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Figure 1-7. Activity overview

The Activity page lists all transfers on all managed nodes. You can narrow down the list of transfers with filters and access a transfer's session detail page.

The Current page lists all currently active transfers, including running and queued transfers. The Past page shows previous transfers, including those transfers that were completed, canceled, or those that generated errors.

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Accounts overview

Manage user and group accounts

LOGIN	NAME	EMAIL	DIRECTORY	TIME ZONE	ACTIVE	ADMIN	ACTIONS
conadmin	conadmin@training.net	Local Database	Pacific Time (US & Canada)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	edit	permissions

Overview of IBM Aspera Console

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Figure 1-8. Accounts overview

The Accounts page lists the user accounts and provides links to create and manage new user and group accounts.

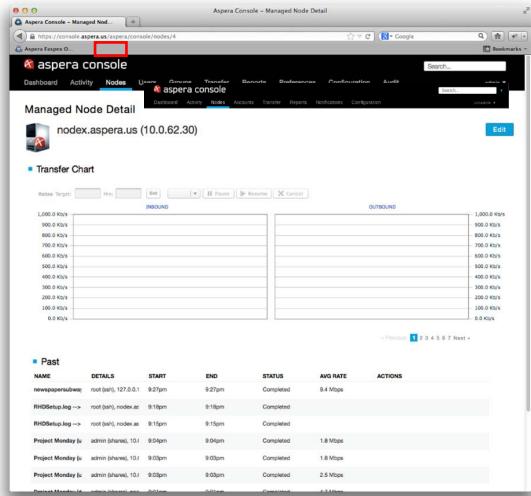
The Accounts page also provides links to integrate LDAP and SAML services with Console.

- Define transfer settings & authorization policies by user
- Manage policies by user group (AD, Windows, Linux)



Nodes overview

Configure nodes



Add and remove nodes

Modify configuration of managed nodes

- Bandwidth
- User accounts
- Server-side settings
- Configure Vlinks

Overview of IBM Aspera Console

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Figure 1-9. Nodes overview

In Console, a *node* is a computer where an Aspera product is installed, and is enabled to make transfers. A node can be a managed node or an unmanaged node.

The Nodes page lists the managed nodes, and provides a link to view and create unmanaged nodes.

The transfers to or from a specific node can be accessed from this page.

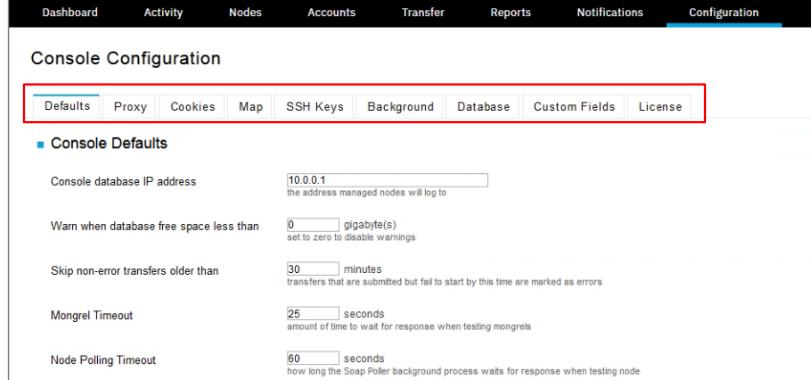
Each node that is listed has links that lead to the node's configuration details and a link to delete the node from Console configuration.

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Configuration overview

Manage Console application-wide parameters



Console Configuration

Defaults **Proxy** **Cookies** **Map** **SSH Keys** **Background** **Database** **Custom Fields** **License**

Console Defaults

- Console database IP address: the address managed nodes will log to
- Warn when database free space less than: gigabyte(s)
set to zero to disable warnings
- Skip non-error transfers older than: minutes
transfers that are submitted but fail to start by this time are marked as errors
- Mongrel Timeout: seconds
amount of time to wait for response when testing mongrels
- Node Polling Timeout: seconds
how long the Soap Poller background process waits for response when testing node

Defaults

Configure details of Console configuration

SSH Keys

Store SSH keys required for node access

Background

Manage background Console processes

Database

Perform backups and purges

Overview of IBM Aspera Console

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Figure 1-10. Configuration overview

The Configuration page facilitates the configuration of the Console system. This page presents links to numerous other pages used for configuring system-wide parameters for Console.

The Defaults page is used to configure the details of how Console operates.

The SSH Keys page enables the location of SSH private keys that are stored on various nodes to be used for Console-based transfers.

The various processes implemented as part of the Console application can be managed from the Background page.

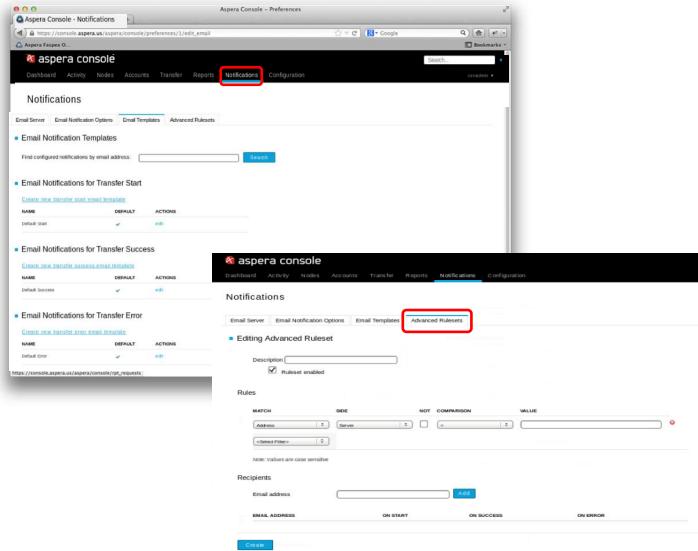
Console provides a backup utility and a purge function for removing entries from MySQL database, which are accessed from the Database page.

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Notifications overview

Define email notification parameters



The screenshot shows the 'Notifications' section of the Aspera Console preferences. It includes:

- Email Notification Templates:** A list of configured notifications for Transfer Start, Transfer Success, and Transfer Error.
- Advanced Rulesets:** A section titled 'Editing Advanced Ruleset' with fields for Description and Rules. The 'Rules' table has columns for MATCH, MODE, NOT, COMPARISON, and VALUE. An example row shows 'ADDRESS' as the match field and 'Server' as the mode.
- Recipients:** Fields for Email address, ON START, ON SUCCESS, and ON ERROR.

- **Default templates**
- **Customize as needed**
- **Triggered by events**
 - Transfer starts
 - Successful transfer completes
 - Error conditions
- **Associate by nodes or by transfer paths**
 - Specific sources or destinations
 - Activity types (start, completion, error)

Overview of IBM Aspera Console

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Figure 1-11. Notifications overview

As a management application, Console monitors enterprise-wide transfers and can send emails to designated email addresses when trigger events occur. Trigger events can be defined as transfer starts, successful transfers, or transfer problems. The Notifications page leads to the configuration parameters for identifying an SMTP email server and defining triggers events and actions. Custom rules can be defined to send emails to specific individuals when specific events occur involving specific nodes.

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Transfer overview

Manage & automate transfers

The screenshot shows the Aspera Console Transfer page. At the top, there's a navigation bar with links for Dashboard, Activity, Nodes, Accounts, Transfer (which is highlighted with a red box), Reports, Notifications, and Configuration. Below the navigation is a search bar. The main content area has two main sections: 'Start a Simple Transfer' and 'Create a New Smart Transfer'. Under 'Start a Simple Transfer', there's a brief description and a 'Simple Transfer' button. Under 'Create a New Smart Transfer', there's a brief description and a 'New Smart Transfer' button. At the bottom, there's a table titled 'Saved Smart Transfers' with columns for NAME, OWNER, START TYPE, SHARED, and ACTIONS. A 'Type to filter' input field is also present.

- **Simple (ad-hoc) transfers**
Browse nodes
Initiate transfer from any source to any destination
- **Smart transfers**
Automated distribution
Single or multi-point distribution
Fine-grained scheduling of repeating transfers

Overview of IBM Aspera Console

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Figure 1-12. Transfer overview

IBM Aspera Console can be used to initiate transfers between nodes when the Console user has the permission to start transfers.

Console provides two types of transfer methods: simple transfers and smart transfers. Simple transfers are one-time transfer sessions that require entering all transfer information. Smart transfers are reusable templates with saved transfer settings.

Creating and initiating transfers are initiated from the Transfer page.

In addition to providing access to creating transfers, the Transfer page also lists all previously created transfers, enabling the ability to rerun transfers without having to completely redefine them.

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Reports overview

Create simple or advanced reports

The screenshot shows the Aspera Console Reports page. At the top, there's a navigation bar with links for Dashboard, Activity, Nodes, Accounts, Transfers, Reports (which is highlighted with a red box), Notifications, and Configuration. Below the navigation is a search bar. The main area displays a table of 'Scheduled and Recently Run Reports' with columns for Name, User, Status, Rows, and Actions. A modal window titled 'Create New Report Type' is open, prompting the user to enter a Name ('Marketing Transfers') and Description ('All transfers from the Marketing Group'). It also asks how to organize the report and lists available columns for selection.

- Library of built-in reports
- Flexible scheduling
- Distributed via email
- Custom fields and tags

Overview of IBM Aspera Console

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Figure 1-13. Reports overview

One of the primary features of Console is the creation of reports about transfers from all of the Aspera servers that are configured in Console.

Console includes several basic report templates that represent the most common requirements for Aspera deployments. The Reports page lists configured reports, and provides links for creating new basic reports and advanced reports that are written in SQL for completely custom data extraction.

What you learned

- Consolidated, single-point management of your Aspera network
- Remote monitoring, ability to initiate and control transfers in near real-time
- Centralized node and user management
- Comprehensive transfer history database which can be extracted through an easy-to-use reporting engine
- Open architecture for integration with business process management and content transformation tools
- HA solutions available

[Overview of IBM Aspera Console](#)

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Figure 1-14. What you learned

Unit summary

- Identify the primary features and benefits of IBM Aspera Console
- Outline the kinds of information that is provided in the Console tabs

[Overview of IBM Aspera Console](#)

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Figure 1-15. Unit summary

Unit 2. IBM Aspera Console Architecture

Estimated time

00:30

Overview

This unit discusses the various processes that perform tasks within IBM Aspera Console.

Unit objectives

- Identify the communication channels between Aspera Console and Aspera nodes
- Outline the deprecated behavior of earlier versions of Console
- Describe the role of the Console background processes
- Explain why Aspera Console requires mongrels

Topics

- Console communication channels
- Deprecated operations
- Console processes

IBM Aspera Console Architecture

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Figure 2-2. Topics

2.1. Console communication channels

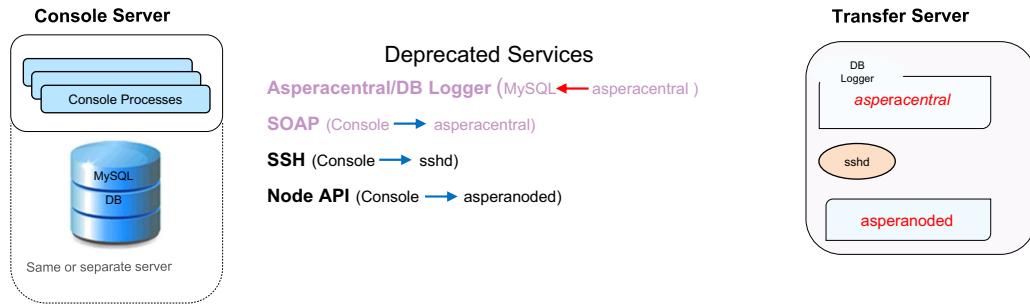
Console communication channels

IBM Aspera Console Architecture

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Figure 2-3. Console communication channels

Console communication channels



Transfer Servers prior to version 3.5.5 are “legacy” systems
 Upgrading existing Console environments will support existing legacy systems
 No new legacy systems may be added following the upgrade!
 Conversion process detailed in IBM Aspera Console Administration Guide

Figure 2-4. Console communication channels

Aspera Console version 3.0 and later is designed to utilize the **asperanoded** process for most communication with transfer servers. However, depending upon the version of Aspera software the transfer server is running, communication may be directed to the **asperacentral** process, rather than **asperanoded**. Console 3.0 and later is designed to function with Aspera server version 3.5.5 or later. However if an exiting Console environment contains nodes running older versions of Aspera Transfer Server, those transfer servers will be still be supported by newer versions of Console as “legacy” servers.

Console version 3.0 and later communicates with transfer servers by using Node API commands over HTTP. The **asperanoded** service on each node listens for those Node API requests. Legacy servers connect with Console via **asperacentral** and **DB Logger** services. The **asperacentral** and **DB Logger** functions are considered to be deprecated in Console version 3 and later.

If legacy transfer servers exist when Console is upgraded to version 3.0 or later, the existing legacy systems will continue to function using the **asperacentral** connection. However, no new legacy transfer servers can be added to the environment, meaning that any new transfer servers must be running Aspera Transfer Server version 3.5.5 or later.

If your environment includes legacy systems, the Converting Legacy Nodes section of the IBM Aspera Console Administration Guide addresses the process for converting the legacy nodes.

2.2. Deprecated operations

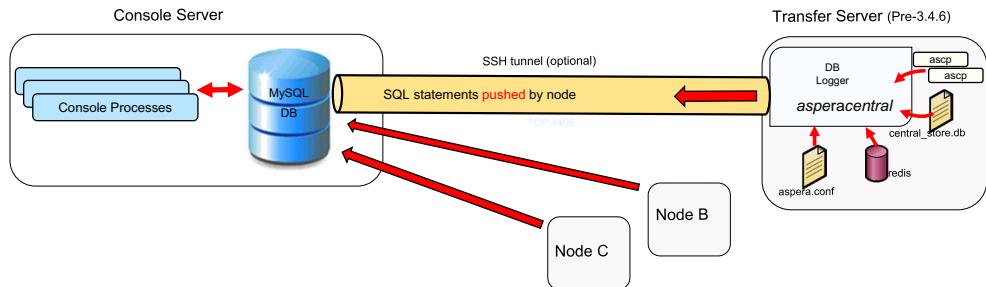
Deprecated operations

IBM Aspera Console Architecture

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Figure 2-5. Deprecated operations

DB Updates - asperacentral and DB Logger (deprecated)



DB Logger generates SQL statements

Default port: 4406

SQL statements “pushed” to Console database

Authorization by MySQL

Can be tunneled over SSH (allows nodes to log to Console through firewalls and NAT)

Transfer details lost if MySQL unavailable

Server can push data to only 1 Console

Supported by Console 3.x as
“legacy” transfer server

No “new” legacy nodes allowed

IBM Aspera Console Architecture

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Figure 2-6. DB Updates - asperacentral and DB Logger (deprecated)

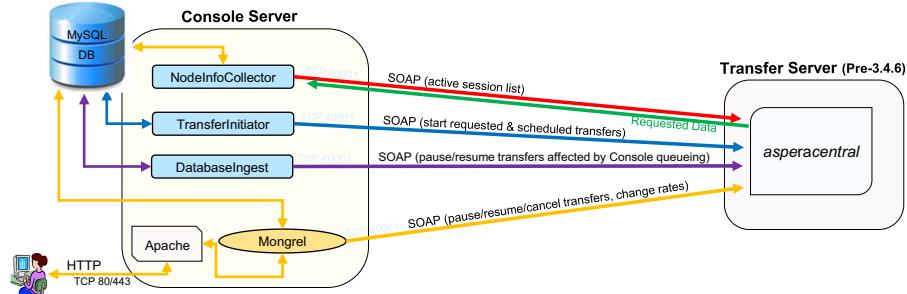
When Console software is upgraded, transfer servers that run older versions of Aspera software are allowed, but they are treated as legacy servers. Legacy servers do not support Node API so the **asperacentral** service is responsible for pushing data to the MySQL server on Console, connecting on TCP port 4406. The **asperacentral** service includes a special routine known as DB Logger, which is responsible for generating SQL statements that reflect the transfer metrics on the node, and sending them to the designated MySQL database. Because updates sent to the MySQL database are initiated by the Aspera transfer server, SSH tunnels might be required to ensure proper access to the server where the MySQL database is located.

Due to the fact that legacy servers push their data to the MySQL database, there are some issues to consider when legacy transfer servers are included in the managed environment.

First, if the Console server is unreachable by the transfer server for an extended amount of time (typically 24 hours or longer), the transfer details normally sent by the transfer server might not be entered into Console’s database.

Legacy transfer servers can only connect with a single instance of a MySQL database. So if the database is unreachable, there is no alternative for sending the data.

Managing transfers: SOAP for data collection (deprecated)


NodeInfoCollector

Retrieves current active session count

TransferInitiator

Initiates simple/smart transfers

DatabaseIngest

Pauses/resumes transfers affected by Console queueing feature

Mongrel

Pauses/resumes/cancels transfers, changes transfer rates & policies

IBM Aspera Console Architecture

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Figure 2-7. Managing transfers: SOAP for data collection (deprecated)

Different background processes within Console provide the mechanisms for retrieving data and performing various tasks on the transfer server.

When legacy systems are deployed:

- SOAP is used by *NodeInfoCollector* to retrieve a list of currently active sessions on the transfer server, which is written to the database
- The *TransferInitiator* process uses SOAP to start active transfer requests and scheduled transfer requests
- The *DatabaseIngest* process may contact a transfer server to pause or resume transfers that are subject to queueing by the Console
- Mongrels utilize SOAP requests to manage transfers initiated by users, including pausing, resuming, or canceling transfers, as well as changing the default transfer rates

2.3. Console processes

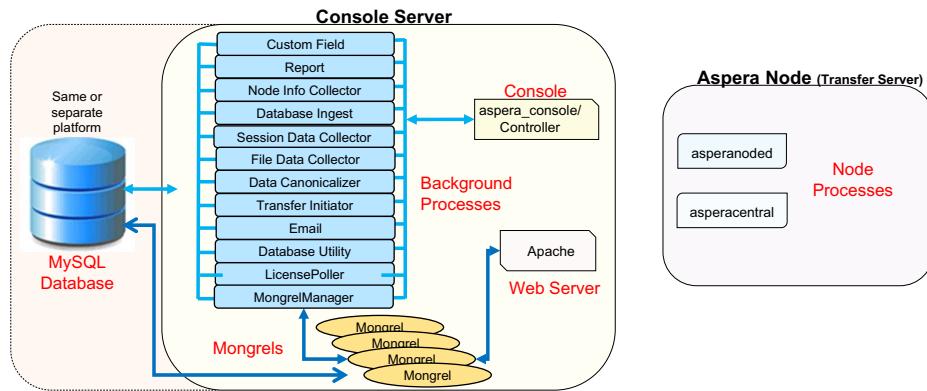
Console processes

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Figure 2-8. Console processes

Aspera Console components



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Figure 2-9. Aspera Console components

Aspera Console is utilizes several different components, as indicated on the overhead.

MySQL Database

Data collected from Aspera nodes is stored in a MySQL database that may be installed on the same server as the Console software, or on a completely separate server. The MySQL database is installed during the Aspera Console installation process, and includes numerous tables summarizing node configuration and transfer data.

Apache Web Server

The Aspera Console installation process also installs the Apache web server software. The Apache web server is needed to present the Aspera Console application to users. However, Aspera Console is a Ruby web application, and Apache cannot serve Ruby web applications directly. While Apache cannot serve Ruby applications directly, it can act as a reverse proxy/load balancer to forward an incoming HTTP request to another server, which also understands HTTP.

Mongrel

Mongrel is an open-source software HTTP library and web server. It is used to run Ruby web applications and presents a standard HTTP interface. Mongrel's HTTP interface can receive requests from the Apache web server to start Ruby-based applications. The output of the application is returned to Apache, which can then forward it to the requesting user.

Each mongrel process can only handle 1 request concurrently (but it is extremely fast at performing that single request). While a single mongrel process can perform a large number of tasks in a relatively short time, they are performed serially, meaning that a single mongrel process represents a potential bottleneck for performance. Additionally, if more than 1 request to the same Ruby application needs to be handled concurrently, another mongrel process must be available. By default, Aspera Console invokes 4 instances of mongrel processes at startup, but may be configured for more, if needed.

Console

Aspera Console is a dynamic web application developed in Ruby that utilizes and manages data stored in the MySQL database. The *aspera_console* process (also known as the Controller) is responsible for starting and monitoring all the other background processes needed to perform various tasks of Console.

Background Processes

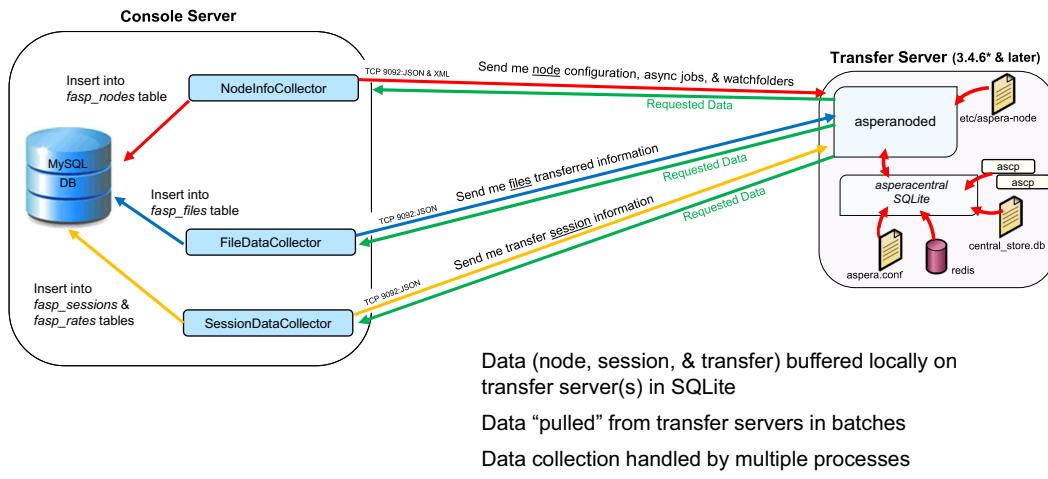
There are numerous tasks that must be performed within the Console application, and these tasks are typically handled by specific processes running on the Console server. Some of these processes collect raw data from the Aspera transfer servers and update the MySQL database, some process the raw data inserted into the database into more refined data that is used by yet other processes. Details about the function of the Console background processes are presented later in this module.

Node Processes

Aspera transfer servers that will be part of a Console environment must have a means of communicating with the Console application. The transfer server processes that interact with Console are **asperanoded** (Node API) or **asperacentral**.

The communication between Aspera Console and the Aspera transfer server processes (**asperanoded** and **asperacentral**) varies, depending upon the version of software running on both the Console server and the transfer server.

DB updates: Node API



No data loss if MySQL unreachable (up to 24 hours)

Multiple Consoles

No need for SSH tunnels

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Figure 2-10. DB updates: Node API

The mechanism for updating the Console MySQL database was altered beginning with Console 3.0, moving to a pull approach for collecting transfer data from the transfer servers. Prior to Console version 3.0, all MySQL database updates were performed as described for the legacy servers. Beginning with Console version 3.0, the MySQL database is updated using Node API, meaning that a process on the Console server periodically contacts the **asperanoded** process running on transfer servers over the default TCP port 9092. Requested information is sent by the transfer server and the *NodeInfoCollector* process updates the *fasp_nodes* table of the MySQL database with the received data. Requests by *NodeInfoCollector* are usually in JSON format, with responses commonly provided in XML format. The data that is requested (node, session, and file transfers) is buffered on the transfer server within a SQL Lite database, and extracted in response to the incoming requests from Console.

The data sent back to the *NodeInfoCollector* process may include the node’s configuration data, information about sync jobs, and data associated with configured watchfolders. Transfer data is requested by other processes running on the Console server.

Specifically, information about the files transferred to and from the transfer server are requested by the *FileDataCollector* background process on the Console server, which in turn updates the *fasp_files* table in the MySQL database. Data about the transfer sessions on the transfer server are provided in response to a request by the *SessionDataCollector* process, which then updates the *fasp_sessions* and *fasp_rates* tables of the database.

The use of Node API (**asperanoded**) rather than **asperacentral** provides a much more robust environment.

Because data is pulled from the transfer servers in batches, the amount of round-trip network exchanges is reduced, improving scalability (particularly when many files are involved in the transfer).

Because data is provided in response to specific requests from Console rather than the transfer server initiating the connection, more than one instance of Console can poll the transfer servers.

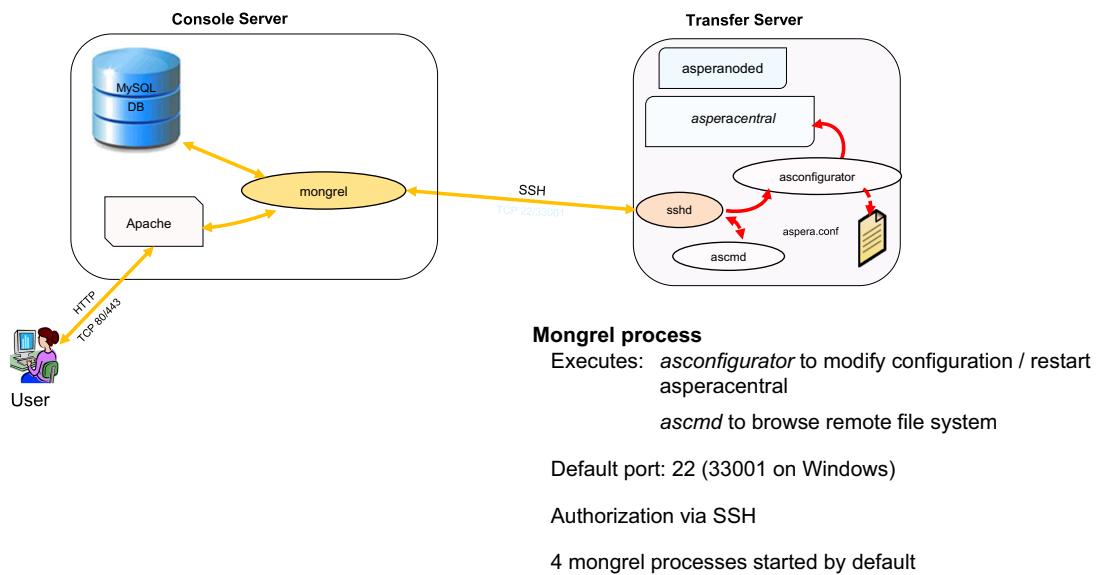
Node API is a more secure method for working with nodes, so SSH tunneling is not required.

Also, separating data collection across multiple processes minimizes the possibility of transfer status updates being delayed by file records waiting to enter the database.

SSH: Browsing filesystem & remote configuration

Access account with administrative permissions
Uses SSH to authenticate and log in

Used to view and modify node directories and configuration parameters
Mongrel receives request from MySQL and initiates SSH



IBM Aspera Console Architecture

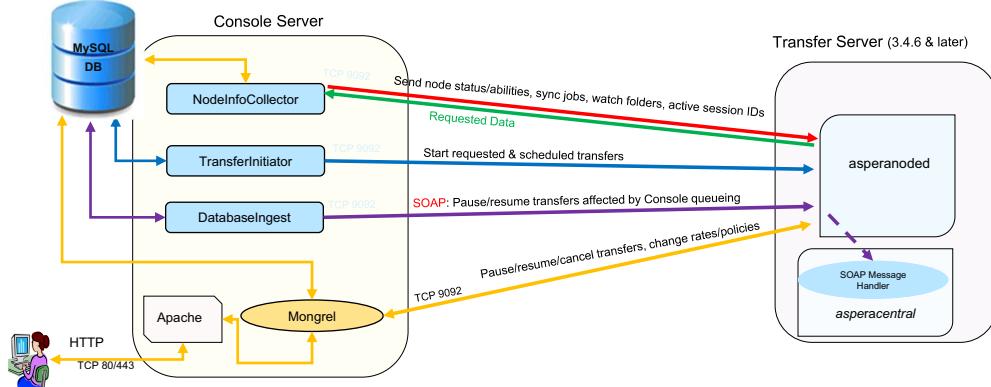
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Figure 2-11. SSH: Browsing filesystem & remote configuration

When an administrator needs to browse or configure a managed transfer server, the user interacts with Apache, which in turn invokes mongrel to perform the tasks. Each mongrel instance can only perform one task at a time, but it performs the task extremely fast. So, a single instance of mongrel may be able to perform a thousands of tasks in a very short time. However, if multiple tasks need to be performed simultaneously, multiple instances of mongrel must be available. By default, Console invokes 4 instances of mongrel to avoid potential bottlenecks and to ensure high performance.

When an administrator wants to view or configure a managed transfer server, mongrel is used to establish an SSH connection with the transfer server and perform the requested task by invoking the **ascmd** command (for browsing) or the **asconfigurator** routine (for configuring) on the managed transfer server. Any changes made to a transfer server's configuration will be reflected in the responses provided when the transfer server is polled for information by the Console background processes.

Managing transfers: Node API



NodeInfoCollector

Retrieves node status & capabilities, summaries of sync jobs, watch folders & active session IDs

TransferInitiator

Watches DB for transfers to submit

DatabaseIngest

Pause/resume transfers affected by Console queueing

Mongrel

Pauses/resumes/cancels transfers, changes transfer rates & policies

Configures watch folders, retrieves data for interactive display & details of sync jobs

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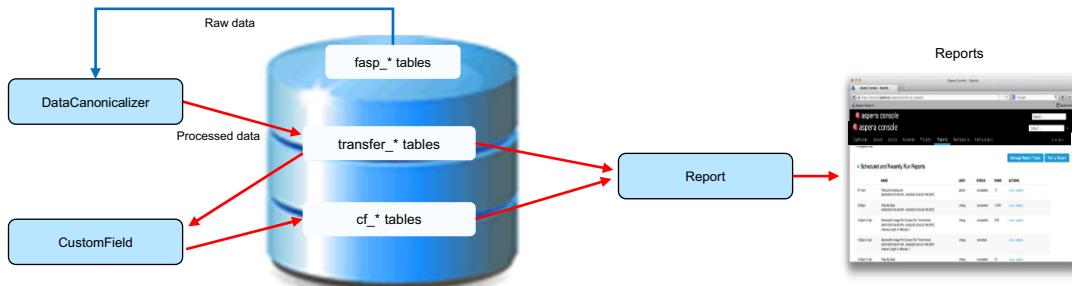
Figure 2-12. Managing transfers: Node API

When interacting with transfer servers running Enterprise/Connect Server software version 3.5.5 or higher (version 3.4.6 if updated with the appropriate patch), Console uses Node API (connecting with **asperanoded** on the transfer server) over TCP port 9092 to perform the tasks that are handled by SOAP on legacy systems.

Notice that the *DatabaseIngest* process still utilizes SOAP to manage Console queued transfers, but the connection is via **asperanoded**, not **asperacentral**. The **asperanoded** process communicates with the SOAP Message Handler library within **asperacentral** to perform the requested actions.

Also note that in addition to pausing/resuming/cancelling transfers and setting transfer rates and policies, *mongrel* also uses Node API to configure watch folders on the transfer server and retrieves data regarding the details of sync jobs.

Report generation



DataCanonicalizer

Cross-references & indexes raw transfer data from transfer_* tables to support report generation

CustomField

Calculates custom field values for reporting

Report

Retrieves data from processed tables to generate requested reports

Figure 2-13. Report generation

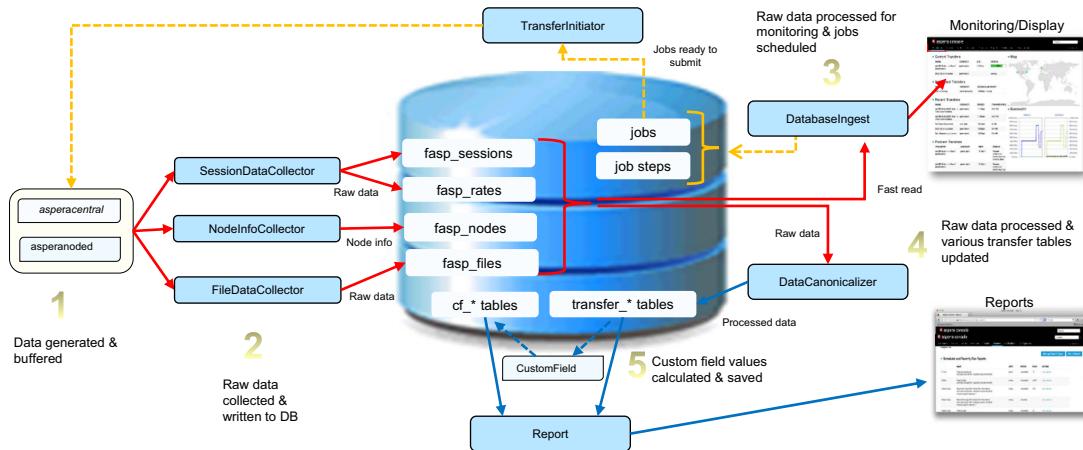
One of the more common reasons for implementing Console is its reporting capabilities. Console collects data from all the servers it manages, providing a centralized database of transfer data. So Console reports represent organization-wide statistics, not just for each node.

Console allows you to create and export custom reports, as well as apply filters and scheduling options. The background process responsible for generating reports is *Report*.

Report extracts the information it needs from tables within the MySQL database – various transfer* (*transfer_**) tables and custom field (*cf_**) tables. The various transfer tables are updated by the *DataCanonicalizer* process, which processes raw transfer data from numerous *fasp* tables, cleaning, cross-referencing and consolidating the data into the various transfer tables. The *CustomField* process derives values from the canonicalized data tables (*transfer_** tables) to calculate custom field values needed in the selected report.

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Console: Data flow summary



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Figure 2-14. Console: Data flow summary

The graphic provides an overview of how data flows within the Aspera Console:

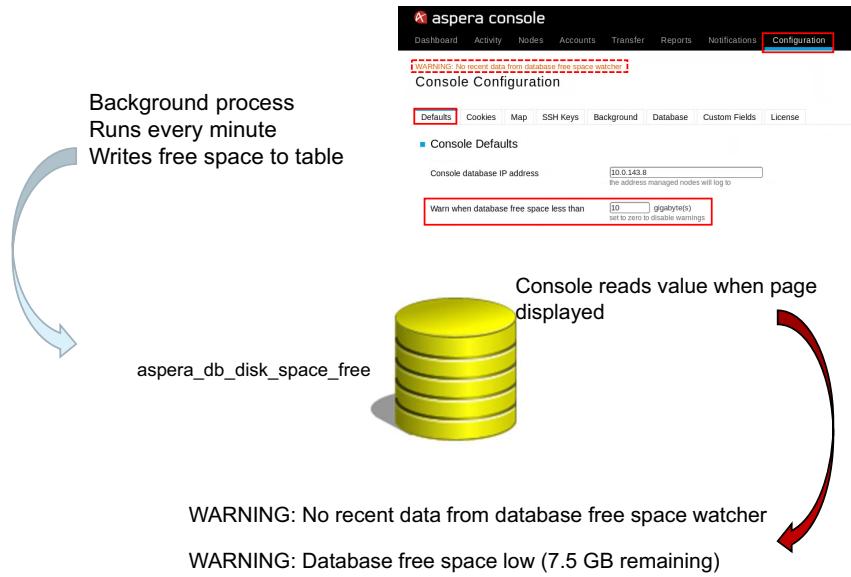
1. Data is stored on the transfer server in various files, SQLite, and other repositories.
2. The transfer server is queried for node and transfer information by the `NodeInfoCollector` (writes node data into the `fasp_nodes` table), `SessionDataCollector` (writes raw session data into the `fasp_sessions` and `fasp_rates` tables), and `FileDataCollector` (writes raw data about transferred files to `fasp_files` table) background processes running on the Console server.
3. The `DatabaseIngest` processes raw data from various `fasp_*` tables for monitoring, display, and email notification purposes. It also creates records in `jobs` and `job_steps` tables, and cross references them to raw data. This process also marks empty sessions for deletion, depending upon configuration settings
4. The `DataCanonicalizer` process reads raw data from the `fasp_*` tables for reporting purposes, cleaning, cross-referencing, and consolidating data into various `transfer_*` tables – this process is also responsible for deleting raw transfer data that has been marked for deletion by the `DatabaseIngest` process
5. The `CustomField` process analyzes the content of the `transfer_*` tables, calculates needed custom values and places them into the `cf_*` tables

Other processes run periodically, and are not specifically ordered

- The *TransferInitiator* process monitors the *jobs* and *job_steps* tables, interacting with the appropriate transfer server process (asperanoded or asperacentral) on the required transfer server to setup and begin the scheduled transfer
- The *Report* process extracts data from various *transfer_** and *cf_** tables to generate both ad hoc and scheduled reports

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Space Watcher



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Figure 2-15. Space Watcher

Function

Space watcher is another background process that is responsible for checking the amount of free space in the database and giving warning when space is running low. Once a minute, space watcher runs a `ls` or `dir` command, then writes the free space in bytes to a table named **aspera_db_disk_space_free**.

The **aspera_db_disk_space_free** table will never have more than one record in it. This table only has three fields:

- **id**: Always equal to 1
- **bytes_free**: BIGINT, max value = 9223372036854775807, which is approximately 8191 petabytes
- **last_reported_at**: The time space watcher last stored an entry in the table

If the process fails to figure out free space for any reason or fails to connect to MySQL, it does nothing and logs nothing. Successful or not, it then closes its connection and then sleeps for a minute before repeating the process.

Messages in Console

Unless warnings have been disabled, Console checks the **aspera_db_disk_space_free** table when rendering a page. If it sees that there are no records in the table, or that it has been longer

than the configured limit (a default value of 10 minutes) since space watcher last reported, Console displays a message:

WARNING: No recent data from database free space watcher.

If the last entry is recent (within 10 minutes) but the number of free bytes is less than the configured warning level (default: 10 gigabytes), it shows a different message:

WARNING: Database free space low (7.5 GB remaining).

What you learned

- IBM Aspera Console's primary communication channels are SSH and Node API over HTTP
- Early versions of Aspera Console used SOAP to communicate directly with asperacentral on each node, but is no longer used
- IBM Aspera Console queries the nodes it manages to extract configuration and transfer data from nodes and stores the collected data in a centralized MySQL database
- The primary components of IBM Aspera Console are: MySQL database, Apache web server, 12 background services, and mongrels
- The MySQL database is the core component of IBM Aspera Console
- Background processes are tasked with collecting data from nodes, updating the database, initiating transfers between nodes, managing Console-initiated transfers, displaying data in Console UI, and generating reports
- Mongrels are needed as the interface between the Console code (written in Ruby) and the Apache web server
- Aspera Console uses SSH services to view directories on and configure managed nodes
- IBM Aspera Console does not directly transfer files, but can initiate transfers between configured nodes

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Figure 2-16. What you learned

Unit summary

- Identify the communication channels between Aspera Console and Aspera nodes
- Outline the deprecated behavior of earlier versions of Console
- Describe the role of the Console background processes
- Explain why Aspera Console requires mongrels

Review questions (1 of 2)

1. True or False:

IBM Aspera Console requires Node API be configured on every managed node.

2. Which of the following behaviors are considered deprecated by current versions of Aspera Console? Select all that apply.

- A. Nodes generating and sending SQL commands to Console
- B. The ***asperacentral*** process on each node
- C. The use of ***ascmd*** to view directory contents on managed nodes
- D. Console sending ***SOAP*** commands directly to the ***asperacentral*** process on a node

Review questions (2 of 2)

- 3. Which of the following background process is responsible for providing the data displayed in the Aspera Console user interface?**
 - A. DataCanonicalizer
 - B. DatabaseIngest
 - C. SessionDataCollector
 - D. FileDataCollector
- 4. Why is it important to include SSH connections to managed nodes in the Console configuration of the node? Select all that apply.**
 - A. Changing configuration parameters on a node from with Aspera Console requires an SSH connection
 - B. Aspera Console uses SSH to authenticate FASP transfers between itself and managed nodes
 - C. Viewing files on a node from within Aspera Console uses an SSH connection to the node to invoke the ***ascmd*** utility
 - D. Console uses SSH to establish SSH tunnels to each node as it collects data from the node

Figure 2-19. Review questions (2 of 2)

Review answers (1 of 2)

1. True or False:

IBM Aspera Console background processes use Node API to extract node data, initiate transfers between nodes, and manage those transfers. So, each managed node should be configured for Node API. Unmanaged nodes do not require Node API configuration.

The answer is True.

2. Which of the following behaviors are considered deprecated by current versions of Aspera Console? Select all that apply. Select all that apply.

- A. Nodes generating and sending SQL commands to Console
- B. The **asperacentral** process on each node
- C. The use of **ascmd** to view directory contents on managed nodes
- D. Console sending **SOAP** commands directly to the **asperacentral** process on a node

The answer is A and D

Review answers

- 3. Which of the following background process is responsible for providing the data displayed in the Aspera Console Dashboard?**
 - A. DataCanonicalizer
 - B. DatabaseIngest
 - C. SessionDataCollector
 - D. FileDataCollector

The answer is B
- 4. Why is it important to include SSH connections to managed nodes in the Console configuration of the node? Select all that apply.**
 - A. Changing configuration parameters on a node from Aspera Console requires an SSH connection
 - B. Aspera Console uses SSH to authenticate FASP transfers between itself and managed nodes
 - C. Viewing files on a node from within Aspera Console uses an SSH connection to the node to invoke the **ascmd** utility
 - D. Console uses SSH to establish SSH tunnels to each node as it collects data from the node

The answer is A and C

Unit 3. Installing and configuring IBM Aspera Console

Estimated time

00:45

Overview

This unit discusses the installation and initial configuration of IBM Aspera Console.

Unit objectives

- Install IBM Aspera Console
- Navigate the Aspera Console user interface
- Configure email notifications
- Configure Console system defaults

Topics

- Installation
- Initial configuration

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Figure 3-2. Topics

3.1. Installation

Installation

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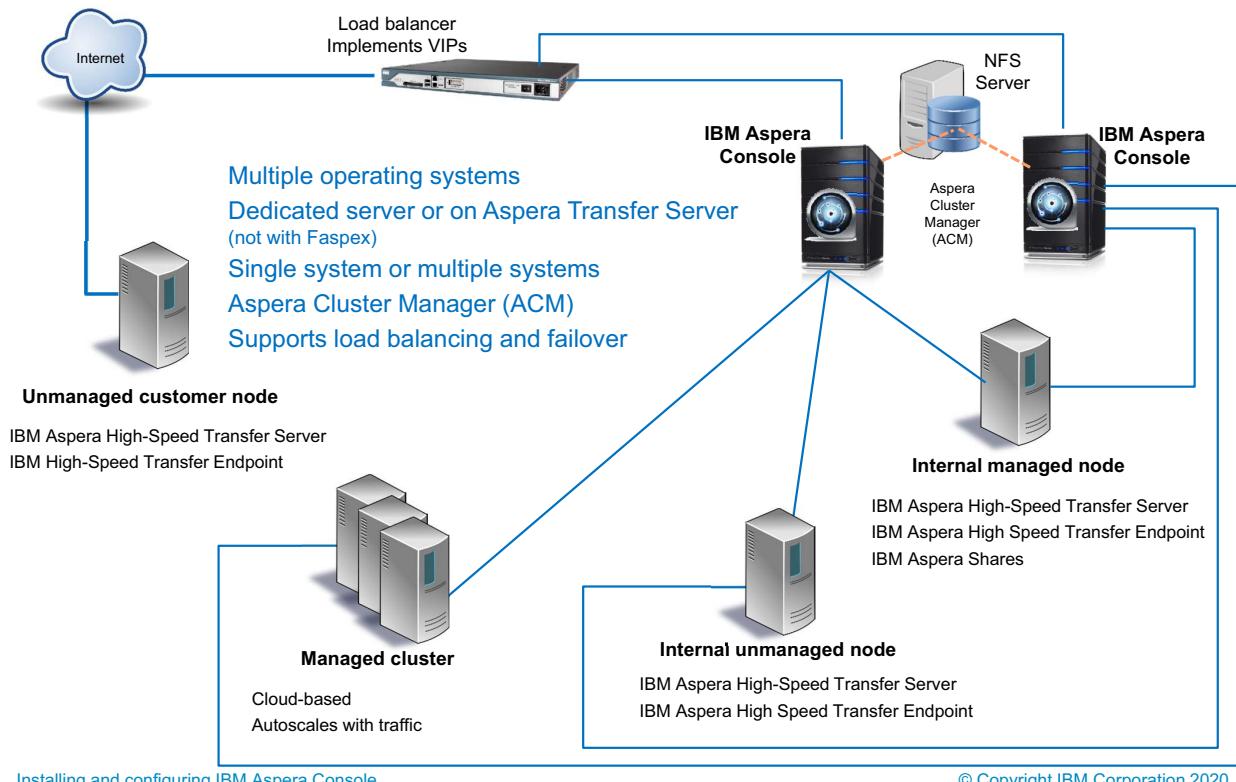
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Figure 3-3. Installation

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Deployment considerations



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Figure 3-4. Deployment considerations

Deployments with IBM Aspera Console can assume many different arrangements, depending upon needs.

IBM Aspera Console can be deployed on Microsoft Windows, Linux, or Mac OS servers.

IBM Aspera Console can be installed on a dedicated server or can be installed on a server that has IBM Aspera HSTS or IBM High-Speed Transfer Endpoint installed. Console can also manage IBM Aspera Shares servers and can integrate with IBM Aspera Faspex (but not on the same server).

NOTE: Console cannot be installed on the same server as IBM Aspera Faspex.

IBM Aspera Console can manage internal transfer servers and cloud-based Aspera server clusters.

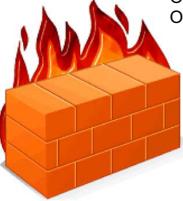
External Aspera transfer servers can be configured as unmanaged nodes in Console for monitoring and initiating transfers between the unmanaged nodes and managed nodes.

IBM Aspera Console can be implemented as a single instance in the organization, or multiple Console servers can be deployed.

Console can be deployed in a high availability environment. By installing the Aspera Cluster Manager (ACM) software on each Console server. ACM requires at least two servers running Console with a shared database, which is typically mounted on a separate NFS server.

Console can support transfer load balancing and failover between nodes. A failover group contains a group of different nodes that act as substitutes for the original node when the original node becomes unavailable. When a node goes off line, Console also restarts any transfers in progress on that node, submitting them to a different node in the group. Console can balance the load across nodes within a failover group for improved performance.

Pre-requisites

 <p>Firewall on Console system</p> <ul style="list-style-type: none"> Inbound TCP/80 and TCP/443 for web user interface Outbound TCP/33001 for SSH Outbound TCP/9092 for Node API connections Outbound TCP/40001 and inbound TCP 4406 for connections to legacy nodes 	 <p>Node API account on Aspera nodes</p>
 <p>Data storage planning</p> <ul style="list-style-type: none"> 1-2 KB per file transfer 8-12 KB per session Examples <ul style="list-style-type: none"> 100 sessions per day of 1000 files each = 201MB per day growth = 6.03 GB per month = 73.4 GB per year 1000 sessions per day of 1 file each = 28MB per day = 840 MB per month = 10GB per year 1000 sessions per day of 10,000 files each = 30GB per day = 900 GB per month = 11 TB per year 	

Do NOT install Console and IBM Aspera Faspex on the same system!

Installing and configuring IBM Aspera Console

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Figure 3-5. Pre-requisites

The most important prerequisite task for Console installation is firewall configuration. The Console server firewall must allow inbound TCP traffic on ports 80 and 443, which are used for standard HTTP connections. The Console server must also be configured to allow outbound TCP traffic on ports 33001 (for SSH) and 9092 (for Node API connections).

The firewall on the nodes that are configured in Console must also be configured for proper operation. Each node must allow inbound SSH traffic on TCP port 33001 and UDP port 33001 for FASP transfers. The nodes must also allow Inbound traffic on TCP port 9092, which is used for Node API connections.

Each node that is managed by Console must be configured to support Node API and an administrative Node API user must be created.

Another planning consideration is the amount of storage the MySQL database where configuration and transfer statics are collected from all managed nodes in the organization.

You can estimate the average size of each file transfer and each transfer session in KB, then calculate the required storage that is required over time.

The screenshot shows the IBM Aspera downloads page. At the top, there's a navigation bar with links for Aspera, Solutions, Technology, Industries, and More. Below the navigation is a banner for 'IBM Aspera downloads' with a sub-instruction 'Explore available downloads for IBM Aspera software'. There are two buttons: 'Access Passport Advantage' and 'Sign up for the free trial'. Below the banner, there are five categories with arrows pointing down: Transfer server software, Client software, Web applications (which is highlighted with a red box), Mobile applications, and On-demand. Under 'Web applications', there's a section titled 'Upgrade policy' with the note 'IBM Aspera® supports upgrades against the two most recent versions of a release. Any tickets submitted for products preceding the two most recent versions will be referred to professional services for assistance to upgrade.' Below this, there's a 'Latest updates' section listing several IBM Aspera products. To the right, a callout box says 'Select "Download now" for installer software' with an arrow pointing to the 'Download now' link for IBM Aspera Console. At the bottom left, a blue link reads 'Scroll down to view all downloads'. The bottom right corner contains copyright information: '© Copyright IBM Corporation 2020'.

[Installing and configuring IBM Aspera Console](https://www.ibm.com/aspera/downloads)

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Figure 3-6. IBM Aspera Console installation software

IBM Aspera Console installation software and documentation can be found at the <https://www.ibm.com/aspera/downloads> web site. The various Aspera software downloads are organized according to the general category of their service. IBM Aspera Console is a web-based application and can be found under the Web applications category. Clicking on the Web applications link provided in the middle of the page opens a page to select the software or documentation that you want to download.

The IBM Aspera Console listing provides 3 links: Download now, View documentation, and Request a trial.

Each of these links leads to a page that facilitates the action requested.

The Download now link opens the IBM Fix Central page, where you select the specific version of the software you want to download.

The View documentation link opens a different page where you can select the version of Console documentation you want (including a link to older versions). Selecting a version leads to another page where you can download the documentation you need. The available Console documentation includes: the Console User Guide, the Console Admin Guide for Linux, the Console Admin Guide for Windows, and the Release notes for the select version.

If you want to download and try IBM Aspera Console before making a final purchase decision, the Request a trial link leads to a form you fill out to get the trial process started.

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Select the software version

New and older versions available
Supported versions for multiple operating systems
Downloads require login credentials
Download

Patches for existing installations

Multiplatform options include Windows and Linux installers, and guides

Single platform options for older versions

Installing and configuring IBM Aspera Console

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Figure 3-7. Select the software version

IBM Aspera Console installation software and documentation can be found at the <https://www.ibm.com/aspera/downloads> website. The various Aspera software downloads are organized according to the general category of their service. IBM Aspera Console is a web-based application and can be found under the Web applications category. Clicking the Web applications link provided in the middle of the page opens a page to select the software or documentation that you want to download.

The IBM Aspera Console listing provides three links: Download now, View documentation, and Request a trial.

Each of these links leads to a page that facilitates the type of action requested.

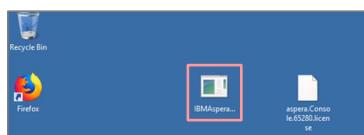
The Download now link opens the IBM Fix Central page, where you select the specific version of the software you want to download.

The View documentation link opens a different page where you can select the version of Console documentation you want (including a link to older versions). Selecting a version leads to another page where you can download the documentation that you need. The available Console documentation includes: the Console User Guide, the Console Admin Guide for Linux, the Console Admin Guide for Windows, and the Release notes for the select version.

If you want to try IBM Aspera Console before making a final purchase decision, the Request a trial link leads to a form you complete to get the trial process started.



Installation on Windows servers



Single installation file on Windows systems

Includes OpenSSH software

```

Choose a login name for the new admin user <recommendation: don't use 'admin'
'>: con_admin
Enter the email address for con_admin: con_admin@example.com
Enter the password for con_admin:
    Password: *****
    Confirm: *****

Please enter a new MySQL root password.
    Password: *****
    Confirm: *****
MySQL will need to start/restart during configuration. Continue <y/n>? <current>
;: y

Apache
What hostname or IP address should Apache use to identify itself <in the SSL certificate>? Singapore.aspera.com
Key and certificate will be generated in this directory:
    C:/Program Files (x86)/Common Files/Aspera/common/apache/conf

What IP address will managed nodes use to log to the database <by default>? 10.0.0.1
What IP addresses and hostnames are allowed to access Console? localhost,singapore,10.0.0.1

===== Settings =====
MySQL
    Enabled:      true
    Port:        4406
Apache
    Enabled:      true
    Hostname:    Singapore.aspera.com
    Bind Address: 0.0.0.0
    HTTP Port:   80
    HTTPS Port: 443
Console
    Enabled:      true
    DB Logger IP: 10.0.0.1
    Accepted Host & IP <s>: localhost,singapore,10.0.0.1
    Admin name:   con_admin
    Admin email:  con_admin@example.com
    MySQL is local: true

Are these settings correct? <y/n/x with x for exit> _
```

Admin account

MySQL access

Apache configuration

Access to Console

Installing and configuring IBM Aspera Console

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Figure 3-8. Installation on Windows servers

After downloading the Aspera Console installation software, you need to install it on the selected server.

The installation process for IBM Aspera Console is straight forward, and requires only a few details about the environment to complete the initial configuration.

The Windows version of Aspera Console is implemented as a single executable file. The installation must be run with administrative privileges. You start the Console installation process on a Windows system by double-clicking the downloaded installation package.

The Console installation package for Windows systems installs all of the required components and no other software is needed. For example, the Console installation process installs OpenSSH for Windows, the Apache web server, MySQL database, a ruby library, and a configuration tool called asctl.

After the installation package extracts the Console files, a command-line utility is started that prompts for configuration details. The answers that you provide to the prompts define essential data, such as the administrative login credentials needed to access Console and manage MySQL, and identifying information about the server.

After responding to the prompts, your input is summarized and you are asked if the information is correct. The routine then updates the appropriate MySQL, Apache, and Console files with the data

you provided and proceeds with the installation. After all the files are installed, you are asked about restarting the MySQL, Apache, and Console services.

After the setup routine is completed, you can access Console with a standard web browser on the same system where Console is installed, or from a remote system. The first time that you access Console, you need to change the admin user password, then add a license key before the application is functional.

Installation on Linux servers



Two installation files – Common must be installed first

Run as root

rpm –Uvh ibm-aspera-common-xxxx.rpm
rpm –Uvh ibm-aspera-console-xxxx.rpm

```

Console
Choose a login name for the new admin user (recommendation: don't use 'admin'
or 'root'): con_admin
Enter the email address for con_admin: con_admin@example.com
Enter the password for con_admin:
    Password: *****
    Confirm: *****

MySQL
Please enter a new MySQL root password.
    Password: *****
    Confirm: *****
MySQL will need to start/restart during configuration. Continue (y/n)? (current: y) y

Apache
What hostname or IP address should Apache use to identify itself (in the SSL certificate)? Denver.aspera.com
    Key and certificate will be generated in this directory:
        /opt/aspera/common/apache/conf

What IP address will managed nodes use to log to the database (by default)? 10
0.0.2
What IP addresses and hostnames are allowed to access Console? localhost,denver,10.0.0.2
=====
MySQL
Enabled: true
Port: 4406
Apache
Enabled: true
Hostname: Denver.aspera.com
Bind Address: 0.0.0.0
HTTP Port: 80
HTTPS Port: 443
Console
Enabled: true
DB Logger IP: 10.0.0.2
Accepted Host & IP (s): localhost,denver,10.0.0.2
Admin name: con_admin
Admin email: con_admin@example.com
MySQL is local: true

Are these settings correct? (y/n/x with x for exit) [n]

```

Admin account

MySQL access

Apache configuration

Access to Console

Run **asctl console:setup** routine in terminal

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Figure 3-9. Installation on Linux servers

Installing Aspera Console on Linux systems is similar to the process on Windows systems, but with a few differences.

Unlike the Windows version of Console, the Linux installation requires two installation packages – the Common software and the Console software. Both of these installer packages are downloaded from the IBM Aspera download site. The Common software includes MySQL, Apache, the ruby libraries, and asctl. The common software does NOT install OpenSSH software, depending upon the SSH software that is already installed as part of the Linux system.

You must install the common software first. The Console installer routine cannot be run unless the common software is installed.

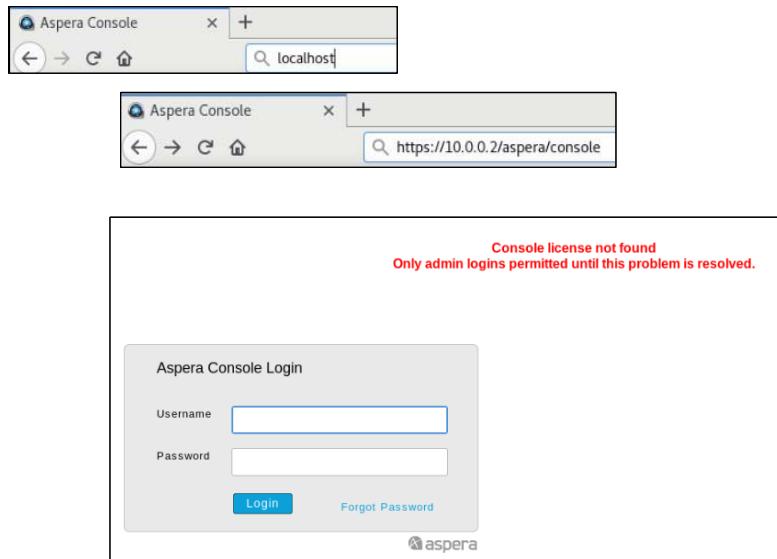
After you install both the common and Console software, you are warned that you need to run the **asctl console:setup** routine.

Unlike the installation on the Windows system, the **asctl console:setup** routine is not automatically run during the Linux installation. The **asctl console:setup** routine on a Linux installation asks for the same type of information that you saw in the Window installation and goes through the same configuration steps.

After Console is installed, you use a browser to access it and you are prompted to change the admin user login credentials and required to add a license key.

IBM Training

Initial login



Password change required

License key required after password change

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Figure 3-10. Initial login

Regardless of the server operating system, accessing Console is always through a web browser, and the user experience is the same (other than file names and locations).

You can access Console from the same system where the software is installed, or from a remote system. If you use a browser on the same system as Console (and you entered the value during the setup process), you can use `localhost` in the browser's address field.

The first times that you access Console you are warned about accessing an untrusted site. After accepting the exception, the Console login page is opened with a warning above it that the system needs a license that is installed.

However, the first thing Console requires is that you change your password.

3.2. Initial configuration

Initial configuration

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Figure 3-11. Initial configuration



The Notifications tab

- SMTP email server**
Identifies the SMTP server for all users
- Email templates**
Create or modify email messages and when to send them
- Advanced rulesets**
Defines custom triggers for when email is sent

NAME	DEFAULT	ACTIONS
Default Start	✓	edit

NAME	DEFAULT	ACTIONS
Default Success	✓	edit

NAME	DEFAULT	ACTIONS
Default Error	✓	edit

Installing and configuring IBM Aspera Console

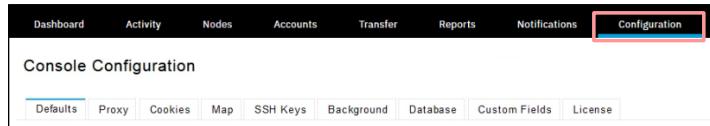
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Figure 3-12. The Notifications tab

Console can send email notifications when triggered by various events within the Aspera environment. The Notifications tab opens a page for identifying the SMTP server that is used to send emails, and other pages for customizing the contents of email messages and creating custom rules for sending notifications.

IBM Training

The Configuration tab



Defaults

Extensive parameters for Console behavior

Background

Management of Console background processes

Proxy

Configure proxy server data

Database

Backup and purge options for the MySQL database

Cookies

Define rules that filter by information in a transfer cookies

Custom fields

Define custom fields for use in reports

Map

Identifies png file to use on Dashboard

License

View current license content or update license data

SSH Keys

Stores private keys from nodes to use for endpoint authentication

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Figure 3-13. The Configuration tab

The Configuration tab is where you define configuration parameters that Console uses for all users and manage Console processes and database.

Defaults

The parameters on the Defaults page control basic behaviors of Console and values that are used by Console when it initiates transfers.

Proxy

If your Console server is behind a proxy server, it is necessary to configure Console to understand how to reach the proxy server. The Proxy tab provides fields for configuring both HTTP and FASP proxy services.

Cookies

The Cookie page is where you define cookie parsing rules. Cookie configuration applies only to the use of custom cookies. Console does not apply parsing rules to cookies it recognizes as standard cookies used by Aspera products. Using a rule, Console can match the set cookie string and then substitute it for selected transfer information.

Map

The map on the Dashboard shows the status of all your monitored nodes and shows the transfers between them. If a node fails, the icon becomes red in the map, and the node and the problem are

listed in the table below the map. Nodes are not automatically added to maps. They must be configured, which is done from the Map tab.

SSH Keys

If you use SSH keys rather than passwords on the Aspera nodes, you must identify the key to use on each node. Console uses a node's private key to authenticate into the node that uses public key authentication. You must first store the private key that is paired with the public key on the node. You can store private keys privately in your user preferences or globally from the SSH Keys page. These SSH keys can then be used to authenticate endpoints or transfers.

To use a key in a transfer, Console searches the initiating node for a file that matches the filename that is given.

Background

The Console background processes can be managed from the Background page.

Database

The Database page provides links to back up the MySQL database and to purge data from the database. This page also lists the database backups that were completed.

Custom Fields

Custom fields are used to specify rules for automatically populating fields in basic and advanced reports. You can define these custom fields on the Custom Fields page.

License

The License page displays the contents of the current license key and provides a link to upload a new license key file.

What you learned

- Aspera Console is supported on Microsoft Windows, several Linux systems, and Mac OS
- Console can interact with servers running IBM Aspera HSTS, IBM Aspera HST Endpoint, IBM Aspera Shares, and IBM Aspera Faspex
- Aspera Console must not be installed on the same server as IBM Aspera Faspex
- Console can be implemented as highly available by adding the Aspera Cluster Manager software to each Console server (both Console systems must have shared storage)
- Console can monitor unmanaged nodes that are either inside or outside the organization
- Console can also manage cloud-based Aspera Clusters
- Console can do load balancing and failover for Console-initiated transfers
- Firewall configuration on both the Console server and managed nodes must be set

Figure 3-14. What you learned

Unit summary

- Install IBM Aspera Console
- Navigate the Aspera Console user interface
- Configure email notifications
- Configure Console system defaults

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Figure 3-15. Unit summary

Review questions

- 1. Which of the following actions must be completed if you want to implement a highly available Console system? Select all that apply.**
 - A. Implement 2 independent Console systems, each with their own configuration
 - B. Install Aspera Cluster Manager (ACM) on each Console system and configure shared storage
 - C. Console cannot be implemented as highly available unless working in a cloud environment
 - D. The Aspera Cluster Manager (ACM) software must be installed on each node to be managed by Console
- 2. What is the difference between the Console installation packages for Windows and Linux systems? Select all that apply.**
 - A. The Windows installer package includes OpenSSH but the Linux package does not
 - B. The Linux Console installation package is implemented by double-clicking it and answering the questions
 - C. The Windows installation package requires the administrator to install a third-party SSH service separate from the Console installation, whereas the Linux package does not
 - D. The Linux Console installation package is implemented as 2 files whereas the Windows installation package is a single file

Review answers

- 1. Which of the following actions must be completed if you want to implement a highly available Console system? Select all that apply.**
 - A. Implement 2 independent Console systems, each with their own configuration
 - B. Install Aspera Cluster Manager (ACM) on each Console system and configure shared storage
 - C. Console cannot be implemented as highly available unless working in a cloud environment
 - D. The Aspera Cluster Manager (ACM) software must be installed on each node to be managed by Console

The answer is B.

- 2. What is the difference between the Console installation packages for Windows and Linux systems? Select all that apply.**
 - A. The Windows installer package includes OpenSSH but the Linux package does not
 - B. The Linux Console installation package is implemented by double-clicking it and answering the questions
 - C. The Windows installation package requires the administrator to install a third-party SSH service separate from the Console installation, whereas the Linux package does not
 - D. The Linux Console installation package is implemented as 2 files whereas the Windows installation package is a single file

The answer is A and D.

Exercise: Installing and configuring IBM Aspera Console

Installing and configuring IBM Aspera Console

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Figure 3-18. Exercise: Installing and configuring IBM Aspera Console

Exercise introduction

- Install IBM Aspera Console
- Navigate the Aspera Console user interface
- Configure email notifications
- Configure Console system defaults



Installing and configuring IBM Aspera Console

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Figure 3-19. Exercise introduction

Exercise overview



The lab exercise associated with this section requires you to install the IBM Aspera Console software on Windows and Linux servers. However, while you do the install Aspera Console on the Linux system, you only use Aspera Console on the Windows system for the rest of the exercises in the course.

After you have installed the software on the Windows server, you configure an email server and define how the system sends email notifications for various events.

- Go to lab environment.
- **READ** the **Lab Intro** module for details (explains how to use the lab environment)
- Start the servers in the lab environment
- Follow the steps in **Exercise 1**
- Perform tasks on the Windows server (Singapore) and the Denver Linux server
- If you leave the environment for more than an hour or so, the systems are suspended and you need to restart them before continuing

Figure 3-20. Exercise overview

Unit 4. Adding and configuring Console nodes

Estimated time

00:45

Overview

This unit explains the process of creating both managed and unmanaged nodes.

Unit objectives

- Prepare Aspera Transfer Servers as nodes for IBM Aspera Console
- Distinguish between managed and unmanaged nodes
- Add managed and unmanaged nodes to the Console environment
- Use Aspera Console to modify node configuration parameters
- Define endpoints for both managed and unmanaged nodes

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Figure 4-1. Unit objectives

Topics

- Node preparation
- Creating nodes in Console
- Configuring endpoints

Adding and configuring Console nodes

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Figure 4-2. Topics

4.1. Node preparation

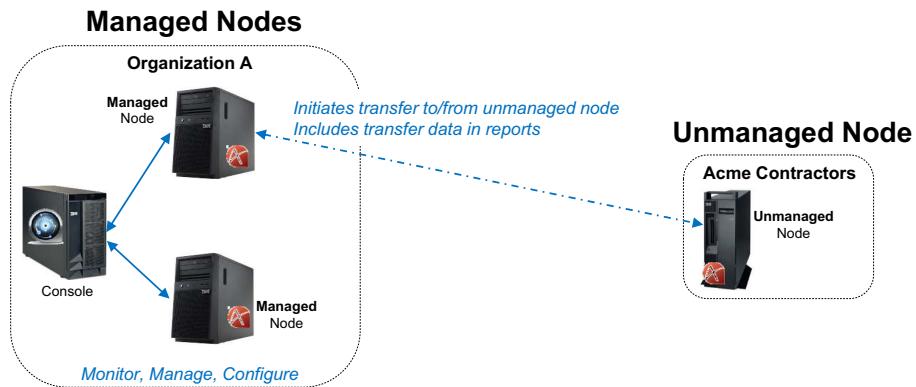
Node preparation

Adding and configuring Console nodes

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Figure 4-3. Node preparation

Managed and unmanaged nodes



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Figure 4-4. Managed and unmanaged nodes

Managed nodes

IBM Aspera Console can be configured to manage, monitor, and control Aspera servers and transfers. Any transfer server (node) that is under the control of Console is considered to be a managed node (transfer server). Transfer activities of a managed node can be managed from Console and are logged to the Console database.

Unmanaged Nodes

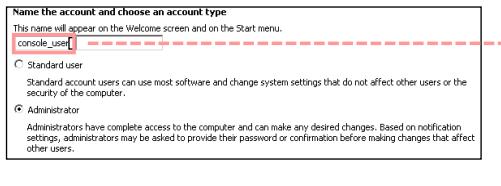
Some file transfers occur between a managed transfer server and another transfer server that is not managed by the same instance of IBM Aspera Console. These unmanaged nodes must also be running Aspera software (IBM High-Speed Transfer Server or IBM High-Speed Endpoint), and can be configured within Console as unmanaged nodes. While Console cannot configure an unmanaged node, it can initiate transfers to and from the unmanaged node. Console instructs the managed node to either push to or pull from the unmanaged node and the transfer activity reports on the exchange between the unmanaged node and a managed node. Additionally, Console can define transfer parameters to be used by a managed node for a transfer between the managed and unmanaged node. However, the unmanaged node settings control the parameters that are ultimately used.

Prepare transfer servers

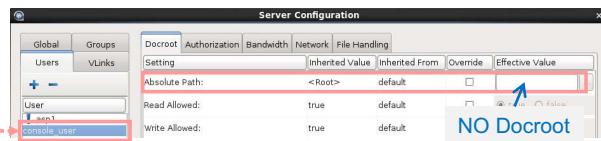
Update the aspera.conf file

```
asconfigurator -x "set_server_data;server_name,IP or hostname"
```

Create Administrative System User



Add Admin User to Aspera HSTS



Administrative account on Linux may be set to “root”

Create Console Node API User w Impersonation ACL

```
asnodedadmin -a -u node_user -p password -x system_user --acl-set  
"admin,impersonation"
```

Impersonation ACL option only available on Enterprise/Connect Server version 3.5.5 & higher

[Adding and configuring Console nodes](#)

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Figure 4-5. Prepare transfer servers

Each managed node requires two sets of credentials: SSH credentials and Node API credentials.

The SSH account is used for modifying the `aspera.conf` file on the node. This account needs to run the `asconfigurator` utility on the node to modify the `aspera.conf` file. Therefore, the administrative user account is usually set to use the root account on a Linux system or an administrative account on Windows systems. Allowing the root account to log in with SSH usually requires modifying the `/etc/ssh/sshd.config` file to support this ability.

Each node must be configured to support Node API by adding information to the `aspera.conf` file. In the past, the `aspera.conf` file required updating with several entries. Most of these parameters are implemented by default in the current version IBM Aspera High-Speed Transfer Server. So, the only entry that is required is the name or IP address of the node. The `asconfigurator` command in the example shows the required syntax, replacing the IP address or hostname value with an appropriate value for the node.

Console uses a node user (Node API) account configured on each transfer server that ultimately impersonates another system user to perform transfers. The node user who is used for Console is special, in that it doesn't directly browse directories or transfer files. However, it does need to be able to use specific user accounts to transfer files, thus the need for the impersonation function. The impersonation ACL tells `asperacentral` running on the managed node to interpret docroot values for the transfer according to the local user account specified in the smart transfer definition configured within Console. For example, if the smart transfer uses the endpoint `asp1@node1`, then

the source path for the smart transfer is interpreted as being in the docroot defined for the user asp1.

To have the appropriate permissions for the various tasks Console needs performed, the node user account must be associated with a system user with administrative permissions. On a Windows system, the system user needs to be configured as an administrator. On a Linux system, the user must be able to log in by using OpenSSH to run **asconfigurator**, and must be able to write to the *aspera.conf* file. Therefore, it is common to configure this account to use **root** as the system user when the node is running on a Linux server.

The special system user account must be added to the transfer server configuration and should be configured with the Absolute Path (docroot) setting left blank. Every Console-initiated transfer is run as a specific user (thus the need for the impersonation ACL). Each transfer user has their own docroot value, which is recognized when the transfer occurs. A docroot value should not be set for the system user who is configured with the Console's node user login.

NOTE: You can add this Console user to the transfer server configuration with the Aspera GUI, by running **asconfigurator**, or directly modifying the *aspera.conf* file

The **asnodedadmin** command is used to create a Node API user associated with the special system user account, adding the impersonation ACL, as shown in the example:

asnodedadmin -a -u node_user -p password -x system_user --acl-set impersonation

Impersonation applies to only Console initiated transfers on a managed node. Impersonation is implemented to ensure that transfers to or from a managed node perform the transfer under a specific user account with a specific docroot value that is assigned to that user account.

4.2. Creating nodes in Console

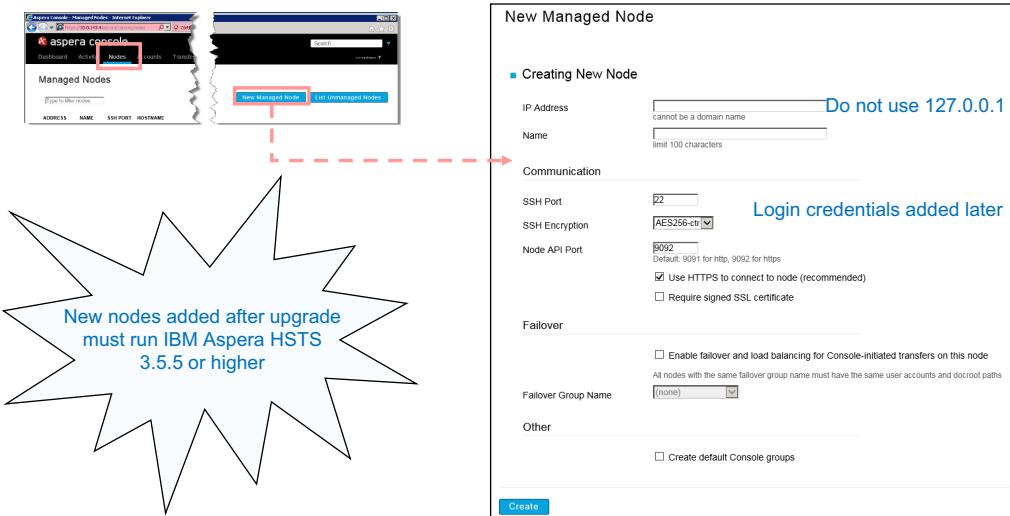
Creating nodes in Console

Adding and configuring Console nodes

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Figure 4-6. Creating nodes in Console

Creating managed nodes



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Figure 4-7. Creating managed nodes

Aspera recommends keeping all Aspera software up to date with the current versions. It is important to run the most current versions when working with Console 3.0 and later, in that the way a transfer server interacts with Console is dependent upon the version of Aspera software installed. As mentioned previously, each transfer server should be running Aspera Transfer Server version 3.5.5 or higher to take full advantage of Console features. However, if it is not feasible to upgrade the Aspera software on transfer servers, the upgraded Console 3.0+ can still manage the nodes, but they are managed as legacy systems. Legacy systems are allowed only during the upgrade process to Console 3.0+. After the upgrade is completed, any new transfer servers that are added to the environment must be running Aspera Transfer Server 3.5.5 or higher.

NOTE: NO NEW NODES MAY BE ADDED THAT ARE NOT RUNNING VERSION 3.5.5 OR HIGHER!

See the Upgrading Console to the Current Version section of the Console Administration Guide for details about upgrading existing Console software.

IBM Aspera Console connects to a managed node through SSH for file browsing and node configuration. You must update Console with the node's SSH credentials before Console can access the node (addressed on the next page).

Create new managed node

Log in to Console and go to the Nodes link. Click New Managed Node on the right of the page to open the New Managed Node screen.

Enter the appropriate IP address and name of the node you want to add. You also enter communication values consistent with how you configured the Aspera software on the node itself (SSH Port, SSH Encryption, and Node API Port).

NOTE: If Console is installed on a transfer server that you want to add as a managed node, do NOT use an IP address of *127.0.0.1* to reference the local system.— Use the outside IP address of the server instead.

The Failover section configures a failover group for this node.

The Other section provides a way to create three Console groups that define the permissions users in each group have regarding transfers.

Pressing the Create button adds the node to the Console database.



Node admin credentials

The image shows two screenshots of the IBM Cloud Manager interface. The left screenshot is titled 'New Node Credentials Page' and shows the 'Admin Credentials' section for a node named 'New York (10.0.143.22)'. It includes fields for SSH (Username: root, Password: *****) and Node API (Username: console_user, Password: *****). A note says 'Using SSH Key requires additional configuration'. The right screenshot is titled 'Credentials Summary Page' and shows the 'Admin Credentials' section for the same node. It lists 'SSH' and 'Node API' credentials with 'aspadmin' and 'console_user' respectively. A red box highlights the message 'Successfully connected to node via SSH and Node API!' at the top. A dashed red arrow points from the 'Edit credentials' link on the New Node Credentials page to the 'Edit credentials' link on the Credentials Summary page.

Admin credentials used to browse files & perform node configuration via SSH

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Figure 4-8. Node admin credentials

After a node is created within Console, the Node Admin Credentials page is displayed, with a message at the top indicating that the node was successfully added.

NOTE: You can access this page later to update credentials data by going to the Nodes page and selecting the Edit link next to the node you want to update. This action takes you to the Node Maintenance page for the selected node where you can access the Credentials link and select Edit credentials.

Console connects to a managed node through SSH for file browsing and node configuration (running **asconfigurator**). You must provide the node's administrative user SSH credentials before Console can access the node. It is common to configure the SSH account as **root** on a Linux node. Windows servers use the administrative account that is created on the node.

Reminder: If you use root as the SSH account, you need to modify the sshd.config file to allow **root** SSH access. Make sure the line that contains the text PermitRootLogin is uncommented and is set to Yes. Otherwise, you get an error message that indicates a failure to connect via SSH when you attempt to update the credentials.

Configure the SSH login values that use the administrative account that is configured on the node:

Enter the administrative user account name (system user) you set up on the transfer server in the "Username" field.

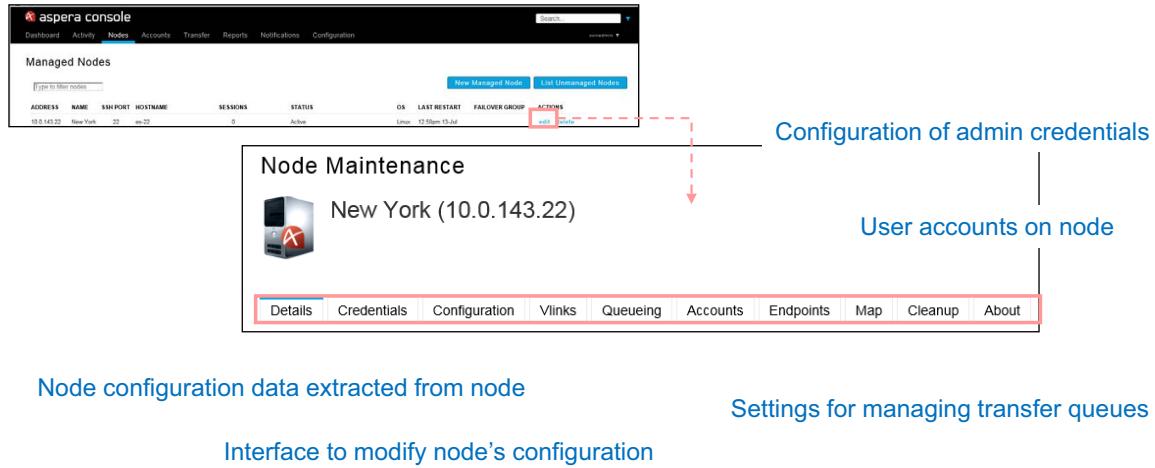
If the user account uses a password for authentication, enter it in the Password field. You can configure Console to use an SSH key instead of a password for authentication. However, more steps are required to use SSH keys. These steps are discussed on the next page. If you mark the Use SSH Key box without first configuring the SSH key, an error message is displayed.

In the Node API section, enter the console node username that you configured on the node and its password.

Use Update to save the credentials for the node, which opens a summary page of the node's credentials where you can test Console's connection to the node. If the credentials are accepted, a success message appears at the top of the page.

IBM Training

Managed node maintenance pages



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Figure 4-9. Managed node maintenance pages

A Node Maintenance page is accessed for any node by selecting the edit link in the list of managed nodes (or unmanaged, but with a limited number of options for unmanaged nodes). The links at the top of the page provide navigation to the various tasks and data necessary for viewing and managing the node:

Details: This link opens the Editing Node Details page where you can configure the necessary parameters to connect to the selected node

Credentials: The Admin Credentials page is used to configure the administrative accounts necessary for Console to properly manage the node

Configuration: The Configuration page provides details about how the transfer server is configured, and provides an interface for Console to modify how a node is configured. Node configuration data is extracted from the node after the node is created and the admin credentials are defined. Numerous configuration categories are provided on the Configuration page. These pages are opened by individually clicking one of the categories, or by selecting the Open All button. A discussion of configuration parameters is presented later in this module

Vlinks: Lists all vlinks that are defined on the node, and provides an option to edit existing vlinks and create new ones on the node

Queuing: The Queuing page provides a means to manage how Console queues both inbound and outbound transfers when queuing is necessary

NOTE: Queuing settings affect only those transfers that are initiated by Console

Accounts: Lists the accounts that are configured on the transfer server and provides a means to modify existing accounts or create new ones

Endpoints: Defines the parameters that are needed to perform transfers to or from the node

Map: A graphic showing where configured nodes are physically located

Cleanup: Provides a simple way to clean up SOAP communication problems with the node, and any transfer statistics that need to be removed from the MySQL database

About: Indicates basic information about the node, including the node's hostname, current time, operating system and version, Aspera software version, and maximum transfer rate based on Aspera license



Managing node configuration

The screenshot shows the 'Configuration' tab of the Node Maintenance page. On the left, a sidebar lists categories like Database, Transfer Server, and Bandwidth. A red arrow points from this sidebar to the main configuration table, with the text 'Admin credentials must be successfully configured' above it. Another red arrow points from the sidebar to the 'Authorization' section of the configuration table, with the text 'Lists existing configuration' below it. The main table displays two sections of configuration parameters. The first section includes 'Incoming Transfers' (allow), 'Outgoing Transfers' (allow), 'Token Encryption Cipher' (aes-128), 'Token Encryption Key' (96400), and 'Encryption allowed' (any). The second section includes 'Incoming Vlink ID' (0), 'Incoming Target Rate Cap (Kbps)' (Unlimited), 'Incoming Target Rate Lock' (true), 'Incoming Minimum Rate Cap (Kbps)' (0), 'Incoming Minimum Rate Default (Kbps)' (0), 'Incoming Bandwidth Policy Default' (fair), 'Incoming Bandwidth Policy Allowed' (any), 'Incoming Bandwidth Policy Lock' (false), and 'Outgoing Vlink ID' (0). To the right of each parameter are 'INHERITED VALUE' and 'EFFECTIVE VALUE' columns, and checkboxes for 'OVERRIDE'. A red box highlights the 'OVERRIDE' column for the 'Incoming Target Rate Cap' parameter, with the text 'Select "Override" to modify values' above it. The 'EFFECTIVE VALUE' for this parameter is shown as '100 (10000Kbps)'.

Adding and configuring Console nodes

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Figure 4-10. Managing node configuration

The Configuration link for a managed node provides an interface into the details of how a node is configured, and provides an interface for modifying those configured parameters. In order for any information to be displayed about a node, and especially before any parameters can be modified, the administrative credentials must be configured for the node.

Selecting the Configuration link on the Node Maintenance page of a managed node initially displays the categories of data that is populated from the node's configuration. You can click any of the categories that are shown, or you can click Open All at the top of the page. The example shows a detail page for a couple of the categories to give you an idea of how the information is displayed and where you can make changes.

Typically, currently configured values set on the node are shown on the left side of a listing, while the right side can be modified to update the configuration of the node. Changes that are made in Console are communicated back to the node via SSH, where the `aspera.conf` file is updated to reflect the wanted changes.

The Save Changes button at the bottom of the Configuration page causes Console to begin any modifications that requested.

Similar function is available from the Vlinks link for listing and modifying vlinks that are configured on a node, as well as listing and configuring individual user parameter values on the node.



Creating unmanaged nodes

The figure consists of four panels. The top-left panel shows the 'Managed Nodes' page with one entry: ADDRESS 10.0.143.22, NAME New York, SSH PORT 22, and HOSTNAME es-22. The top-right panel shows the 'Unmanaged Nodes' page with no entries. The bottom-left panel shows the 'Unmanaged Nodes' page again with one entry: ADDRESS 10.0.143.20, NAME Acme Contractor, SSH PORT 22. The bottom-right panel is a 'New Unmanaged Node' dialog with fields for Address (10.0.143.20), Name (Acme Contractor), SSH Port (22), and SSH Encryption (AES256-ctr). A success message 'Unmanaged Node successfully created.' is displayed above the 'Create' button.

[Adding and configuring Console nodes](#)

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Figure 4-11. Creating unmanaged nodes

Unmanaged nodes can be created by navigating to the Nodes page and clicking List Unmanaged Nodes. A page opens that lists all of the unmanaged nodes, as well as a button to create a new unmanaged node.

Clicking New Unmanaged Node presents a screen that prompts for basic connection information for the unmanaged node. Because Console does not manage transfers on this node, no additional administrative user credentials are required. However, it is necessary to configure an endpoint with user credentials to initiate transfers to the unmanaged node.

If the new unmanaged node is successfully created, a message is displayed indicating the success. Clicking List Unmanaged Nodes takes you back to the Unmanaged Nodes page where the newly created node appears.

4.3. Configuring endpoints

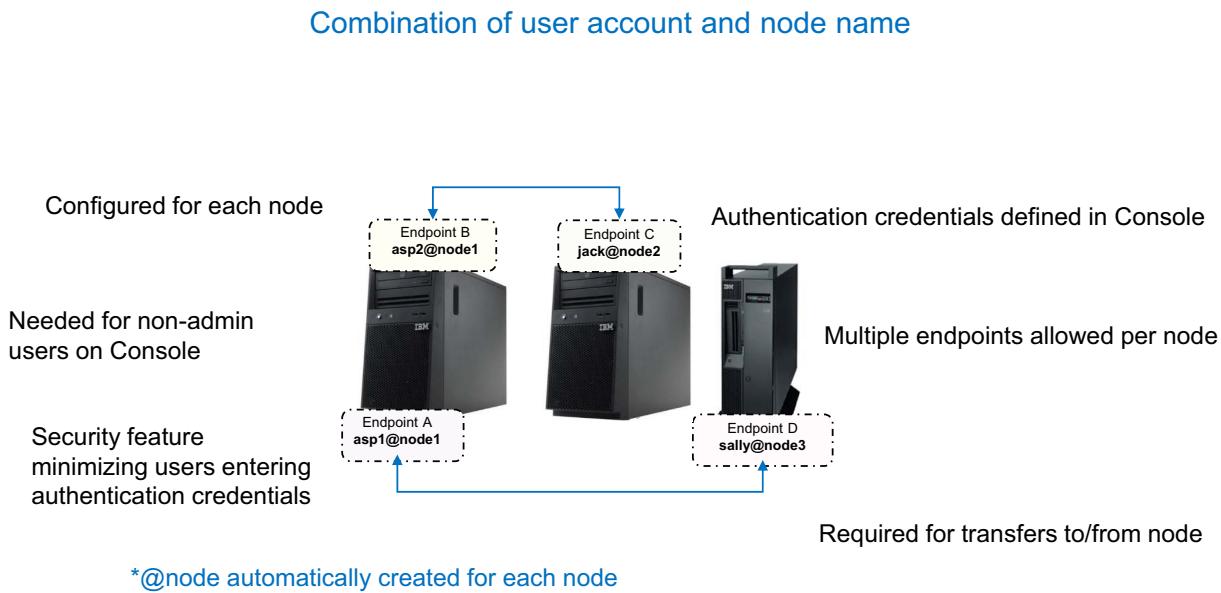
Configuring endpoints

Adding and configuring Console nodes

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Figure 4-12. Configuring endpoints

Understanding endpoints



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Figure 4-13. Understanding endpoints

Endpoints

An *endpoint* is a combination of a login account and a node address. For example, the endpoint **asp1@node1** is asp1's login account on the transfer server Node1.

Every Console-based transfer is run as a specific user on a specific node (endpoint). Endpoints enable a user to perform a transfer without entering login credentials. The login credentials are defined within Console for each endpoint, rather than requiring a user to authenticate separately. Sharing an endpoint with a Console user who does not have their own login credentials for a node, allows the user to send or receive files without compromising the Console security model. Console facilitates the transfer on behalf of the user, by using the Node API credentials configured for the endpoint.

A node can have multiple endpoints, depending upon business needs. Transfers are always performed between endpoints, meaning each node must have one or more configured endpoints for the node to support FASP-based transfers via Console.

Wildcards can also be used within endpoints. For example, the endpoint ***@node1** (interpreted as "all logins at node1") is automatically created when adding the node to Console. Using endpoints with wildcards allows Console to monitor all transfers on a node as well as prompt for a specific login account when a user initiates a transfer on the node.

User-provided credentials are stored in the user's **Saved Endpoints** under the **Preferences** tab.



Creating endpoints for managed nodes

The screenshot illustrates the steps to create an endpoint for a managed node:

- Step 1: Managed Nodes Overview**
The top-left window shows the "Managed Nodes" list. A red arrow points from the "Add" button in the "Actions" column of the first row to the "Add Endpoint" button in the "Endpoints" tab of the second window.
- Step 2: Node Maintenance - New Endpoint**
The middle window displays the "Node Maintenance" page for "New York (10.0.143.22)". The "Endpoints" tab is selected. A red box highlights the "Add Endpoint" button. Another red arrow points from this button to the "Create" button in the third window.
- Step 3: Node Maintenance - Endpoint Created**
The bottom window shows the "Node Maintenance" page again, but now the "Saved Endpoints" section contains a new entry: "aspl (10.0.143.22)". A red box highlights the "Endpoint created" message above the table. A red arrow points from the "Create" button in the middle window to this message.
- Step 4: Node Maintenance - Endpoint Details**
The rightmost window is a detailed view of the newly created endpoint "aspl". It shows fields for Name ("New York Upload"), Login ("aspl"), Password, and Email Notifications. A red box highlights the "Login credentials for account on node" field, which contains "aspl" and "*****".

Adding and configuring Console nodes

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Figure 4-14. Creating endpoints for managed nodes

For Console to manage a node, Console must be able to log in to the node via SSH to browse files and run the `aspera-configurator` utility. This capability requires administrative permissions, which are what was configured by entering the SSH section of the “Admin credentials” page for each node.

Console can also conduct transfers to or from managed nodes by impersonating user accounts on each node, facilitated by the Node API user account created with the impersonation flag.

NOTE: Console always uses a specific user account on a node when conducting transfers via the impersonation ACL function

Console also supports user logins to the Console interface that can be customized to restrict or grant specific access permissions. Endpoints can be configured for a node, which are then used by the non-admin Console user account to initiate transfers. This approach allows the transfer even though the user does not know the authentication credentials that are required to access the managed node they want to use.

Details about how Console defines users and groups to control access to various resources are presented later in this course.

For now, it is important to understand how endpoints that are associated with a specific managed node are created within Console.

One or more endpoints must be created for each node (managed or unmanaged) to facilitate any transfers with that node. Authentication credentials are configured for each endpoint within the Console environment, thus removing the requirement for a non-admin user to enter authentication credentials when they attempt a transfer with the endpoint. The process of creating endpoints for a specific node, configuring the authentication credentials for the endpoint, and validating Console's ability to communicate with the endpoint are presented in the following steps.

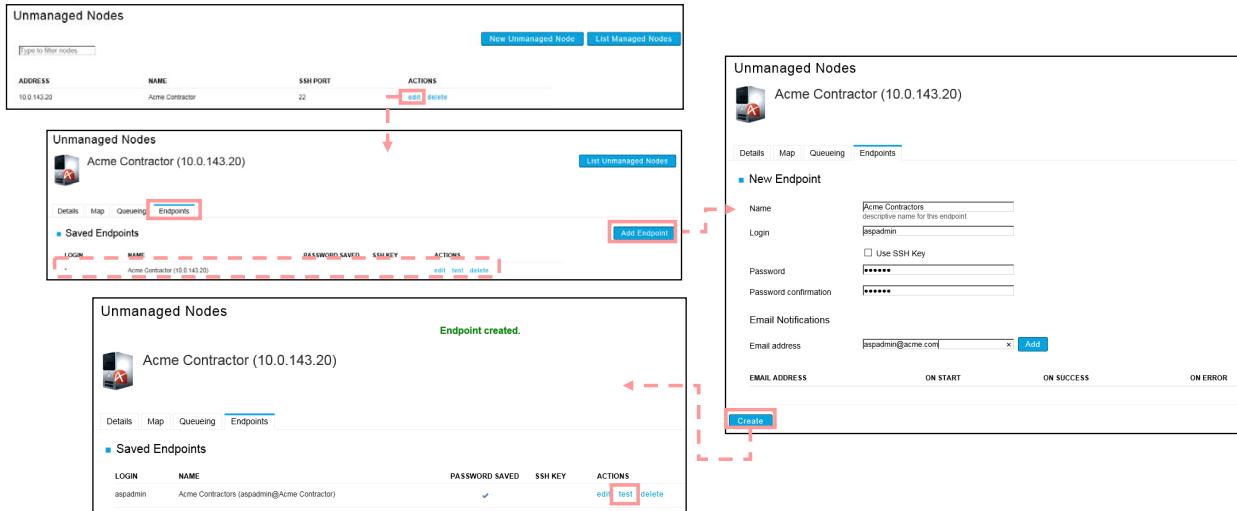
Endpoints are always associated with a specific node. From the main Console window, click the Nodes link to list the existing nodes. Locate the node where you want to create the endpoint and select the edit link that is shown under the ACTIONS header to open the Node Maintenance page for the selected node.

Click the Endpoints tab, then select the Add Endpoint button to open the New Endpoint page.

Provide the system account login and authentication method to be used for this endpoint. Notice that authentication methods include authentication with a password or an SSH key. If you need to configure endpoints to use an SSH key, refer to the Working with SSH section in the IBM Aspera Console Administration Guide.



Creating endpoints for unmanaged nodes



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Figure 4-15. *Creating endpoints for unmanaged nodes*

The admin credentials that are configured for a managed node do not apply to an unmanaged node. Because another organization owns the unmanaged node, Console is not allowed to manage the node, and thus it is not necessary to configure admin credentials for the unmanaged node.

However, in order to perform a transfer between a managed and unmanaged node, login credentials must be provided to the unmanaged node. These login credentials are configured within endpoints that are associated with the unmanaged node. Endpoints are required for initiating and monitoring transfers between a managed and unmanaged node. An endpoint for an unmanaged node is created within Console and used to authenticate against the node when initiating transfers or monitoring transfers between the unmanaged node and a managed node.

You can view existing and create new endpoints for an unmanaged node by going to the Unmanaged Nodes page and clicking the Edit link that is associated with the node you are interested in.

Select the Endpoints link to list the endpoints created for that unmanaged node. Notice that an endpoint is listed with a name of “*”. This entry is the special endpoint that is automatically created for each node that allows Console to monitor all endpoints on the node. Do not remove this entry.

Use the Add Endpoint button to open the New Endpoint page where you can provide the authentication data that is required to access the unmanaged node for transfers.

NOTE: This information is usually provided by the owner of the unmanaged node, and must be consistent with the configuration of the Aspera Transfer Server on the unmanaged node.

The optional Email Notifications section is used to identify an email address that receives notifications of the transfer activity on this endpoint. Multiple email addresses can be entered by adding each one separately.

Pressing the Create button configures the endpoint and takes you back to the maintenance page of the unmanaged node, which shows the newly created endpoint.

A check mark in the PASSWORD SAVED or SSH KEY field indicates that the endpoint contains a password or an SSH key.

Use the test link to verify that the endpoint connection works. A Connection Test for xxxx page is shown with a button at the bottom to run the test. If the test is successful, a success message appears at the top of the page.

What you learned

- Managed **nodes** can be configured and their transfer activity managed from Console
- Unmanaged nodes are not under control of Console, but can be used as transfer destinations, but only transfer activity with managed nodes is reported to Console
- Aspera Transfer servers must be configured to support Node API and a Node API user must be created on each node managed by Console
- Credentials for managed nodes require SSH credentials for Console users to be able to view files on the node to modify the node's configuration
- Adding an unmanaged node requires login credentials for the node, which do not typically give administrative permissions
- Console can monitor transfers to or from an unmanaged node only if the transfer is to or from a managed node
- An endpoint is a combination of a login account and a node address
- Endpoints are required for Console to be able to establish the correct connection for a transfer
- Endpoints are configured for managed and unmanaged nodes

Unit summary

- Prepare Aspera Transfer Servers as nodes for IBM Aspera Console
- Distinguish between managed and unmanaged nodes
- Add managed and unmanaged nodes to the Console environment
- Use Aspera Console to modify node configuration parameters
- Define endpoints for both managed and unmanaged nodes

[Adding and configuring Console nodes](#)

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Figure 4-17. Unit summary

Review questions (1 of 2)



1. Which of the following tasks can be performed after a node is added to Console? Select all that apply.

- A. New users can be added to the node (if they exist at the operating system).
- B. Files can be transferred directly from the node to the Console application.
- C. A global docroot value can be assigned.
- D. Endpoints can be modified but not deleted.

2. True or false

Node configuration parameters cannot reference an administrative user account on the node.

Review questions (2 of 2)



**3. What are the benefits of configuring unmanaged nodes?
Select all that apply.**

- A. The ability to monitor transfers to or from a node that you do not own
- B. A reduction in network traffic as unmanaged nodes do not use Node API
- C. Support for FASP transfers between your company and the outside organization that can occur only if the outside node is configured in Console
- D. Configuring an unmanaged node removes the requirement of knowing login credentials for the remote system

4. True or False

Managed nodes can initiate a transfer to or from an unmanaged node, but an unmanaged node cannot initiate the transfer in either direction.

Review answers (1 of 2)

1. Which of the following tasks can be performed after a node is added to Console? Select all that apply.

- A. New users can be added to the node (if they exist at the operating system)
- B. Files can be transferred directly from the node to the Console application
- C. A global docroot value can be assigned
- D. Endpoints can be modified but not deleted

The answer is A and C.



2. True or False

Node configuration parameters must not reference an administrative user account on the node.

The answer is U.

Managed nodes typically require using an administrative account to be able to modify configuration parameters on the node.

Review answers (2 of 2)

3. What are the benefits of configuring unmanaged nodes?

Select all that apply.

- A. The ability to monitor transfers to or from a node that you do not own or manage.
- B. A reduction in network traffic as unmanaged nodes do not use Node API.
- C. Support for FASP transfers between your company and the outside organization that can occur only if the outside node is configured in Console.
- D. Configuring an unmanaged node removes the requirement of knowing login credentials for the remote system.

The answer is A.

4. True or False

Managed nodes can initiate a transfer to or from an unmanaged node, but an unmanaged node cannot initiate the transfer in either direction.

The answer is U.



Exercise: Adding and configuring Console nodes

Adding and configuring Console nodes

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Figure 4-22. Exercise: Adding and configuring Console nodes

Exercise introduction

- Prepare Aspera Transfer Servers as nodes for IBM Aspera Console
- Distinguish between managed and unmanaged nodes
- Add managed and unmanaged nodes to the Console environment
- Use Aspera Console to modify node configuration parameters
- Define endpoints for both managed and unmanaged nodes



[Adding and configuring Console nodes](#)

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Figure 4-23. Exercise introduction

Exercise overview



The lab exercise associated with this section requires you prepare the two Linux servers to be managed by Aspera Console. Specifically, you must configure a Node API user account to be used by Console on each server.

After preparing the nodes, you then add the two Linux servers as managed nodes to Aspera Console. You also add the Windows transfer server as an unmanaged node.

The final steps in this exercise create endpoints on each of the nodes.

- Go to lab environment
- **READ** the **Lab Intro** module for details (explains how to use the lab environment)
- Start the servers in the lab environment
- Follow the steps in **Exercise 2**
- Perform tasks on the two Linux servers, then work on Windows server (Singapore)
- If you leave the environment for more than an hour or so, the systems are suspended and you need to restart them before continuing

Figure 4-24. Exercise overview

Unit 5. Managing Console users and groups

Estimated time

00:30

Overview

This unit presents the creation and management of Console users and groups.

Unit objectives

- Explain the concept of a transfer path as it relates to Console users
- Add and remove Console user and group accounts
- Assign permissions for Console users

Managing Console users and groups

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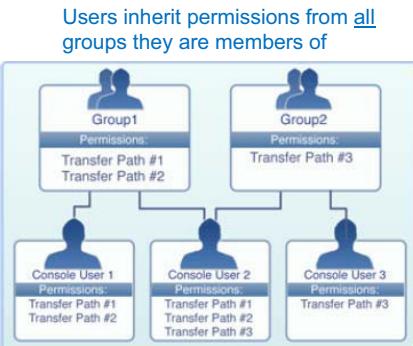
Figure 5-1. Unit objectives

Console users and groups overview

User – Console login account with customizable permissions

Group – defines transfer permissions for all members

Transfer Path – path consisting of 2 endpoints, transfer direction, & set of permissions



Default Console Groups	
Transfer Administrators	monitor transfers, control & setup email notifications, start simple/smart transfers
Transfer Initiators	start simple & smart transfers
Transfer Monitors	monitor transfers & setup email notifications

Managing Console users and groups

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Figure 5-2. Console users and groups overview

IBM Aspera Console uses a combination of groups, transfer paths, and user accounts to manage to user permissions. A user that belongs to a group inherits permissions defined within the group(s) he/she belongs to. A group's permissions are defined by its transfer paths. If you want a non-admin user to be able to see certain transfers, you need to add them to a group. This group must have one or more transfer paths added to it to specify the kinds of transfers that members of the group are allowed to see and/or control.

Console administrators are able to view and control all transfers. They automatically inherit permissions of any existing Console groups. They can add, edit, and delete any nodes, Console users, or Console groups.

Default Console Groups

An check box option is offered on the “Creating a New Node” page to create 3 default Console groups. If created, these default Console groups provide the following permissions to included users across all nodes managed by Console:

Transfer Administrators: users in this group can monitor, control and set up Email Notifications of all transfers on all Console nodes, start Simple and Smart Transfers between any nodes, and share Smart Transfer templates with other users

Transfer Initiators: users in this group can start Simple and Smart Transfers between any nodes

Transfer Monitors: users in this group can monitor and set up Email Notifications of all transfers on all Console nodes

Additional groups may be created with their own transfer paths to support specific access needs.

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Managing Console users & groups

The screenshot shows the Aspera Console interface with the "Accounts" link highlighted. The "Users" tab is selected under the "Accounts" menu. The main table displays a single user entry:

LOGIN	NAME	EMAIL	DIRECTORY	TIME ZONE	ACTIVE	ADMIN	ACTIONS
conadmin	conadmin@training.net		Local Database	Pacific Time (US & Canada)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	edit permissions

Below the table is a "GLOBAL PERMISSIONS" section with checkboxes for "ACTIVE" and "ADMIN". A "New User" button is located at the top right of the table area.

To the right of the main window, there are two configuration panels:

- Remote User/Group Management**: Contains fields for "Base URL" (with example https://127.0.0.1/api/v1/), "API Login", "API Password", and buttons for "Save" and "Save and test settings". A checkbox indicates if users and groups are authenticated through a remote API.
- SAML Configuration**: Contains fields for "IdP SSO Target (Redirect) URL" (example https://127.0.0.1:9011/auth/login.png?PartnerSplitHttp://192.168.0.1/auth/saml/metadata) and "IdP Cert Fingerprint (sha1)" (example hash A595E77A2SF19ECCC306CFD5EF798C0D46A2B80). A checkbox indicates if users and groups will be authenticated via SAML. A "Save" button is present.

Managing Console users and groups

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Figure 5-3. Managing Console users & groups

The web pages that manage Console users and groups are located under the “Accounts” link at the top of the main Console window.

In addition to creating and configuring user and group accounts, the Accounts page also provides links for configuring external directory and/or SAML authentication services. Configuration of both SAML and other remote directory services involves simply providing the access credentials to the service provider. See the Configuring the Directory Service and Working with SAML sections of the Aspera Console Administration Guide for more details about configuring and using remote authentication services.



Configuring new groups

Plan groups and transfer paths prior to creation
Endpoints must exist
Multiple transfer paths allowed

[Managing Console users and groups](#)

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Figure 5-4. Configuring new groups

As with all aspects of Console configuration, it is generally a good idea to plan the groups and their Transfer Paths you think you need before actually implementing them.

The creation of groups is accomplished by selecting the Accounts link, then clicking on the New Group link, as mentioned previously. After the group is created, you are presented with the Edit Group xxxx page where you can edit the group name and description, add users to the group, and configure the Transfer Paths that are associated with the group.

Clicking the Add Transfer Path button opens the New Transfer Path page. This page enables the configuration of the endpoints that will be part of the path and the direction of transfers allowed between the endpoints. Only existing endpoints can be configured. You can also assign the permissions that are given to members of the group.

NOTE: When creating a unidirectional transfer path, Endpoint 1 should be the source endpoint and Endpoint 2 should be the receiving endpoint. Selecting Any grants users transfer path permissions to all nodes. If you specify a node user in an endpoint, Console users only have transfer path permissions to transfers involving the node user with that SSH login.

- Unidirectional (to): Console users can create, initiate, and monitor transfers from Endpoint 1 to Endpoint 2 (depending on the transfer path permissions) but not the other way around
- Bidirectional (to/from): Console users can create, initiate, and monitor transfers (depending on the transfer path permissions) from either Endpoint 1 or Endpoint 2

Click Create to save and add the endpoint.

If more than one transfer path is needed for a group, repeat the process for each transfer path.

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Creating Console users

The screenshot shows two main parts of the Aspera Console interface:

- Accounts Page:** Shows a list of existing users. One user, "conadmin", is listed with the email "conadmin@training.net". A red box highlights the "Users" tab in the top navigation bar and the "New User" button in the top right corner.
- New User Creation Form:** A modal window titled "New User". It has two sections: "User Information" and "Permissions".
 - User Information:** Fields for Login (text input), First name (text input), Last name (text input), Email (text input), and Time zone (dropdown). A note below says: "If checked, user will be sent a temporary password via email upon account creation". A red box highlights the "Set password" checkbox.
 - Permissions:** Checkboxes for Active (allow user to login) [checked], Reports Allowed [checked], and Console Administrator [unchecked]. A red box highlights the "Create" button.

Managing Console users and groups

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Figure 5-5. Creating Console users

An IBM Aspera Console user is a Console login account with customizable access permissions. Except for administrator accounts, Console user permissions are managed through group assignment. A Console user inherits permissions from its groups.

NOTE: A Console user is not directly related to the login account to a node

Console user accounts can be viewed by selecting the Users link under the Accounts page. All existing user accounts are shown, with options to edit or delete the account. The Users page provides a New User button that opens the New User page.

NOTE: If you do not set a password, Console generates a temporary password for the account.

You can change password requirements in the Console Password Options section of the **Configuration > Defaults** page from the Console menu. You can customize password parameters such as password expiration times, reuse limits, and password requirements.

The Active checkbox under the Permissions section can be unchecked if you want to deactivate a user's account without removing it.

You may also make the user a Console administrator by checking the Console Administrator checkbox.

When a new user account is created, the system sends an account creation notification email to the designated email address with the account's login username and password.

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Configuring Console user permissions

Press "Add" after selection

Multiple groups added separately

Inherited permissions

User was successfully created.

Group membership

Managing Console users and groups

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Figure 5-6. Configuring Console user permissions

After a Console user is created, you are redirected to the user's permissions page, where you assign the user to groups, from which the user inherits transfer-path permissions.

Assign the user to a group by selecting a group from the dropdown menu, and clicking Add. The added group is displayed, along with all of the Transfer Paths that are accessible to this user.

A user can be added to multiple groups by repeating the Add selection for each desired group.

What you learned

- Console user accounts are used to login to Console
- A Console user's permissions are based on the group or groups they are members of
- Users inherit the permissions of all the groups in which they are members
- Transfer paths are added to groups to define connections between 2 endpoints recognized by the group

Unit summary

- Explain the concept of a transfer path as it relates to Console users
- Add and remove Console user and group accounts
- Assign permissions for Console users

Managing Console users and groups

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Figure 5-8. Unit summary

Review questions

- 1. Which of the following tasks can a user in the Transfer Administrator group on the node called Atlanta perform? Select all that apply.**
 - A. Set up email notifications of all transfers on all Console nodes
 - B. Start simple and smart transfers between the node Atlanta and any other node
 - C. Share smart transfer templates with users on all nodes
 - D. Generate reports using the database on the Atlanta node
- 2. What is a transfer path?**
 - A. A transfer path is another name for an endpoint
 - B. A transfer path is the combination of 2 endpoints, a transfer direction, and a set of permissions
 - C. A transfer path is a parameter defined on the Configuration Defaults page
 - D. A transfer path is the combination of a node name and a directory on that node

Managing Console users and groups

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Figure 5-9. Review questions

Review answers

1. Which of the following tasks can a user in the Transfer Administrator group on the node called Atlanta perform? Select all that apply.

- A. Set up email notifications of all transfers on all Console nodes
- B. Start simple and smart transfers between the node Atlanta and any other node
- C. Share smart transfer templates with users on all nodes
- D. Generate reports using the database on the Atlanta node

The answer is B. The Transfer Administrator group is a default group created on each node. So, any actions allowed by a user in that group will be limited to actions on the assigned node.

2. What is a transfer path?

- A. A transfer path is another name for an endpoint
- B. A transfer path is the combination of 2 endpoints, a transfer direction, and a set of permissions
- C. A transfer path is a parameter defined on the Configuration Defaults page
- D. A transfer path is the combination of a node name and a directory on that node

The answer is B.

Exercise: Managing Console users and groups

Managing Console users and groups

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Figure 5-11. Exercise: Managing Console users and groups

Exercise introduction

- Explain the concept of a transfer path as it relates to Console users
- Add and remove Console user and group accounts
- Assign permissions for Console user



Managing Console users and groups

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Figure 5-12. Exercise introduction

Exercise overview



In this short lab, you create groups and users, define permissions for groups, and add users to group membership.

Figure 5-13. Exercise overview

Unit 6. Creating and managing Console transfers

Estimated time

00:45

Overview

This unit discusses the procedures for creating and running simple and smart transfers from IBM Aspera Console.

Unit objectives

- Perform simple transfers
- Define and use smart transfers for automated transfers
- Modify priorities for Console-based transfers
- Use Console to access transfer details
- Monitor transfers on both managed and unmanaged nodes

Creating and managing Console transfers

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Figure 6-1. Unit objectives

Topics

- Simple transfers
- Smart transfers
- Transfer queues
- Transfer details

Creating and managing Console transfers

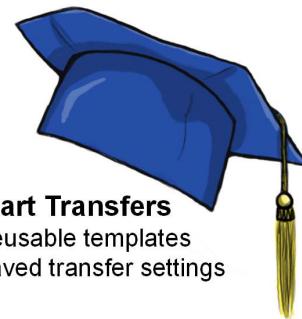
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Figure 6-2. Topics

Overview of simple and smart transfers

Simple Transfers

One time transfers
All information input each time



Smart Transfers

Reusable templates
Saved transfer settings

Figure 6-3. Overview of simple and smart transfers

IBM Aspera Console can be used to initiate transfers between nodes when the Console user has the permission to start transfers. Console provides two types of transfer methods: simple transfers and smart transfers.

Simple transfers are one-time transfer sessions that require entering all transfer information.

Smart transfers are reusable templates with saved transfer settings.

6.1. Simple transfers

Simple transfers

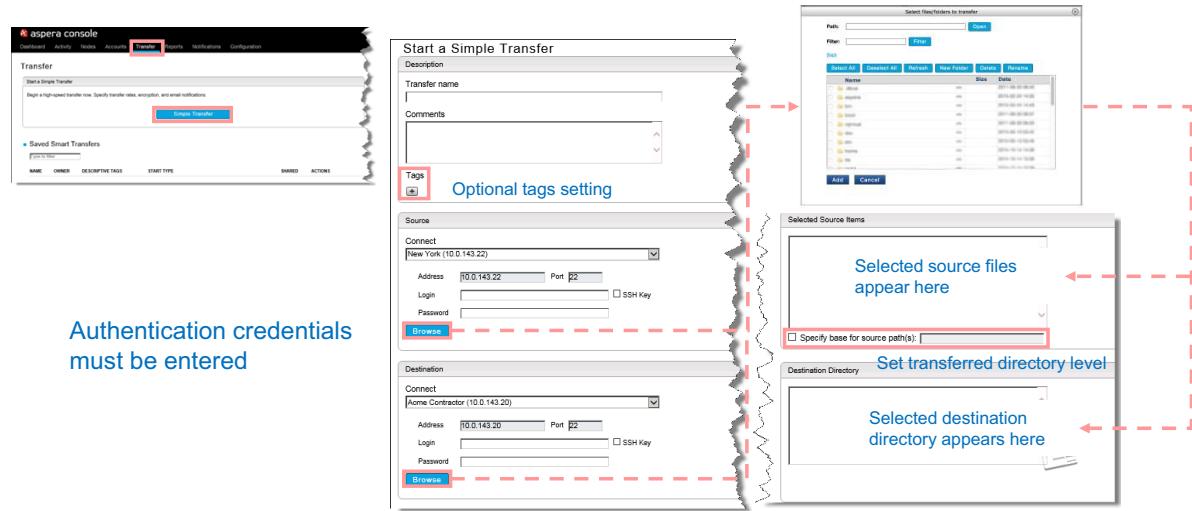
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Figure 6-4. Simple transfers

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Starting simple transfers



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Figure 6-5. Starting simple transfers

One time transfers between nodes can be performed by accessing the Transfer link of the main Console page and selecting the Simple Transfer button to open the Start a Simple Transfer page.

While not required, entering values in the Transfer Name and Comment fields can be helpful if you want to search for this transfer later.

If you want, you can also add a tag name and value. Tags in Aspera products are JSON (JavaScript Object Notation) strings, which Console uses to identify transfers and to label Console-initiated transfers. You can find a specific transfer's tags by navigating to a transfer's *Session Details* page and selecting the Session ID link under the Session State column.

Tags are used in the following tasks:

- Creating simple transfers
- Creating and starting smart transfers
- Creating advanced rulesets to filter by tags
- Creating custom fields with rules involving tags
- Searching using the Advanced Search

See the “Working with Tags” section of the IBM Aspera Console Administration Guide for more details about using tags.

Select the node to be used as the source for the transfer from the pull-down menu. The node's IP address is automatically completed, but you need to specify the login name and password (or SSH key) to be used to connect with the node. Clicking the Browse button initiates a connection to the node, and if authenticated, opens the Select Files or Folders dialogue, where you can select the files or directories to transfer.

The files or directories you select are added to the Selected Source Files pane on the right of the Source fields

You must also enter appropriate authentication credentials in the "Destination" fields. The "Browse" button in the "Destination" section is used to select the directory where the transferred files are to be placed.

Modifying which directory levels are transferred specifies a portion of the source path to *remove* to place the transferred files directly into the destination folder without its hierarchy of folders.

For example, a source computer has a **sent_files/project** directory that contains the following folders and files:

/shared_files/project/presentation

/shared_files/project/video_footage/take1 ... Take2

If your source selection is the **shared_files/project** directory, by default, the transfer consists of the sent files directory and its entire contents: **shared_files/project/presentation** and **shared_files/project/video_footage/take1 ... take2** with no further path information. If the destination directory is specified as **/incoming**, your transferred files appear as follows on the destination computer:

docroot/incoming/shared_files/project/presentation

docroot/incoming/shared_files/project/video_footage/take1 ... Take2

However, by enabling the Specify base for source paths(s) checkbox, the **project** folder itself can be excluded. By specifying **/shared_files/project**, only **presentation** and **video_footage/*** is transferred. The transferred files appear as follows on the destination computer:

docroot/incoming/presentation

docroot/incoming/video_footage/take1 ... take2

If any files or folders that are selected for transfer fall outside the specified source-path base, they are omitted from the transfer. For example, if the source-base path is specified as **/shared_files/project/video_footage**, then **presentation** is not transferred at all because it is not in **video_footage**. Only **take1 ... take2** are transferred. The transferred files appear as follows on the destination computer:

docroot/incoming/take1

docroot/incoming/take2

The "Specify base for source paths(s)" checkbox can also be used to include *more* path depth than the default. If the source-base path is specified as **/shared_files**, then **project** and everything below it is transferred. Similarly, if the source-base path is specified as **/** only, the entire source path **/shared_files/project** and everything below is transferred.



Simple transfers: More options

The screenshot shows the 'More Options' configuration page for a simple transfer. The 'Transfer Time' section is highlighted with a red box. It includes fields for 'Transfer' (radio buttons for 'Now' or 'Later') and a 'Transfer' button at the bottom.

Connection: Port for fasp, fasp proxy server

Transfer: Target rate, Minimum rate, Policy, retries

Security: Encryption (at rest & transport)

File Handling: Timestamp filtering, Resume policy, File attributes, etc.

Notifications: Email address

Advanced: fasp datagram size, read/write block size

Transfer Time: When to submit transfer

[Details in IBM Aspera Console Administration Guide](#)

[Creating and managing Console transfers](#)

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Figure 6-6. Simple transfers: More options

Other parameters that are associated with the simple transfer can be configured using the options that are provided in the More Options section. The example lists the various categories of parameters that can be configured, with a couple of the categories that are expanded to indicate how the actual values are entered.

Notice that the last parameter allows for scheduling the transfer later. This option applies only to a single instance of the transfer – meaning you can schedule a later time, but it occurs only once. If you want a recurring transfer, you need to schedule a smart transfer.

Details about the optional parameter settings are provided in the Reference: Simple Transfers section of the Console Administration Guide.

Pressing the Transfer button initiates the transfer (or schedules it for execution later, if specified).

6.2. Smart transfers

Smart transfers

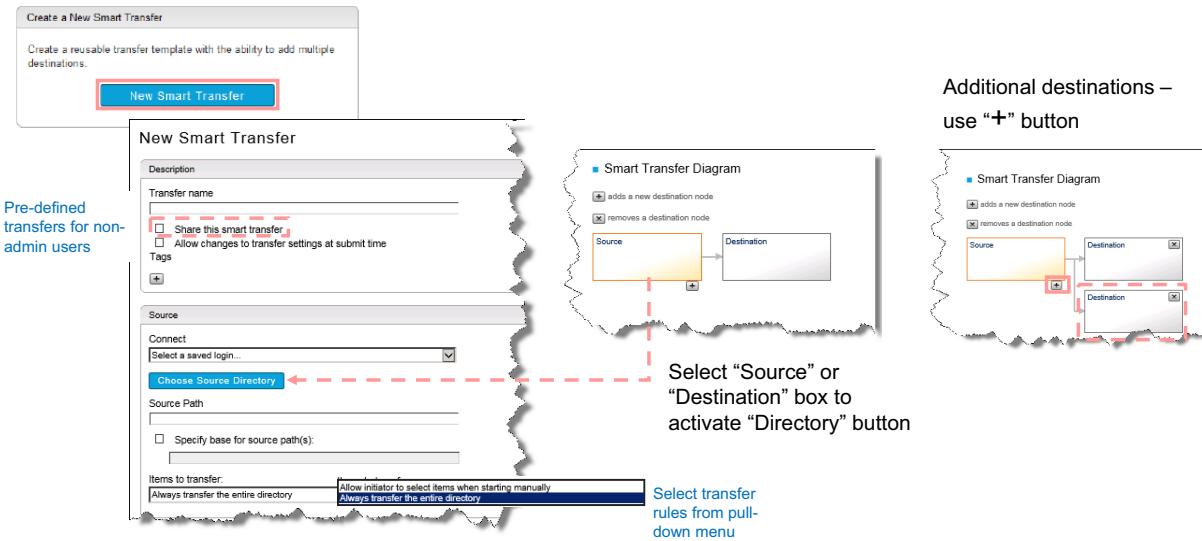
Creating and managing Console transfers

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Figure 6-7. Smart transfers



Creating smart transfers



Creating and managing Console transfers

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Figure 6-8. Creating smart transfers

Smart transfers are reusable templates with saved settings. Most of the parameters that are required for creating a smart transfer are the same as those parameters required for a simple transfer. The fields that are presented on the New Smart Transfer page are the same as for a simple transfer. However, some differences exist.

Creating a smart transfer is initiated by clicking the New Smart Transfer button that is displayed on the main Transfer page to open the New Smart Transfer page. From here, you can configure the various aspects of the smart transfer.

The Share this smart transfer option below the Transfer name field can be selected to make this smart transfer available to any user who matches the transfer paths. The primary use case for sharing smart transfers is to set up pre-defined transfers for non-admin users to run. You can decide what transfers a user can monitor and start by limiting the user's permissions and give them access to a smart transfer.

Smart transfers can be configured using endpoints and for personal logins. See the "Transfers" chapter of the Console Administration Guide for more details about configuring shared smart transfers.

NOTE: You can only use saved endpoints for shared smart transfers with endpoints. You can select only endpoints that are saved in Console unless the feature Smart Transfer Sharing found at Configuration/Defaults is enabled.

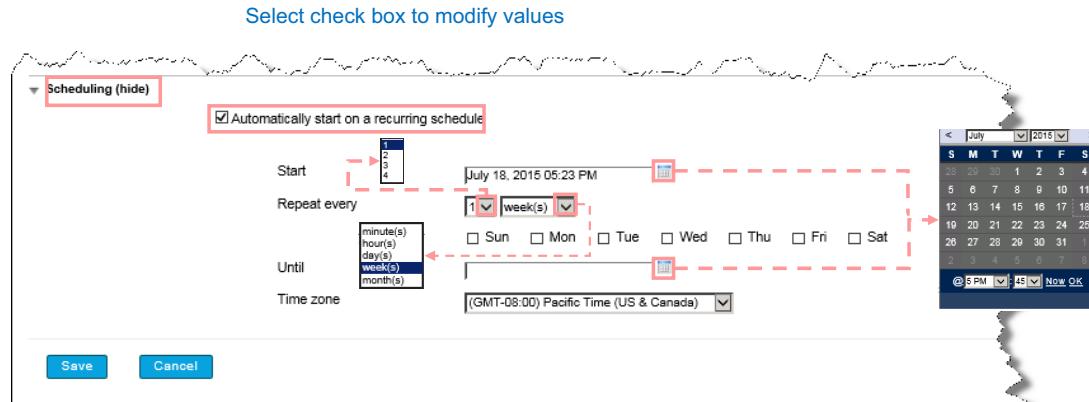
By default, the “Source” box that is located in the Smart Transfer Diagram section is highlighted, and the Choose Source Directory button is displayed in the Source section. Use this button to open the Select Files/Directory dialog, as with simple transfers. After the file(s) or directory is selected, the Source box shows the files to transfer.

Clicking the Destination box causes the Choose Source Directory button to disappear and the Choose Destination Directory button to appear in the Destination section.

If you want to configure multiple destinations, you can add them by clicking the “+” icon in the Smart Transfer Diagram section to open another Destination box.

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Scheduling smart transfers



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Figure 6-9. Scheduling smart transfers

As with simple transfers, a More Options section is included on the New Smart Transfer page, with the same parameter options. A Reference: Smart Transfers section in the Console Administration Guide that defines these parameters.

The “Scheduling” link does differ with a smart transfer. Smart transfers are recurring, so it is necessary to define when the transfer occurs and how frequently, not just starting immediately or at a specific time. The parameters in the “Scheduling” section can identify a specific date and time for the transfer to be run, as well as indicating how frequently it should be repeated (minutes, hours, days, weeks, or months). If months are specified, you can specify whether to perform the transfer on a specific day of the month or on the “_nth” day of the month (for example, the last Friday of the month, or the 3rd Tuesday of the month).

The calendar icon next to the Start and Until fields open a calendar that you can use to select a date.

Depending upon your choice of minutes, hours, days, weeks, or months for the repeating rule, different options are provided in the specifics of that option. For example, if you choose “weeks” the specifics option shows “1, 2, 3 and 4”. If you select hours, the specific options are “1 – 24”).

NOTE: The Start value is based on the date and time you create the smart transfer and cannot be modified, unless you mark the Automatic start on a recurring schedule checkbox. You can modify scheduling parameter values by placing a mark in this checkbox. Console calculates the run time

for the next occurrence that matches the repeat rules. For example, if the start date is July 18, 2015, but the transfer is scheduled to run on Mondays, then the first transfer occurs on Monday July 20.

You can also specify when the repeating transfer should end – effectively a “do not go beyond” date and time.

6.3. Transfer queues

Transfer queues

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Figure 6-10. Transfer queues

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Queues: Limiting concurrent transfers

The screenshot shows the Aspera Console interface. The top navigation bar has tabs for Dashboard, Activity, **Nodes**, Accounts, Transfer, Reports, Notifications, and Configuration. The 'Nodes' tab is highlighted with a red box. Below it, the 'Managed Nodes' section lists a single node: New York (10.0.143.22). The 'Actions' column for this node also has a red box around the edit and delete buttons.

The main content area is titled 'Node Maintenance' for the 'New York' node. It includes tabs for Details, Credentials, Configuration, Vlinks, **Queueing**, Accounts, Endpoints, Map, Cleanup, and About. The 'Queueing' tab is selected and highlighted with a red box. It contains sections for Inbound Transfers and Outbound Transfers, each with a 'Limit concurrency' checkbox checked and a 'Max. concurrent transfers' input field set to 1. A note at the bottom states: 'NOTE: Queueing only applies to transfers started from Console or via its API. Transfers started outside Console are not subject to queueing and do not count towards concurrency limits.' Below the input fields are 'Update' and 'Cancel' buttons.

New transfers queued if max concurrent transfers
Only for Console-based transfers
Configured per node

Separate limits for Inbound & Outbound transfers
Node with lowest limit governs limits

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Figure 6-11. Queues: Limiting concurrent transfers

Queuing provides a means of limiting the number of concurrent transfers to or from a node. Admins can limit the number of Console-initiated transfers that can run concurrently for a destination or from a designated source. This limiting can be useful if network connections have limited bandwidth or particular destination nodes have limited when more than a few transfers are required at a time. For example, if the concurrency limit for a connection is **2**, and two transfers are in progress, any new transfers that are initiated while the first two are still in progress are queued in the order they were initiated.

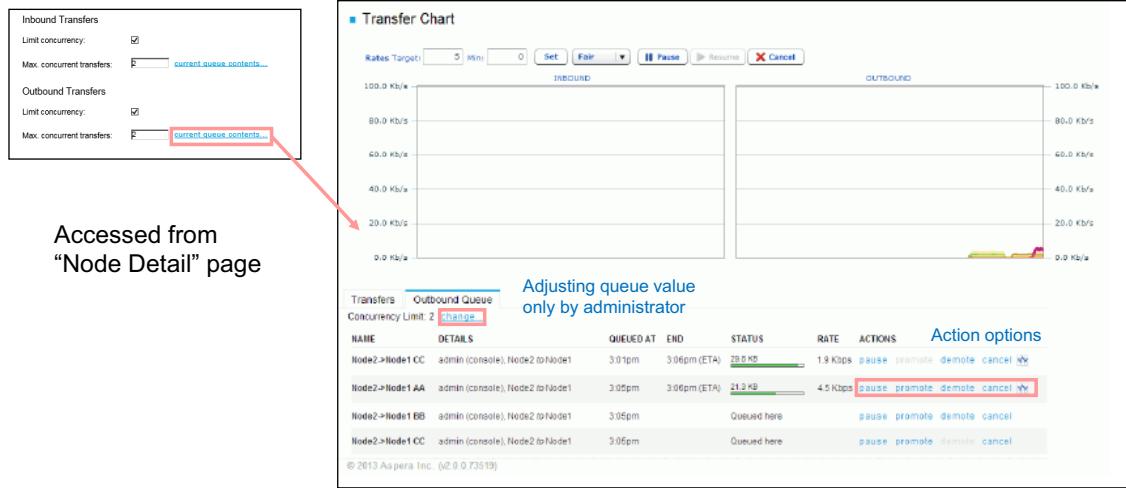
NOTE: Transfers initiated outside of Console are not subject to queuing and do not count towards concurrency limits.

Concurrency limits are always assigned on a per-node basis, and per outbound or inbound direction. However, the overall, actual limit on a set of concurrent transfers between two nodes is limited by the node with the lowest limit. That is, if NodeA has an outbound limit of 2 and NodeB has an inbound limit of 1, concurrent transfers from NodeA to NodeB are limited to one transfer at a time. Subsequent transfers are queued in the order in which they were initiated.

Concurrency limits are set from the Queueing page, which is accessed from a node's maintenance page. Concurrency limits are disabled by default, and if you want to set them, you must place a check in the Max concurrent transfers checkbox in either the Inbound Transfers or the Outbound Transfers section.

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Queues: Managing transfer priorities



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Figure 6-12. Queues: Managing transfer priorities

Setting concurrency limits helps managing the number of transfers on a per node basis. But queuing can also be useful in emergency situations. All users can change the priority order of queued and in-progress transfers, which can be useful in situations where users need to respond to emergencies or shifting priorities.

- After transfers that are subject to queueing are in progress, their queueing properties can be adjusted in several ways:

- Their relative priorities can be raised or lowered
- They can be paused and resumed
- The concurrency limit in effect can be raised or lowered
- Concurrency (and therefore queuing) can be disabled completely

These adjustments can be made from the Node Detail page for either node in a transfer as long as the node is configured with concurrency limits.

To open the Node Detail page, click anywhere on a queued-enabled node from your list of managed or unmanaged nodes. You can also reach this page from the Node Maintenance /Queueing page by clicking the current queue contents link.

On the Node Detail page, below the transfer charts, you see an Inbound Queue tab or an Outbound Queue tab, or both. These tabs are visible depending on whether the node for this page is enabled

for inbound or outbound queueing. Clicking the tab displays the node's inbound or outbound transfers--both currently in progress and in the queue.

The Transfers tab also shows both outbound and inbound past transfers, but does not include controls for promoting or demoting or pausing or resuming the transfer.

You can select the transfer whose priority you need to transfer by selecting either the promote or demote link in the ACTIONS column that is associated with the transfer you want to modify. The transfer is moved lower or higher in the queue and in the display list.

To pause or resume a transfer, click the pause or resume link. A transfer can be promoted even if paused.

To raise or lower the concurrency limit, or disable queuing completely, click the change link next to the current limit displayed just below the tabs. Only administrators can adjust the concurrency limit or disable queuing!

6.4. Transfer details

Transfer details

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Figure 6-13. Transfer details

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Activity overview

Current Transfers						
NAME	DETAILS	START	END	STATUS	RATE	ACTIONS
10001 Files	aspera (ssh), 10.8 to sles	11:07am	11:08am (ETA)	<div style="width: 52.5 MB;">52.5 MB</div>	12.2 Mbps	pause cancel
100MB	aspera (ssh), 10.8 to sles	11:07am	11:08am (ETA)	<div style="width: 62.2 MB;">62.2 MB</div>	38.6 Mbps	pause cancel

Past Transfers						
NAME	DETAILS	START	END	STATUS	Avg Rate	ACTIONS
test transfer 3 -Rerun	admin (console), sles to fedora	10:56am	11:00am	Cancelled		rerun
1GB	aspera (ssh), 10.8 to sles	10:51am	10:53am	Completed	78.1 Mbps	rerun
Linux to Windows	admin (console), sles to 2008R2	10:48am	10:53am	Completed	288.3 Kbps	rerun

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Figure 6-14. Activity overview

The Activity Overview page lists all transfers on all managed nodes, giving an overview of the transfers. You go to this page by selecting Activity from the Console menu.

The Current section lists all currently active transfers, including running and queued transfers. The Past section shows previous transfers, including those transfers that are completed, canceled, or those that generated errors.

The Activity page provides a summary of each transfer, including the endpoints that are involved (DETAILS), when the transfer ran (START and END), the status of the transfer (STATUS), and the current transfer rate or the average rate of a completed transfer (RATE).

Pull-down menus at the top of the page provide filter options to assist in viewing only the desired transfers, and actions (ACTION - pause, cancel, and rerun) are available for both current and past transfers

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Accessing transfer details

The screenshot displays two views of the Aspera Console interface. On the left, the 'Dashboard' page is shown, featuring sections for Current Transfers, Scheduled Transfers, Recent Transfers, and Problem Transfers. A red box highlights the 'Dashboard' tab at the top. On the right, the 'Session Detail' page is shown for a specific transfer. This page includes a summary table with columns for NAME, CONTACT, ENDED, and TRANSFERRED, and a detailed table for Session State, Session Files, and Endpoints. A red box highlights the 'Session Detail' tab at the top. A red arrow points from the 'TRANSFERRED' column in the 'Recent Transfers' table on the Dashboard to the 'TRANSFERRED' value in the 'Session Detail' table.

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Figure 6-15. Accessing transfer details

Details about a particular transfer are accessed by clicking a transfer that is shown in listings of Current or Past sections on the Activity page. In addition to the Activity page, you can view transfers from the Dashboard page or the Node Detail page of each node.

The example shows how transfer details can be accessed from the Dashboard page, which also lists Scheduled and Problem transfers.

Selecting any transfer opens a Session Detail page that provides important details about the transfer.

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Session details: 1

The screenshot displays the "Session Detail" page for a transfer named "Acme to NY". The top left shows session metadata: Contact: consadmin (console) at 10:17am, Started via: aspera.console. The "Session State" section indicates a completed session with 5 of 5 files transferred. The "Session ID" is highlighted with a red box and a link to the "Session Database Records" page. The "Session Files" section lists transferred files from /home/aspadmin/Documents/. The "Session Database Records" table provides detailed logs of the transfer, including columns for LOGGED FROM, SESSION_ID, START, STOP, BYTES, FILES, STATUS, and COOKIES. A red box highlights the "Completed" status in the STATUS column. The "List of DB Fields" on the right shows the schema for the session database records.

ID	LOGGED FROM	SESSION_ID	START	STOP	BYTES	FILES	STATUS	COOKIE	TAGS
258	console_user:10.0.143.22	17d2a5c2-beff-42b1-a0f8-99eac2e02	2015-07-19 10:17:44	2015-07-19 10:18:28 -0700	52,423,000 (50 MB)	52,423,000 (50 MB)	completed		aspera.console:0f84f33a-83dc-4720-8a98-079967fb006 aspera.console:0f84f33a-83dc-4720-8a98-079967fb006 Acme to NY

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Figure 6-16. Session details: 1

The Session Detail page provides extensive details about a specific transfer, with links to other information. The overhead shows part of an example of a “Session Detail” page. More sections are shown on the next page.

In the upper left corner, the name that is associated with the transfer, when it was started and which user ran the transfer is shown.

Session State

The Session State section provides summary information about the session, including:

- The session status
- The number of files transferred during the session
- The transport protocol used
- Encryption information
- The session ID.

Session ID

The Session ID: is a unique identifier assigned to each transfer session. Clicking the link that is provided opens the Session Database Records page, which displays more details about the session that is stored in Console’s MySQL database.

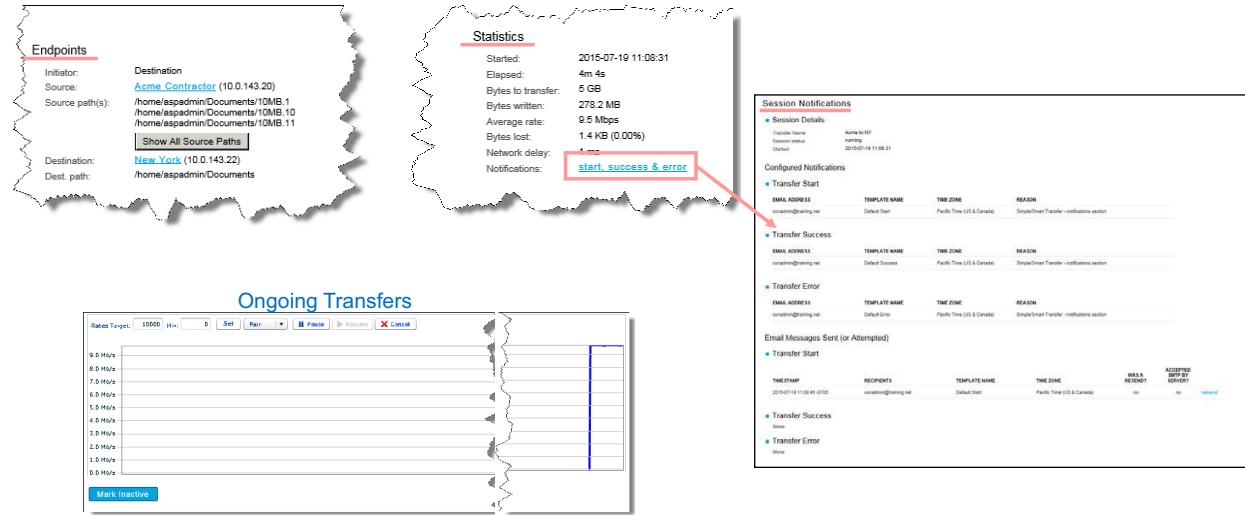
List of DB fields

The Complete field list link on the Session Database Records page can be selected to list all of the statistics defined in the database about the transfer session.

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Session details: 2



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Figure 6-17. Session details: 2

Endpoints

The Session Detail page also lists the endpoints that are involved in the transfer (with links to the Node Detail page of both nodes), and details about the source and destination paths of each file transferred.

Statistics

A Statistics section is also shown on the Session Detail page. The statistics that are displayed provide details about:

- When the transfer started
- How long it took to complete
- How many bytes were involved in the transfer
- The average rate of transfer
- How many bytes were lost during the transfer
- How much delay is in the network during the transfer.

Notifications

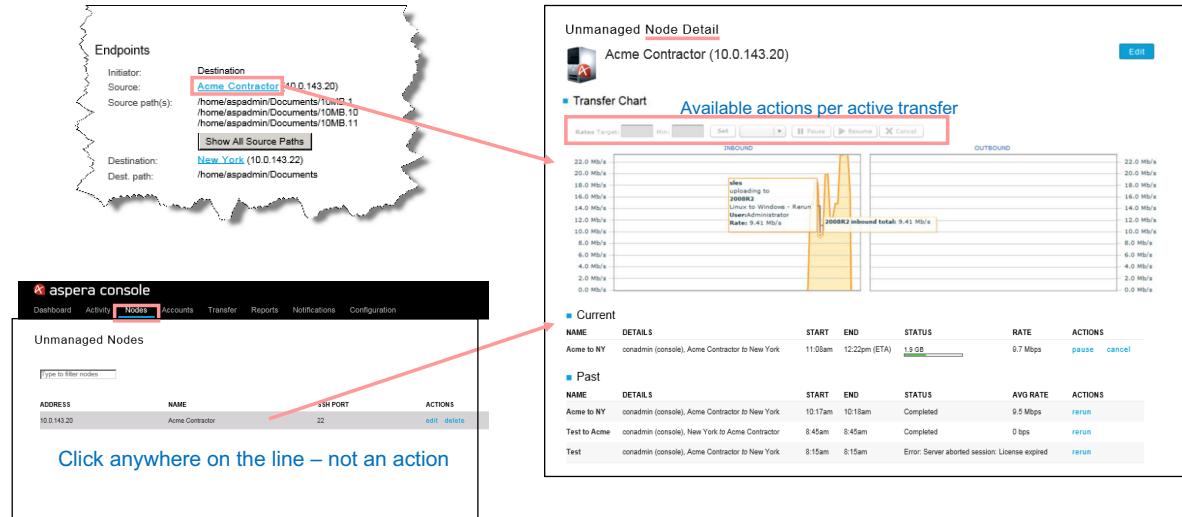
The Notifications parameter provides a link to the Session Notifications page, which provides details about any notifications associated with the transfer.

Ongoing transfers

If the Session Detail page is accessed for a transfer in progress, additional information is shown, providing a graphic view of the transfer rate.

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Monitoring nodes



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Figure 6-18. Monitoring nodes

You can monitor the node status and manage the transfers on a node from the Node Detail page. You can reach the Node Detail page by clicking the node name in the Endpoints section of the Session Detail page, or by clicking the node from the Nodes page. Assuming you have permission, you can monitor managed and unmanaged nodes.

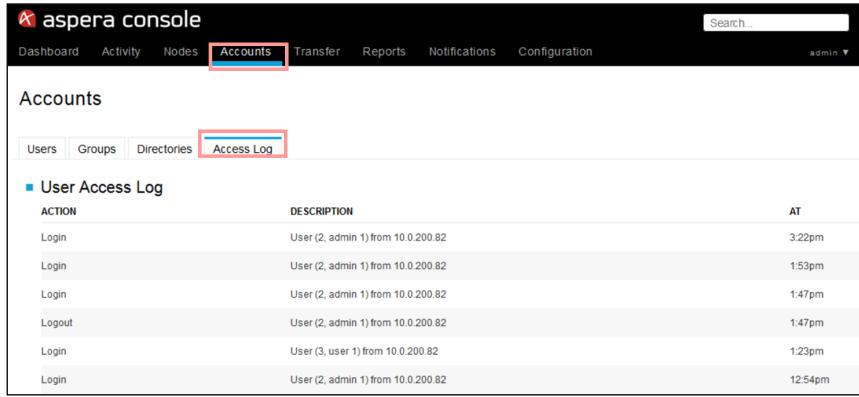
Node Detail page

The upper pane shown on the Node Detail page is a transfer chart that shows all inbound and outbound transfers on this node.

To control a transfer session, select a session from the graph, and use the control options above the graph to control it.

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Monitoring logs



The screenshot shows the Aspera console interface. At the top, there is a navigation bar with links: Dashboard, Activity, Nodes, **Accounts**, Transfer, Reports, Notifications, and Configuration. The 'Accounts' link is highlighted with a red box. Below the navigation bar, the main content area has a title 'Accounts'. Underneath this, there are four tabs: Users, Groups, Directories, and **Access Log**, with the 'Access Log' tab also highlighted with a red box. The main content area displays a table titled 'User Access Log' with the following data:

ACTION	DESCRIPTION	AT
Login	User (2, admin 1) from 10.0.200.82	3:22pm
Login	User (2, admin 1) from 10.0.200.82	1:53pm
Login	User (2, admin 1) from 10.0.200.82	1:47pm
Logout	User (2, admin 1) from 10.0.200.82	1:47pm
Login	User (3, user 1) from 10.0.200.82	1:23pm
Login	User (2, admin 1) from 10.0.200.82	12:54pm

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Figure 6-19. Monitoring logs

After you create accounts for Console users, you can monitor their activity from the Access Log tab found on the Accounts page. The User Access Log page displays user logins, and logouts, concurrent logins and session timeouts.

What you learned

- Simple transfers are ad hoc, run once transfers
- Simple transfers require authentication credentials and transfer details when it is configured Simple transfers can be scheduled to run at a later time
- Smart transfers are configured and saved to be run multiple times
- Smart transfers can be shared with other console users
- Smart transfers can be scheduled to run at a later time, or even to run on a regular schedule
- Console can be configured to limit the number of concurrent transfers initiated by Console
- You can change a transfers position in a queue
- The Activity page provides the ability to search for specific transfers, current, past, or scheduled transfers
- Detailed information about each transfer session recorded by Console can be examined when needed

Unit summary

- Perform simple transfers
- Define and use smart transfers for automated transfers
- Modify priorities for Console-based transfers
- Use Console to access transfer details
- Monitor transfers on both managed and unmanaged nodes

Review questions (1 of 2)

1. True or False:

One of the options available when creating a simple transfer is the ability to set the Target Rate.

2. Which of the following statements is true about smart transfers? Select all that apply.

- A. A user must have permission to start a smart transfer
- B. Smart transfers can be configured to allow a user to select specific files when the transfer is run
- C. Smart transfers are called “smart” because they can make adjustments to the transfer path if network congestion is detected.
- D. Smart transfers require a user to provide authentication credentials when run

Review questions (2 of 2)

3. True or False

Transfer details obtained from Console can provide a Session ID that can be used to locate the transfer in log files.

4. Which of the following statements represent the value of Aspera Console's ability to limit the number of concurrent transfers? Select all that apply.

- A. Queues allow a user time to cancel a transfer before it starts
- B. Queues allow Console to schedule more transfers than are normally allowed during a period of time.
- C. Queues can be used to prevent overloading of a poor performing node or network
- D. Queues are necessary for Console to be able to synchronize transfer data from nodes with processes on Console

Review answers (1 of 2)

1. True or False:

One of the options available when creating a simple transfer is the ability to set the Target Rate.

The answer is True.

2. Which of the following statements is true about smart transfers? Select all that apply.

- A. A user must have permission to run a smart transfer
- B. Smart transfers can be configured to allow a user to select specific files when the transfer is run
- C. Smart transfers are called “smart” because they can make adjustments to the transfer path if network congestion is detected
- D. Smart transfers require a user to provide authentication credentials when run

The answer is A and B.

Review answers (2 of 2)

3. True or False

Transfer details obtained from Console can provide a Session ID that can be used to locate the transfer in log files.

The answer is True.

4. Which of the following statements represent the value of Aspera Console's ability to limit the number of concurrent transfers? Select all that apply.

- A. Queues allow a user time to cancel a transfer before it starts
- B. Queues allow Console to schedule more transfers than are normally allowed during a period of time.
- C. Queues can be used to prevent overloading of a poor performing node or network
- D. Queues are necessary for Console to be able to synchronize transfer data from nodes with process on Console.

The answer is C.

Exercise: Creating and managing Console transfers

Creating and managing Console transfers

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Figure 6-26. Exercise: Creating and managing Console transfers

Exercise introduction

- Create and run simple transfers
- Define and use smart transfers for automated transfers
- Modify priorities for Console-based transfers
- Use Console to access transfer details
- Monitor transfers on both managed and unmanaged nodes



[Creating and managing Console transfers](#)

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Figure 6-27. Exercise introduction

Exercise overview



This lab explores the configuration and initiation of simple and smart transfers. You learn how to schedule transfers for future operation. You also use Console to access details about transfers stored Console's MySQL database.

Another task in the exercise explores the impact of a user's group membership and how it limits transfer options.

Unit 7. Configuring and generating Console reports

Estimated time

00:25

Overview

This unit provides an introduction to creating and running system-wide reports.

Unit objectives

- Locate and run a Basic report
- Configure report parameters
- Create a custom basic report
- Use Console to access transfer details
- Explain how advanced reports can be created

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Figure 7-1. Unit objectives

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Accessing console reports

The screenshot shows the Aspera Console interface. At the top, there's a navigation bar with links: Dashboard, Activity, Nodes, Accounts, Transfer, Reports (which is highlighted with a red box), Notifications, and Configuration. Below the navigation bar, the title "Reports" is displayed, followed by a section titled "Scheduled and Recently Run Reports". This section contains a table with columns: TIME, NAME, USER, STATUS, ROWS, and ACTIONS. One row is visible, showing "10:14am", "Bandwidth Peak Usage Per Node", "conadmin", "completed", "2", and actions "cancel", "reschedule", "rerun", "delete". To the right of this table, there are two buttons: "Manage Report Types" (highlighted with a red box) and "Run a Report". A red arrow points from the "Manage Report Types" button on the main page to a separate modal window titled "Manage Report Types". This modal window has tabs "New Basic" and "New Advanced". It lists three built-in reports: "Activity Summary By Address", "Activity Summary By Contact", and "Activity Summary By Contact (Faster)". Each report entry includes columns for NAME, CATEGORY, TYPE, OWNER, and ACTIONS (with links for edit, copy, run, and delete).

Configuring and generating Console reports

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Figure 7-2. Accessing console reports

Console's reporting function can be found under the Reports link at the top of the main Console page. The initial Reports page provides a listing of reports that are scheduled to run or recently run. Notice that links are provided next to each report shown so that you can rerun or delete the report.

The Reports page also displays two buttons at the far right of the page. The Manage Report Types button opens a page displaying the built-in reports and buttons to create new basic or advanced reports.

The Run a Report button opens a page that prompts you to select one of the built-in reports to run.

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Built-in reports

Manage Report Types

NAME	CATEGORY	TYPE	OWNER	ACTIONS
Activity Summary By Address	Advanced	Built-in		edit copy run delete
Activity Summary By Contact	Advanced	Built-in		edit copy run delete
Activity Summary By Contact (Faster)	Advanced	Built-in		edit copy run delete
Activity Summary By Contact And Remote Address	Advanced	Built-in		edit copy run delete
Bandwidth Peak Usage Per Node	Advanced	Built-in		edit copy run delete
Bandwidth Peak Usage Per Node Per Day	Advanced	Built-in		edit copy run delete
Bandwidth Usage By Day	Advanced	Built-in		edit copy run delete
Bandwidth Usage By Day By Node	Advanced	Built-in		edit copy run delete
Bandwidth Usage Per Contact Per Time Interval	Advanced	Built-in		edit copy run delete
Bandwidth Usage Per Node Per Time Interval	Advanced	Built-in		edit copy run delete
Billing Report	Advanced	Built-in		edit copy run delete
Billing Summary By Month And Contact	Advanced	Built-in		edit copy run delete
FaspeX Activity Summary By Day	Advanced	Built-in		edit copy run delete
FaspeX Last Download By Contact	Advanced	Built-in		edit copy run delete
Files By Date	Advanced	Built-in		edit copy run delete
Transfer Sessions By Date With First File	Advanced	Built-in		edit copy run delete
Transfers By Date	Advanced	Built-in		edit copy run delete
Transfers By Date (Prioritized)	Advanced	Built-in		edit copy run delete
Copy of Activity Summary By Contact	Advanced	Custom	conadmin	edit copy run delete

New Report: Bandwidth Usage By Day By Node

Customize Report

Title:

Scheduling

Run now Run later

Report Period

Report on: Past 24 hours Past 7 days Past month All time

Report Period Start:

Report Period End:

Time zone:

Report Parameters

Node Address Match:

Node Name Match:

Email a Copy of this Report (optional)

Email address: [Add](#)

EMAIL ADDRESS FORMAT: XLSX CSV

Generate these file formats

XLSX CSV

[Run Report](#)

Configuring and generating Console reports

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Figure 7-3. Built-in reports

The Manage Report Types page lists the built-in reports that are included with Console. Each built-in report provides links to either copy or run the report. The edit and delete options are not active for built-in reports. However, you can make a copy of any built-in report, and the copy is editable.

Selecting the run link will open the New Report page where you can configure the details for running the report. These details vary, depending upon which report you select to run.

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Report parameters

New Report: Bandwidth Usage By Day By Node

Customize Report

Scheduling

Run now Run later

Run date: 07/20/2015

Run time: 00:00 - 00:00

Time zone: (GMT-08:00) Pacific Time (US & Canada)

Repeat

Repeat every: 1 day(s)

Repeat until: (leave blank to repeat forever)

Report Period

Report on: Last 24 hours

Report Period Start: 07/19/2015

Report Period End: 07/20/2015

Time zone: (GMT-08:00) Pacific Time (US & Canada)

Report Parameters

Node Address Match:

Node Name Match:

Email a Copy of this Report (optional)

Email address: Add

EMAIL ADDRESS FORMAT

Generate these file formats:

XLSX CSV

[Configuring and generating Console reports](#)

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Figure 7-4. Report parameters

Before any report can run, it is necessary to identify some essential parameters about when the report should run, what data the report should include and how the report should be generated. The New Report:xxx page provides an interface where you define these parameters.

The New Report:xxx page is presented when you want to run any type of report, not just for built-in reports. The details of exactly what is displayed on this page varies, depending upon whether you are running a built-in report or a custom report, and which report you are running. The example shows the kind of information you can configure for a report, and is not meant to represent every option available for all reports.

Title

Every report must have a title. If you run a built-in report, the title will be completed, but custom reports do require a name or title.

Scheduling

You can choose to run a report immediately or at later. Use the Scheduling section to identify when you want to run the report. If you select to run the report later, you need to provide a date and time for the report to run.

If you want to run the report more than once, mark the Repeat checkbox and enter when the report should be run again, as well as when the recurring report should be terminated.

Report Period

The Report Period section of the page defines the beginning and ending time and date for inclusion in the report.

Report Parameters

The Report Parameters section is displayed when running the built-in Bandwidth Usage By Day By Node report, where you define what node to run the report against, rather than all nodes. These parameters are associated with this report and other reports do not offer this section.

Email

You can send a copy of the report to email recipients by entering an email address in the email address field. You can also provide the report in a different format if so desired.

After configuring the report parameters, click the Run Report button to run the report. If there is a problem with your configuration, the system will let you know which fields caused the problem.

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Creating basic reports

Configuring and generating Console reports

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Figure 7-5. Creating basic reports

The Create New Basic Report Type page presents an interface for creating a basic report. Creating a basic report involves selecting variables and the database fields you want included in the report from drop-down menus.

Name

The Name field MUST have an entry, otherwise, you receive an error message when you attempt to save or run the report.

Description

The Description field is optional, but it is a good idea to input some information identifying what this report provides

“How would you like to organize this report?”

This drop-down menu is used to identify how the report will be organized. The report generates a row for each item that matches the chosen fields. If you choose more than one field, Console generates a multi-level report.

Columns to Include

The values shown in the Available Columns box represent the various kinds of data associated with the organizing field you chose to include in the report. You use the drop-down menu to show only

the basic values, or the basic and advanced items. All possible values which are relevant to the value you selected as your organizing value are shown in this box.

When you highlight a value in the Available Columns box, the Column Description box is populated to explain what the value represents.

Selected Columns

You select a value by highlighting it, then clicking the ">" icon next to the Selected Columns box. You can add as many values as necessary. The items shown in the Selected Columns box are included in the report.

Sort

By default, the report is sorted by the organization field(s) you selected in the "How would you like to organize this report?" section. However, you can use other fields to sort by if you choose.

Filters

You can add a filter to cause the report to show only results matching the entered value. This option enables users to run reports on only the items of interest to them. You can use the File by drop-down menu to select the value you want to use in the filtering function. This will open a dialog where you identify the condition for when you want the system to match.

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Advanced reports

New Advanced

Develop your own SQL scripts
SQL variables & database fields listed in Console Administration Guide Appendix

```

CREATE TABLE $FINAL_RESULT_TABLE
SELECT DISTINCT
    t.name
    , t.contact
    , t.local_interface_ip AS "from"
    , t.local_dest_ip AS "to"
    , t.started_at
    , t.stopped_at
    , t.state
    , t.bytes_transferred
    , t.files_uploaded
    , t.files_failed
    , t.files_skipped
FROM
    $TBL_TRANSFERS t
WHERE
    t.started_at < '$REPORT_PERIOD_END'
    AND
    t.stopped_at >= '$REPORT_PERIOD_START'
    OR t.stopped_at IS NULL
)
ORDER BY
    t.started_at
    , t.id
;

```

Create Create and run

Configuring and generating Console reports

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Figure 7-6. Advanced reports

Unlike creating a basic report, advanced reports require you to create the SQL script you want to use to generate the report. While this requires you to understand how to write a SQL script, it does provide the ability to create much more complex reports, involving more variables and database fields than possible with a basic report.

It is outside the scope of this course to cover how to write SQL scripts, but if you, or someone in your organization, does want to develop advanced reports, you need to know the various SQL variables and database fields used by Console. The Appendix of the IBM Aspera Console Administration Guide provides a complete listing of the SQL variables and database fields you can utilize in advanced reports.

What you learned

- Console's Basic reports are pre-defined report templates.
- Basic reports were developed base on customer requests and commonly required information.
- Basic reports cannot be modified, but you can make a copy of a basic report and modify the copy.
- Basic reports can be scheduled to run at a later time or scheduled to run repeatedly until a set date
- Advanced reports are developed in SQL and implemented in Console

Unit summary

- Locate and run a Basic report
- Configure report parameters
- Create a custom basic report
- Use Console to access transfer details
- Explain how advanced reports can be created

Configuring and generating Console reports

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Figure 7-8. Unit summary

Exercise: Configuring and running Console reports

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Figure 7-9. Exercise: Configuring and running Console reports

Exercise introduction

- Locate and run a basic report
- Configure report parameters
- Create a custom basic report
- Use Console to access transfer details
- Explain how advanced reports can be created



Configuring and generating Console reports

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Figure 7-10. Exercise introduction

Exercise overview

In this lab exercise, you use Console's basic reports to learn how to run and customize Console reports. The amount of data in the reports you run is very limited, but the goal of this exercise is to learn to configure reports, not view large data sets.



Configuring and generating Console reports

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Figure 7-11. Exercise overview

Unit 8. Basic Console maintenance tasks

Estimated time

00:30

Overview

This unit introduces basic maintenance tasks for administering IBM Aspera Console systems.

How you will check your progress

- Checkpoint
- Machine exercises

References

SCnn-nnnn	Title of Reference
http://www.yoururl.com	
Web page name	

Unit objectives

- Perform a back of the Aspera Console configuration
- Use the Aspera Console application to purge the MySQL database
- Restart Aspera Console services that use the asctl commands
- Locate the Aspera Console log files

Basic Console maintenance tasks

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Figure 8-1. Unit objectives

Console maintenance tasks

Backup – database & required files (Configuration Database Back Up)
 Command-line: **asctl -v console:backup_database**

Reset “admin” password – **asctl console:admin_user <name> <email>**

Purge MySQL database - (Configuration Database Back Up Purge)

Restart Console & services – **asctl**

Log files –

- /opt/aspera/console/log
- /opt/aspera/common/asctl/asctl.log
- /opt/aspera/common/mysql/data/mysqld.log
- /opt/aspera/common/apache/logs



Basic Console maintenance tasks

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Figure 8-2. Console maintenance tasks

Backup

Console supports two different ways to back up the Console database:

1. Through the **asctl** command, which backs up only the MySQL database. Use this method before a Console upgrade procedure, or to guard against possible database corruption.
2. Through the Console web UI, which backs up the MySQL database in addition to all the files required to fully restore the Console application. Use this method for disaster recovery purposes, in order to *restore Console* when the entire server is lost.

After Console is backed up, the backup file appears on the Database Backups page, where scheduled, current, and recent backups are listed.

See the Console Administration Guide for more details on backing up and restoring Console.

Reset “admin” password

The **asctl** command also provides a command-line method to reset the administrative credentials for Console. You can create a different login name for the administrator, reset the password, or change the email address using the asctl utility. Replace the “name” variable shown on the example with the admin user’s name. Replace the words “email” or “password” with the values you want to use.

Purge MySQL database

The MySQL database can become quite large over time, containing all the data collected by Console from all managed nodes. The size of the database can have an adverse effect on performance, so it is a good idea to periodically purge the database to reduce its size or to archive old data that is no longer needed in the current database.

You can archive or purge data from Console (for example, purge all sessions before January 1, 2014) by clicking the Purge button from the Database Backups page and completing the fields.

Restart Console & services

The **asctl** utility is very powerful and flexible, and can be used to manage the Apache web application, the main Console application, and the MySQL database. The Aspera Console Administration Guide provides a complete listing of the commands available for use with the **asctl** utility for managing Apache, Console, and MySQL.

Log files

Several log files are available that can be useful when trying to resolve problems. If you need Aspera support services, these log files are sent to Aspera Support for more extensive troubleshooting.

IBM Training

Console backups

Scheduled Database Backups

OPERATION	DATE / TIME	STATUS	DESCRIPTION	ACTIONS
purge	04-14-2020 09:36	completed	Purge all sessions before April 14, 2020 09:36:46 PDT	
purge	04-14-2020 07:13	completed	Purge all sessions before April 14, 2020 07:13:59 PDT	

Current Database Backups

OPERATION	DATE / TIME	STATUS	DESCRIPTION	ACTIONS

Recent Database Backups

OPERATION	DATE / TIME	STATUS	DESCRIPTION	ACTIONS
purge	04-14-2020 09:36	completed	Purge all sessions before April 14, 2020 09:36:46 PDT	
purge	04-14-2020 07:13	completed	Purge all sessions before April 14, 2020 07:13:59 PDT	

Console Configuration

Backup

Save to: + /console_full_backup_YYYY-MM-DD_hhmmss

Run now Run later

Back Up Now **Cancel**

Basic Console maintenance tasks

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Figure 8-3. Console backups

The Database tab on the Configuration page provides an interface for backing up the Console database. Backups need to be performed on a regular basis to avoid loss of data.

The Database page provides a link to perform a backup, but it also shows any scheduled backups, currently running backups, and a list of backups that were performed in the past.

Selecting the Back up button opens the Backup configuration page, where you enter the directory where the backup is stored and the option to run the backup now or schedule it for later.

The screenshot shows the 'Database purge' configuration page. The 'Configuration' tab is active. On the left, there are tabs for 'Defaults', 'Proxy', 'Cookies', 'Map', 'SSH Keys', 'Background', 'Database' (which is selected), 'Custom Fields', and 'License'. Below these tabs, there are three sections: 'Scheduled Database Backups', 'Current Database Backups', and 'Recent Database Backups'. Each section has columns for 'OPERATION', 'DATE / TIME', 'STATUS', and 'DESCRIPTION'. In the 'Recent Database Backups' section, two entries are listed: 'purge' on 04-14-2020 09:36 and 'purge' on 04-14-2020 07:13, both completed with the description 'Purge all sessions'. To the right of these sections is a large configuration panel. It starts with a 'Scheduling' section containing radio buttons for 'Run now' (selected) and 'Run later'. Below that is a 'Purge Period' section. Under 'Select time frame', a dropdown menu shows '1 month' with options for 'day', 'week', and 'month'. Under 'Data to purge', a checkbox is checked next to 'All closed transfers', with other options like 'All successful transfers', 'All cancelled transfers', 'All error transfers', 'All inactive transfers', and 'All zero-byte transfers' listed below it. There is also a 'Save data being purged?' checkbox which is checked, and a 'Save to' field containing the path '/console_purge_YYYY-MM-DD_hhmmss'. At the bottom of the configuration panel are 'Purge Now' and 'Cancel' buttons.

Basic Console maintenance tasks

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Figure 8-4. Database purge

Selecting the Purge button opens the Purge configuration page. You can run a purge immediately, or schedule a date and time to run the purge.

The Select time frame identifies how much data you want to purge from the database.

The Data to purge section lists the type of transfer you want to remove from the database. The All closed transfers option is the default, but if you remove the mark, you can select the specific types of transfers you want removed.

What you learned

- Console does not require extensive maintenance
- You can backup Console with the asctl –v console:backup routine or you can use the Backup link in Console
- The Database page also provides a button to purge the database
- You can reset the password for the admin account using the asctl console:admin_user routine
- Console, Apache, and MySQL services can be restarted using the asctl command

Unit summary

- Perform a back of the Aspera Console configuration
- Use the Aspera Console application to purge the MySQL database
- Restart Aspera Console services that use the asctl commands
- Locate the Aspera Console log files

Basic Console maintenance tasks

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Figure 8-6. Unit summary

Unit 9. Course summary

Estimated time

00:30

Overview

This unit summarizes the course and provides information for future study.

Unit objectives

- Explain how the course met its learning objectives
- Access the IBM Training website
- Identify other IBM Training courses that are related to this topic
- Locate appropriate resources for further study

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Figure 9-1. Unit objectives

Course objectives

- Describe the operation of the FASP protocol
- Outline the functions of various Aspera software products
- Explain Aspera configuration parameters and assign their values
- Create and manage Aspera users and groups
- Perform file transfers using the Aspera GUI and from the command line
- Implement support for Aspera Node API
- Configure Hot Folders and Aspera Watch Service
- Execute basic troubleshooting tasks for common problems

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Figure 9-2. Course objectives

IBM badge

- Earn a Skills badge for this course by passing a quiz

- To earn the badge for this course:

<Developer – get the badge landing page link for the badge for this course from Keith or Tom>

- Other IBM Cloud badges:

<https://www.ibm.com/developerworks/community/groups/service/html/communitystart?communityUuid=bd570318-14bf-4277-bddc-56a74b904e41>

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Figure 9-3. IBM badge

IBM Professional Certifications

- By achieving an IBM Professional Certification, you can demonstrate your IBM Cloud product mastery to your employer or clients
- Certifications are a higher level of credential than a Skills badge for a single education course
- Product certifications demonstrate a strong knowledge of the product and typically require several months of work with the product
- IBM Cloud certifications are available for several roles, including developers, administrators, and business analysts
- For information on specific certifications and their requirements, see <http://www.ibm.com/certify>

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Figure 9-4. IBM Professional Certifications

Other learning resources (1 of 4)

- **IBM Skills Gateway**

- Search the new IBM Training and Skills website (formerly IBM Authorized Training website) to find and access the content you want.
- <https://www-03.ibm.com/services/learning/ites.wss/zz-en?pageType=page&c=a0011023>

- **IBM Cloud Education Wiki Home**

- Go to the wiki to find course abstracts, course correction documents, and curriculum development plans for IBM Cloud offerings.
- <https://www.ibm.com/developerworks>

- **Role-based Learning Journeys**

- Learning Journeys describe the appropriate courses, in the recommended order, for specific products and roles.
- <https://www-03.ibm.com/services/learning/ites.wss/zz/en?pageType=page&c=a000306>

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Figure 9-5. Other learning resources (1 of 4)

Other learning resources (2 of 4)

- **IBM Professional Certification Program**

- IBM Professional Certification enables skilled IT professionals to demonstrate their expertise to the world. It validates skills and proficiency in the latest IBM technology and solutions.
- <https://www.ibm.com/certify>

- **IBM Training blog, Twitter, and Facebook**

- These official IBM Training and Skills accounts provide information about IBM course offerings, industry information, conference events, and other education-related topics.
- <https://www.ibm.com/blogs/ibm-training>
- <https://twitter.com/IBMTTraining>
- <https://www.facebook.com/ibmtraining>

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Figure 9-6. Other learning resources (2 of 4)

Other learning resources (3 of 4)

- **Business Partner Technical Enablement Portal**

- <https://ibm.box.com/s/695khv9nyzekaorykqmsjrematz3v9xh>
- This program provides technical training content modules to IBM software partners (via PartnerWorld) and IBM Business Partners.

- **IBM Developer**

- IBM's official developer program offers access to software trials and downloads, how-to information, and expert practitioners.
- <https://developer.ibm.com>

- **IBM Education Assistant**

- These multimedia educational modules help users gain a better understanding of IBM Software products and use them more effectively to meet business requirements.
- <https://www.ibm.com/products/software>

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Figure 9-7. Other learning resources (3 of 4)

Other learning resources (4 of 4)

- **IBM Knowledge Center**

- The IBM Knowledge Center is the primary home for IBM product documentation.
- <https://www.ibm.com/support/knowledgecenter>

- **IBM Marketplace**

- IBM Marketplace is the landing page for all IBM Cloud products. Go to the Marketplace to learn about IBM offerings for Cloud, Cognitive, Data and Analytics, Mobile, Security, IT Infrastructure, and Enterprise and Business Solutions.
- <https://www.ibm.com/products>

- **IBM Redbooks**

- IBM Redbooks are developed and published by the IBM International Technical Support Organization (ITSO). Redbooks typically provide positioning and value guidance, installation and implementation experiences, typical solution scenarios, and step-by-step "how-to" guidelines.
- <http://www.redbooks.ibm.com>

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Figure 9-8. Other learning resources (4 of 4)

Unit summary

- Explain how the course met its learning objectives
- Access the IBM Training website
- Identify other IBM Training courses that are related to this topic
- Locate appropriate resources for further study

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Figure 9-9. Unit summary

Course completion

You have completed this course:

IBM Aspera High-Speed Transfer Server Administration

Do you have any questions?



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Figure 9-10. Course completion



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