Admin Automation
Overview and Use Cases of System Manager and Command Manager

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Agenda

• Introduction

• System Manager

• Command Manager

• Use Cases

• Q&A
Introduction
Administration Tools

- Object Manager
- Integrity Manager
- Command Manager
- System Manager
- Enterprise Manager
Overview

Books

Admin:

Mobile Admin:

Links

Administrators of enterprise systems need to execute a lot of processes manually.
Two Administrative Products
For automating manual administrative processes

MicroStrategy System Manager
Design workflows to automate multi-step, manual processes

MicroStrategy Command Manager
Create scripts for automated administration
System Manager
MicroStrategy System Manager
General information

**Process management tool** that enables Platform Administrators to convert a sequential, multi-step, multi-product, manually executed process into a manual or automated coded workflow

- Uses a *drag-and-drop graphical user interface* to code a manual process into a workflow
- Executes a process workflow automatically at a scheduled time or on demand, *without any human involvement*

**Benefits**

- **Reduces the time and effort** spent on executing any process
- Improves process efficiency by virtually eliminating human error and *reducing reliance on people*
- **Simplifies application management** that otherwise would require manual effort and human oversight
MicroStrategy System Manager
Reproduce any manual process into a workflow with a graphical design interface

Available Processes
Cloud Processes
Operating System Processes
File Processes
ODBC Processes

Properties

MicroStrategy Process

Download file using FTP

Success?
TRUE
Execute Command Manager
Exit
FALSE
Send Email to notify user
System Manager Workflow

SUCCESS?
MicroStrategy System Manager
A wide variety of processes enables creation of complex workflows

Automate MicroStrategy administrative processes

- Command Manager
- Object Manager
- Integrity Manager
- Configuration Wizard
- Project Merge
- Project Duplicate
- Project Mover
- Server Status
- Installation
- Connectivity Wizard

Include non-MicroStrategy processes into the workflow

- Launch/Terminate Cloud Instances
- Manage VMWare VMs and VApps
- Copy/Delete/Move Files
- Find/Replace File Content
- Unzip files
- Download With FTP
- Execute Application
- Execute SQL
- Send Email

Build workflows with programmatic elements

- Decisions to control process status
- Define global System Manager Parameters
- Update Parameters
- Loops to Process Multiple iterations
- Name Nodes and Add Comments
- Split/Merge Execution
- Pause
- Iterative Retrieval
How to Create a Workflow – Connect Processes

• Draw connector between processes
  • Success: Green arrow
  • Failure: Red arrow
  • Continue: White arrow

• Define entry process

• Marked as green flag

• Finish workflow by adding exit process icon

• End workflow
Execute Workflow
There are several methods of triggering MicroStrategy System Manager workflow

• **Execution from MicroStrategy System Manager Interface**

• **Execution from the OS command line**
  • `MASysMgr -w c:\temp\check_status.smw parameter1="value1" parameter2="value2"`

• **Automatic execution (OS Task scheduler)**
  • Create batch file (e.g. *.bat for Windows)
  • Create schedule in OS tools (Windows Task Scheduler)
**MicroStrategy System Manager**
Greatly reduces personnel time and effort by saving 1000s of manual hours

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### Intelligence Server Maintenance

- Alert team members
- Restart Intelligence Server
- Monitor the system
- Notify team members

<table>
<thead>
<tr>
<th>Without System Manager</th>
<th>With System Manager</th>
<th>Time savings (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>350</td>
<td>40</td>
<td>310</td>
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### Daily Report Execution Schedule

- Monitor ETL completion
- Publish Cubes
- Wait for Cubes to publish
- Trigger Subscription Schedules
- Notify analysts

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<td>540</td>
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### Object Migration

- Download Update Packages
- Login to Test system
- Generate rollback packages
- Apply changes to each project
- Alert developers to errors
- Notify QA teams

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<th>Time savings (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,230</td>
<td>55</td>
<td>1,175</td>
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</table>
MicroStrategy System Manager
Vastly improves process efficiency by eliminating human error

Ensure process consistency

A manual process relies on individuals performing a task.

Coded Workflow

Workflows execute the same steps, and in the same sequence.

Improve process reliability

Manual process

Reliability decreases

Coded workflow

With workflows, no step in the process is ever missed.

Codify tacit knowledge

Knowledge

Information stored in a person’s memory can be coded into a workflow.
MicroStrategy System Manager
Automates application management

Call `MASysMgr.exe`

Provide workflow path

Provide parameter file path

- **Batch** processing with .bat files
- **Customize** workflow inputs depending on the process
- **Augment** existing process automation by invoking MicroStrategy System Manager workflows
- **Embed** external and/or existing processes into system workflows
- **Cross-platform** workflows run on Linux, Windows, and Cloud
MicroStrategy System Manager

Summary

• Enables administrators to convert manual processes into workflows

• Does not require programming skills

• Combine MicroStrategy and non-MicroStrategy processes, in any sequence, can easily be created

• Parameterization of workflows enables the same workflow to be used with different inputs

• Workflows run on any OS supported by the MicroStrategy Intelligence Server

• Workflows ensure consistency, improve reliability and codify tacit knowledge
System Manager

Demo
Command Manager
MicroStrategy Command Manager
Administrators can create scripts for automating a variety of metadata operations

User and security management
• Manage user accounts
• Administer security profiles

Administering Intelligence Server configuration
• Manage Intelligence Server runtime performance
• Configure and tune Intelligence Server

Project maintenance
• Propagate changes across environments
• Metadata internalization support

Subscriptions and report delivery
• Trigger events and delivery services
• Support for all types of subscriptions
MicroStrategy Command Manager
Easily manage scaling of deployments in an automated manner

**Designed for scale**
- Administration of enterprise wide deployments
- Covers a wide range of use cases, workflows

**Designed for Speed**
- Commands are simple language-like, easy to understand, develop and re-use
- GUI allows rapid development of scripts

**Designed for Flexibility**
- Can be integrated with 3rd party systems and applications
- Allows embedding business logic and processes
MicroStrategy Command Manager
Host of features designed for scale, speed and flexibility

Cross-Platform
• Runs on all OS supported by Intelligence Server*

Support for multiple interfaces
• GUI and command line

Wide coverage of metadata operations
• More than 350+ commands across 50+ management areas

Procedures
• Commands can be integrated with business rules
• Procedures let you harness the power of Java within Command Manager such as if-then-else analysis

* Small subset of schema related commands are Windows-only
**MicroStrategy Command Manager**

Command Manager has two user interfaces for different environments

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**Design**  
with Graphical User Interface

Allows rapid creation of re-usable scripts using outlines and examples

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**Automate**  
with command line

Automates execution of scripts, can be securely embedded within other applications and systems
MicroStrategy Command Manager

Script outlines/templates

Scripts can be easily created using example scripts

Grouped by categories, out of the box outlines provide examples for seamless executions of administrative tasks.
Script Outline Syntax

• Template that you customize and execute against the metadata

• The syntax contains:
  • Tokens
  • Placeholders
  • Brackets [ ]
  • Pipes |
  • Semi-colon

```
LIST [(ALL | INHERITED | GRANTED)] PRIVILEGES FOR USER "<login_name>";
```

- Tokens
- Brackets
- Pipes
- Placeholder
GUI – Good Habits in Script Creation

• Replace placeholders with appropriate literal text
• Remove optional tokens that you don't want to include in the script
• Remove any brackets [ ]
• Remove any pipes
• Remove any parentheses
• Ensure that scripts ends with a semi-colon
• Ensure that you are executing script on appropriate database 😊

CTRL + SPACEBAR – autocomplete feature
Procedures
Use Java to expand Command Manager capabilities

• Reusable scripts that can be executed from other script.

• Provide users with flexibility as they can combine multiple CM commands and logical processing within a single Java program which runs with the context of Command Manager.

• To include Java in CM we need to write a procedure containing Java code and execute the procedure from CM script.

• Java is only supported in procedures / procedures are only supported with project sources
Examples from Projects

- CREATE USER “pstaniszewski” PASSWORD “QWERTY” FULLNAME “Pawel Staniszewski” ALLOWCHANGEPWD TRUE;

- CREATE HISTORYLISTSUBSCRIPTION "My first history list subscription" FOR OWNER "demo" SCHEDULE "Books Closed" USER "demo" CONTENT "Customer Income Analysis" IN FOLDER "\Public Objects\Reports\Subject Areas\Customer Analysis" IN PROJECT "Microstrategy Tutorial" OVERWRITEOLDERVERSION TRUE CREATEUPDATECACHE FALSE HISTORYLINKURL "samplehistorylinkurl" HISTORYLINKWEBSERVER "samplehistorywebserver";

- LIST ALL PROPERTIES FOR ATTRIBUTE "Customer" IN FOLDER "\Schema Objects\Attributes\Customers" FOR PROJECT "MicroStrategy Tutorial";

- PUBLISH INTELLIGENT CUBE "Intelligent Cube - All project languages" IN FOLDER "\Public Objects\Reports\MicroStrategy Platform Capabilities\MicroStrategy OLAP Services\Intelligent Cubes and View Reports" FOR PROJECT "Microstrategy tutorial";

- LIST PROPERTIES FOR DBINSTANCE “Project”; LIST PROPERTIES FOR DBCONNECTION “Project”; ALTER DBLOGIN “Administrator” LOGIN “Administrator” PASSWORD “*******”;

- LIST ALL DOCUMENT CACHES IN PROJECT "Microstrategy Tutorial";
Command Manager Demo
Use Cases
Use Cases

1. End-to-End Change Migration process automation
2. Deployment of SDK customizations
3. Automating project or metadata backup and restore processes
4. Automating Intelligence Server maintenance
5. Automating installation, maintenance and upgrades of MicroStrategy Environments
6. 24x7 automated monitoring of Intelligence Servers
7. Synchronizing configuration settings between Dev, Test and Prod environments
8. Automation of Subscriptions and Deliveries
9. Automating deployment of solutions bundled with MicroStrategy and third party tools
10. Launch and Shut down Cloud instances On-Demand, based on the need for resources
11. Integration with third party processes such as ETL workflows or Batch file operations
Use Cases

12. Creating users and groups, and managing application access and privileges associated with each
13. Changing access properties for reports and folders for users, groups, and roles
14. Setting authorization parameters, including management of security filters
15. Adding or removing Intelligence Server nodes to a cluster
16. Changing the database instances associated with projects and other configuration parameters
17. Loading, unloading, idling, or registering applications for routine maintenance
18. Creating, altering, or disconnecting specific database connections based on certain conditions
19. Creating new event-driven schedules and trigger a specific event schedule based on certain criteria
20. Monitoring or killing jobs running on Intelligence Server
21. Creating, modifying, or deleting metrics through a script
22. Applying security roles and filters to users and user groups
Q & A

Thank you!

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