

SAP BW

Lesson 07 : Data Target Administration
Part2- Process Chains



Process Chains

Definition:

A process chain is a sequence of processes that wait in the background for an event. Some of these processes trigger a separate event that can start other processes in turn.

Purpose:

Data loading and associated administration are main operations of Business Information Warehouse. All these processes are scheduled in background through Process chain.

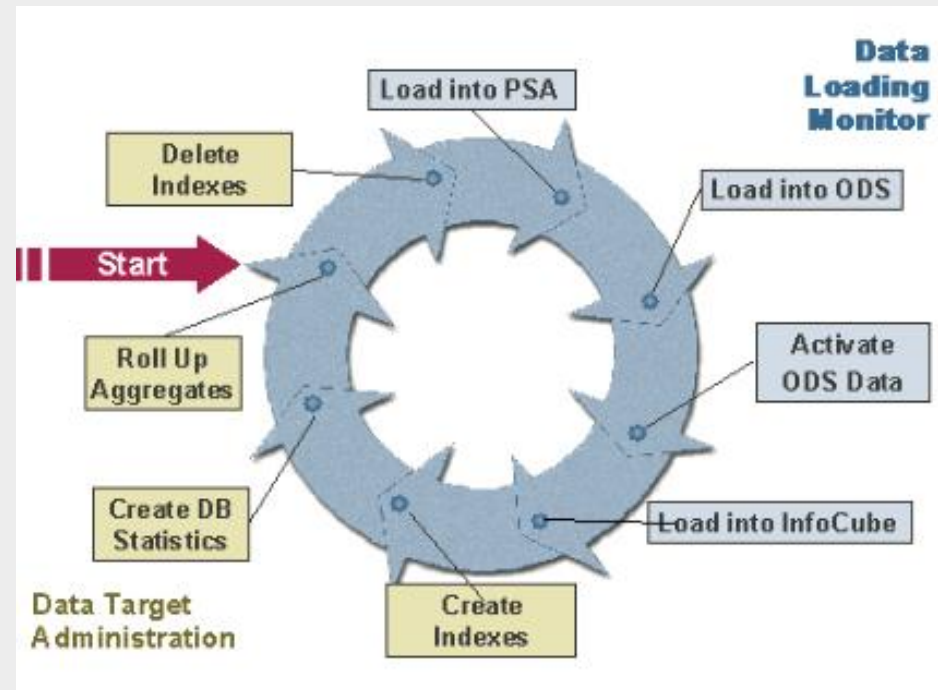
Use:

Automate: Automation of the complex schedules in BW with the help of the event-controlled processing. Centrally control and monitor the processes.

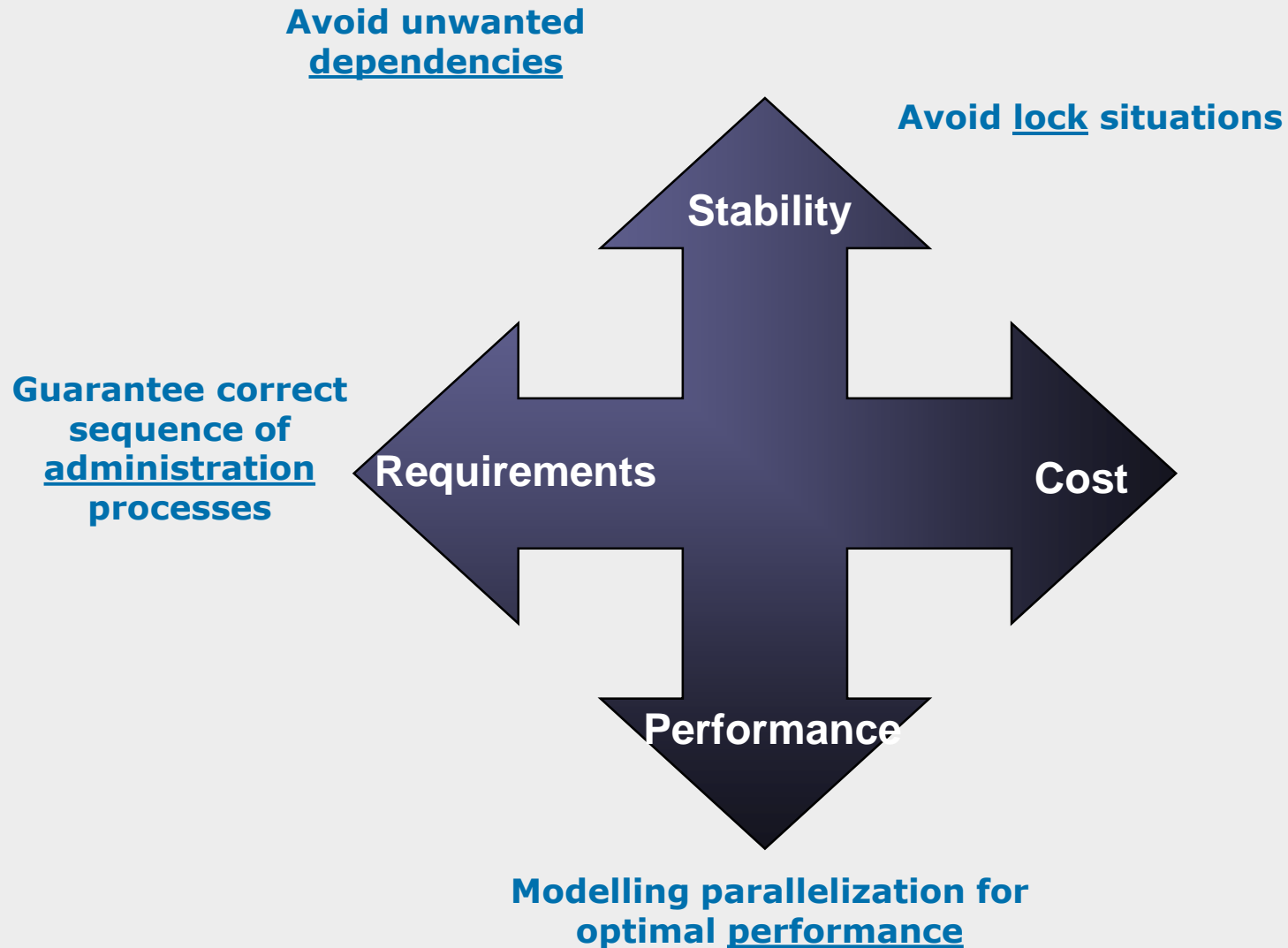
Visualize: Graphical modeling and monitoring of process. Openness to all kind of processes available in BW.

Security: Process chains offers a high amount of Security, base on the principles of background management.

Flexibility: Allows new process types to be Integrated without existing types to be adjusted.



Challenges



Introduction



- A process chain is a sequence of process that are scheduled to wait in the background for an event.
- Process chains are a robust graphical scheduling & monitoring tool to maintain automation, visualization & monitoring of tasks/processes.
- These chained processes are designed to carry specific tasks.
- Transaction code for Process Chain Maintenance: RSPC.
- Different Process Chain Views:
 - **Planning View:** Using click, drag and drop, the process chain is designed at this stage. All the existing process chains and definition of process chains can be overviewed here.
 - **Checking View:** The process chain is checked for errors.
- **Log View:** The results of each run are monitored. In this log view, we have the details of the process chain selected on the plan view.
- Types Of Processes
 - Start Process
 - Application Process
 - Collection Process



Process Chain Terminologies

A process in the context of process chains is a procedure inside of or external to an SAP system with a defined beginning and end.

Different types of processes and their subsequent dependents:

- **Start Process** – Initiator
- **Process type** - Kind of process
- **Process Variants** - Name of the process. A variant is only consistently defined together with the process type
- **Process instance** - Characteristic value of the process
- **Local Process Chains** - Local to the chain.
- **Process Chain Remote** – Summoning another process chain within a Local Process Chain.



Start Process

The start process is used to define the start condition of a process chain. We can start a process chain at the specified time or after an event that is triggered by a start process.

- **Special features of a Start process**

- Only the start process can be scheduled without a predecessor process.
- The start process cannot be a successor of another process.
- Only one start process is allowed for each process chain.
- A start process can only be used in a single process chain.







Maintaining Start Process

There are two scheduling options in start variant.


- **Direct Scheduling** – Direct scheduling is to schedule the process chain at a specified time interval.
- **Start Using Meta Chain or API** - If we want the process chain to run as a meta chain then we have to make the start variant as Metachain and just activate the chain.

Maintain Start Process



Variant

ZSTART_01



Start Sales

Last Changed by

SGANDHI

Changed on

09.09.2011


At

12:11:42

Scheduling Options

☒ Direct Scheduling

☐ Start Using Meta Chain or API

 Change Selections



More on BW 'Processes'

▪ **Process Variant**

- Signifies name of the process
- Displays the configuration of a process of a particular type set at the time of definition
- A variant is only consistently defined together with the process type

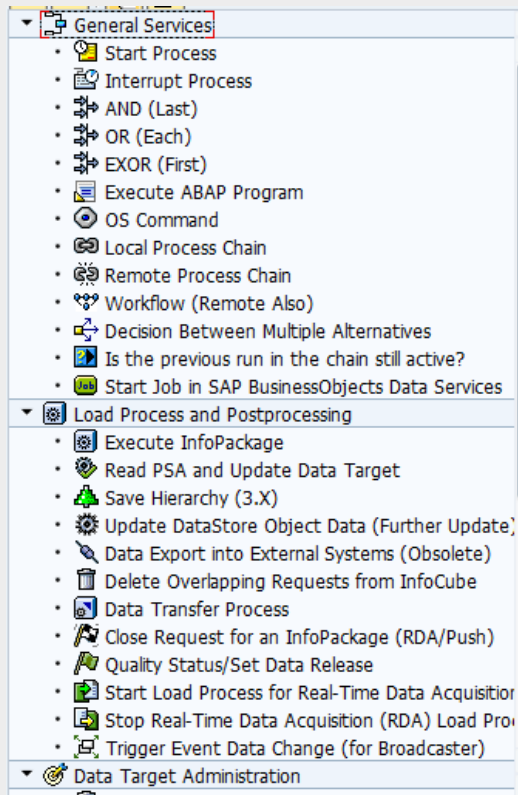
▪ **Process Instance**

- Signifies the characteristic value of the process
- Contains the most important information that the process, or subsequent process wants to communicate.
- For e.g. In a load process, this would be the name of the request.



Application Processes

- Application process represent BW activities that are typically performed as part of BW operations.



Sample Application Processes:

1. Create Index
2. Delete Index
3. ODS Activation
4. Build DB Statistics
5. Compress InfoCube



Collection Processes

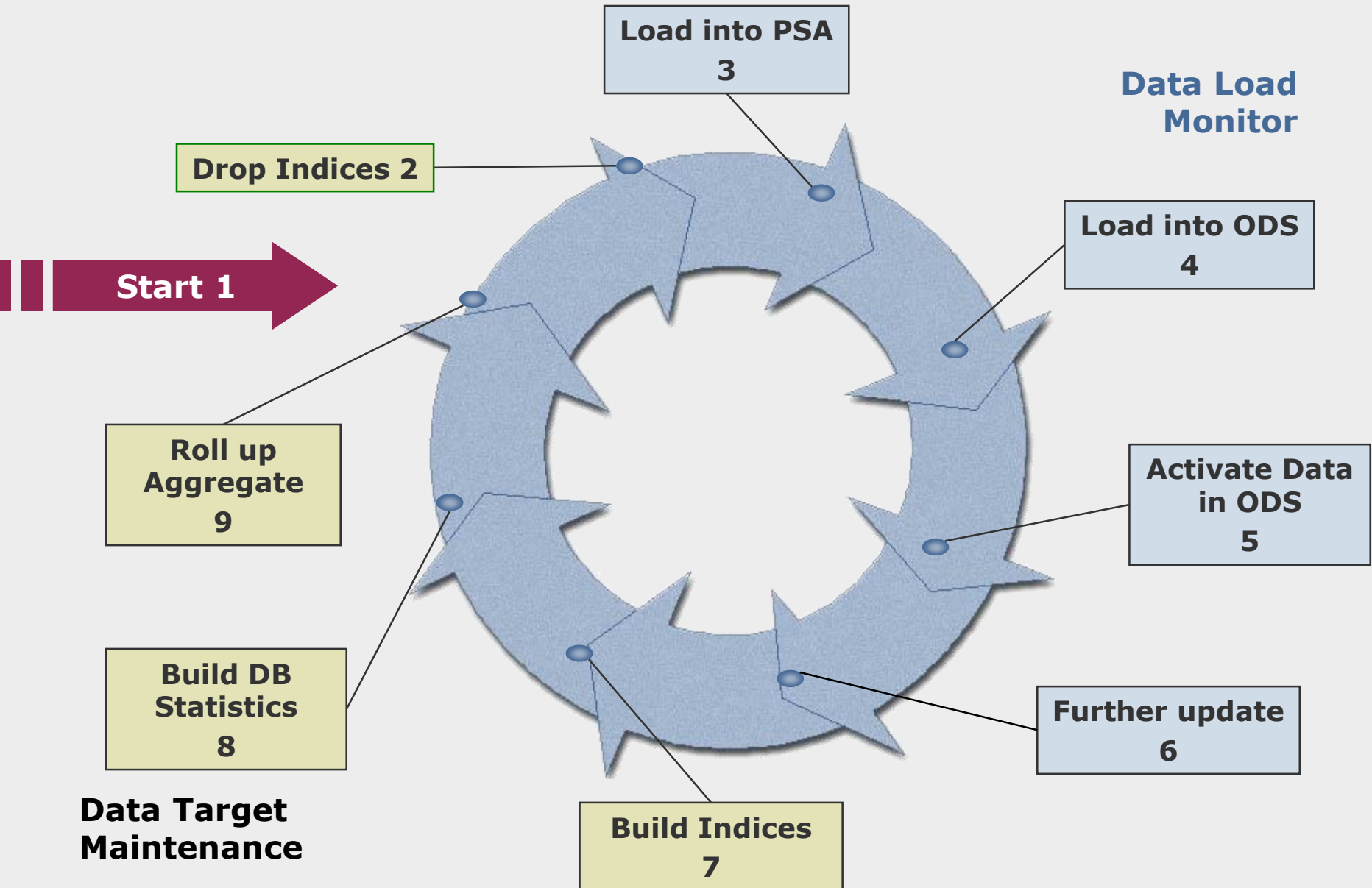
- Used to manage multiple predecessor processes that feed into the same subsequent process

Collection processes available in BW

- AND
- OR
- EXOR



Process Control in BW



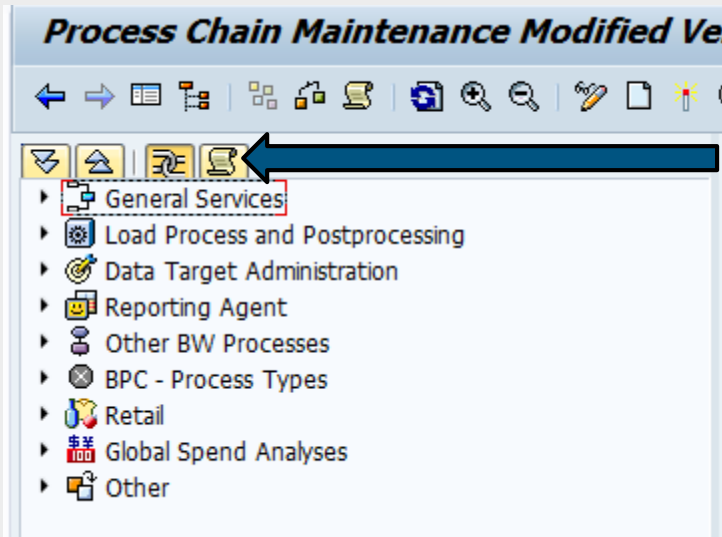


Process Control

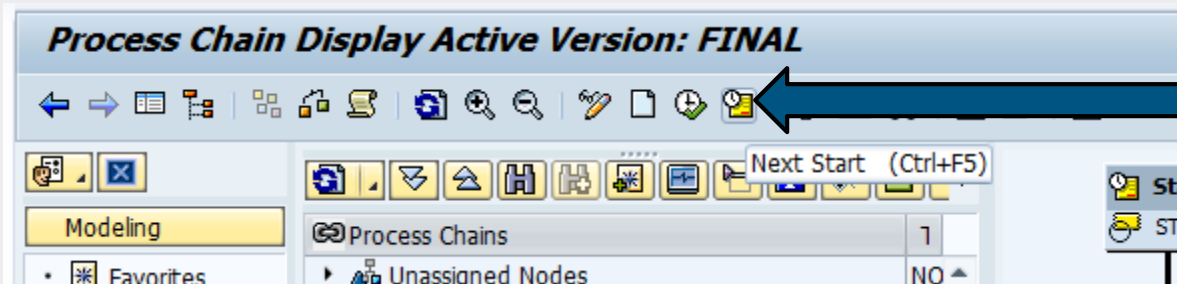
1. 'Start Process' starts the process chain. It is triggered when process chain is scheduled to run.
2. 'Drop index' is recommended by SAP prior to data load.
3. 'Execute Info package' is then executed to extract data from the source system into the PSA.
4. Data is pushed from PSA to ODS after required staging.
5. ODS is activated as data is transferred from new data table to active data and the change log tables.
6. Data is then updated to further Data targets.
7. Indexes are rebuild at this stage to improve Database access and the query performance, in turn.
8. In the next step, the system generates data on the performance of the BW architecture and stores it as BW statistics.
9. The data thus updated is rolled into the aggregates (if any).



Process Chain - Functionalities



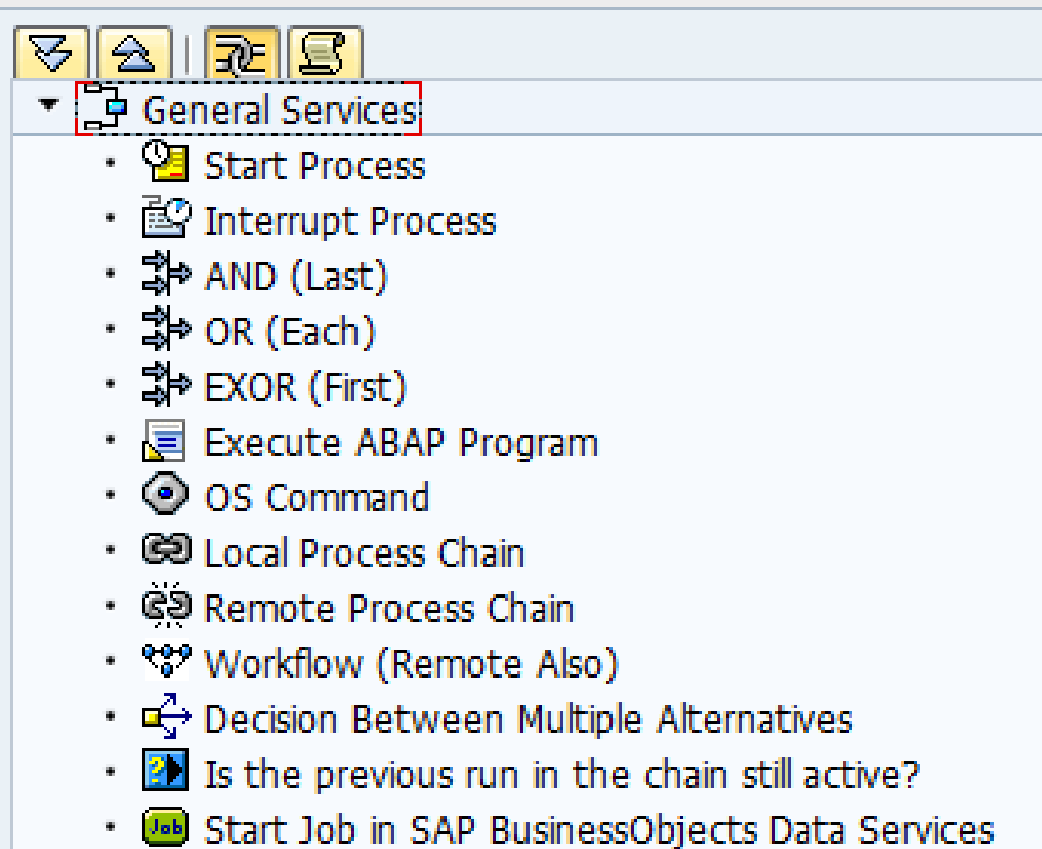
Used to monitor Process Chains Logs.



Next Start : Analyzing the time intervals between last 30 process chain runs
















Process Chain – General Services















Process Chain – Load Process

- ▼  Load Process and Postprocessing
 -  Execute InfoPackage
 -  Read PSA and Update Data Target
 -  Save Hierarchy (3.X)
 -  Update DataStore Object Data (Further Update)
 -  Data Export into External Systems (Obsolete)
 -  Delete Overlapping Requests from InfoCube
 -  Data Transfer Process
 -  Close Request for an InfoPackage (RDA/Push)
 -  Quality Status/Set Data Release
 -  Start Load Process for Real-Time Data Acquisition (RDA)
 -  Stop Real-Time Data Acquisition (RDA) Load Process
 -  Trigger Event Data Change (for Broadcaster)



Process Chain – Administration

▼ Data Target Administration

-  Delete Index
-  Generate Index
-  Construct Database Statistics
-  Initial Fill of New Aggregates
-  Initial Activation and Filling of SAP HANA/BWA Indexes
-  Roll Up of Filled Aggregates/BWA Indexes
-  Compression of the InfoCube
-  Activate DataStore Object Data
-  Complete Deletion of Data Target Contents
-  Archive Data from an InfoProvider



Process Chain – Scheduling

There are multiple modes to schedule a process chain:

- **Immediate** – Process Chain(PC) run starts immediately once triggered.
- **Date/time:** PC is scheduled to run on specific date and time. Using this, PC can be scheduled Hourly, Daily, Weekly, Monthly.
- **After Job** : PC would be triggered after completion of the specified job.
- **After Event:** PC would be executed once specified event is triggered.
- **At Operation mode:** PC is triggered to run during the specified mode of operation.



Process Chain – Monitoring

- Tcode ST13 is used to Monitor the Process chain.
- Process Chain logs can be viewed for different time periods i.e.:
 - Same Day.
 - Same day and Previous Day.
 - One week ago.
 - Current month and Previous month.
 - Free Date: any timeframe starting 01/01/1000 to 31/12/9999.
- Symbols display the status of the runs of the individual process within the chain:
 - Yellow indicates that the chain is active.
 - Green that the chain ended successfully.
 - Red that the chain ended with errors or was terminated.
 - Unknown is displayed if the status is unknown



Process Chain – Monitoring

- **Display Messages for a Process:** By using Display messages in the context menu for a process, We can call up the log. The logs are displayed in the dialog box that appears on the tab pages Chain, Batch, and Process.
- **Chain:** Contains information about the start and end of the process and the created instance.
- **Batch:** Logs for the job in which the process itself has run are displayed in the SAP List Viewer Grid Control. You access the job overview for your job using the Batch Monitor pushbutton.
- **Process:** contains the process-based messages.



Transactions Used

- **RSPC : Create, Maintain and Monitor Process Chains.**
- **RSPCM : Monitor Process Chains.**
- **SM37 : Display/Maintenance of batch Job.**
- **SM50 : Overview of batch processes.**
- **RSMO : Infopackage monitor.**
- **ST13 : To Monitor Process chain**

Help Me



Browse through the below links for Self Study

1. http://help.sap.com/saphelp_nw70ehp2/helpdata/en/e3/e60138fed083de10000009b38f8cf/frameset.htm
2. <http://service.sap.com/bi>