

BASE

AUTOMAÇÃO

SERVIÇOS . EQUIPAMENTOS . SOLUÇÕES



Sistema de batelada em
indústria de Bebidas

Objetivo

- Solução que permite o controle, monitoramento e análise do processo de bateladas e variáveis que estão direta ou indiretamente relacionadas com o processo.

Características

- Adições e controles automáticos seguindo os procedimentos e sequenciamentos das receitas.

Ferramentas utilizadas na solução

- Hardware (Rockwell Automation / Allen-Bradley):

- Controlador família Controllogix

Rockwell
Automation



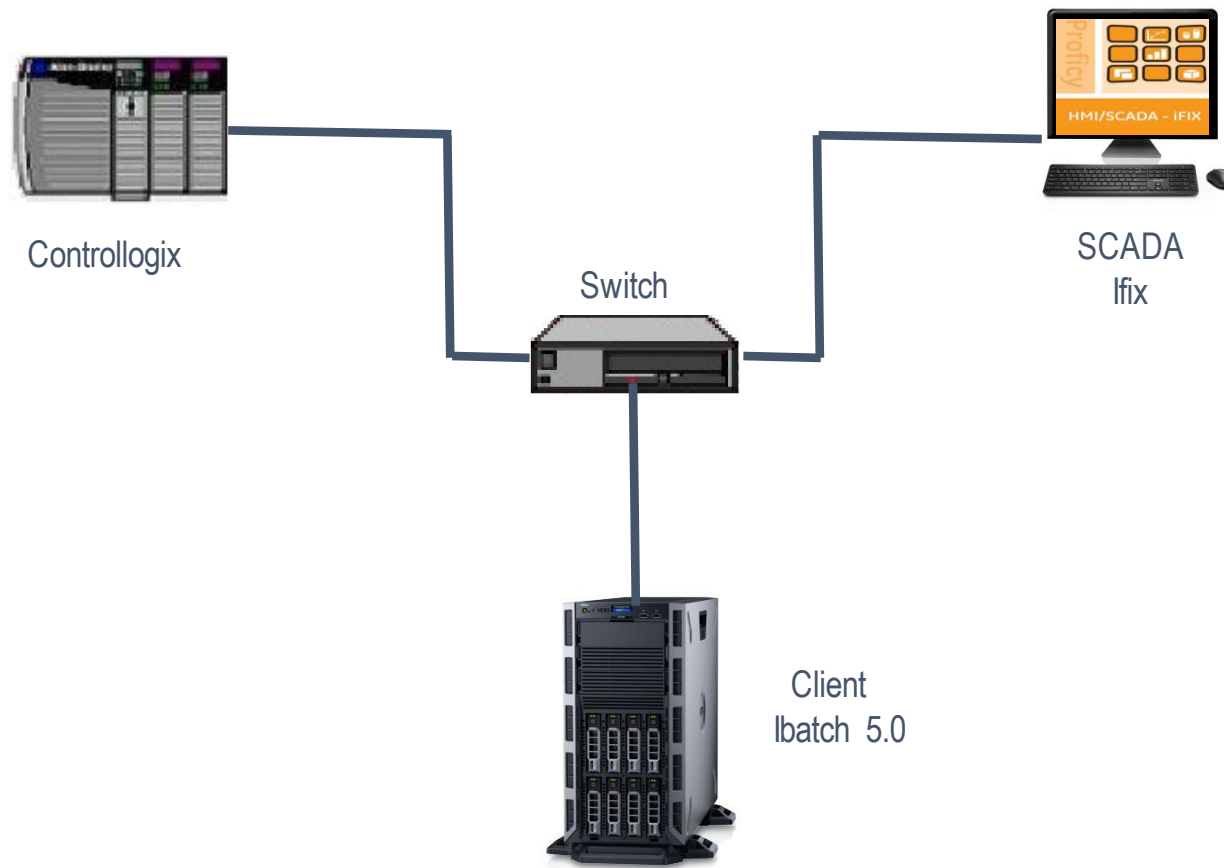
Allen-Bradley

- Softwares :

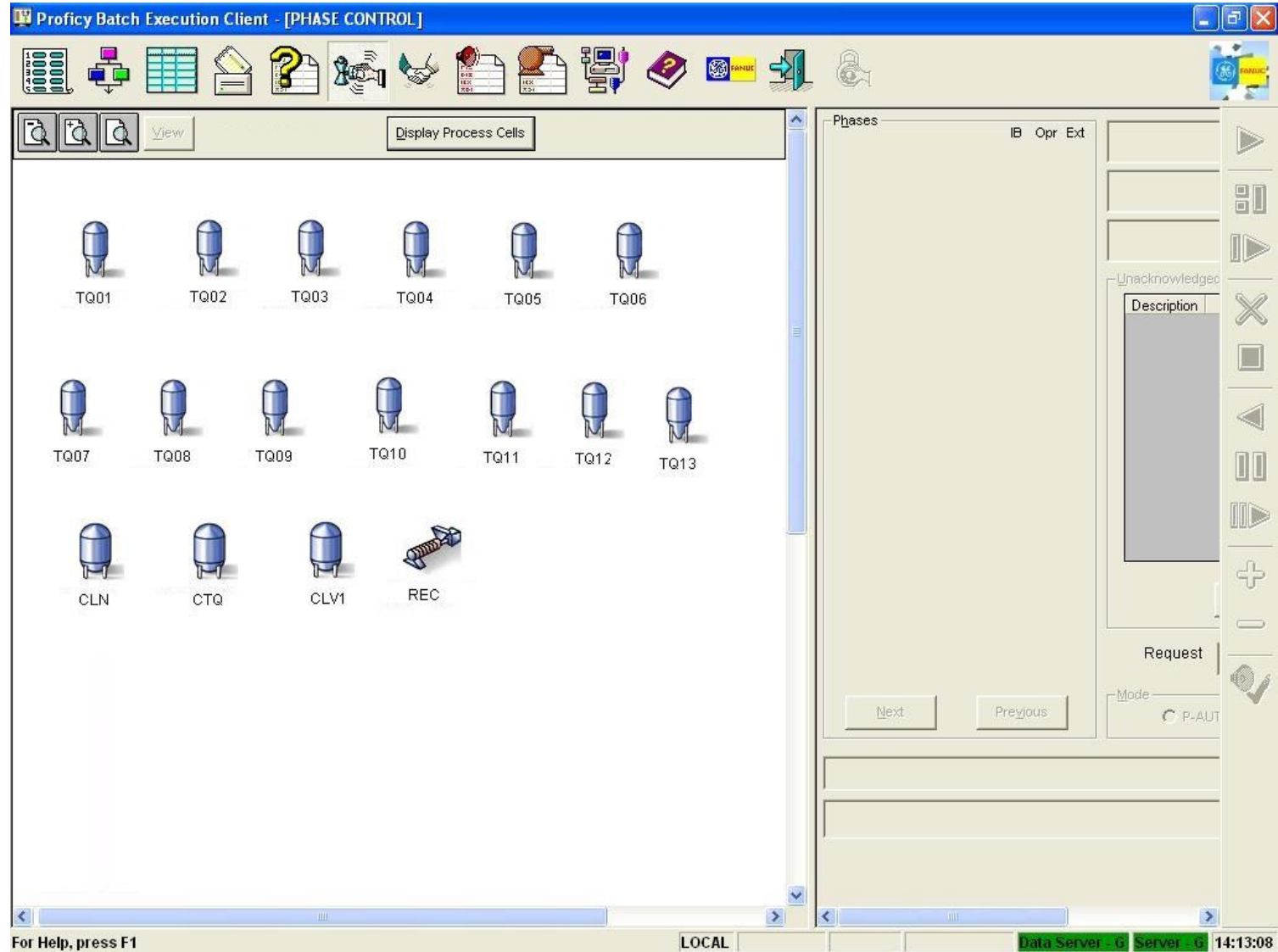
- Gerenciador de Bateladas Proficy iBatch (GE)



Arquitetura



Modelamento – Phases



Receita

Proficy Batch Execution Client - [PROCEDURE AS SFC]

Mode: O-AUTO State: RUNNING Procedure: EN_P

Step: 1011

- EN_U_ENVGRI:1
 - EN_O_ENVGRI:1
 - EN_ENVGRI_ENVGR
- EN_U_BENDG:1
 - EN_O_BENDG:1
 - EN_BENDG_BENDG:
- EN_U_BEN
 - EN_O_BEN
 - EN_BEN_BEN:1
 - EN_BEN_BEN:2
 - EN_BEN_BEN:3
 - EN_BEN_BEN:4

Flowchart logic:

- Start
- Condition: TRUE
- Block 1
- Condition: EN_U:1.STATE = COMPLETE
- Block 2
- Condition: EN_U:1.STATE = COMPLETE
- End

Name	Low	Value	High	I
1_QUANTIDADE	0	40	20	kg
1_RECEITA_MOINHO	1	7	9	
1_SILO_PRINCIPAL	1	4	6	
1_SILO_RESERVA	1	4	6	
2_QUANTIDADE	0	78	20	kg
2_RECEITA_MOINHO	1	8	9	
2_SILO_PRINCIPAL	1	2	6	

LOCAL 1011 Data Server: G Server: G 14:04:29

Receita

Proficy Batch Execution Client - [PROCEDURE AS SFC]

Mode: O-AUTO State: RUNNING Procedure: EN_P

EN_U:1.STATE = COMPLETE

Name	Low	Value	High	Unit
1_QUANTIDADE	0	40	20	kg
1_RECEITA_MOINHO	1	7	9	
1_SILO_PRINCIPAL	1	4	6	
1_SILO_RESERVA	1	4	6	
2_QUANTIDADE	0	78	20	kg
2_RECEITA_MOINHO	1	8	9	
2_SILO_PRINCIPAL	1	2	2	

LOCAL 1011 Data Server: G Server: G 14:04:55

Receita

Proficy Batch Execution Client - [PROCEDURE AS SFC]

Mode: O-AUTO State: RUNNING Procedure: EN_P

Step: 1011

- EN_U_ENVGRI:1
 - EN_O_ENVGRI:1
 - EN_ENVGRI_ENVGR
- EN_U_BENDG:1
 - EN_O_BENDG:1
 - EN_BENDG_BENDG:
- EN_U_BEN
 - EN_O_BEN
 - EN_BEN_BEN:1
 - EN_BEN_BEN:2
 - EN_BEN_BEN:3
 - EN_BEN_BEN:4

EN_U:1.STATE = COMPLETE

Diagram showing process flow with states: AUTO, COMPLETE, P-AUTO.

Name	Low	Value	High	I
1_QUANTIDADE	0	40	20	kg
1_RECEITA_MOINHO	1	7	9	
1_SILO_PRINCIPAL	1	4	6	
1_SILO_RESERVA	1	4	6	
2_QUANTIDADE	0	78	20	kg
2_RECEITA_MOINHO	1	8	9	
2_SILO_PRINCIPAL	1	2	6	

LOCAL 1011 Data Server: G Server: G 14:05:13

Receita

The screenshot displays the Proficy Batch Execution Client interface for a procedure named 'PROCEDURE AS SFC'. The main window shows the execution status of step 1011, which is currently in a 'RUNNING' state. The interface includes a toolbar with various icons for navigation and control, and a sidebar with a tree view of the process steps.

The state transition diagram shows two states: 'COMPLETE' (grey box) and 'RUNNING' (green box). Both states are labeled 'P-AUTO'. The transition between them is defined by the condition: `Z:1.STATE = COMPLETE AND EN_U_DES:1.STATE = COMPLETE`.

At the bottom of the window, a table displays the current values for various process variables:

Name	Low	Value	High	Unit
1_QUANTIDADE	0	40	20	kg
1_RECEITA_MOINHO	1	7	9	
1_SILO_PRINCIPAL	1	4	6	
1_SILO_RESERVA	1	4	6	
2_QUANTIDADE	0	78	20	kg
2_RECEITA_MOINHO	1	8	9	
2_SILO_PRINCIPAL	1	2	3	

The status bar at the bottom indicates the current location is 'LOCAL 1011', the server is 'Data Server - G Server - G', and the time is 14:05:38.

Receita

The screenshot displays the Proficy Batch Execution Client interface. The main window shows a list of batch jobs with columns for Name, Status, and Mode. The jobs are organized into a tree structure. The status of the jobs is as follows:

Name	Status	Mode
FB_U_CG_	COMPLETE	P-AUTO
FB_O_CG		
FB_F_CG_INI:1		
FB_F_CG_RPS:1		
FB_F_CG_ENC:1		
FB_F_CG_RCB:1		
FB_F_CG_AQC:1		
FB_F_CG_RPS:2		
FB_F_CG_AGT:1		
FB_F_CG_AQC:2		
FB_F_CG_RPS:3		
FB_F_CG_INI_TRF:1		
FB_F_CG_TRF:1		
FB_F_CG_ENX:1		
FB_F_CG_ENX:2		
EN_U_DES:1	COMPLETE	P-AUTO
EN_O_DES:1		
EN_DES_DES:1		
FB_U_CMA_	COMPLETE	P-AUTO

At the bottom of the window, there is a table with the following headers: Name, Low, Value, High, and End. The table is currently empty.

The status bar at the bottom of the window shows: LOCAL 1011, Data Server, Server, and 14:08:25.

Receita

The screenshot displays the Proficy Batch Execution Client interface. The main window title is "Proficy Batch Execution Client". The interface includes a toolbar with various icons for navigation and execution. The central area shows a tree view of process steps under the folder "FB_U_CG". The status of the parent folder is "COMPLETE" and "P-AUTO". The list of steps includes:

- FB_O_CG
- FB_F_CMA_INI:1
- FB_F_CMA_ENC:1
- FB_F_CMA_RCB:1
- FB_F_CMA_AGT:1
- FB_F_CMA_VLV:1
- FB_F_CMA_RPS:1
- FB_F_CMA_AQC:1
- FB_F_CMA_RPS:2
- FB_F_CMA_RCB_CG:1
- FB_F_CMA_RPS:3
- FB_F_CMA_AQC:3
- FB_F_CMA_RPS:4
- FB_F_CMA_INI_TRF:1
- FB_F_CMA_TRF:1
- FB_F_CMA_ENX:1
- FB_F_CMA_ENX:2
- FB_F_CMA_ENX:3

At the bottom of the interface, there is a table with the following columns: Name, Low, Value, High, and End. The table is currently empty.

The status bar at the bottom indicates "LOCAL 1011", "Data Server", "Server", and the time "14:08:37".

Receita

The screenshot displays the Proficy Batch Execution Client interface. The main window shows a list of batch jobs with the following data:

Job Name	Status	Mode
FB_F_CMA_ENX:3		
FB_F_CMA_DRN:1		
FB_U_TIF:1	COMPLETE	P-AUTO
FB_O_TIF:1		
FB_F_TIF_INI:1		
FB_F_TIF_LAS:1		
FB_F_TIF_PRE_AQC:1		
FB_F_TIF_CIR_INI:1		
FB_F_TIF_GIR:1		
FB_F_TIF_AFO_PRC:1		
FB_F_TIF_AFO_CIR:1		
FB_F_TIF_FLT:1		
FB_F_TIF_MOS_PRI:1		
FB_F_TIF_LPZ_COL:1		
FB_F_TIF_AFO_VAZ:1		
FB_F_TIF_RCI:1		
FB_F_TIF_MOS_SEC:1		
FB_F_TIF_LAV:1		
FB_F_TIF_ULT_AGU:1		

Below the job list is a table with the following headers: Name, Low, Value, High, and End. The table is currently empty.

The interface also features a toolbar with various icons for navigation and control, and a process flow diagram on the right side of the main window. The status bar at the bottom indicates the current location as LOCAL 1011, the data server as Data Server_G, and the server as Server_G, with a timestamp of 14:08:49.

Receita

The screenshot displays the Proficy Batch Execution Client interface. The main window contains a list of process steps with columns for Name, Status, and Mode. The steps are organized into hierarchical groups. A control panel on the right side includes various icons for navigation and execution. At the bottom, a status bar shows the current connection as LOCAL 1011 and the time as 14:08:59.

Name	Status	Mode
FB_F_TIF_ULT_AGU:1		
FB_F_TIF_DRN:1		
FB_F_TIF_BAG:1		
FB_F_TIF_ENX:1		
FB_F_TIF_LPZ_FUN:1		
<input type="checkbox"/> FB_U_TOI:1	COMPLETE	P-AUTO
<input type="checkbox"/> FB_O_TOI:1		
FB_F_TOI_INI:1		
FB_F_TOI_TRF:1		
FB_F_TOI_ARR:1		
FB_F_TOI_ARR:2		
<input type="checkbox"/> FB_U_CMO	COMPLETE	P-AUTO
<input type="checkbox"/> FB_O_CMO		
FB_F_CMO_INI:1		
FB_F_CMO_AQC:1		
FB_F_CMO_DSG_HMS:1		
FB_F_CMO_INI_TRF:1		
FB_F_CMO_RCI:1		
AP_REST_ENV:1		

Receita

The screenshot displays the Proficy Batch Execution Client interface. The main window shows a list of batch jobs with columns for Name, Status, and Priority. The status of several jobs is highlighted in green, indicating they are running or complete.

Name	Status	Priority	Value	High	End
FB_F_CMO_FER:1					
FB_F_CMO_MEX:1					
FB_F_CMO_TRF:1					
FB_F_TLU_INI:1					
FB_F_CMO_ENX:1					
FB_F_TLU_DSG:1					
FB_F_CMO_ENX:2					
FB_F_TLU_ENX:2					
FB_F_CMO_ENX:3					
<input checked="" type="checkbox"/> FB_U_WHR:1	RUNNING	P-AUTO			
<input checked="" type="checkbox"/> FB_O_WHR:1	RUNNING	P-AUTO			
FB_F_WHR_INI:1					
FB_F_WHR_EST_AER:1					
FB_F_WHR_RPS:1					
FB_F_WHR_EST_LNH:1					
FB_F_WHR_RSF_LNH:1					
FB_F_WHR_RSF_MOS:1	RUNNING	P-AUTO	0		
FB_F_WHR_AER_MOS:1	COMPLETE	P-AUTO	0		
FB_F_WHR_RTD_TRU:1					

The interface also features a toolbar with various icons for navigation and control, and a status bar at the bottom showing 'LOCAL 1011', 'Data Server', 'Server', and the time '14:09:29'.

- Sistema flexível permitindo criação de várias receitas com sequenciamentos diferentes dos procedimentos de cada unidade;
- Sistema escalável permitindo ampliações futuras mantendo a mesma base e padrões do projeto atual;
- Integração com outras áreas e variáveis da fábrica;
- Sistema robusto evitando falhas no controle que o tornem inoperante.

Contatos



BASE

AUTOMAÇÃO

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