

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.

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

Ferramentas utilizadas na solução

- Hardware (Rockwell Automation / Allen-Bradley):

- Controlador família Controllogix

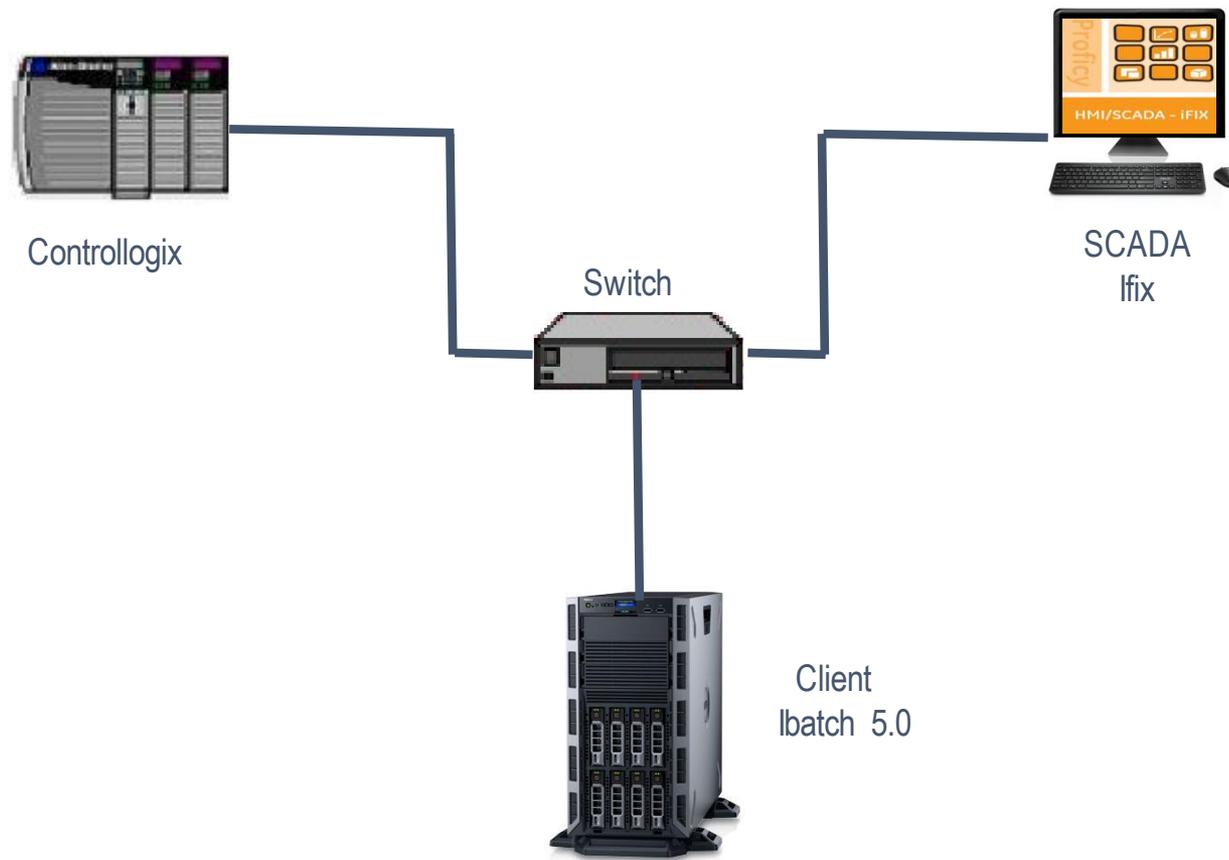


- Softwares :

- Gerenciador de Bateladas Proficy iBatch (GE)



Arquitetura



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 | 3 | |

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 | 2 | |

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

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

COMPLETE P-AUTO RUNNING P-AUTO

Z:1.STATE = COMPLETE AND EN_U_DES:1.STATE = COMPLETE

| 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 14:05:38

Receita

The screenshot displays the Proficy Batch Execution Client interface. The main window shows a hierarchical tree of process steps. The top-level step is 'FB_U_CG', which is 'COMPLETE' and 'P-AUTO'. It contains a sub-step 'FB_O_CG' with several sub-items: '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', and 'FB_F_CG_ENX:2'. Below this, 'EN_U_DES:1' is also 'COMPLETE' and 'P-AUTO', with a sub-step 'EN_O_DES:1' containing 'EN_DES_DES:1'. Finally, 'FB_U_CMA_' is 'COMPLETE' and 'P-AUTO'. The interface includes a toolbar with various icons, a right-hand panel with a diagram, and a bottom status bar showing 'LOCAL 1011', 'Data Server', 'Server', and the time '14:08:25'.

| Name | Low | Value | High | End |
|-------------------|-----|-------|------|-----|
| FB_U_CG | | | | |
| 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 | | | | |
| EN_O_DES:1 | | | | |
| EN_DES_DES:1 | | | | |
| FB_U_CMA_ | | | | |

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 control. The central area is a table showing the execution status of various process steps.

| Process Step | Status | Mode |
|--------------------|----------|--------|
| FB_U_CG | COMPLETE | P-AUTO |
| 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 | | |

Below the table is a control panel with a "Name", "Low", "Value", "High", and "End" header. The status bar at the bottom shows "LOCAL 1011", "Data Server", "Server", and the time "14:08:37".

Receita

The screenshot displays the Proficy Batch Execution Client interface. The main window is titled "Proficy Batch Execution Client" and contains a list of process steps. The step "FB_O_TIF:1" is currently selected and highlighted with a green arrow. The status of this step is "COMPLETE" and the mode is "P-AUTO".

| Name | Low | Value | High | End |
|--------------------|-----|----------|------|--------|
| 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 | | | | |

At the bottom of the interface, there is a status bar showing "LOCAL 1011", "Data Server G", "Server G", and the time "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 | Low | Value | High | End |
|-------------------------------------|----------|-------|--------|-----|
| 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 each job is color-coded: green for 'RUNNING' and grey for 'COMPLETE'. The priority is listed as 'P-AUTO' for most jobs. A tree view on the right side of the interface shows a hierarchical structure of jobs, with 'FB_U_WHR:1' and 'FB_O_WHR:1' expanded. Below the main list, there is a table with columns for Name, Low, Value, High, and End. The status bar at the bottom indicates 'LOCAL 1011', 'Data Server', 'Server', and the time '14:09:29'.

| Name | Status | Priority | Value | 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 | | | | |

| Name | Low | Value | High | End |
|------|-----|-------|------|-----|
|------|-----|-------|------|-----|

LOCAL 1011 Data Server Server 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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