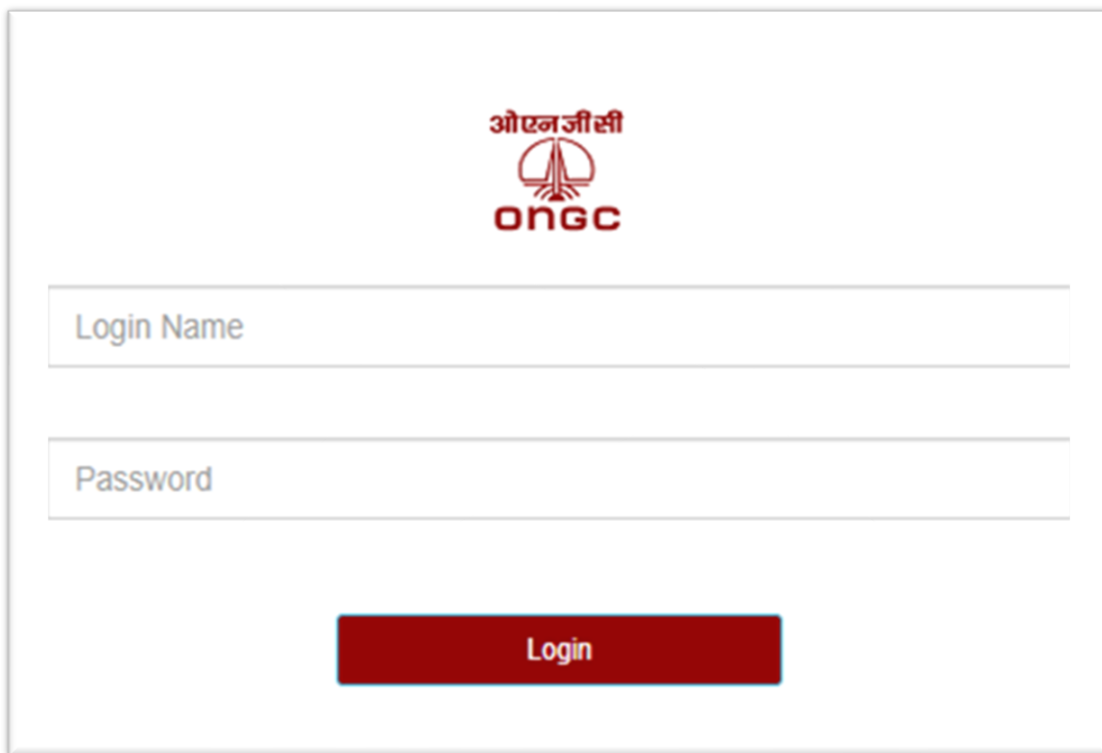


## Management Information System (MIS)

Management Information System (MIS) is an integration of Tags Monitoring, Reports, Dashboard, Graphs and Alarm Management. MIS Applications Developed by DreamSoft are Customized to the Client needs. We present herewith Case Study for ONGC's MIS Application Developed by us. Purpose of application is a develop a web interface which will help user to monitor real time parameters from remote computer using web interface. Scope of Application will be to communicate with OPC DA Tags and fetch real time data via a Middle ware layer which will communicate with OPC Server and pass data to web application.

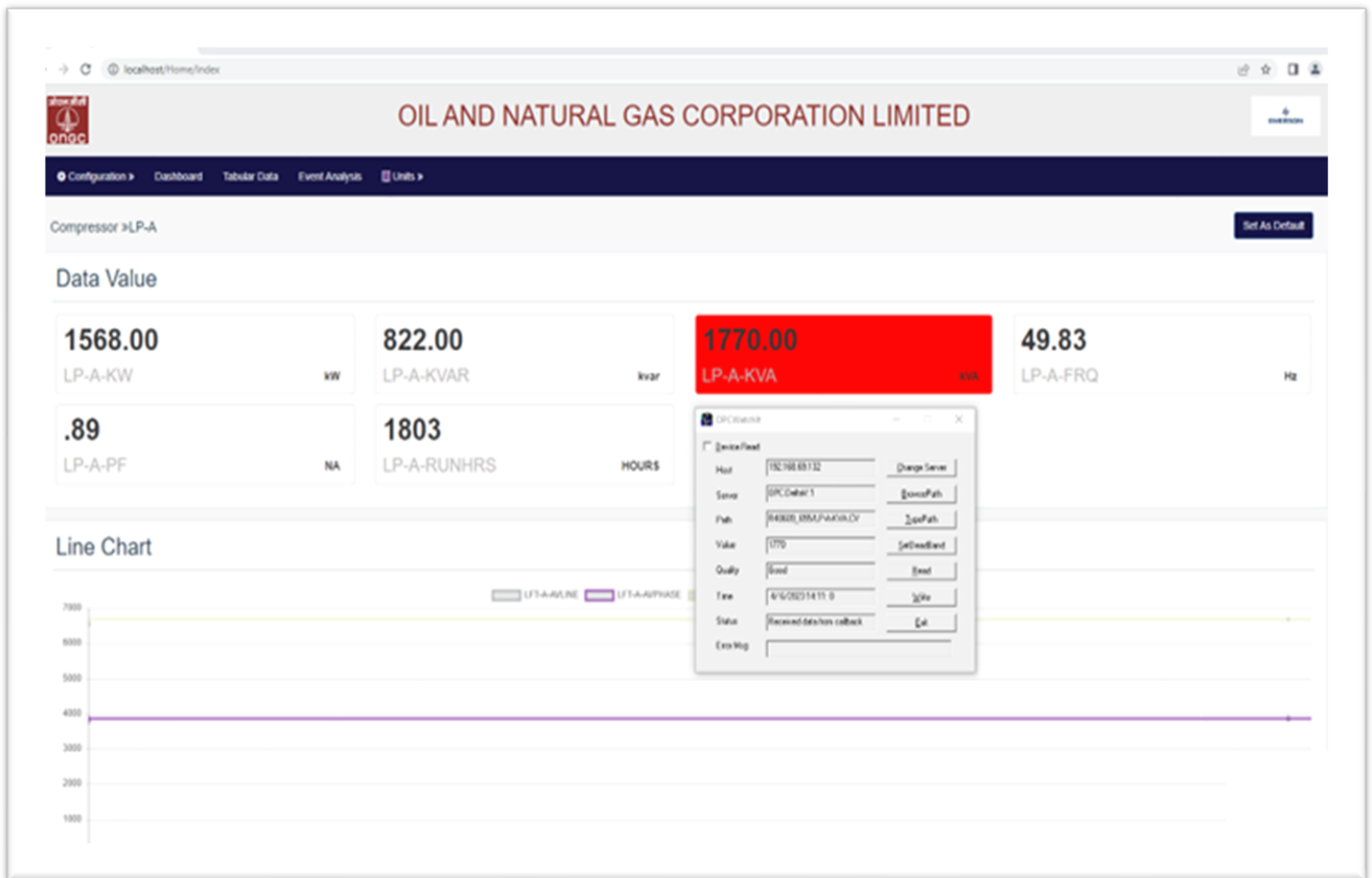
### ➤ Login



The screenshot shows a login interface for the ONGC MIS application. At the top center is the ONGC logo, consisting of a stylized oil derrick icon with the Hindi text 'ओएनजीसी' above it and 'ONGC' below it. Below the logo are two text input fields. The first field is labeled 'Login Name' and the second is labeled 'Password'. At the bottom center of the form is a red button with the text 'Login' in white.

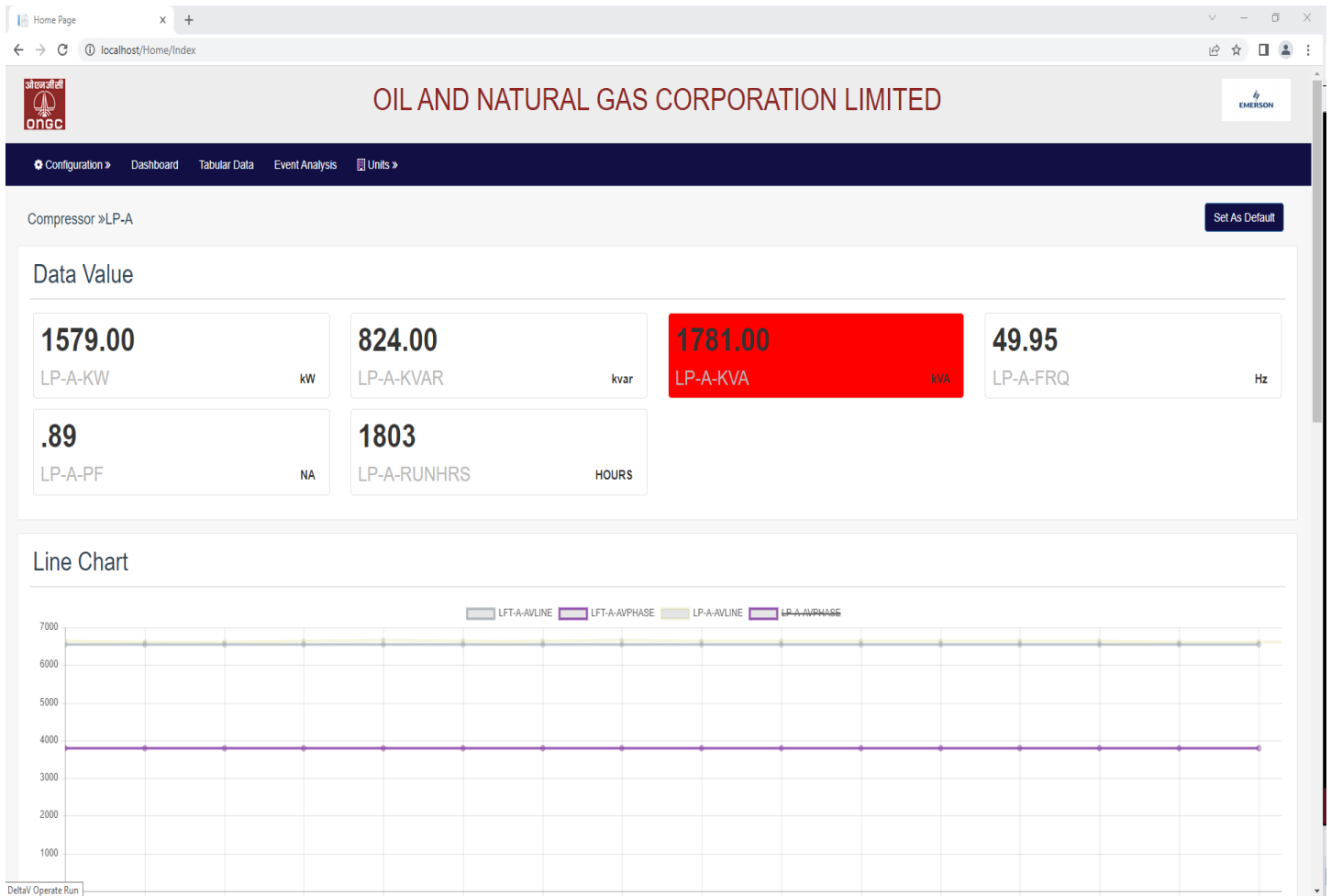
- Login Screen where Users will Login with their Login Name and Password which are defined in the Application in User Master.

## ➤ Dash Board With OPC Realtime Value



- For Specific Tags which are defined, their Real Time Values will be displayed on the Dashboard. Line Chart will show Data Values in Graphical View.

## ➤ Dash board



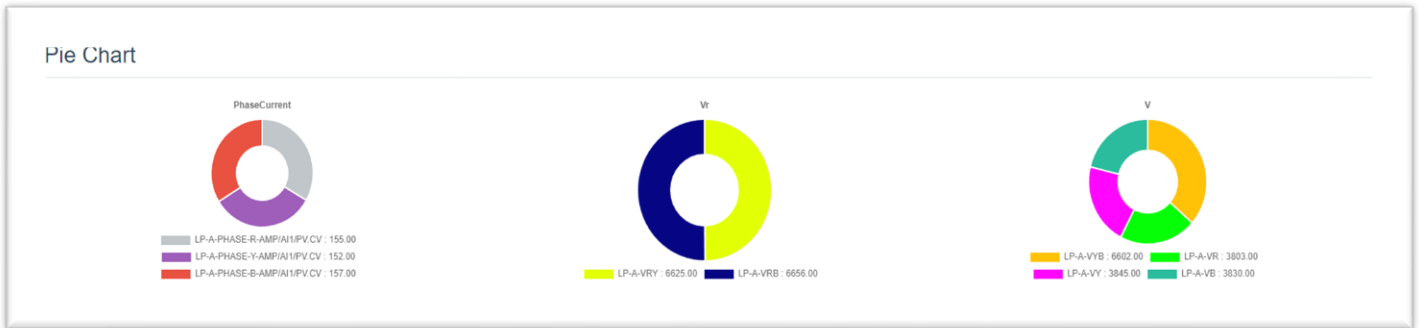
- Another View of Dashboard with Red Colored Tag whose Value has gone below the Min. Tag Value Defined.

## ➤ Bar Chart



- Bar Charts for Various Tag Values in terms of Graphics Representation

## ➤ Pie Chart



- Pie Charts for Various Tag Values in terms of Graphics Representation

## ➤ Gauge Chart



- Gauge Charts for Various Tag Values in terms of Graphics Representation

## ➤ Unit Master

The screenshot shows the 'Unit Master' page of the 'OIL AND NATURAL GAS CORPORATION LIMITED' application. The page has a dark blue header with navigation links: Configuration, Dashboard, Tabular Data, Event Analysis, and Units. The 'Units' link is active. On the right of the header, there is a user profile for 'Administrator' and a 'Log Out' button. Below the header, the page title 'Unit Master' is displayed. There are two tabs: 'SearchRecords' (selected) and 'ManageRecords'. Below the tabs are '+ADD' and 'DELETE' buttons. A search bar with the text 'Search' and a 'RecordCount' of '10' is present, along with a 'Search' button. The main content is a table with the following data:

<input type="checkbox"/>	Code	Unit Name	EDIT
<input type="checkbox"/>	Compressor	Compressor	<a href="#">EDIT</a>
<input type="checkbox"/>	TRANSFORMER	TRANSFORMER	<a href="#">EDIT</a>
<input type="checkbox"/>	Pump	Pump	<a href="#">EDIT</a>
<input type="checkbox"/>	INCOMING SUPPLY	INCOMING SUPPLY	<a href="#">EDIT</a>

- Definition of Main Units in Application

## ➤ Sub Unit Master

The screenshot shows the 'Sub Unit Master' page of the 'OIL AND NATURAL GAS CORPORATION LIMITED' application. The page has a dark blue header with navigation links: Configuration, Dashboard, Tabular Data, Event Analysis, and Units. The 'Units' link is active. On the right of the header, there is a user profile for 'Administrator' and a 'Log Out' button. Below the header, the page title 'Sub Unit Master' is displayed. There are two tabs: 'SearchRecords' (selected) and 'ManageRecords'. Below the tabs are '+ADD' and 'DELETE' buttons. A search bar with the text 'Search' and a 'RecordCount' of '10' is present, along with a 'Search' button. The main content is a table with the following data:

<input type="checkbox"/>	Code	Unit Name	Sub Unit Name	EDIT
<input type="checkbox"/>	LP-A	Compressor	LP-A	<a href="#">EDIT</a>
<input type="checkbox"/>	LP-B	Compressor	LP-B	<a href="#">EDIT</a>
<input type="checkbox"/>	LP-C	Compressor	LP-C	<a href="#">EDIT</a>
<input type="checkbox"/>	LFT-A	Compressor	LFT-A	<a href="#">EDIT</a>
<input type="checkbox"/>	LFT-B	Compressor	LFT-B	<a href="#">EDIT</a>
<input type="checkbox"/>	LFT-C	Compressor	LFT-C	<a href="#">EDIT</a>
<input type="checkbox"/>	EFF_DISP-A	Pump	EFF_DISP-A	<a href="#">EDIT</a>
<input type="checkbox"/>	EFF_DISP-B	Pump	EFF_DISP-B	<a href="#">EDIT</a>
<input type="checkbox"/>	EFF_DISP-C	Pump	EFF_DISP-C	<a href="#">EDIT</a>
<input type="checkbox"/>	LP-INJ-A	Pump	LP-INJ-A	<a href="#">EDIT</a>

- Definition of Multiple Sub Units Under Main Units in Application

## ➤ Tag Source

### OIL AND NATURAL GAS CORPORATION LIMITED

Configuration > Dashboard Tabular Data Event Analysis Units > Administrator Log Out

ELECTRIC HEATER > TESTTANK ELECTRIC HEATER (E-11)

#### Tag Source

SearchRecords ManageRecords

Source Type  
OPC DA

Server Name  
OPC.DeltaV.1

Server Port  
0

Server IP  
192.168.69.132

Save

- Definition Tags Source with OPC Type, Server Name, Port and IP Information

## ➤ Tag Group

### OIL AND NATURAL GAS CORPORATION LIMITED

Configuration > Dashboard Tabular Data Event Analysis Units > Administrator Log Out

#### Tag Group Master

SearchRecords ManageRecords

Group Name  
PhaseCurrent

Code  
PhaseCurrent

Group Details  
Details

Status  
 Active  Not Active

Save

- Definition of Tags Group for Tags Grouping

## ➤ Tag Master->Search Records

Unit Name	Group Name	Tag Type	Tag Name	Tag Path	EDIT
LP-A	PhaseCurrent	Analog	LP-A-PHASE-R-AMPI/A11/PV.CV	LP-A-PHASE-R-AMPI/A11/PV.CV	<a href="#">EDIT</a>
LP-A	PhaseCurrent	Analog	LP-A-PHASE-Y-AMPI/A11/PV.CV	LP-A-PHASE-Y-AMPI/A11/PV.CV	<a href="#">EDIT</a>
LP-A	PhaseCurrent	Analog	LP-A-PHASE-B-AMPI/A11/PV.CV	LP-A-PHASE-B-AMPI/A11/PV.CV	<a href="#">EDIT</a>
LP-A	Vr	Analog	LP-A-VRY	R40609_655/LP-A-VRY.CV	<a href="#">EDIT</a>
LP-A	Vr	Analog	LP-A-VRB	R40609_655/LP-A-VRB.CV	<a href="#">EDIT</a>
LP-A	V	Analog	LP-A-VYB	R40609_655/LP-A-VYB.CV	<a href="#">EDIT</a>
LP-A	V	Analog	LP-A-VR	R40609_655/LP-A-VR.CV	<a href="#">EDIT</a>
LP-A	V	Analog	LP-A-VY	R40609_655/LP-A-VY.CV	<a href="#">EDIT</a>
LP-A	V	Analog	LP-A-VB	R40609_655/LP-A-VB.CV	<a href="#">EDIT</a>
LP-A	K	Analog	LP-A-KW	R40609_655/LP-A-KW.CV	<a href="#">EDIT</a>

- Tags Master with Group Linking, Tag Type, Tag Name and Path. Multiple Tags can be configured in this Application.

## ➤ Tag Master->Manage Record

Sub Unit Name: LP-A

Group Name: PhaseCurrent

Tag Name: LP-A-PHASE-R-AMPI/A11/PV.CV

Tag Path: LP-A-PHASE-R-AMPI/A11/PV.CV

Tag Min Value: 0.00

Tag Max Value: 170.00

Tag Resolution: 0.01

Tag Type: Analog

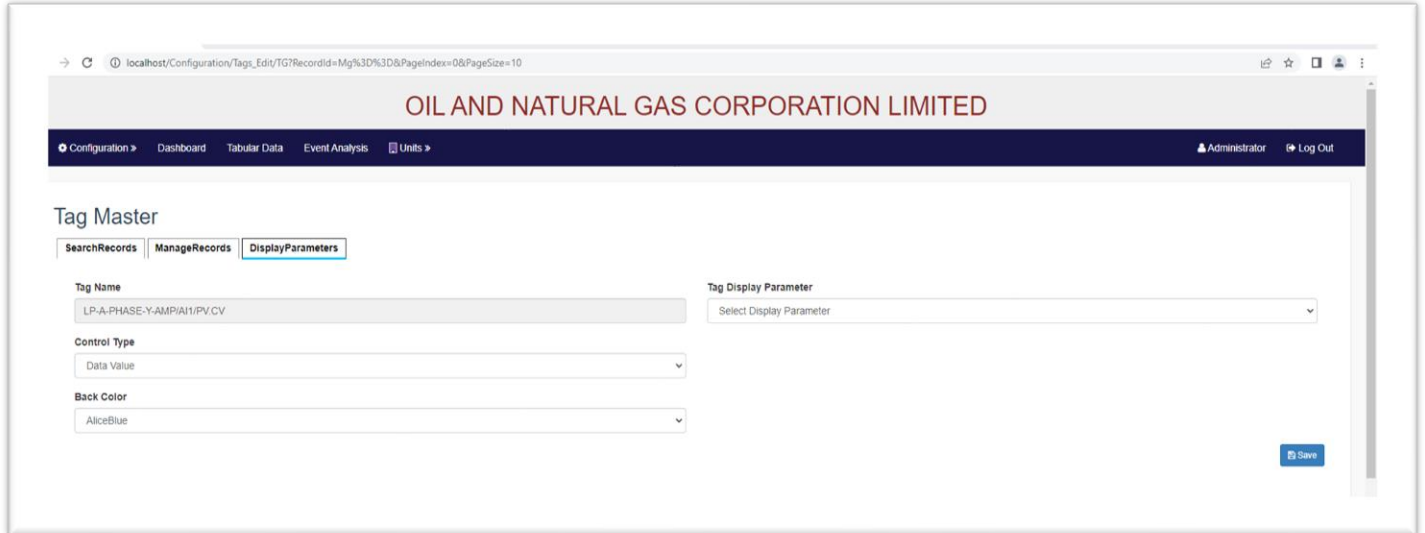
UOM: A

Status:  Active  Not Active

[Save](#)

- Tag Master Form indicating various Tag Details to be provided like : Tag Minimum Vaule, Tag Max Value (for Monitoring), Tag Resolution (For Graph and Display), Tag Type, Unit of Measurement, Status of the Tag etc.

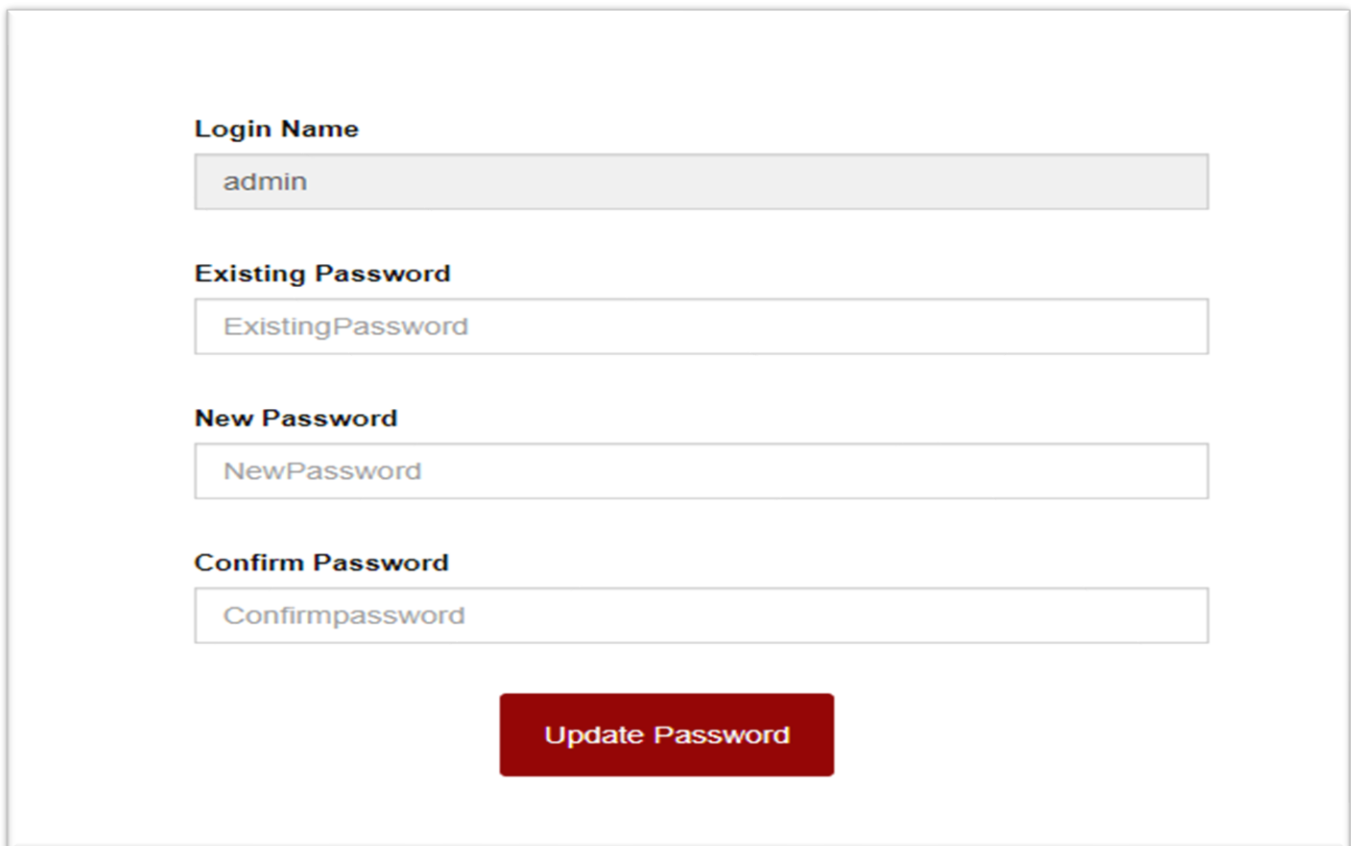
## ➤ Tag Master -> Display Parameters



The screenshot shows a web browser window with the URL `localhost/Configuration/Tags_Edit/TG?RecordId=Mg%3D%3D&PageIndex=0&PageSize=10`. The page header for "OIL AND NATURAL GAS CORPORATION LIMITED" includes navigation links for Configuration, Dashboard, Tabular Data, Event Analysis, and Units, along with user information for Administrator and a Log Out button. The main content area is titled "Tag Master" and features three tabs: SearchRecords, ManageRecords, and DisplayParameters. The DisplayParameters tab is active, showing a form with the following fields: Tag Name (text input with value "LP-A-PHASE-Y-AMPIA11/PV.CV"), Tag Display Parameter (dropdown menu with value "Select Display Parameter"), Control Type (dropdown menu with value "Data Value"), and Back Color (dropdown menu with value "AliceBlue"). A Save button is located at the bottom right of the form.

- Tags Definition with Various Display Parameters

## ➤ Change Password



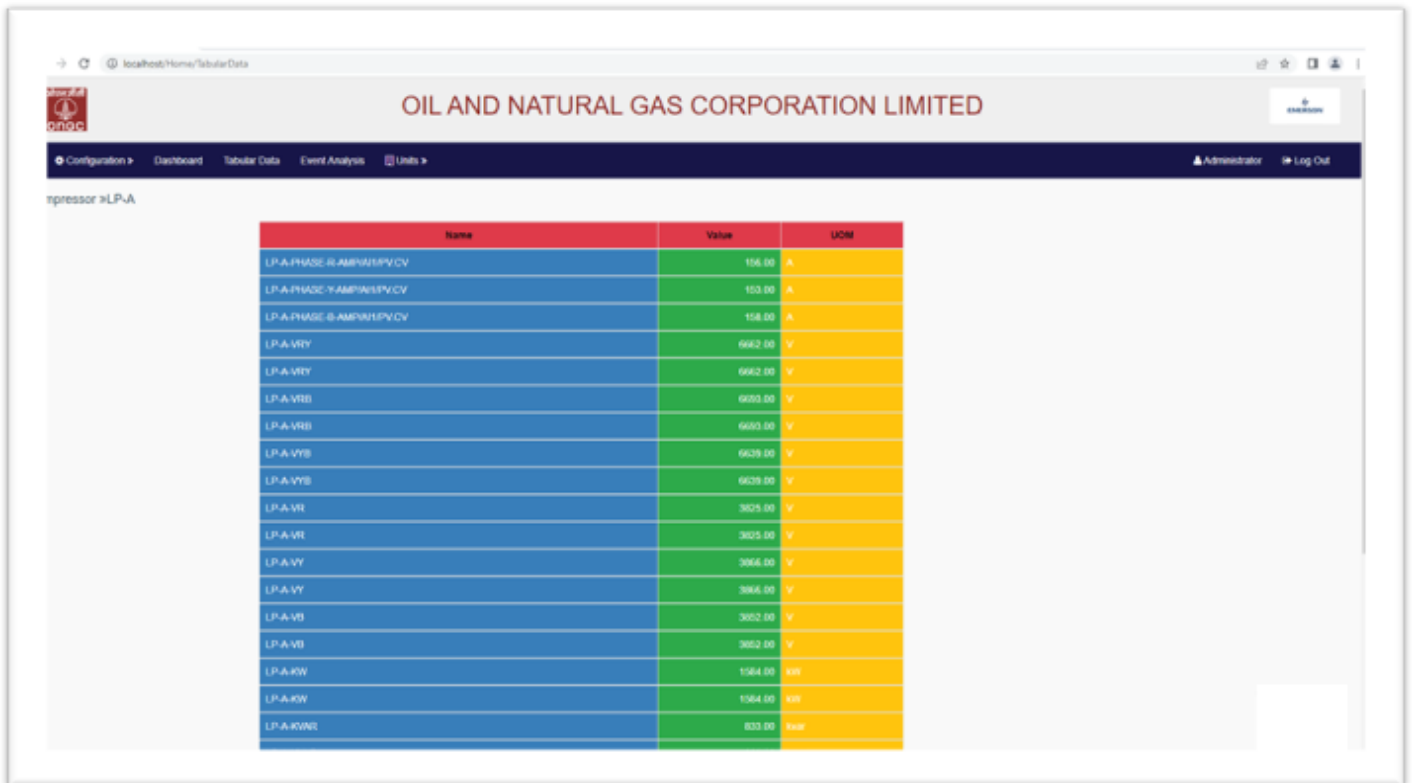
The screenshot displays a "Change Password" form with the following fields and a button:

- Login Name**: Text input field containing "admin".
- Existing Password**: Text input field containing "ExistingPassword".
- New Password**: Text input field containing "NewPassword".
- Confirm Password**: Text input field containing "Confirmpassword".
- Update Password**: A prominent red button at the bottom center.

- Change Password Screen



## ➤ Tabular Data

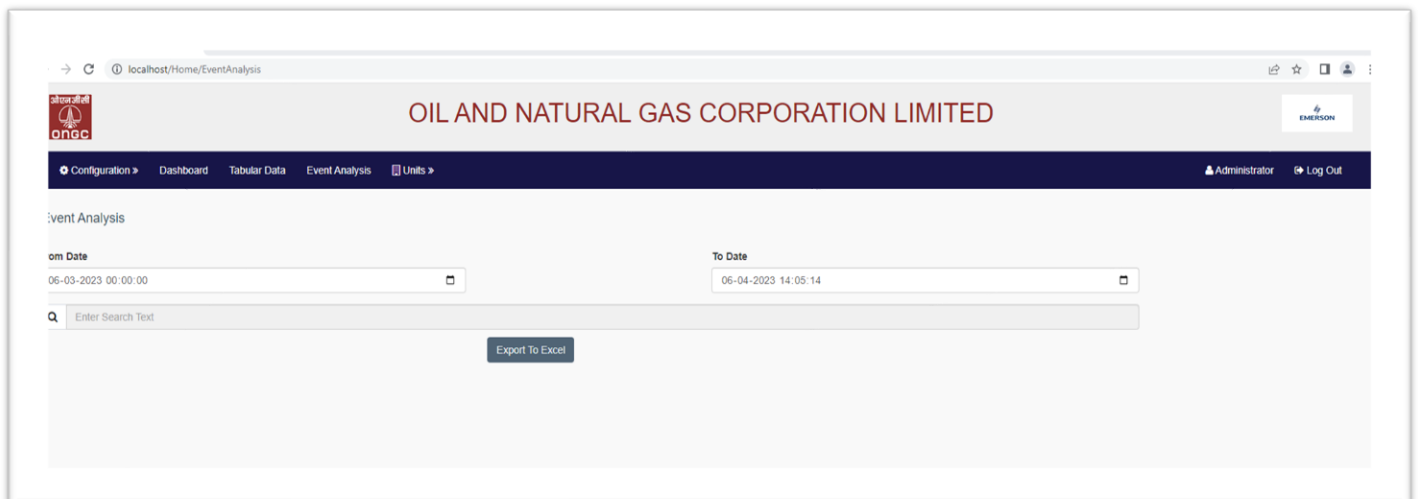


The screenshot shows a web application interface for OIL AND NATURAL GAS CORPORATION LIMITED. The page title is 'Compressor >LPA'. The table below displays the following data:

Name	Value	UOM
LPA-PHASE R-AMP/HPV/CV	156.00	A
LPA-PHASE Y-AMP/HPV/CV	153.00	A
LPA-PHASE S-AMP/HPV/CV	158.00	A
LPA-WY	6662.00	V
LPA-WY	6662.00	V
LPA-WRB	6603.00	V
LPA-WRB	6603.00	V
LPA-VYS	6629.00	V
LPA-VYS	6629.00	V
LPA-WI	3825.00	V
LPA-WI	3823.00	V
LPA-WY	3966.00	V
LPA-WY	3966.00	V
LPA-WI	3852.00	V
LPA-WI	3852.00	V
LPA-KW	1584.00	KWH
LPA-KW	1584.00	KWH
LPA-KWR	833.00	KWH

- Display of Tags in Table with Tag Name, Value and UOM

## ➤ Event Analysis



The screenshot shows the Event Analysis report screen in the OIL AND NATURAL GAS CORPORATION LIMITED web application. The page title is 'Event Analysis'. The screen includes a search bar with the placeholder text 'Enter Search Text' and an 'Export To Excel' button. The date range filters are set to 'From Date: 06-03-2023 00:00:00' and 'To Date: 06-04-2023 14:05:14'.

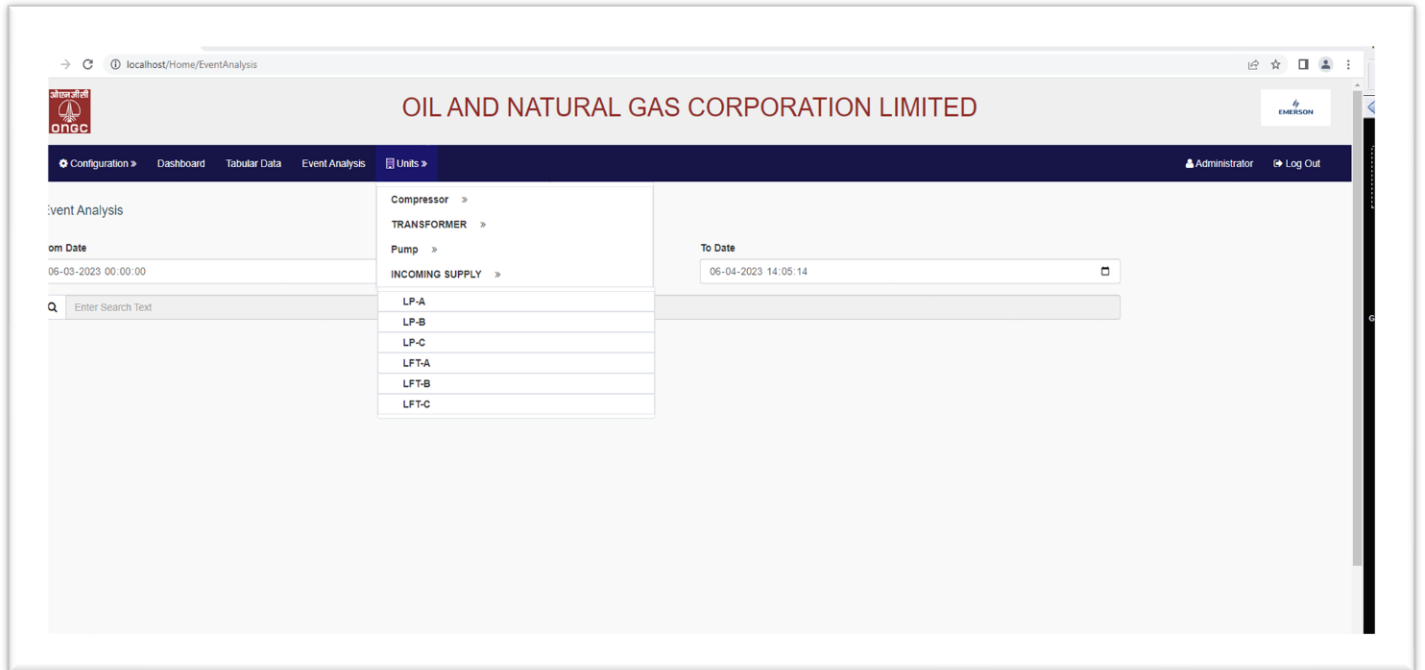
- Event Analysis Report Screen

## ➤ Event\_Analysis Excel Export

LogDateTime	UnitName	SubUnit	TagName	TagPath	MinValue	MaxValue	TagValue	EventType
2023-04-05 11:35:17	Compressor	LFT-A	LFT-A-AVPHASE	R40048_094/LFT-A-AVPHASE.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Compressor	LFT-A	LFT-A-VB	R40048_094/LFT-A-VB.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Compressor	LFT-A	LFT-A-VR	R40048_094/LFT-A-VR.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Compressor	LFT-A	LFT-A-VY	R40048_094/LFT-A-VY.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Compressor	LFT-B	LFT-B-AVPHASE	R40095_141/LFT-B-AVPHASE.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Compressor	LFT-B	LFT-B-VB	R40095_141/LFT-B-VB.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Compressor	LFT-B	LFT-B-VR	R40095_141/LFT-B-VR.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Compressor	LFT-B	LFT-B-VY	R40095_141/LFT-B-VY.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Compressor	LFT-C	LFT-C-AVPHASE	R40142_188/LFT-C-AVPHASE.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Compressor	LFT-C	LFT-C-FRQ	R40142_188/LFT-C-FRQ.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Compressor	LFT-C	LFT-C-VB	R40142_188/LFT-C-VB.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Compressor	LFT-C	LFT-C-VR	R40142_188/LFT-C-VR.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Compressor	LFT-C	LFT-C-VY	R40142_188/LFT-C-VY.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Pump	HP-INJ-A	HP-INJ-A-AVPHASE	R40142_40188/HP-INJ-A-AVPHASE.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Pump	HP-INJ-A	HP-INJ-A-VB	R40142_40188/HP-INJ-A-VB.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Pump	HP-INJ-A	HP-INJ-A-VR	R40142_40188/HP-INJ-A-VR.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Pump	HP-INJ-A	HP-INJ-A-VY	R40142_40188/HP-INJ-A-VY.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Pump	HP-INJ-B	HP-INJ-B-AVPHASE	R40189_40235/HP-INJ-B-AVPHASE.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Pump	HP-INJ-B	HP-INJ-B-VB	R40189_40235/HP-INJ-B-VB.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Pump	HP-INJ-B	HP-INJ-B-VR	R40189_40235/HP-INJ-B-VR.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Pump	HP-INJ-B	HP-INJ-B-VY	R40189_40235/HP-INJ-B-VY.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Pump	HP-INJ-C	HP-INJ-C-AVPHASE	R40283_40329/HP-INJ-C-AVPHASE.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Pump	HP-INJ-C	HP-INJ-C-VB	R40283_40329/HP-INJ-C-VB.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Pump	HP-INJ-C	HP-INJ-C-VR	R40283_40329/HP-INJ-C-VR.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Pump	HP-INJ-C	HP-INJ-C-VY	R40283_40329/HP-INJ-C-VY.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Compressor	LP-A	LP-A-AVPHASE	R40609_655/LP-A-AVPHASE.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Compressor	LP-A	LP-A-KVA	R40609_655/LP-A-KVA.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Compressor	LP-A	LP-A-VB	R40609_655/LP-A-VB.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Compressor	LP-A	LP-A-VR	R40609_655/LP-A-VR.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	Compressor	LP-A	LP-A-VY	R40609_655/LP-A-VY.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	TRANSFORMER	HTR-TRT-TX-B	TX-B-FRQ	R41320_41360/TX-B-FRQ.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	TRANSFORMER	HTR-TRT-TX-B	TX-B-KVA	R41320_41360/TX-B-KVA.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	TRANSFORMER	HTR-TRT-TX-B	TX-B-VR	R41320_41360/TX-B-VR.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	TRANSFORMER	HTR-TRT-TX-C	TX-C-FRQ	R41362_41402/TX-C-FRQ.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	TRANSFORMER	HTR-TRT-TX-C	TX-C-KVA	R41362_41402/TX-C-KVA.CV	0	0.5	.606	High Alarm
2023-04-05 11:35:17	TRANSFORMER	HTR-TRT-TX-C	TX-C-VR	R41362_41402/TX-C-VR.CV	0	0.5	.606	High Alarm
2023-04-05 11:40:26	Compressor	LFT-A	LFT-A-AVPHASE	R40048_094/LFT-A-AVPHASE.CV	0	0.5	.606	High Alarm

- Event Analysis Report in Excel with Various Fields of Tags

## ➤ Unit Selection Menu.



- Various Units and Sub Units displayed on Screen whose Tags user wants to View

# Brief Features

## ➤ Web Application Module

- Region: This option will allow User to configure different region i.e. Critical Parameters, Non Critical Parameters,.
- Parameter Group: - This option will allow user to configure different Parameter w.r.t Region. E.g. Under Region Critical Parameter there will be parametergroup as Unit-1, Unit-2
- Tag Configuration: - This option will user to configure different Tags underRegion and Group e.g. as below
  - Critical Parameter
    - Unit-1
      - ON/OFF STATUS
      - TRIP STATUS
  - Maintenance Room Area
    - First Floor Lobby
      - Temperature
      - Humidity
    - Safety Room Area
      - Temperature
      - Humidi

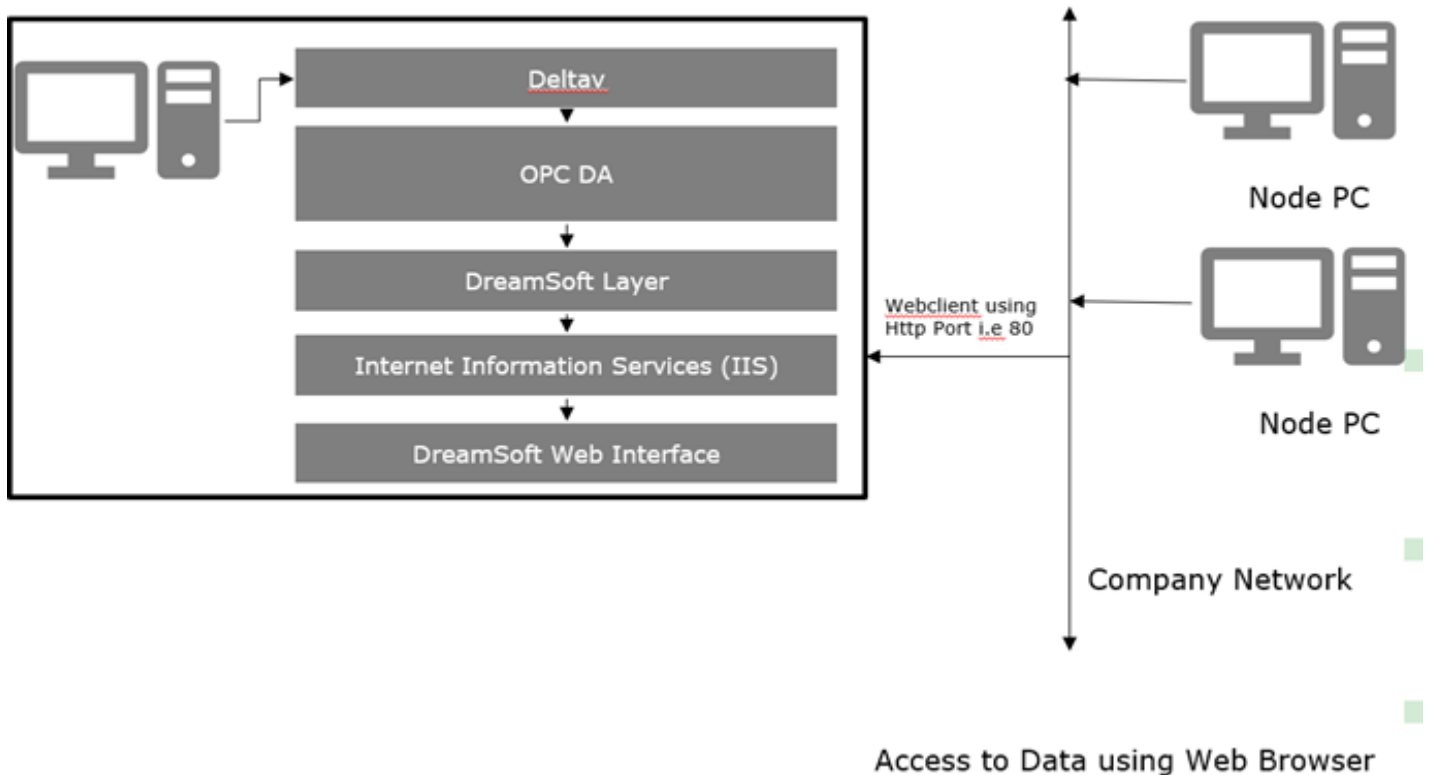
ty Important Fields will be as  
below

- Region (Selection from Region Master)
- Parameter (Selection from Parameter Group)
- Tag Name
- Parameter Unit
- Resolution
- Upper & Lower Limit to change color for display.
- User Configuration: - Maintaining a common username and password for the web application & Mobile App login

**Background Service:** DreamSoft service will poll OPC DA Server every minute and monitor parameter value which will be displayed on Web App.



## Application Architecture



- DeltaV:** - Deltav application will be under Emerson scope with OPC Server enabled to fetch data and pass to Web Application.
- OPC DA:** - OPC DA will be main source of Data which will be provide real time data to Web Application.
- DreamSoft Layer:** - This will run as background service which will monitor defined tags and will all change event of tags will be logged for real time monitoring.
- Internet Information Services (IIS):** - IIS will enable web application to execute via Web Browser.
- DreamSoft Web Interface:** - This application will provide user interface to web client via Browser.

**Note:** OPC Server PC should be accessible via Browser using **Port 80**. Prerequisite will be IIS should be enabled on OPC Server. i.e. if <http://OPCServerName> or <http://192.168.0.88> is type from node computer IIS Welcome page should be displayed.

# Sample Screens of Other MIS Applications

CRITICAL PARAMETERS-UNIT1 ( 1 ) CRITICAL OVER VIEW

Boiler Parameters 1		Boiler Parameters 2		Major Parameters		Coal Flows	
Description	Value	Description	Value	Description	Value	Description	Value
TOTAL AIR FLOW	2754.76	PA AIR FLOW	930.96	GENERATOR KV	24.66	TOTAL COAL FLOW	387.96
SEC AIR FLOW	1822.43	DOWNCOMER LEVEL	7713.62	U#1 SYNCED	-	TOTAL COAL FLOW A	77.03
SEP LEVEL	0.00	PA TEMP AFT APH - A	302.28	U#1 TRIPPED	-	TOTAL COAL FLOW B	76.87
SEP STEAM O/L SUPERHEAT	39.76	WB DP	110.86	MVAR	-30.59	TOTAL COAL FLOW C	79.37
SEC TEMP AFT APH - A	311.67	% OXYGEN AT APH	14.56	GENERATOR CURRENT	16.33	TOTAL COAL FLOW D	77.74
FURANCE PR	-12.57	FUEL - FW RATION	0.97	MS PRESSURE	241.76	TOTAL COAL FLOW E	0.00
PA HDR PRESSURE	866.80	AFT APH - A	133.27	MS TEMP	560.86	TOTAL COAL FLOW F	76.97
% OXYGEN AT ECO	3.48	FLOW AFT LPH - 4	1613.39	CRH PRESSURE	-0.06		
FUEL - AIR RATION	0.86	AFT ID - A	121.54	CRH TEMP	342.99		
FG TEMP BEF APH - A	343.64	O/L TEMP	351.49	HRH PRESSURE	47.20		
COND TEMP AFT LPH-4	154.81	P/R TEMP	565.52	HRH TEMP	559.53		
FG TEMP BEF ID - A	114.54	SH SPRAY RIGHT	28.33	CONDENSER VACCUM (HP)	-0.85		
ECO IL	300.64	RH SPRAY RIGHT	0.00	CONDENSER VACCUME (LP)	-0.93		
SH O/L	245.80	FW TEMP AFT HPH - 8	299.66	MS SILICA	4.18		
SH SPRAY LEFT	27.13	BT POS	79.09	MS CAT. COND	0.06		
RH SPRAY LEFT	0.00	FEED SILICA	5.51				
EMERG CLNG WTR TANK LVL	1299.32	FEED CAT COND	0.03				
FW FLOW AFT HPH - 8	2254.58						
BFP DISCHARGE PR	281.01						



