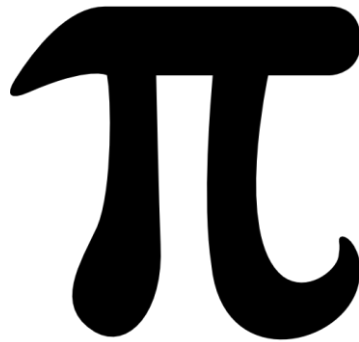


Smart Historian

Collect, Visualize and Analyse



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ELECTRICALS

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Table of Contents

1 Introduction3

1.1 Features of Smart Historian Server3

2 Smart Historian Architecture4

2.1 High level Overview.....4

2.2 Device connectivity.....4

2.3 Installation of MySql and Smart historian4

2.4 Configuration of Smart historian.....5

2.5 Redundant Configuration.....13

3 Microsoft SSRS.....14

4. Licensing:.....14

1 Introduction

Smart historian is high end industrial data management software.

1.1 Features of Smart Historian Server

- Running on WinCC, Cimplicity and Wonderware Scada
- Support Redundant Server configuration
- Cyclic, Daily and Event based report
- Supports Win10, Win7 OS
- unlimited report
- Collect real-time data from OPC DA server (PLC, Scada)
- Store the data in user defined tabular format.
- Generate customize database table format with interactive UI
- Visualise data for management view.
- Consumes Less Database size.
- Minimum PC configuration required
- MySql support
- Web view on Chrome browser
- Trigger report from any PC from network

2 Smart Historian Architecture

Smart Historian can be used on same PC along with Scada or with ant dedicated historian PC on Network.

2.1 High level Overview

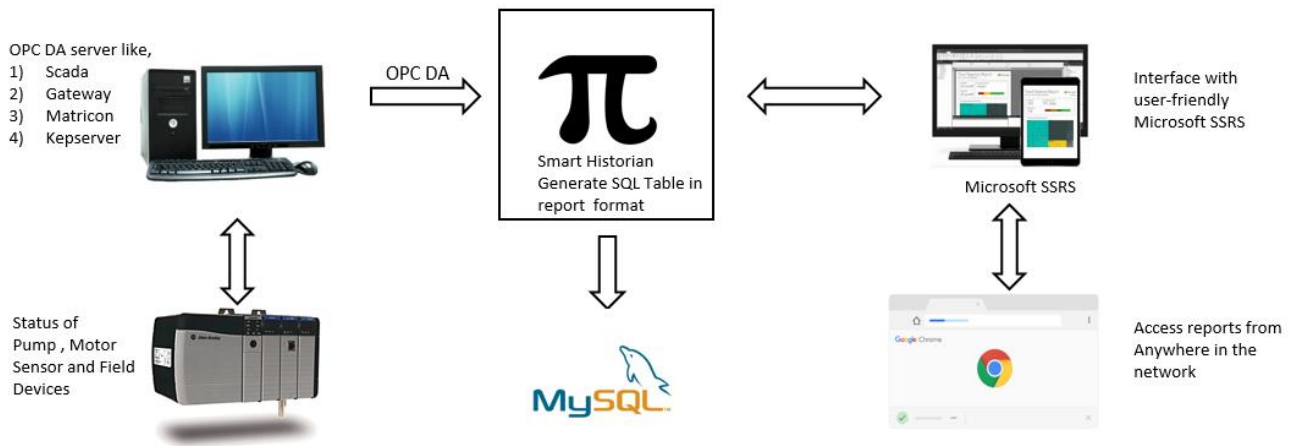


Figure 2.1-1: Smart Historian architecture

2.2 Device connectivity

Visual Connect supports OPC DA protocol, So it able to connect most of the scada like, WinCC, Cimplicity , Wonderware. Also with industrial software like matricon and Kepware .

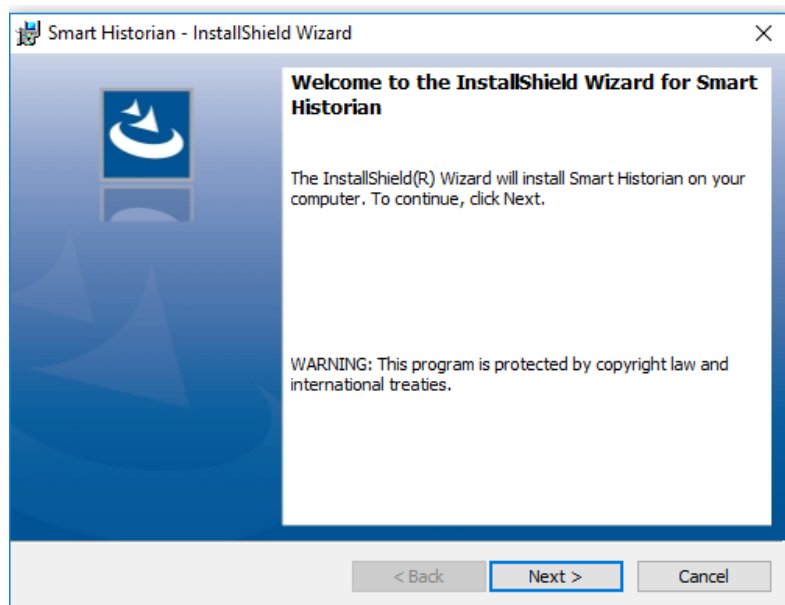
2.3 Installation of MySql and Smart historian

Step1: Install MySQL server

Download link for MySQL <https://dev.mysql.com/downloads/mysql/>

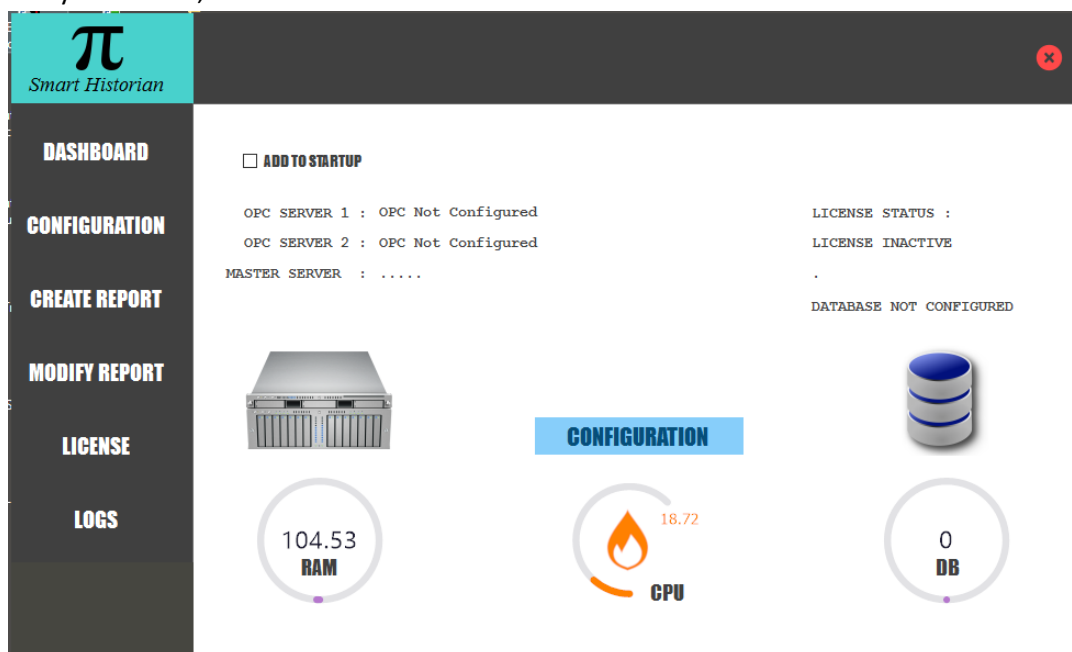
Install server and workbench both, also install ODBC connector for 32-bit version from <https://dev.mysql.com/downloads/connector/odbc/5.3.html>

Step2: Install Smart historian: Follow the instruction



2.4 Configuration of Smart historian

Below is the Dashboard for smart historian Server. Showing CPU uses and Connection status and RAM memory utilisation, active connection

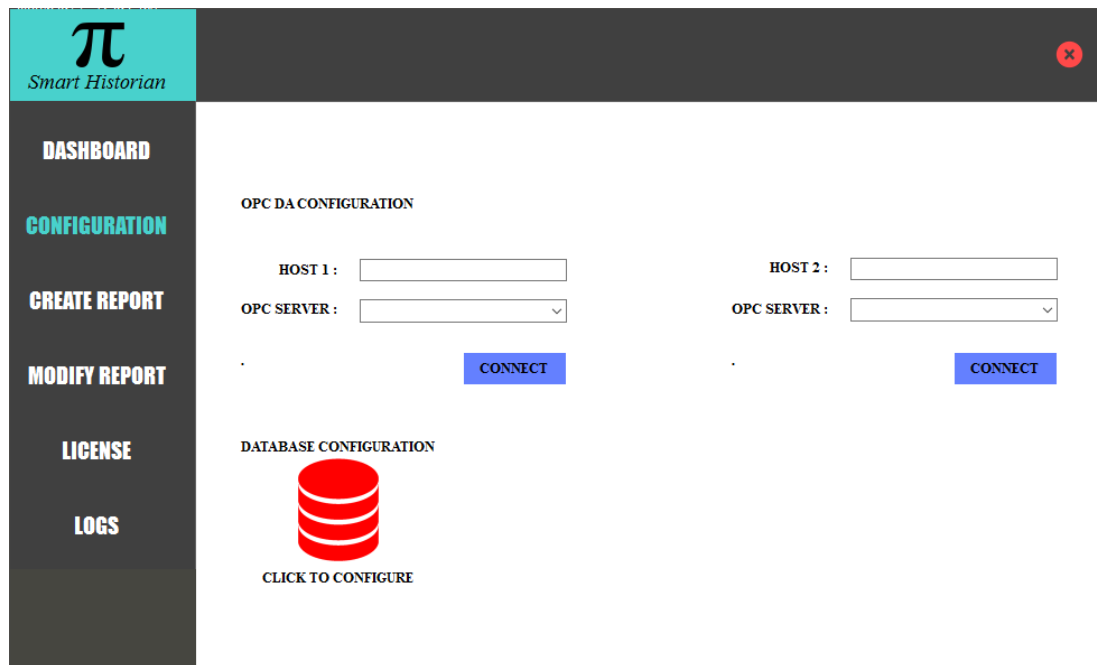


2.4.1 Dashboard

The licensing screen has a sidebar with navigation links: DASHBOARD, CONFIGURATION, CREATE REPORT, MODIFY REPORT, LICENSE (highlighted), and LOGS. The main content area shows 'Machine ID' with four input fields containing 'BFEB', 'FBFF', '0008', and '06E9'. Below this is an 'Activation Code' field with four empty input boxes. There are two buttons: 'Activate Trial' and 'Activate'. The status 'License Not Active' is displayed. At the bottom right, it says 'Designed And Developed By'.

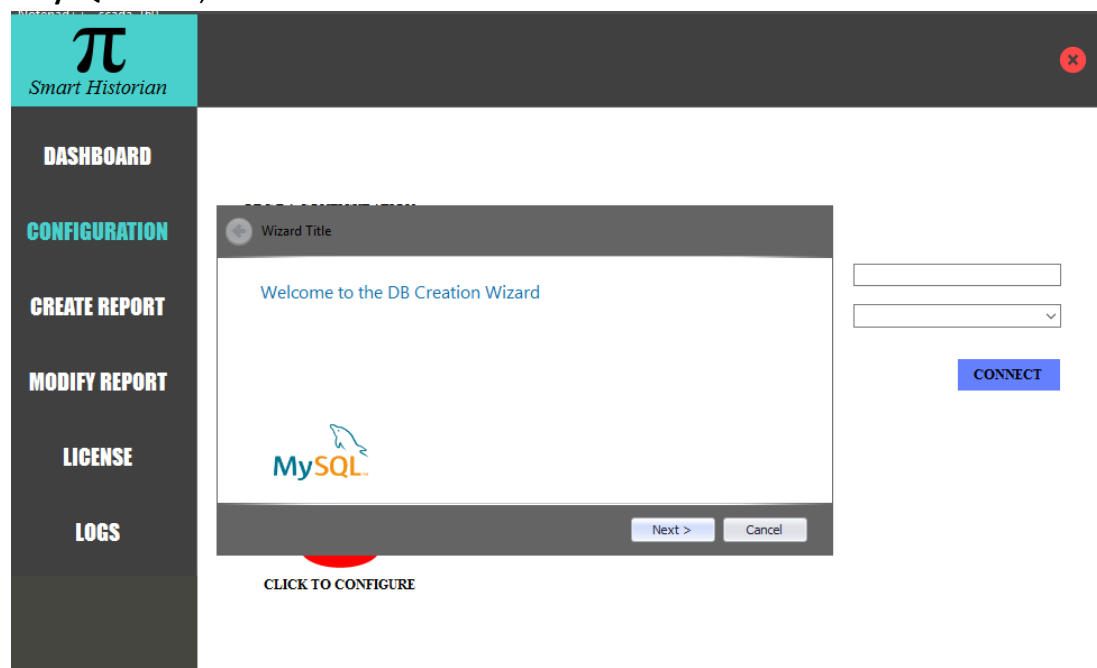
2.4.2 Licensing

Click on **Database configuration** to link connection with MySQL.

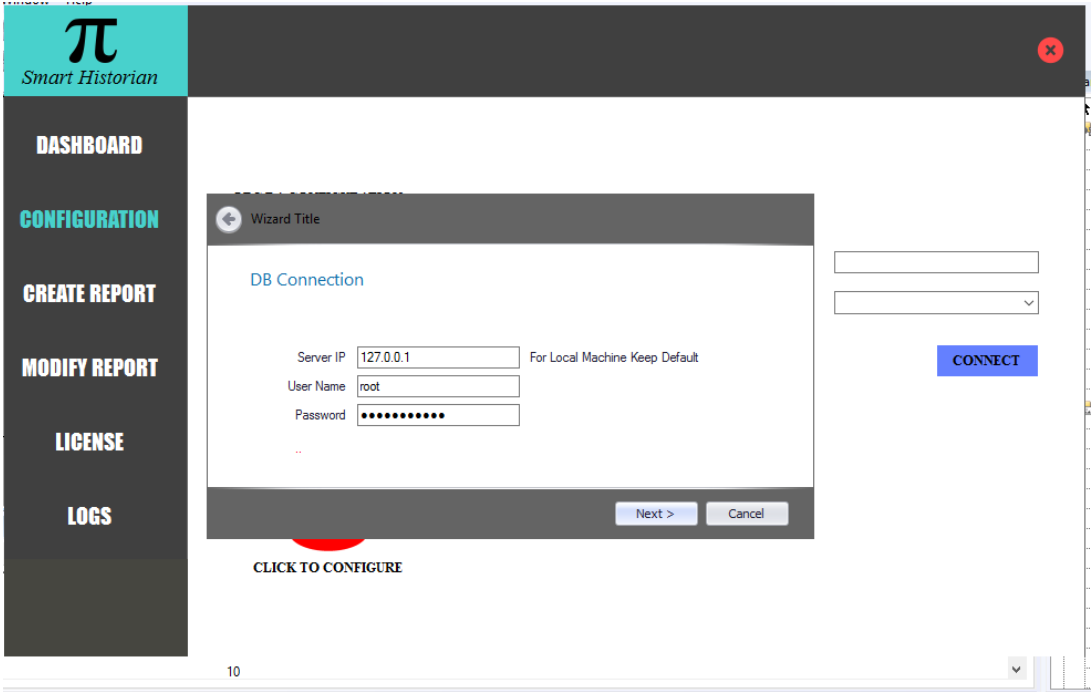


2.4.3 Configure database

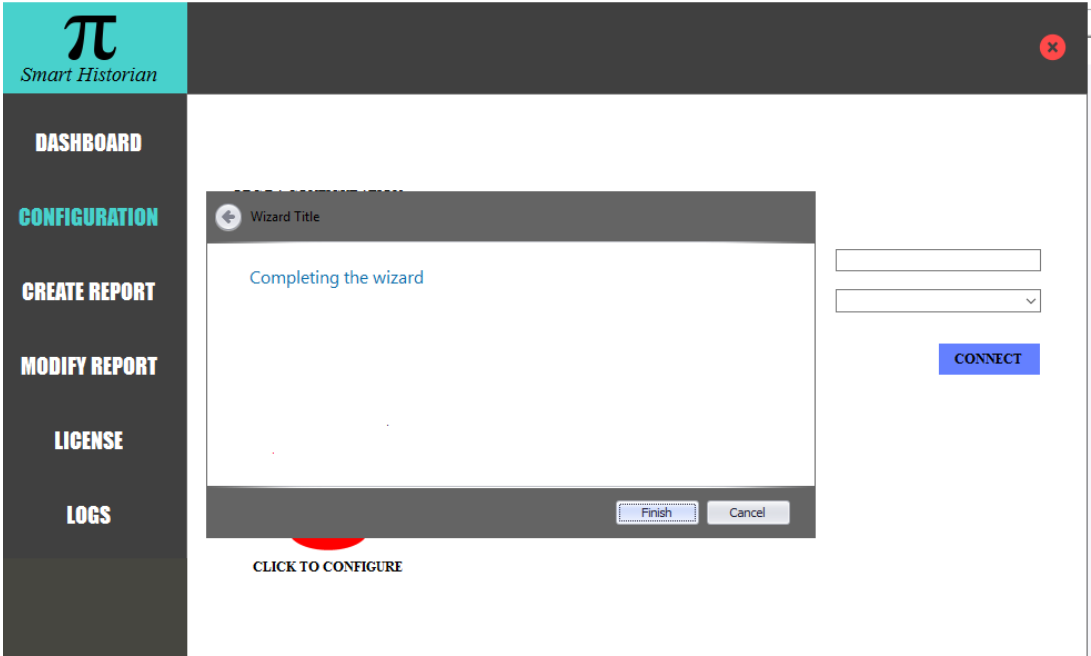
It will open **MySQL wizard**, follow the instruction



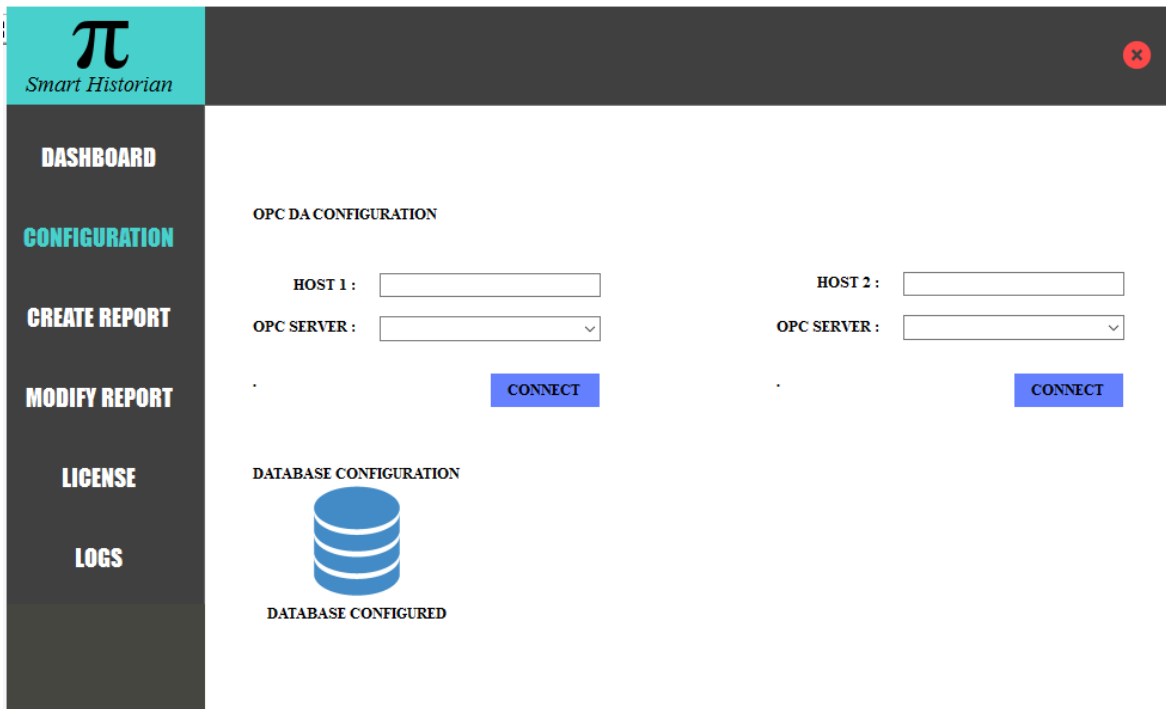
2.4.4.1 MySQL wizard



2.4.4.2 Login MySQL

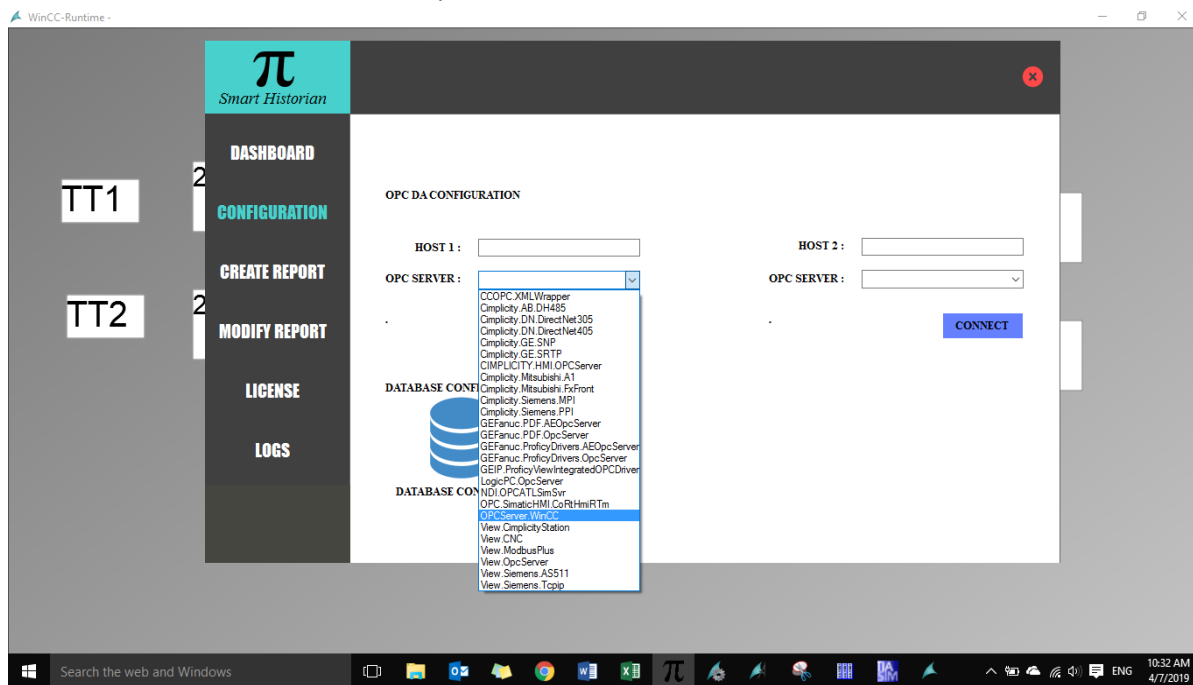


2.4.4.3 MySQL wizard complete



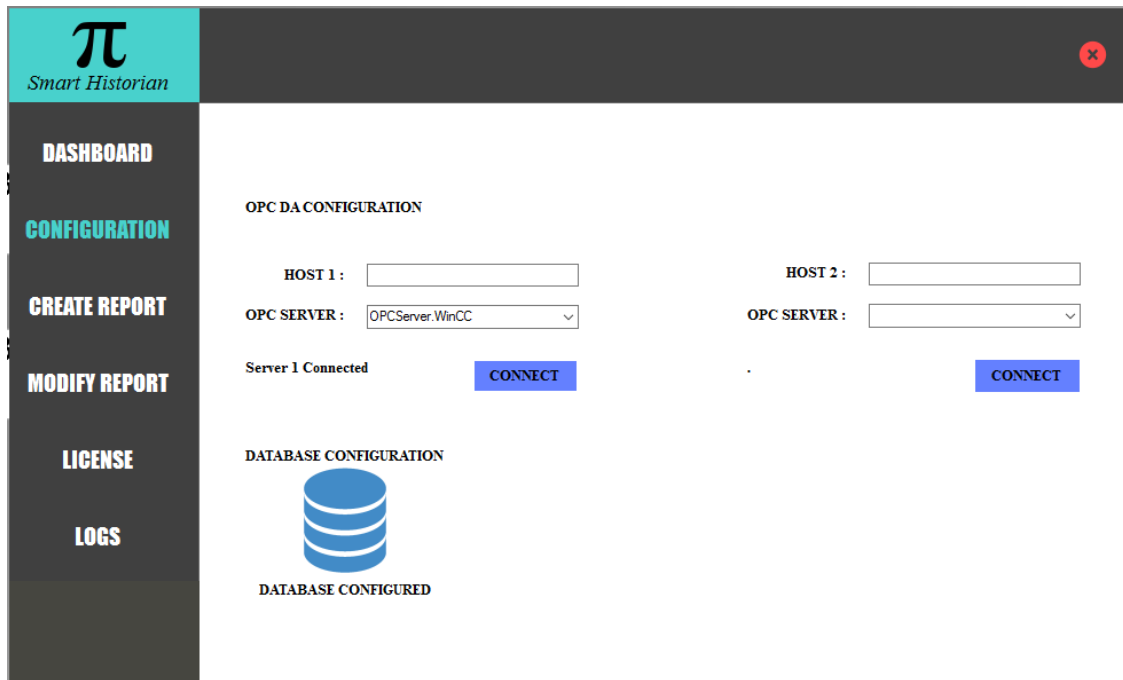
2.4.4.4 MySQL database configured

Browse the OPC-DA server from dropdown list. Select host name in case of LAN PC.

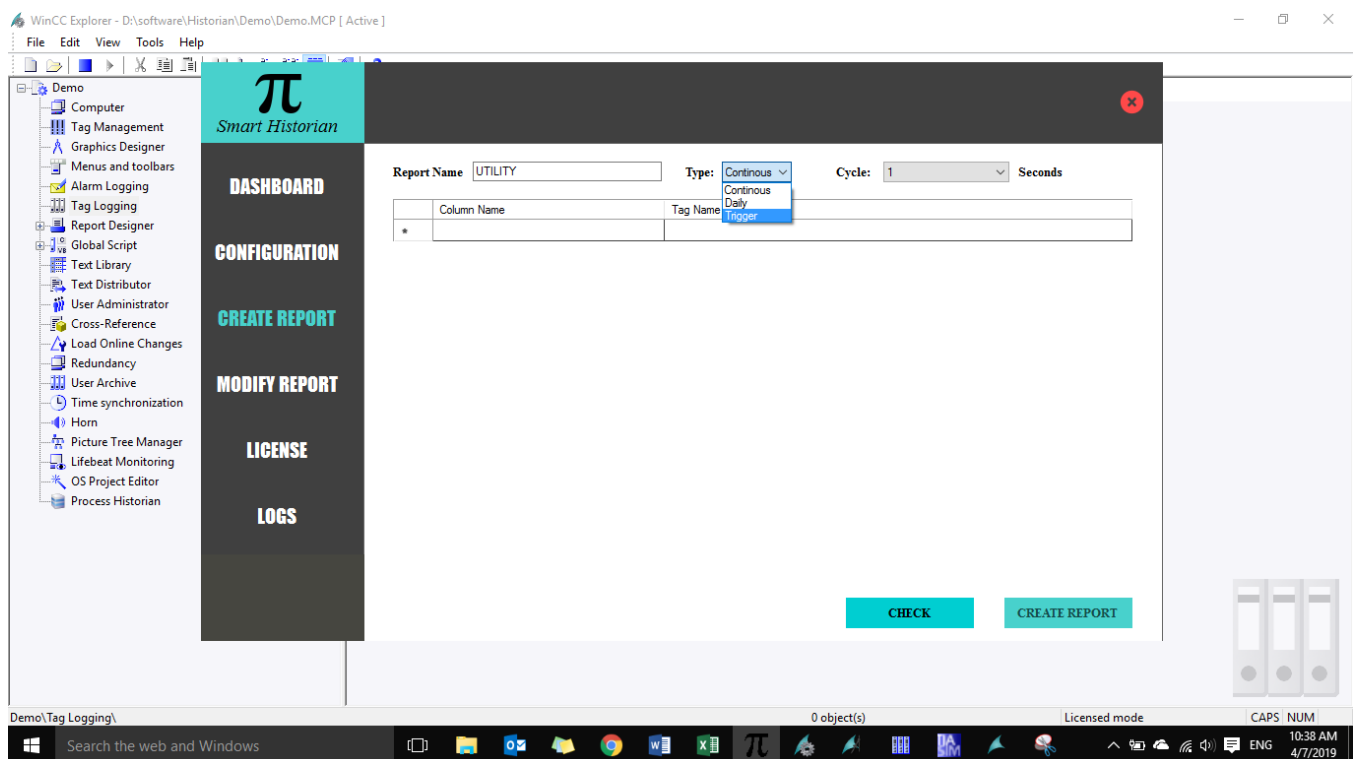


2.4.5 Select OPC Server from list

Click connect to make connection from selected server



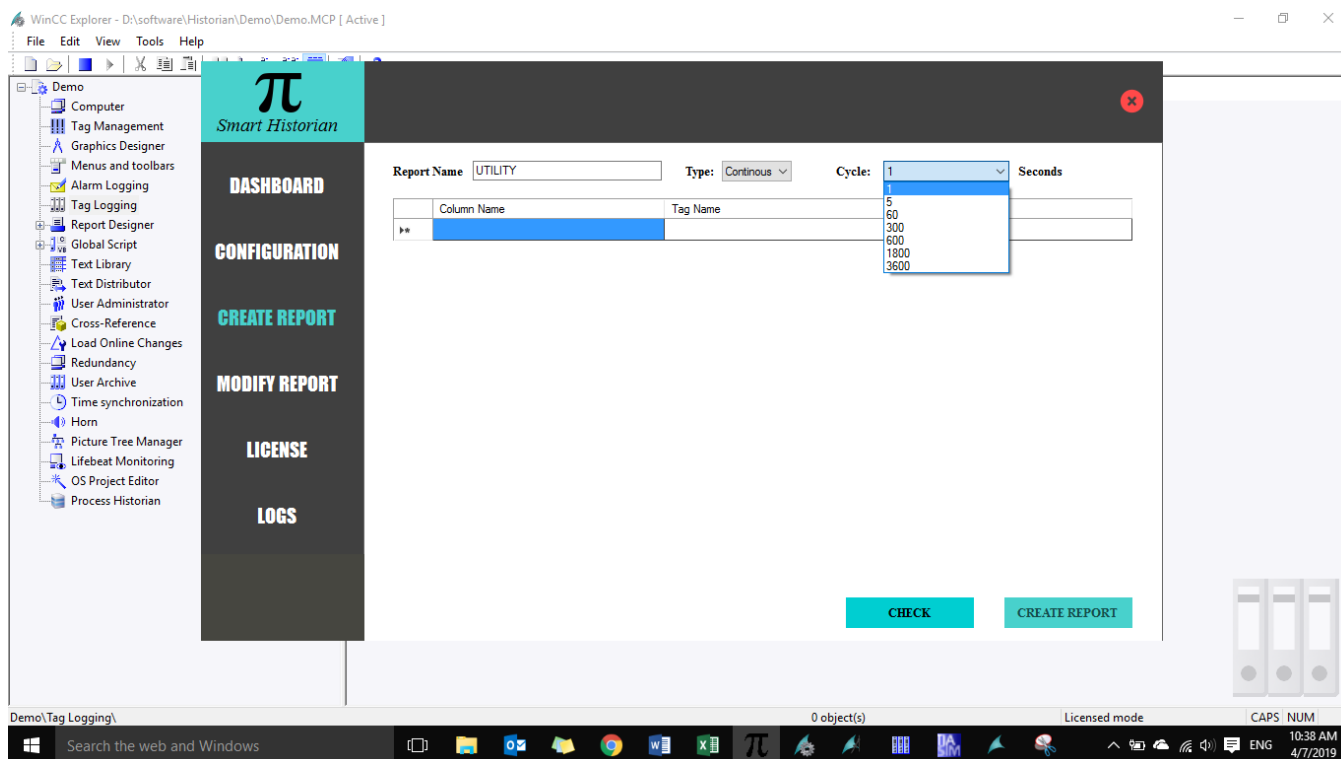
2.4.6 Server1 connected



2.4.6.1 Select attributes for report

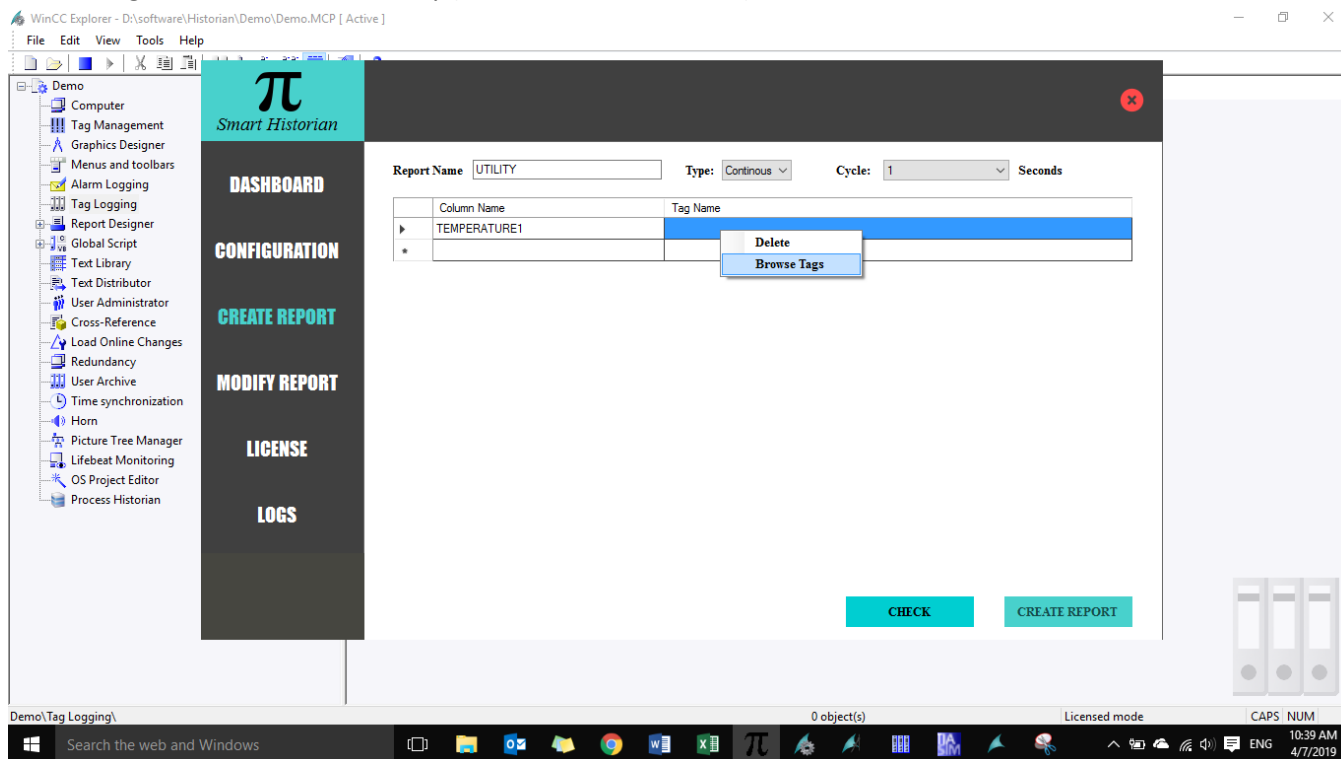
Following attributes is available

- 1) Continuous
- 2) Daily
- 3) Trigger based

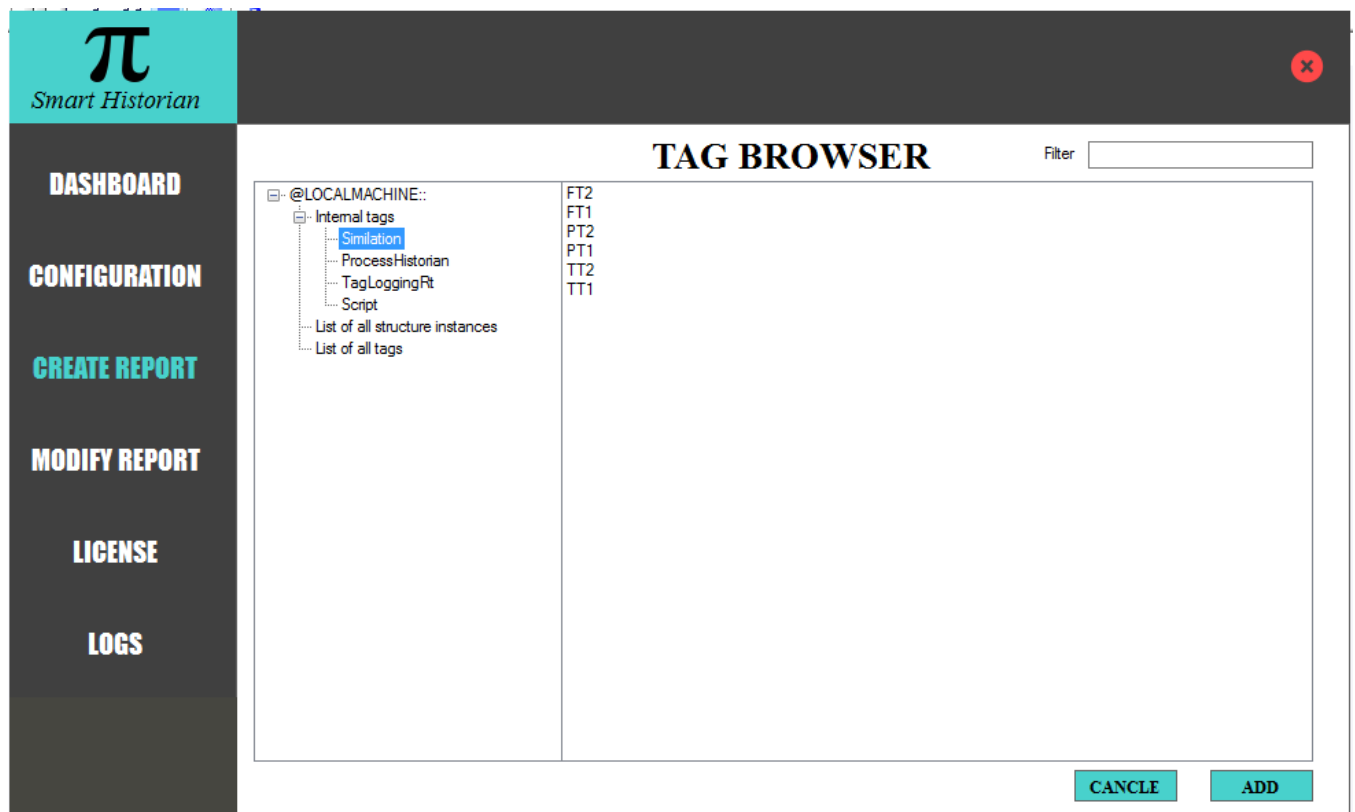


2.4.6.2 Select attributes for report

Browse tags or write down manually (like [\\Demo\TT1.VALUE](#))

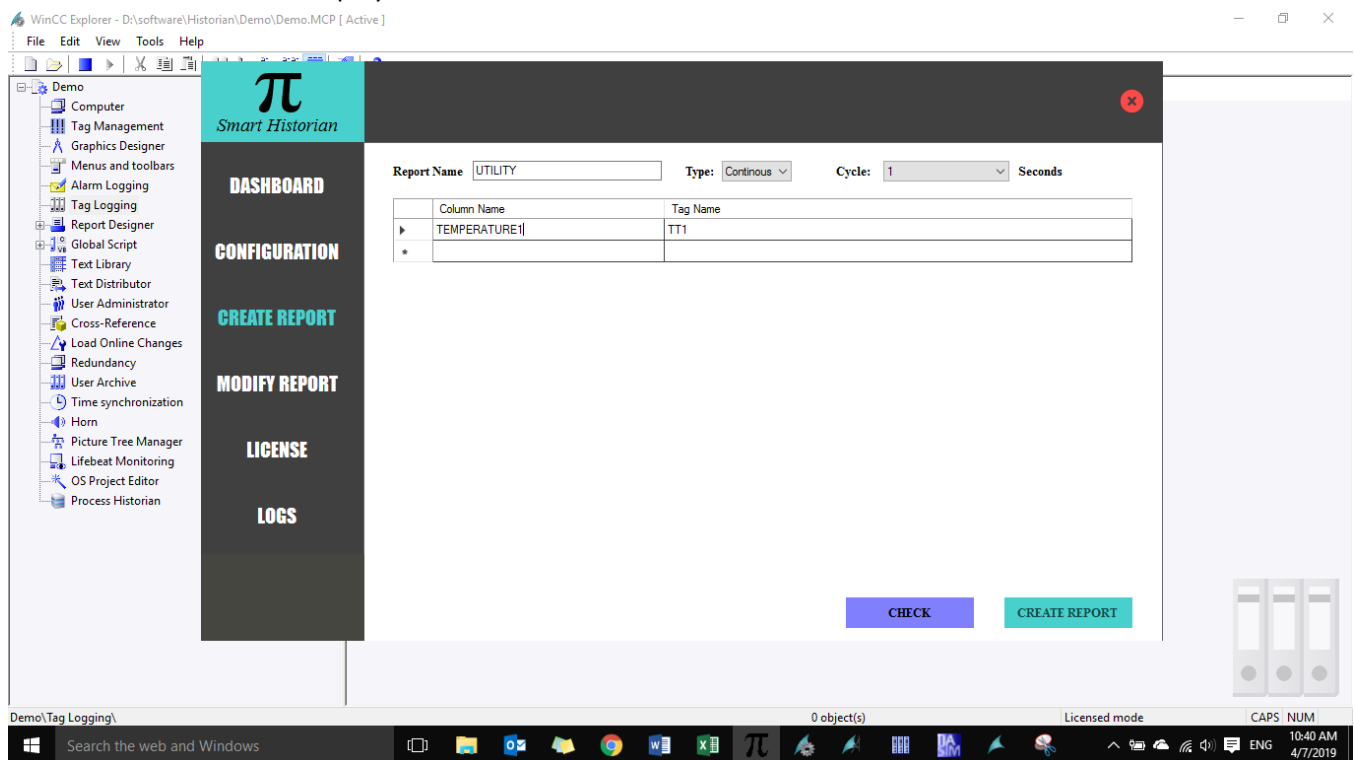


2.4.6.3 Browse tags or write down manually



2.4.6.4 Browse tags

Click **check** for real-time display



2.4.6.5 Check real-time values

Note:

- 1) Do not use space or wildcard character for naming column name.

Click confirm

WinCC Explorer - D:\software\Historian\Demo\Demo.MCP [Active]

File Edit View Tools Help

Demo

Computer

Tag Management

Graphics Designer

Menus and toolbars

Alarm Logging

Tag Logging

Report Designer

Global Script

Text Library

Text Distributor

User Administrator

Cross-Reference

Load Online Changes

Redundancy

User Archive

Time synchronization

Horn

Picture Tree Manager

Lifebeat Monitoring

OS Project Editor

Process Historian

Smart Historian

DASHBOARD

CONFIGURATION

CREATE REPORT

MODIFY REPORT

LICENSE

LOGS

OnLine Monitoring

	Tag Name	Value	Tag Time Stamp - UTC	Data Type
▶	TEMPERATURE1	4.322727	4/7/2019 5:13:10 AM	System.Single
	TEMPERATURE2	4.322727	4/7/2019 5:13:10 AM	System.Single
	FLOW METER 1	1006	4/7/2019 5:13:10 AM	System.Single
	FLOW METER 2	1656	4/7/2019 5:13:10 AM	System.Single
	PRESSURE TRANSMITTER 1	5	4/7/2019 5:00:39 AM	System.Single
	PRESSURE TRANSMITTER 2	10	4/7/2019 5:13:10 AM	System.Single

CONFIRM CANCEL

Demo\Tag Logging\

0 object(s)

Licensed mode

CAPS NUM

10:43 AM 4/7/2019

2.4.6.6 Check real-time values

Click create report to generate table

Smart Historian

DASHBOARD

CONFIGURATION

CREATE REPORT

MODIFY REPORT

LICENSE

LOGS

Report Name Type: Cycle: Seconds

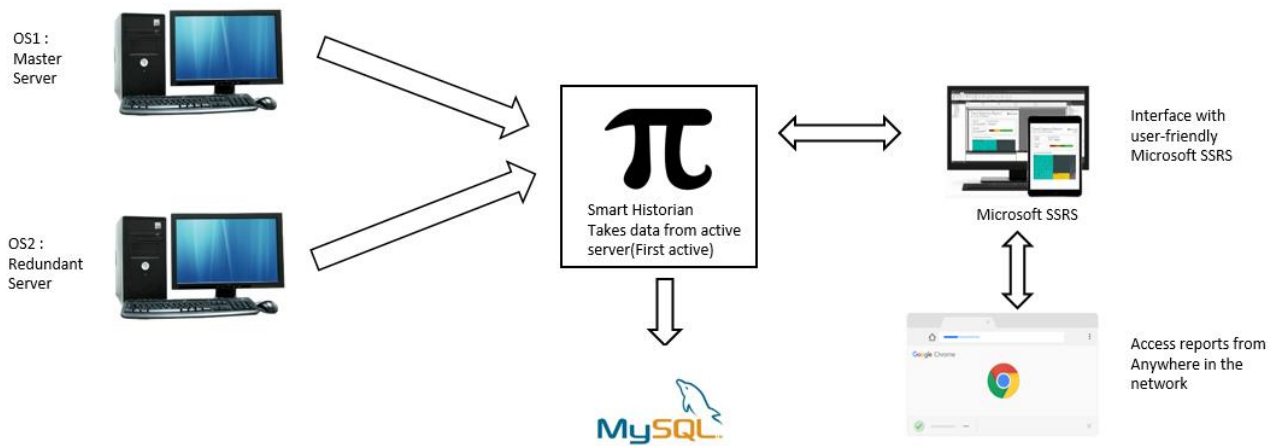
	Column Name	Tag Name
	TEMPERATURE1	TT1
	TEMPERATURE2	TT2
	FLOW METER 1	FT1
	FLOW METER 2	FT2
	PRESSURE TRANSMITTER 1	PT1
	PRESSURE TRANSMITTER 2	PT2
▶▶		

UNLOCK CREATE REPORT

2.4.1.7 create report

2.5 Redundant Configuration

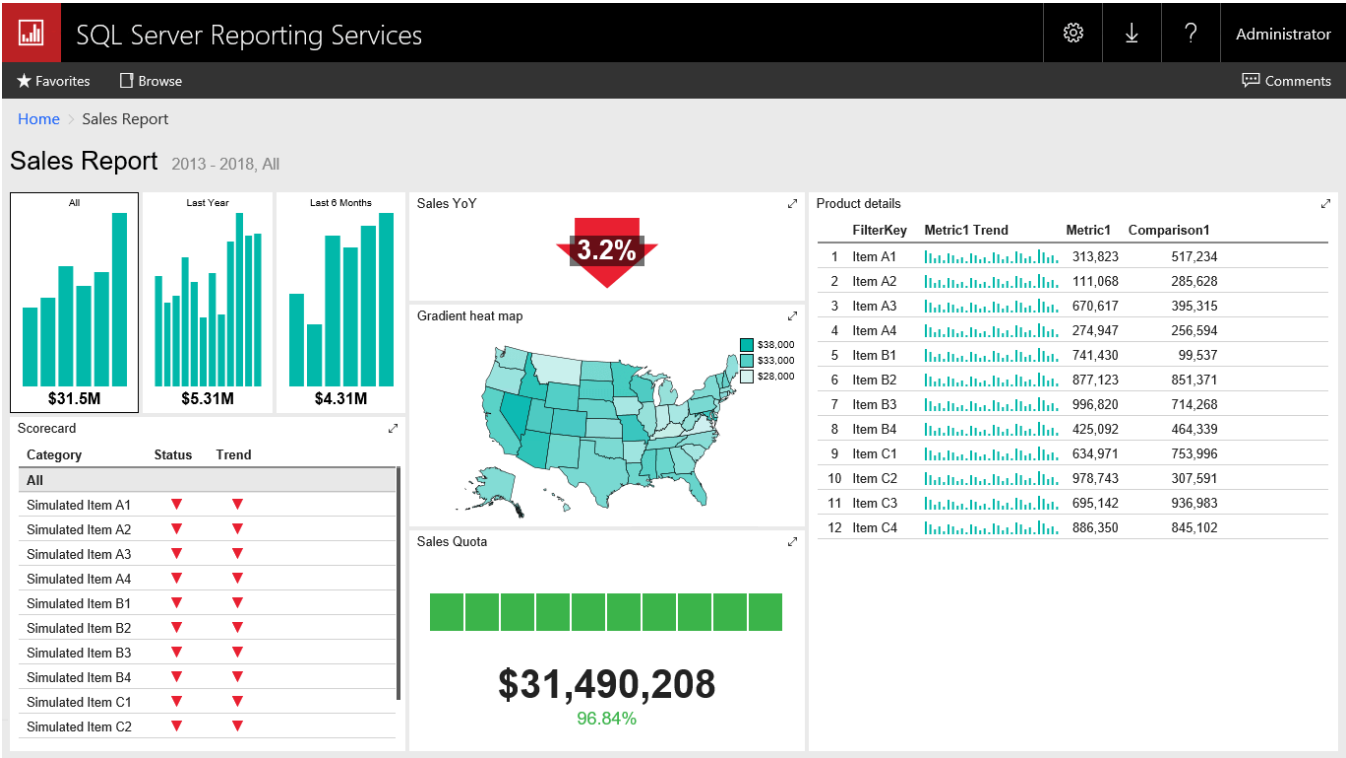
Smart Historian takes data from first active OPC server. If connection is failed, it will changeover to other server.



2.5.1 Redundant architecture

3 Microsoft SSRS

Front end development is done using Microsoft SSRS software. It is user friendly and widely used by automation engineers. It also support google chrome browser. Report can be triggered from any PC over the network using chrome.



3.1 Microsoft SSRS view

4. Licensing:

One time license without any limitations on creating number of reports.