Project Report

On

HR Payroll Excel Automation

Submitted By

B. Nishi Yadav	**160618733302**
B. Aruna	**160618733303**
C. Renusha	**160618733304**
S. Lahari Reddy	**160618733308**

Stanley College of Engineering & Technology for Women

Under the guidance of

Mr. Hemanth Kumar Gahlot

1. Introduction

Payroll and salary administration on are necessary tasks within every HR department, even if there is a separate payroll team. In recent years, both have been made significantly easier with new technology, but there is still the risk of human error, and it can take hours of work to complete payday obligations. And, as everyone in HR has experienced at one point in their careers, a simple error in payroll can easily lead to disgruntled employees. By using Digital Workers, the payroll process can be virtually pain-free. With their ability to work easily across multiple systems and in tandem with your team, Digital Workers can complete the traditionally manual salary and payroll administration on process effectively and accurately, ensuring your people are paid the correct amount and speeding up the monthly process that many teams dread. According to a study which examines the perception on of employees regarding HR process automation on in terms of both individual as well as organizational level, implementing such automated tools for HR processes will create a friction between the current and newly formulated practices. Whether HR automation on can deliver the quality and satisfaction that it promises? This remains a critical ques onto answer in today's fast moving technology dependent world.

- Payroll is a list of employees who get paid by the company. Payroll also refers to the total amount of money employer pays to the employees.
- **Robotic Process Automation** (RPA) is a type of automation technology currently transforming the way businesses operate.
- Excel automation streamlines your use of the application on by automatically performing tasks.

2. Literature Survey

2.1 Existing System

In order to maintain their design, pay slips and other related information to project development, which includes client requirements, storage department is immense. The lack of consistency in pay slips maintenance leads to both loss of work as well as money and time with the automation of payroll management system, the manual storage dependency is minimized to a large extent. Present day organizations, especially large companies house employees in large number In order to maintain their design, pay slips and other related information to project development, which include customer requirements, storage department is immense. The lack of consistency in pay slips maintenance leads to both loss of work as well as money and time. With the total automation of payroll Management System, the manual storage dependency is minimized to a large extent. Present day organizations, especially large companies house employees in large numbers. The main disadvantage of this system is that majority of work is done by hand. The whole procedure involving delivery of an employees pay is very tedious, time consuming and frequent verification is required so as to avoid the risk of human error. The Managers doesn't know the Employee's current location. There is a possibility of data loss during the message transfer from one mobile terminal to another mobile terminal. And also, in existing system the employee behavior is not calculated so that organizational growth may be less, to overcome this problem we can implement the proposed system.

2.2 Proposed System

In our Proposed System we will be using Blue Prism tool along with Process Studio and MS Excel VBO (Visual Basic for Applications) where we create a digital worker which will help HR

Department in reducing their work load and make their work easier in completing the Payroll Process of the employees.

The proposed system is a desktop-based system. The base of the proposed system is a database, which stores all the information pertinent to personnel, allowances, deductions, taxes and net pay. The payroll system will stay up to date with pay checks and tax fillings. This includes calculating allowances, taxes and other deductions, printing individual pay slips and deduction vouchers.

3. Theoretical Analysis

3.1 Software & Hardware Requirements

Blue prism is a UK-Based Software Company and is one of the leading robotic process automation tools. It is used to automate mundane tasks such that they could operate without any manual intervention. Blue prism has gained edge over its competitors as it has better security, flexibility, scalability, compliance, and resilience.

Pre-requirements for Blue Prism

The following are the pre-requisites for the Blue Prism. It is the only software which – Creates and supports a digital workforce of industrial strength and enterprise scale does not require IT skills to implement. Can be implemented in sprints of 4 to 8 weeks (Start to finish). Is very low cost compared to the TCO of alternative solutions? Provides tremendous payback with self-funding returns and an ROI that has been as high as 80% can be managed within IT infrastructure and processes

Installation of Blue Prism

- The following are the installation requirements for Blue Prism –
- Windows 10 (Preferred) OS, 64 bit
- Blue prism installation Software, 64 bit
- Blue Prism License File
- SQL Server Express Edition, 64

3.2 Software Requirements

Requirement is a condition or capability possessed by the software or system component in order to solve a real-world problem. The problems can be to automate a part of a system, to correct shortcomings of an existing system, to control a device, and so on. **IEEE** defines requirement as a condition or capability needed by a user to solve a problem or achieve an objective. A condition or capability that must be met or possessed by a system or system component to satisfy a contract, standard, specification, or other formally imposed documents.

Requirements describe how a system should act, appear or perform. For this, when users request for software, they provide an approximation of what the new system should be capable of doing. Requirements differ from one user to another and from one business process to another.

- Operating system: Windows XP/Vista or any main stream OS
- Installation and Setup Guide for Blue Prism

- Installation and Setup Guide for MS Excel
- Blue prism Version: 6.10.1
- Blue prism License File
- Blue prism installation Software 64 bit
- MS Excel
- Windows 10

3.3 Hardware Requirements

The **hardware requirements** are the requirements of a hardware device. Most hardware only has operating system requirements or compatibility. For example, a printer may be compatible with Windows XP but not compatible with newer versions of Windows like Windows 10, Linux, or the Apple macOS.

If a hardware device is not compatible with your computer, it is up to the manufacturer to release drivers. Unfortunately, many manufacturers only release updated drivers to fix problems with older drivers and often do not release drivers for newer operating systems or alternative operating systems. If a hardware device doesn't have drivers for your operating system, the only solution may be to get a more up-to-date replacement device.

The following is the Hardware required to complete this project:

- Internet connection to download and activate
- Administration access to install and run Blue Prism

- Minimum 10GB free disk space
- Windows 8.1 or 10 (64-bit version only) OR Cloud: Get started free,

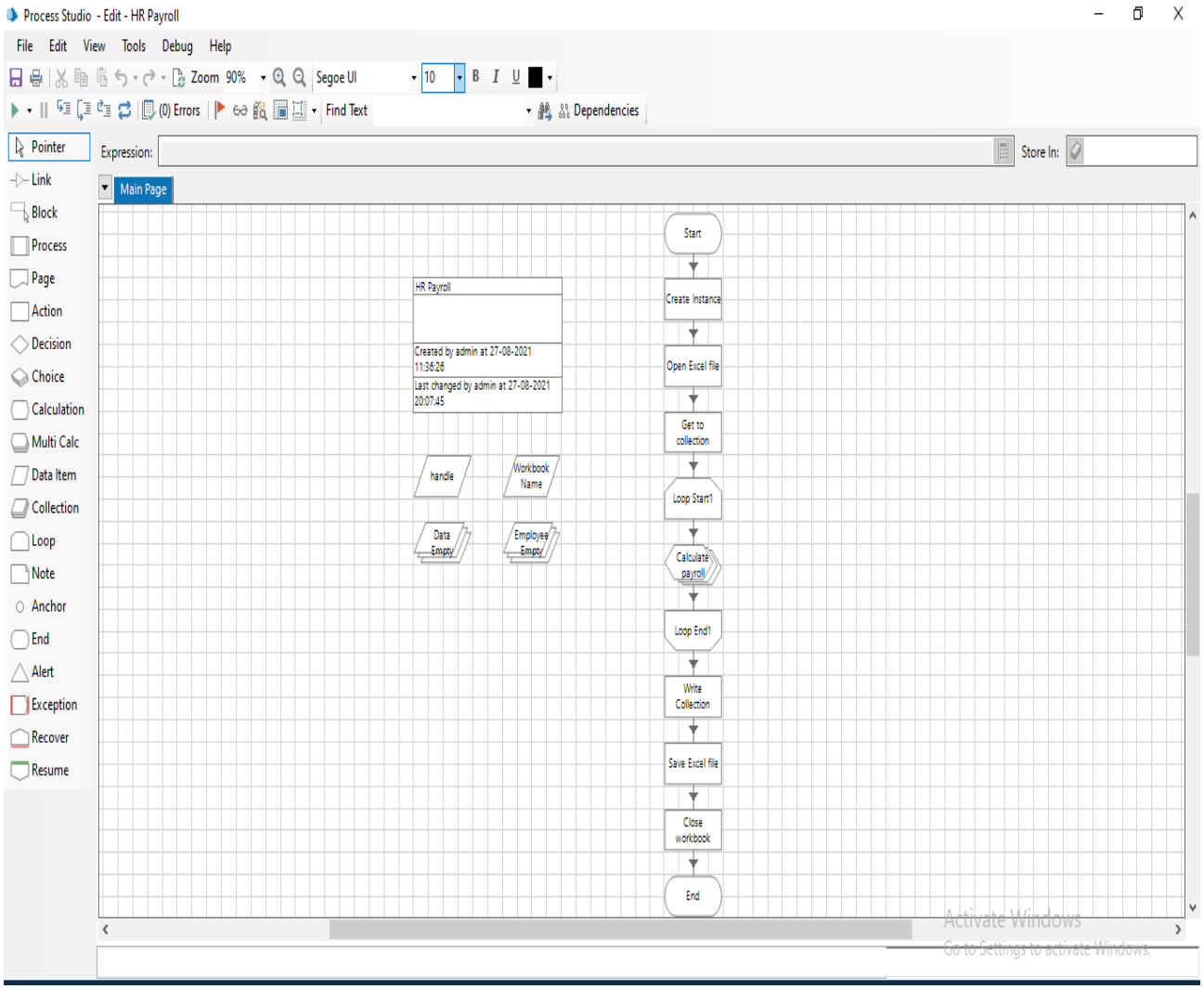
*Cloud account required.

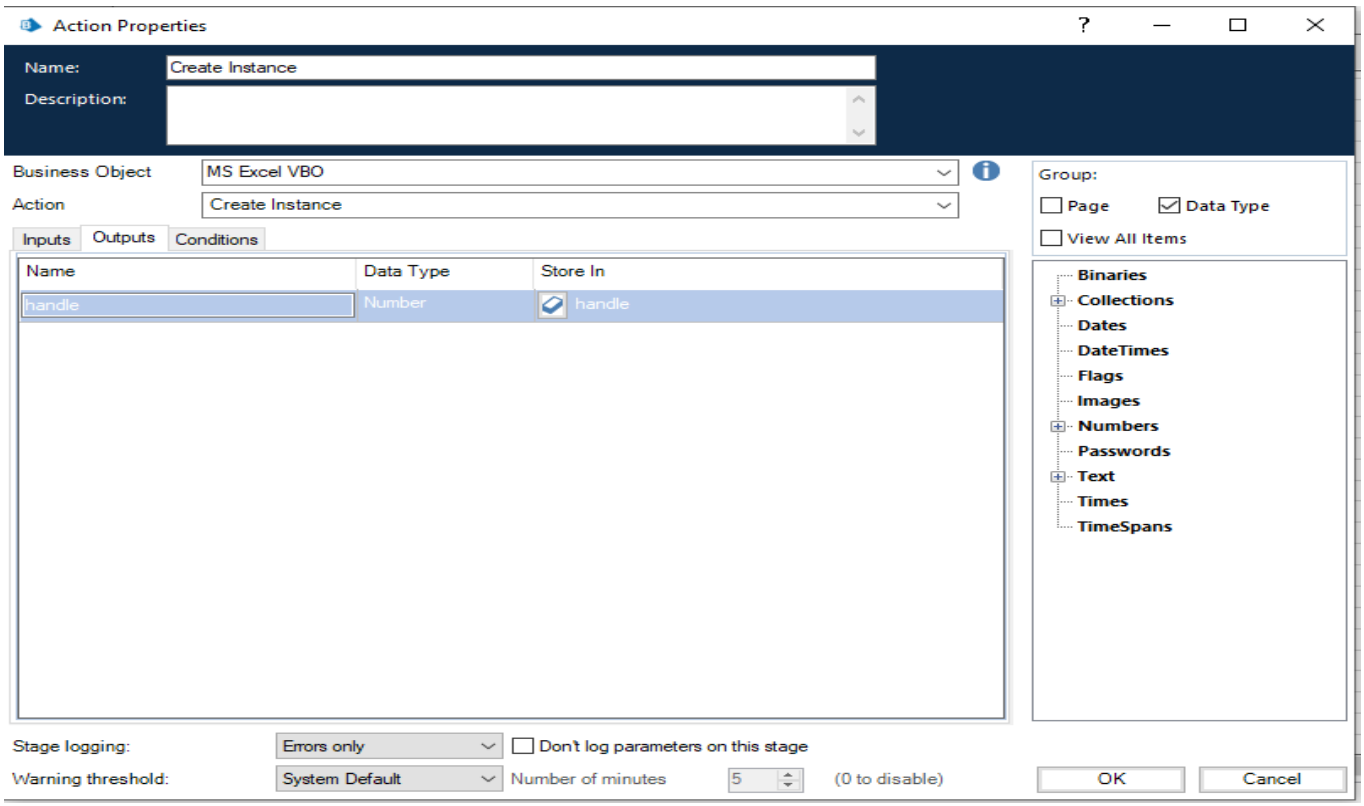
- Minimum System Requirements To run Office Excel 2013, your computer needs to meet

The following minimum hardware requirements:

- 500 megahertz (MHz)
- 256 megabytes (MB) RAM
- 1.5 gigabytes (GB) available space
- 1024x768 or higher resolution monitor

4. Flow Charts

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Page
Data Type
View All Items
Binaries
Collections
Dates
DateTimes
Flags
Images
Numbers
Passwords
Text
Times
TimeSpans
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Number of minutes 5
(0 to disable)
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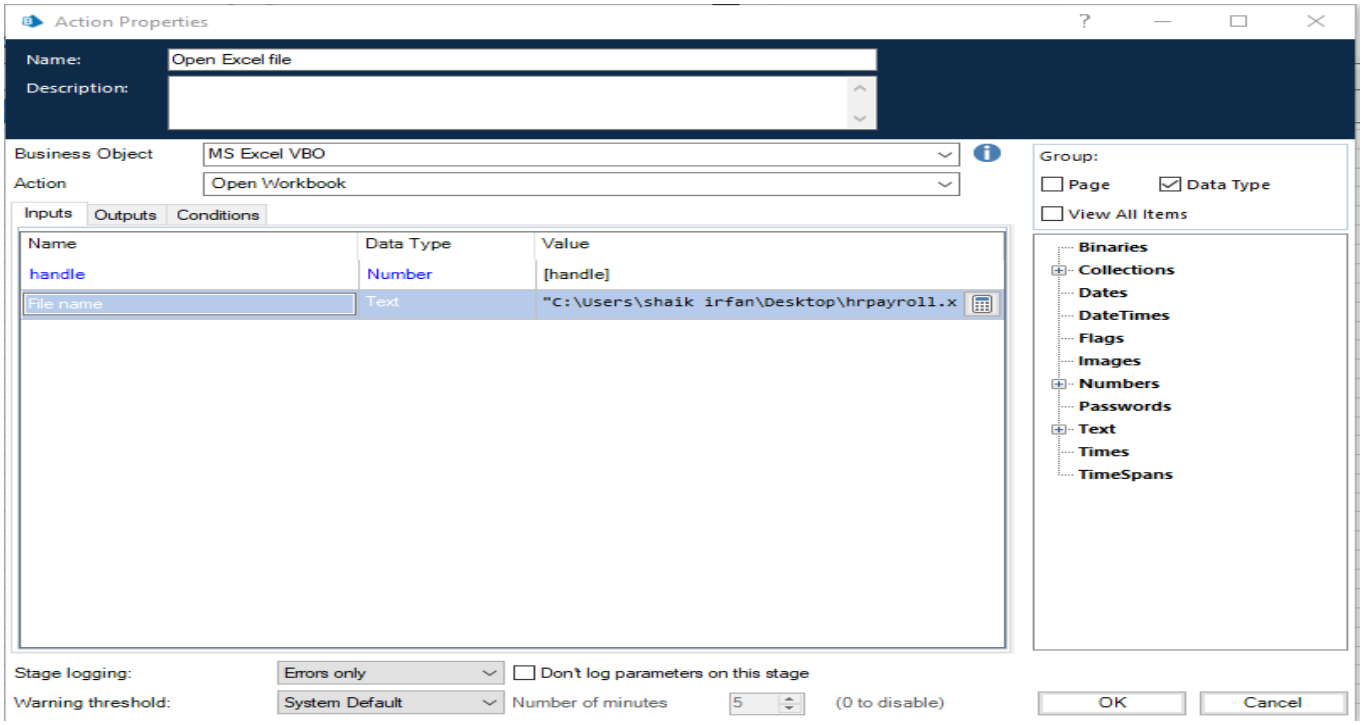
Cancel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Action: Open Workbook
Inputs Outputs Conditions
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Data Type
View All Items
Binaries
Collections
Dates
DateTimes
Flags
Images
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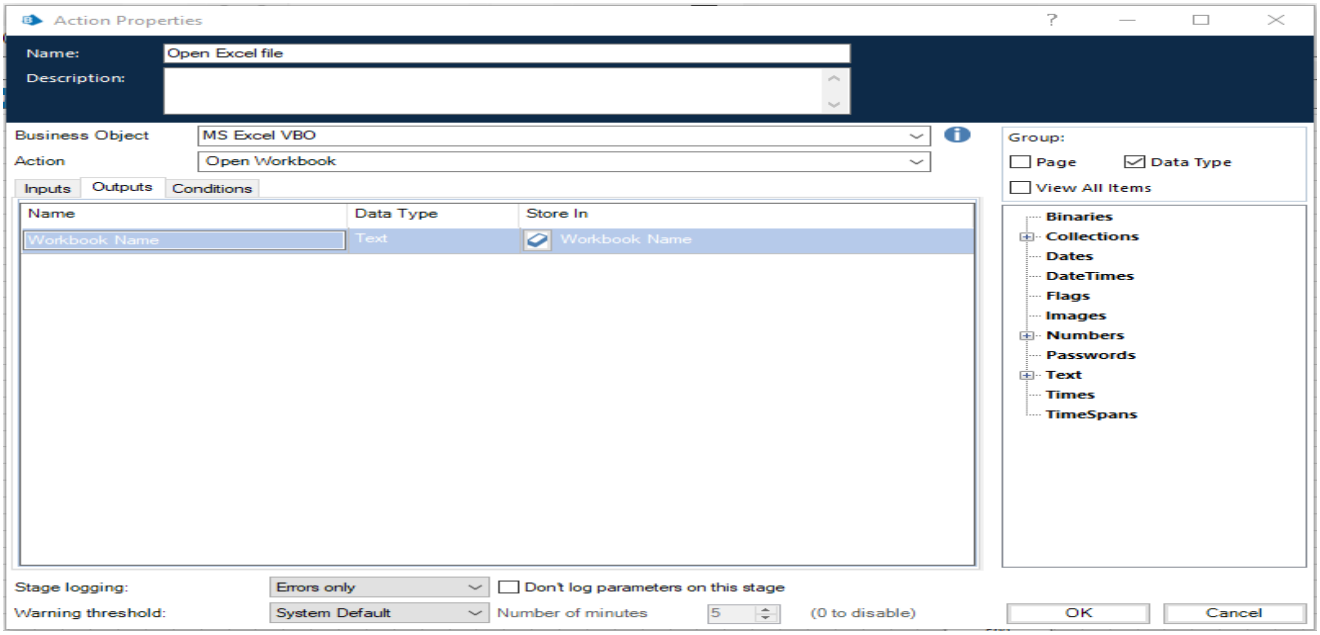
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Name:
Open Excel file
Description:
Business Object
MS Excel VBO
Action
Open Workbook
Inputs
Outputs
Conditions
Name
Data Type
Store In
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Workbook Name
Group:
Page
Data Type
View All Items
Binaries
Collections
Dates
DateTimes
Flags
Images
Numbers
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Number of minutes
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(0 to disable)
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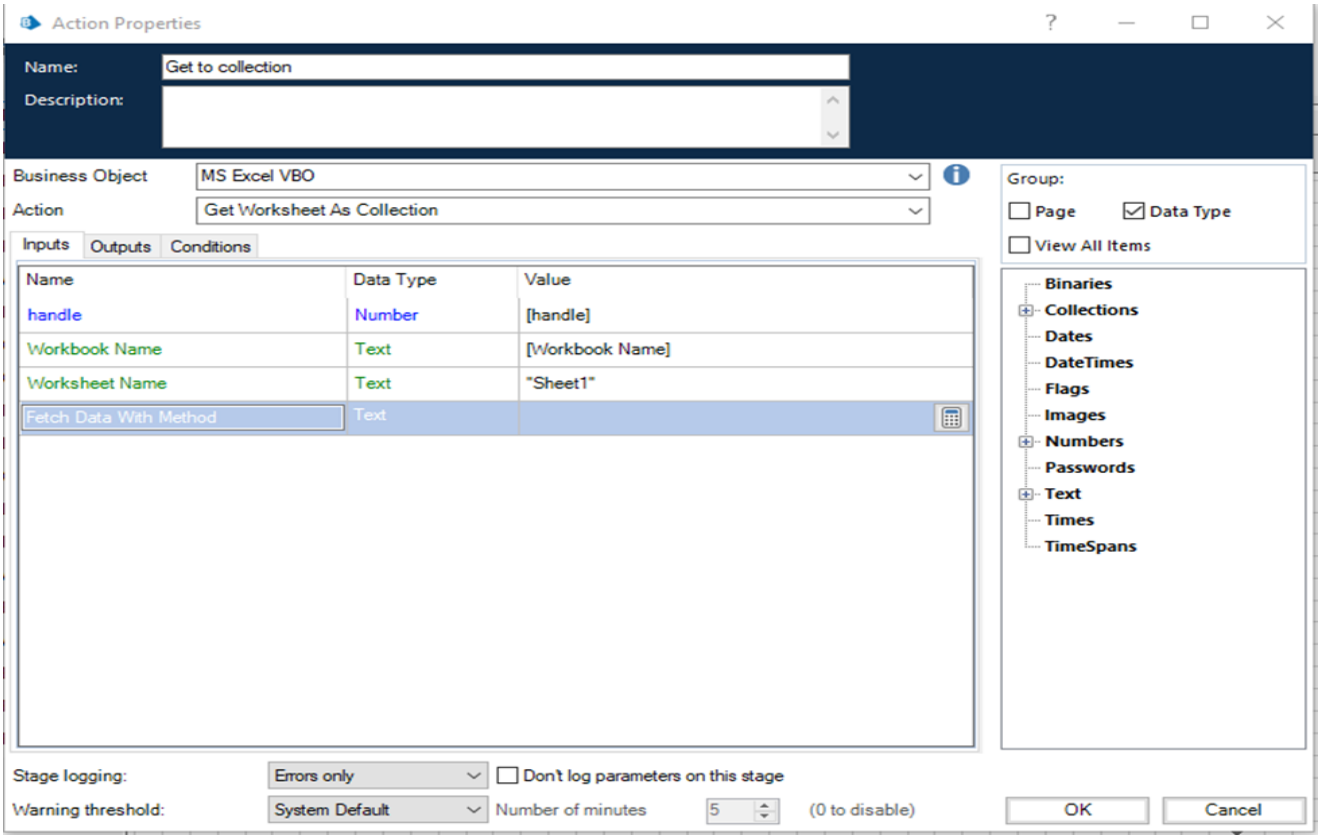
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MS Excel VBO
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Get Worksheet As Collection
Inputs
Outputs
Conditions
Name
Data Type
Value
handle
Number
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Workbook Name
Text
[Workbook Name]
Worksheet Name
Text
"Sheet1"
Fetch Data With Method
Text
Group:
Page
Data Type
View All Items
Binaries
Collections
Dates
DateTimes
Flags
Images
Numbers
Passwords
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Times
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Number of minutes
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(0 to disable)
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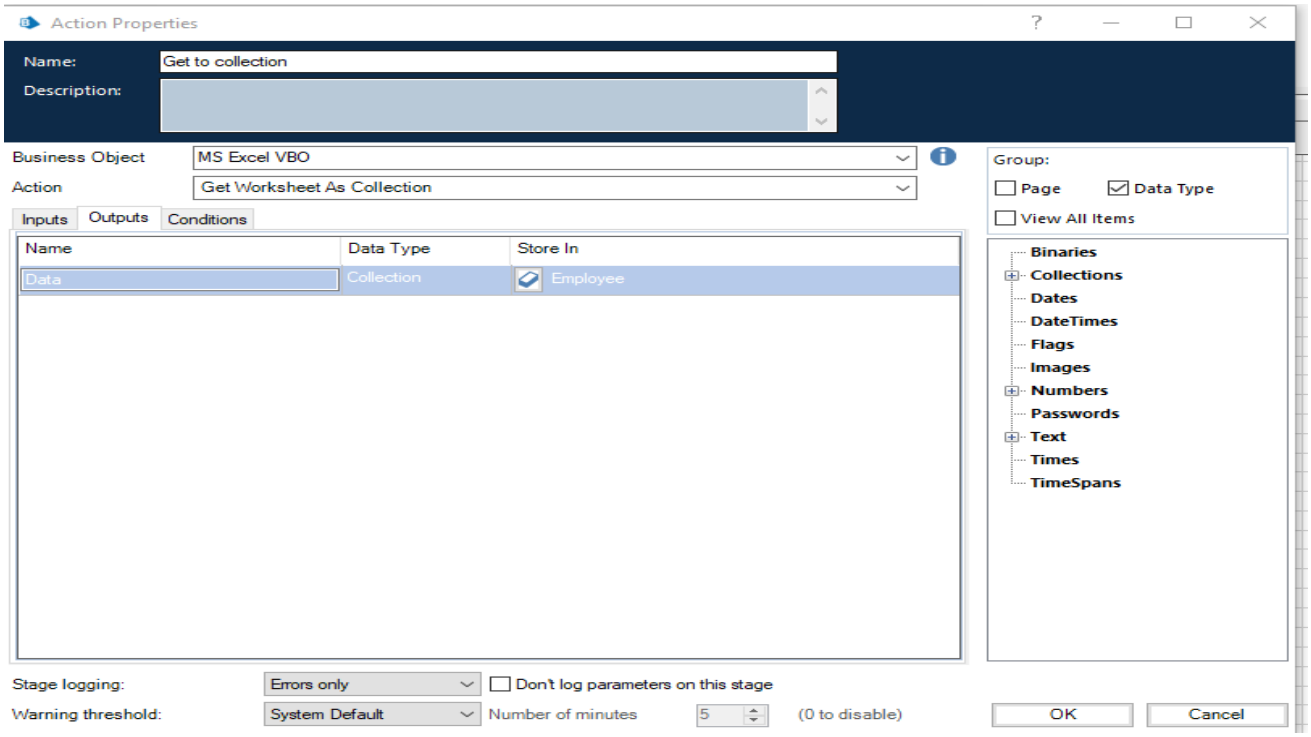
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Name:
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Description:
Business Object
MS Excel VBO
Action
Get Worksheet As Collection
Inputs
Outputs
Conditions
Name
Data Type
Store In
Data
Collection
Employee
Group:
Page
Data Type
View All Items
Binaries
Collections
Dates
DateTimes
Flags
Images
Numbers
Passwords
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Times
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Warning threshold:
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Number of minutes
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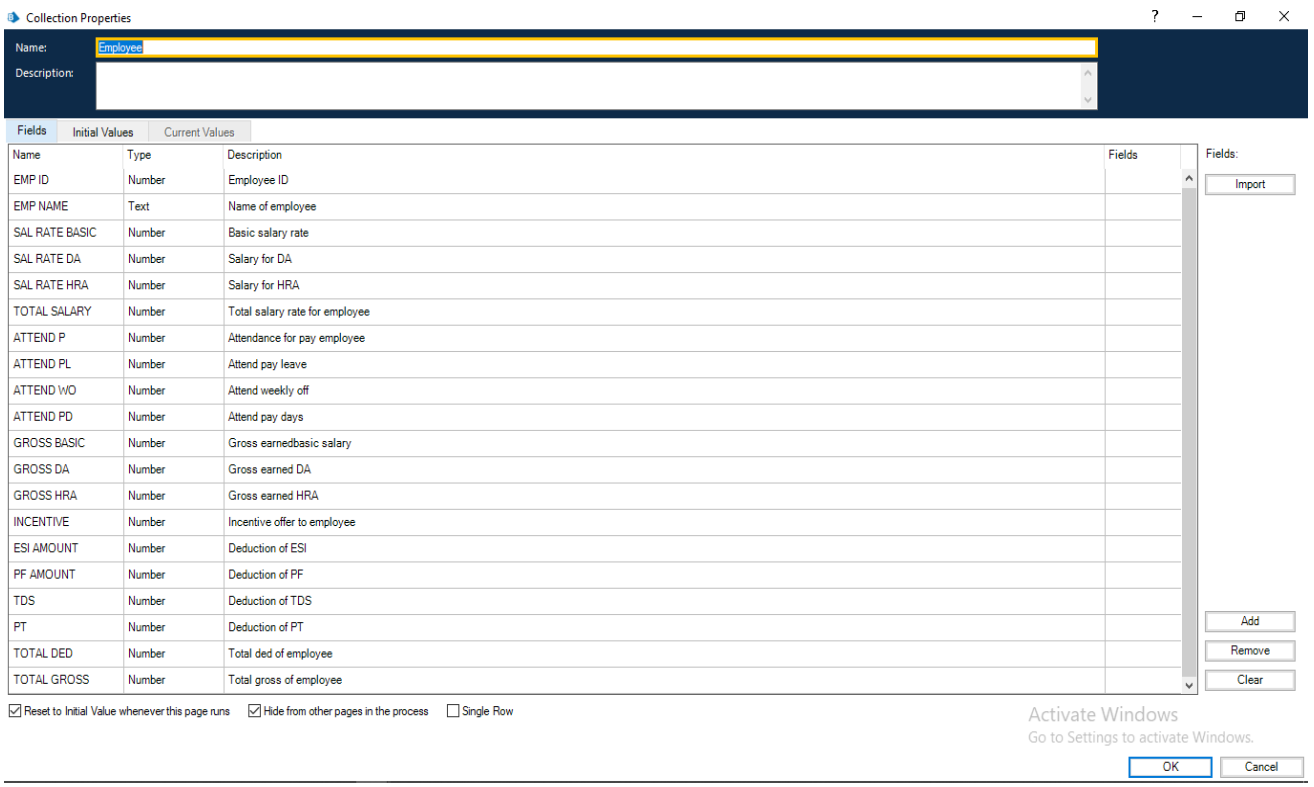
(0 to disable)
OK
Cancel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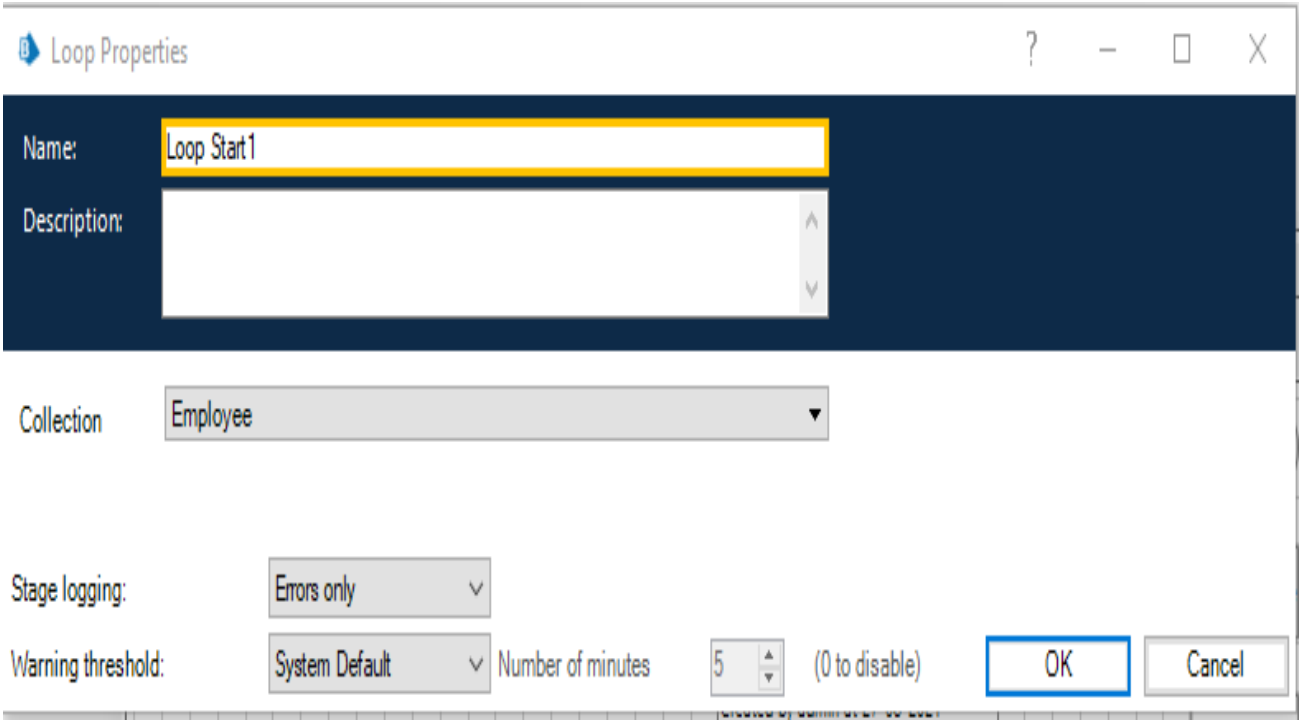
Employee
Description:
Fields
Initial Values
Current Values
Name
Type
Description
Fields
EMP ID
Number
Employee ID
EMP NAME
Text
Name of employee
SAL RATE BASIC
Number
Basic salary rate
SAL RATE DA
Number
Salary for DA
SAL RATE HRA
Number
Salary for HRA
TOTAL SALARY
Number
Total salary rate for employee
ATTEND P
Number
Attendance for pay employee
ATTEND PL
Number
Attend pay leave
ATTEND WO
Number
Attend weekly off
ATTEND PD
Number
Attend pay days
GROSS BASIC
Number
Gross earnedbasic salary
GROSS DA
Number
Gross earned DA
GROSS HRA
Number
Gross earned HRA
INCENTIVE
Number
Incentive offer to employee
ESI AMOUNT
Number
Deduction of ESI
PF AMOUNT
Number
Deduction of PF
TDS
Number
Deduction of TDS
PT
Number
Deduction of PT
TOTAL DED
Number
Total ded of employee
TOTAL GROSS
Number
Total gross of employee
Fields:
Import
Add
Remove
Clear
Reset to Initial Value whenever this page runs
Hide from other pages in the process
Single Row
Activate Windows
Go to Settings to activate Windows.
OK
Cancel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Loop Start1
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Collection
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Warning threshold:
System Default
Number of minutes
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(0 to disable)
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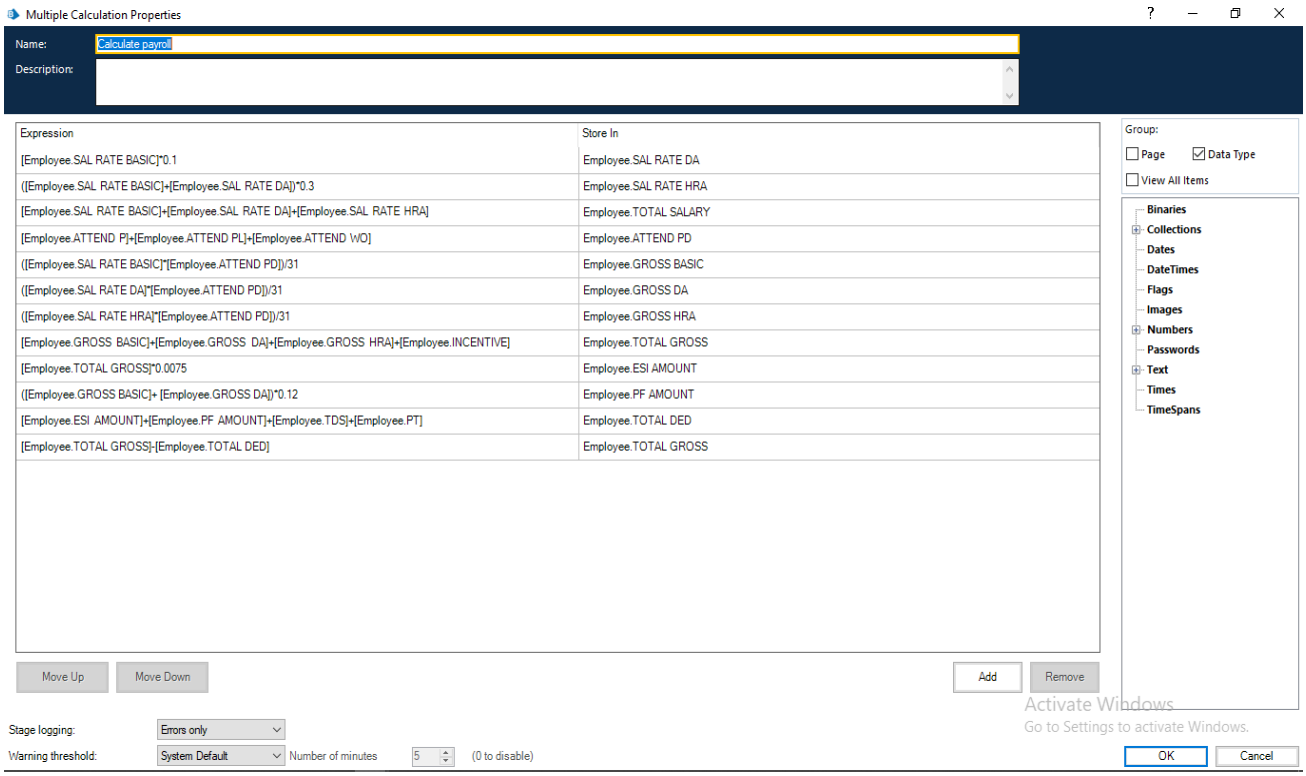
Multiple Calculation Properties
Name:
Calculate payroll
Description:
Expression
Store In
[Employee.SAL RATE BASIC]*0.1
Employee.SAL RATE DA
([Employee.SAL RATE BASIC]+[Employee.SAL RATE DA])*0.3
Employee.SAL RATE HRA
[Employee.SAL RATE BASIC]+[Employee.SAL RATE DA]+[Employee.SAL RATE HRA]
Employee.TOTAL SALARY
[Employee.ATTEND P]+[Employee.ATTEND PL]+[Employee.ATTEND WO]
Employee.ATTEND PD
([Employee.SAL RATE BASIC]*[Employee.ATTEND PD])/31
Employee.GROSS BASIC
([Employee.SAL RATE DA]*[Employee.ATTEND PD])/31
Employee.GROSS DA
([Employee.SAL RATE HRA]*[Employee.ATTEND PD])/31
Employee.GROSS HRA
[Employee.GROSS BASIC]+[Employee.GROSS DA]+[Employee.GROSS HRA]+[Employee.INCENTIVE]
Employee.TOTAL GROSS
[Employee.TOTAL GROSS]*0.0075
Employee.ESI AMOUNT
([Employee.GROSS BASIC]+ [Employee.GROSS DA])*0.12
Employee.PF AMOUNT
[Employee.ESI AMOUNT]+[Employee.PF AMOUNT]+[Employee.TDS]+[Employee.PT]
Employee.TOTAL DED
[Employee.TOTAL GROSS]-[Employee.TOTAL DED]
Employee.TOTAL GROSS
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Move Up
Move Down
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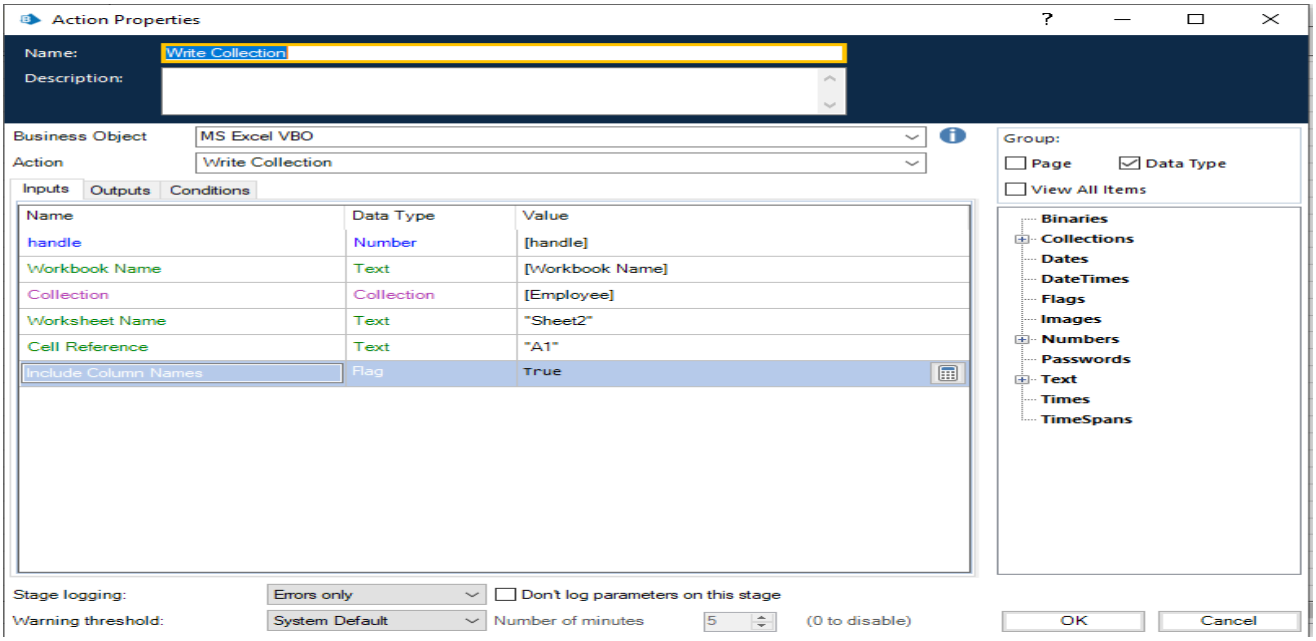
Cancel
Activate Windows
Go to Settings to activate Windows.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MS Excel VBO
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Inputs
Outputs
Conditions
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Data Type
Value
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Workbook Name
Text
[Workbook Name]
Collection
Collection
[Employee]
Worksheet Name
Text
"Sheet2"
Cell Reference
Text
"A1"
Include Column Names
Flag
True
Group:
Page
Data Type
View All Items
Binaries
Collections
Dates
DateTimes
Flags
Images
Numbers
Passwords
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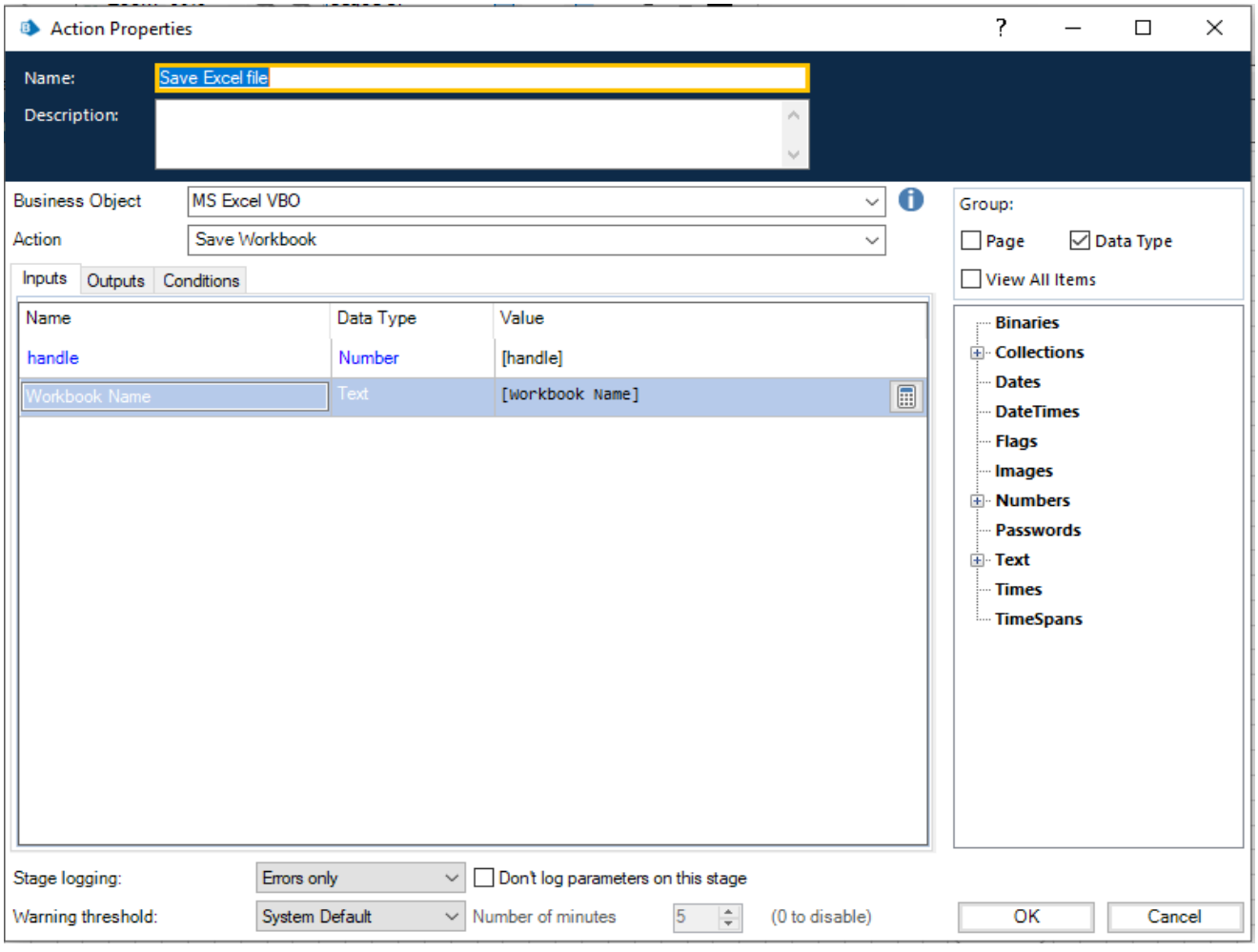
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Save Excel file
Description:
Business Object
MS Excel VBO
Action
Save Workbook
Inputs
Outputs
Conditions
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Data Type
Value
handle
Number
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Workbook Name
Text
[Workbook Name]
Group:
Page
Data Type
View All Items
Binaries
Collections
Dates
DateTimes
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Stage logging:
Errors only
Don't log parameters on this stage
Warning threshold:
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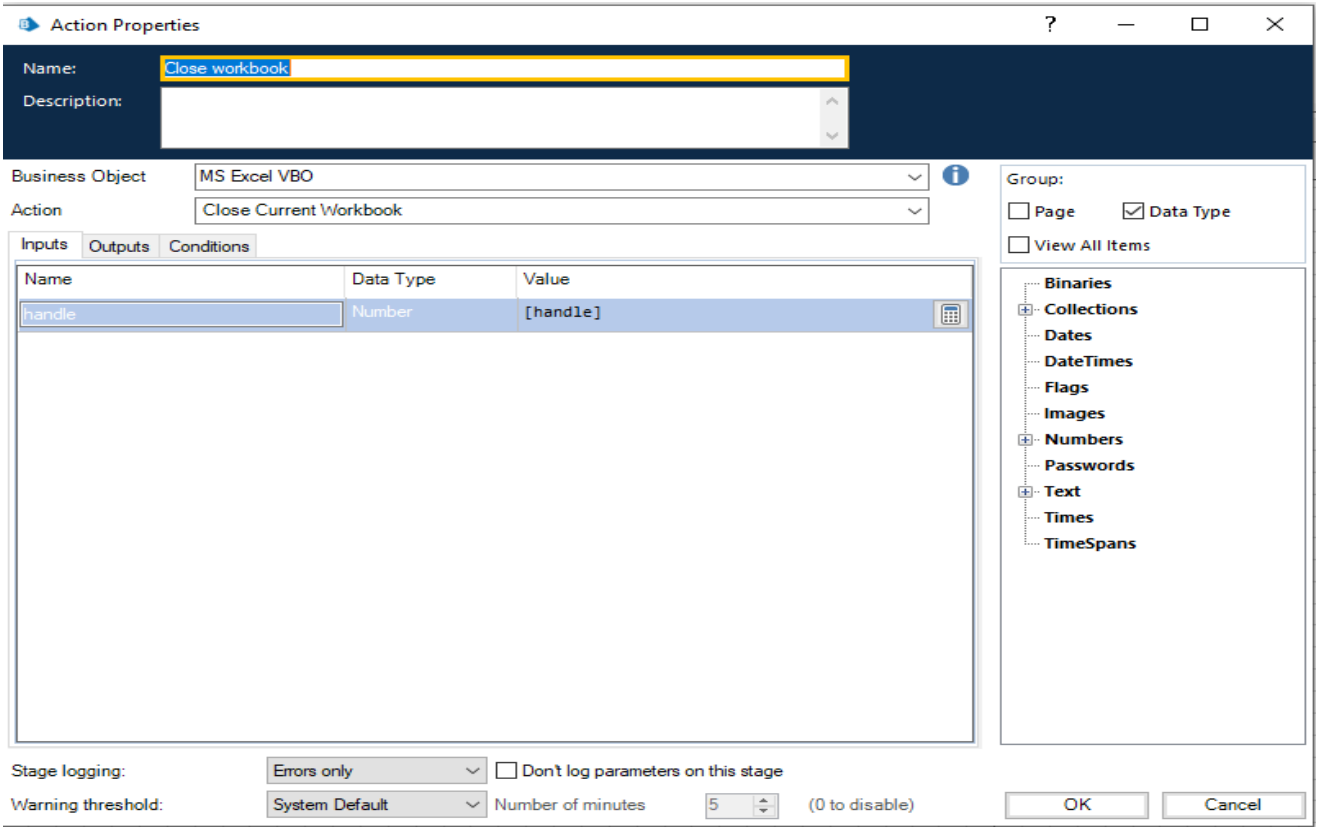
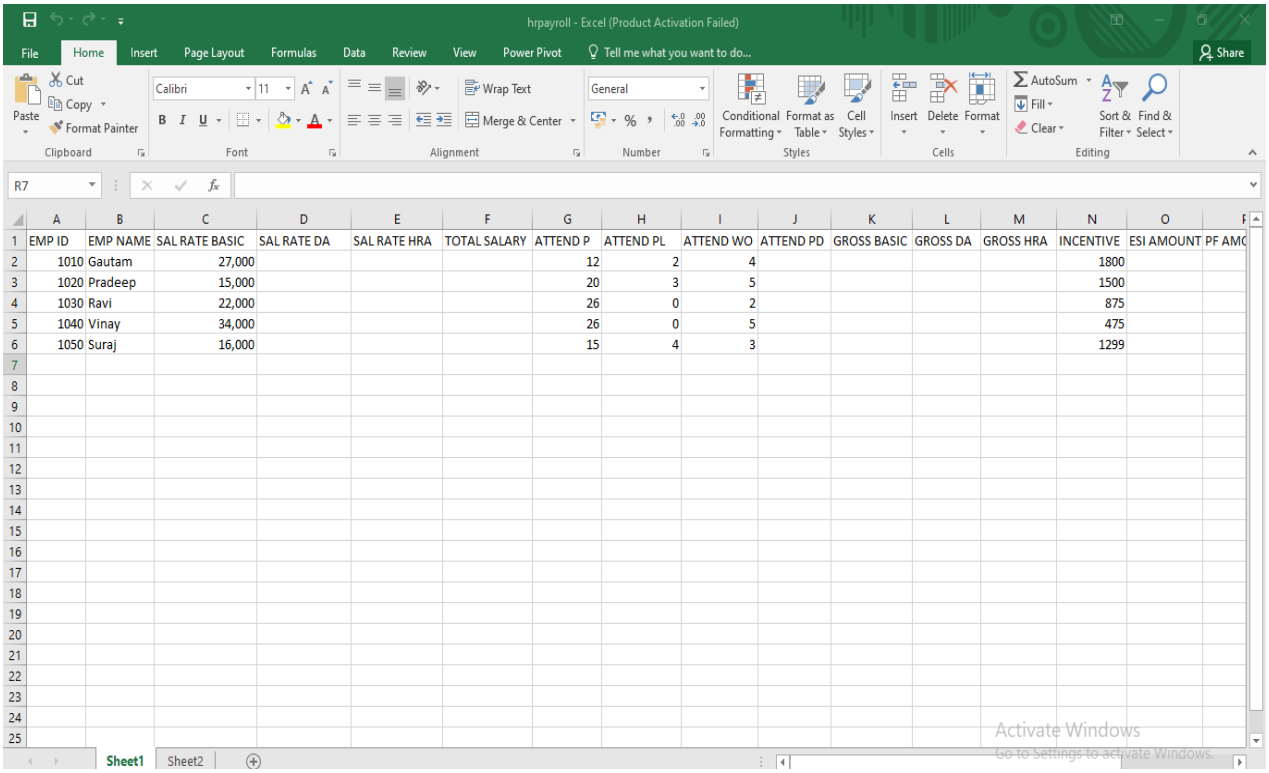
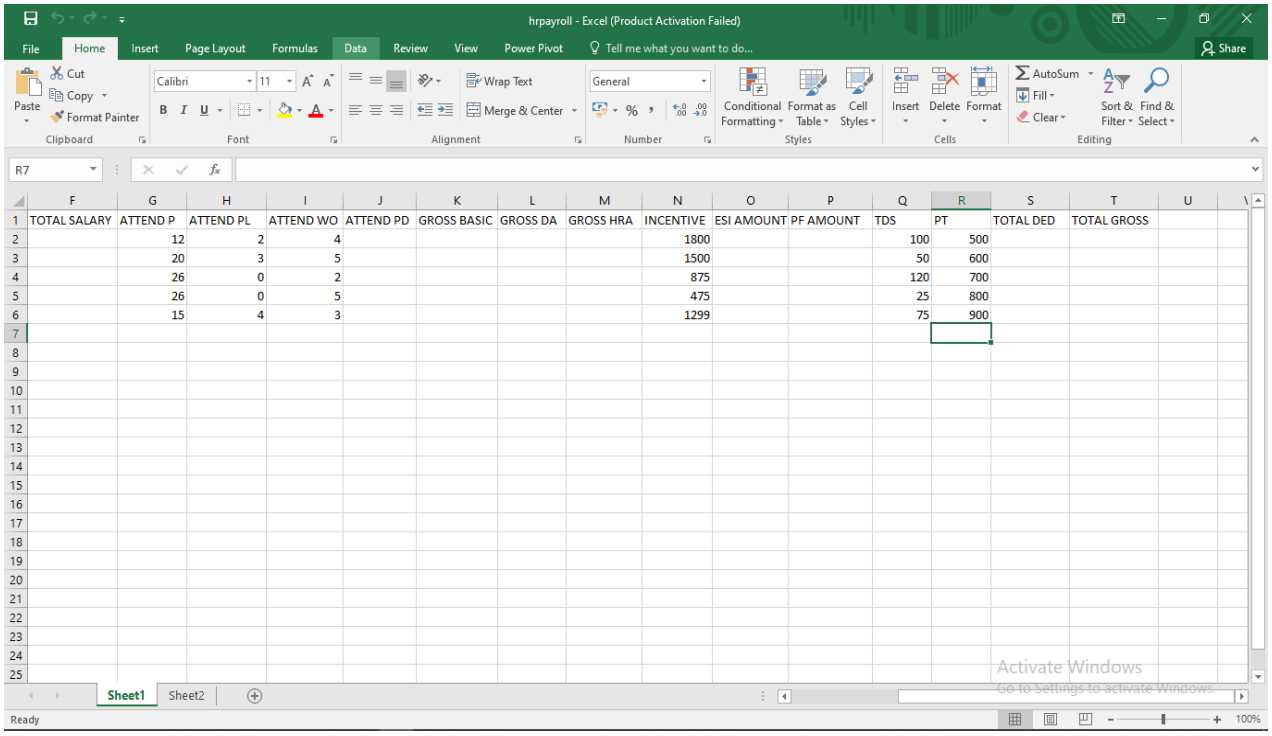
(0 to disable)
OK
Cancel



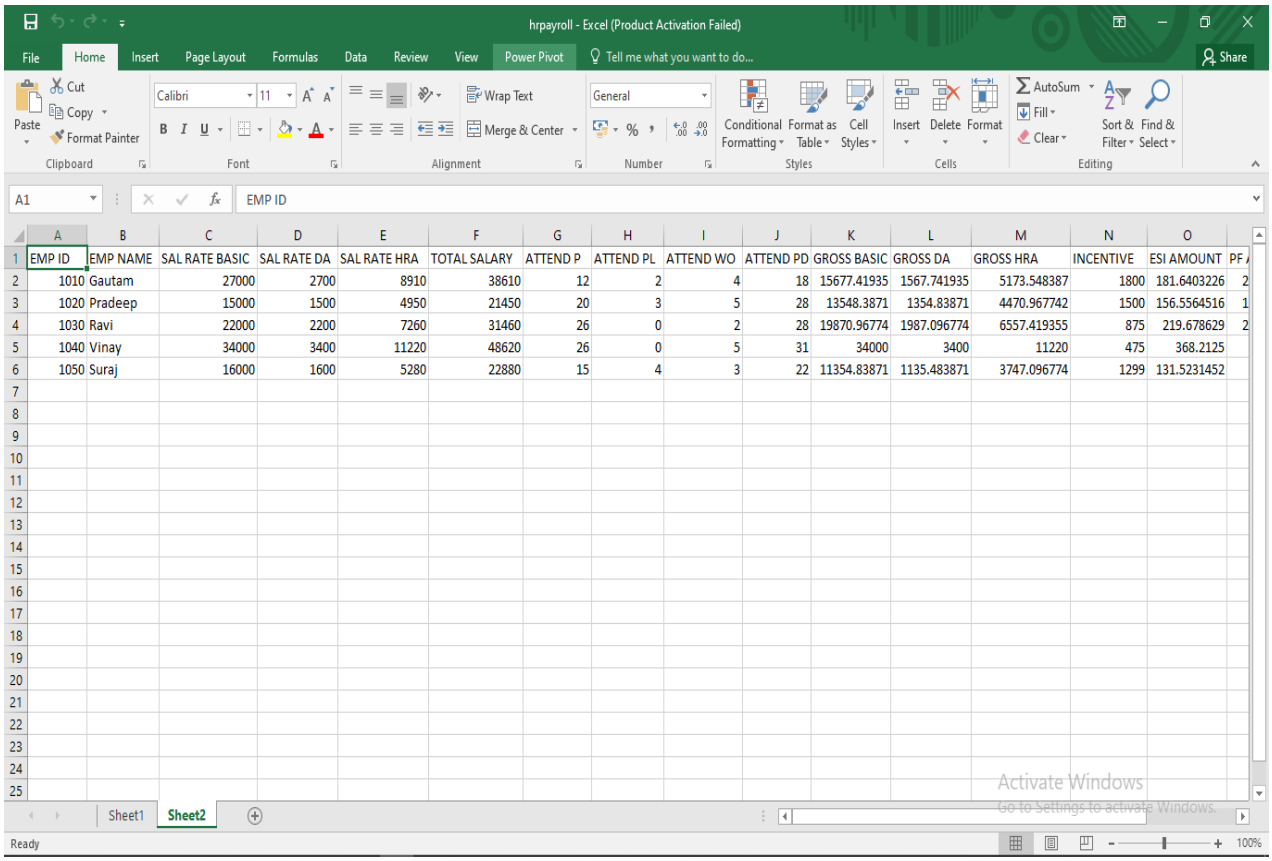
5. Input Screens



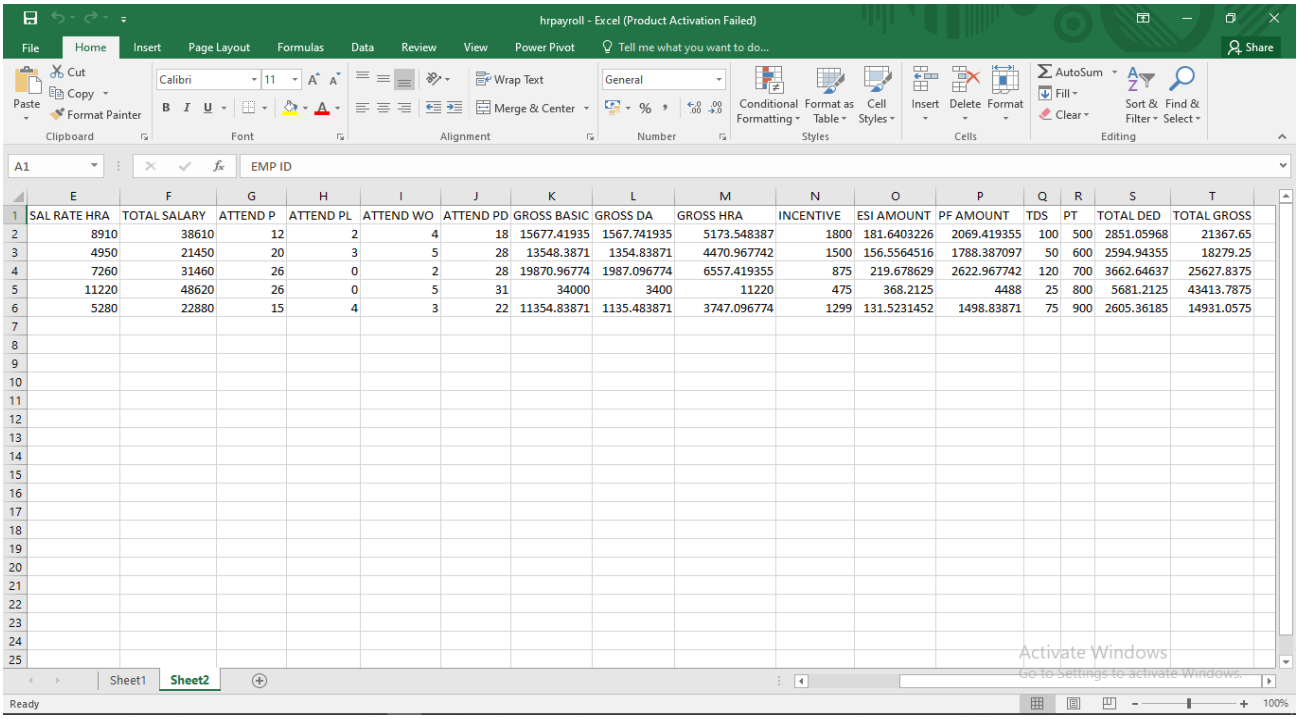


TOTAL SALARY	ATTEND P	ATTEND PL	ATTEND WO	ATTEND PD	GROSS BASIC	GROSS DA	GROSS HRA	INCENTIVE	ESI AMOUNT	PF AMOUNT	TDS	PT	TOTAL DED	TOTAL GROSS
	12	2	4					1800			100	500		
	20	3	5					1500			50	600		
	26	0	2					875			120	700		
	26	0	5					475			25	800		
	15	4	3					1299			75	900		

6. Output Screens



EMP ID	EMP NAME	SAL RATE BASIC	SAL RATE DA	SAL RATE HRA	TOTAL SALARY	ATTEND P	ATTEND PL	ATTEND WO	ATTEND PD	GROSS BASIC	GROSS DA	GROSS HRA	INCENTIVE	ESI AMOUNT	PF
1010	Gautam	27000	2700	8910	38610	12	2	4	18	15677.41935	1567.741935	5173.548387	1800	181.6403226	2
1020	Pradeep	15000	1500	4950	21450	20	3	5	28	13548.3871	1354.83871	4470.967742	1500	156.5564516	1
1030	Ravi	22000	2200	7260	31460	26	0	2	28	19870.96774	1987.096774	6557.419355	875	219.678629	2
1040	Vinay	34000	3400	11220	48620	26	0	5	31	34000	3400	11220	475	368.2125	
1050	Suraj	16000	1600	5280	22880	15	4	3	22	11354.83871	1135.483871	3747.096774	1299	131.5231452	



SAL RATE HRA	TOTAL SALARY	ATTEND P	ATTEND PL	ATTEND WO	ATTEND PD	GROSS BASIC	GROSS DA	GROSS HRA	INCENTIVE	ESI AMOUNT	PF AMOUNT	TDS	PT	TOTAL DED	TOTAL GROSS
8910	38610	12	2	4	18	15677.41935	1567.741935	5173.548387	1800	181.6403226	2069.419355	100	500	2851.05968	21367.65
4950	21450	20	3	5	28	13548.3871	1354.83871	4470.967742	1500	156.5564516	1788.387097	50	600	2594.94355	18279.25
7260	31460	26	0	2	28	19870.96774	1987.096774	6557.419355	875	219.678629	2622.967742	120	700	3662.64637	25627.8375
11220	48620	26	0	5	31	34000	3400	11220	475	368.2125	4488	25	800	5681.2125	43413.7875
5280	22880	15	4	3	22	11354.83871	1135.483871	3747.096774	1299	131.5231452	1498.83871	75	900	2605.36185	14931.0575

7. Conclusion

The discussion of the effects of HR Automation perceived buy the employees regarding both individual as well as organizational perspective, presented in this Study is far from comprehensive. HR automation influences people, organizations, and societies in innumerable other ways. Perhaps we can identify some unique effects that Information Technology has on the way we live, learn, work, and play. Nevertheless, the variables studied in this research are sufficient to recognize that the changes caused by HR automation introduce a variety of new issues for individuals and Organizations and radically alter the importance of certain preexisting cultures and practices.

8. Future Scope

This salary management program can be further enhanced by a budget program in future. In budget program every team leader will have support to manage and utilize specific amount of money in a efficient way with this amount he will manage everything like college expenditures etc. The prototype automated payroll system is complete in itself and ready to be implemented but changes and growth in requirements will be a reality on every

software project so there is need to timely update them. The same applies to this payroll system. There is always room for improvement, and the software we created can also be improved. This is especially because we had to create it within a limited time. With more time, the software can be improved to include security and different types of users. This would be the first step in making the software network-enabled, and eventually web-enabled. This was our original afterthought to programming the software, and we had chosen Blue Prism. In addition, the software can also be improved in terms of the calculations it can do, and more flexibility in the rates used in calculations per employee.

9. Bibliography and References

1. Ball KS. The use of human resource information systems: a survey. Personnel review. 2001; 30(6):677-693.
2. Beadles II, Aston N, Lowery CM, Johns K. The impact of human resource information

Systems: An exploratory study in the public sector. Communications of the IIMA. 2005; 5(4):6.

3. Broderick R, Boudreau JW. Human resource management, information technology, and the competitive edge. The Executive. 1992; 6(2):7-17.
4. Fernandez-Sánchez JA, de Juana-Espinosa S, Valdés Conca, j. use of HRIS in recruitment process. https://ijmter.com/papers/volume-3/issue-2/automated-payroll-system.pdf