Robotic Process Automation Tutorial

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RPA is the technology behind software solutions that automate repetitive, rule-based, or manual human processes. This RPA tutorial will walk you through a critical comparison and explanation of several products, such as Automation Anywhere vs. UiPath vs. Blue Prism.

Robotic Process Automation Tutorial PDF

Introduction to RPA

Robotic Process Automation is known as RPA. It is the technology behind software solutions that automate repetitive, manual, or rule-based human labor.

Generally speaking, it works significantly faster than a human alone, almost like a bot. These RPA software bots can communicate with internal apps, websites, user portals, and more.

Three categories can be used to group RPA technologies:

Probots: These are the bots that handle data by adhering to straightforward, reusable rules.

Knowbots: These are automated systems that look for data on web-based input and reply.

Chatbots: They are automated programs that behave and react like virtual agents. They provide prompt responses to consumer inquiries.

Benefits of RPA

The following advantages of robotic process automation technology are offered:

- Cost savings
- Error-free processes
- Faster processing
- Standard regulations
- Secure and auditable
- Less technical barriers.

RPA Syllabus PDF

History of RPA

RPA is the synthesis of multiple technologies combined into a single toolbox for various automation uses.

- One of those technologies that spurred research and ultimately resulted in the development of RPA is ***"machine learning" (ML).***
- The development of ***screen scraping*** technology is seen as a critical step in the development of RPA.
- ***Workflow automation*** is the process of lowering the amount of human labor by using a sequence of automated actions.
- The ability of computer systems or robots to carry out tasks that normally require human intelligence is known as **artificial intelligence.**

Three methods form the foundation of AI programming: learning, reasoning, and self-correction. Artificial intelligence has countless applications across a wide range of fields and

high-level, procedural, general-purpose programming language. Whereas C++, a...

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businesses. Among the often employed AI technologies are:

- Image Recognition
- Speech Recognition
- Natural Language Generation
- Sentiment Analysis

Applications of RPA

The RPA use cases are presented in the following list, which is divided into five sections:

- Common business processes and activities
- Sales and customer relationship management activities
- Tech support, HR, finance, and procurement activities
- Industry-specific activities, such as banking, insurance, and retail
- Personal uses like digital assistants

RPA Architecture

Several platforms, tools, and infrastructure components make up the robotic process automation (RPA) architecture. Collectively, they create a full-featured RPA tool.

Applications under RPA execution: They are ideal for business applications such as SAP, ERP, and other record-processing apps. It includes a lot of repetitive actions and a lot of data.

RPA Tool: Create software robots for automating desktop, web, and Citrix environment applications. Handling exceptions, writing a variety of data sources, and creating reusable parts.

RPA Platform: RPA Software bots can be exchanged among software robot libraries and kept in a common repository. It produces insightful data about the execution process and bots.

RPA Execution Infrastructure: These serve as a bank of concurrent, virtual, or physical lab

computers that are managed according to utilization trends.

Configuration Management: A newer version of the bots is updated. RPA bots are also branched and merged because they can be used in many libraries.

RPA Developer Salary

RPA Components

The RPA platform is made up of several fundamental elements that are included in robotic process automation. The fundamental components of robotic process automation are as follows:

Recorder: The recorder offers the capability of naturally macro-like automation of online, desktop, and mainframe applications without the need for programming, coding, or scripting.

Development Studio: Intelligent process automation workflows are designed or developed with assistance from the Development Studio. You can take complete control of the automation using this. The following describes some common RPA Developer Studio features:

- Dashboard featuring the Graphical User Interface (GUI).
- There are multiple types of recorders.
- Recordkeeping and managing exceptions.
- Assistance with OCR integration (Optical Character Reader).
- A selection of drag-and-drop, pre-built templates.
- A universal search feature that allows you to look through all of the automation resources, including projects, activities, and libraries.

Plugin or Extension: RPA plugins can be used for a variety of tasks, including speech transcription, date manipulation in several databases, and data

extraction from invoices.

Bot Runner: Bot runners are responsible for managing the developed software bots. These are the computers that are used to run or execute bots.

Control Center: The web-based platform known as the control center is utilized to manage the software bots produced through the Bot Creator. A large number of digital workers can have their activities scheduled, managed, controlled, and scaled by users.

RPA Lifecycle

The RPA lifecycle encompasses several stages of the automation process, from bot development to bot deployment. Take a look at the diagram that shows each of these stages:

Discovery Phase: The RPA process architect examines the client's needs at this phase. Next, a decision is made regarding the process's automation potential.

Solution Design Phase: The steps to automate the process are defined based on the criteria.

- The process architect and the RPA technical architect work together to create a Process Definition Document (PDD) that contains details about the entire process.
- To minimize manual labor as much as possible, they create a plan to automate particular jobs while adhering to the developmental process.
- Selecting the project's budget, personnel, timeline, and other details comes next when all requirements have been met.
- After that, the analyst team draws a flowchart to illustrate how the processes work, which aids in selecting which operations should be automated.

Following process selection, tasks are automated

and bot development is initiated using the RPA tool.

Development Phase: In this stage, an RPA developer uses RPA technologies to create scripts or bots that automate processes. By following the previously developed PDD, automation scripts and bots are created.

UAT (User Acceptance Test): The RPA development team tests the created bots during this stage. In a pre-production setting, these bots are evaluated to see how users can utilize them to automate particular tasks.

Deployment and Maintenance Phase: The bots are brought into the production environment once the development and testing stages are over. Users can utilize them to automate tasks after the deployment process.

Execute Bots: This stage involves the bots' post-deployment execution. Bots are also examined to ensure the implementation is carried out according to the specifications.

RPA Implementation

The organization's requirements are the primary determinant of RPA implementation. Usually, it consists of the following phases:

Stage 1: Obtaining Access to RPA Prospects

Establishing appropriate business processes is a prerequisite for deploying RPA technology within organizations.

An organization should establish the goals of the RPA program once it has decided to use this technology.

Stage 2: Choose a Vendor

Businesses begin looking for RPA suppliers during this stage depending on their technical needs. RPA suppliers may offer one of two types of implementations:

- For the organization, RPA suppliers will handle the configuration and testing.
- RPA suppliers sell licenses for bots and also offer training for their implementation.

Stage 3: Pilot, Implement, and Record Process Steps

Businesses check if their human resources are prepared to carry out the chosen RPA implementation plan at this stage.

Stage 4: Manage the RPA Lifecycle

The processing of RPA's initial launch occurs at this step. Proactive maintenance planning is another aspect of this step that ensures RPA software continues to succeed.

Organizations should think about the following factors before putting RPA technology into practice, as they will aid in its successful implementation:

- Choose the best project group for your activities, both internal and external.
- Follow thorough work plans to make sure everything is noticed.
- Establish fast ties with procurement, controls, and IT.
- Calculate the effect of individual modifications.

RPA Interview Questions and Answers

How does RPA work?

A series of workflow operations are executed to operate robotic process automation. It gives the software bots guidance on what to do at each level.

The software can then automatically run the program and accomplish the given task several times, following the requirements once this workflow has been coded into the RPA.

The workflow for this process in a normal business

can resemble the following order:

- A customer mails a request for an invoice.
- The operator accesses the appropriate billing program and checks the mail.
- The billing program receives a copy of the email containing information.
- Using the provided data, an invoice is generated and saved.
- The procedure is finished and the original sender is notified.

The RPA tool can assist in automating each of these stages. There won't be a need for human involvement because RPA bots will take care of all these tasks automatically as soon as the customer generates an email request.

Functioning of RPA in the Existing System

RPA has multiple methods for integrating with current applications. Typically, there are two categories of integration techniques:

Integrating RPA in the back-end: Through back-end integration, automation gains access to services and systems managed via a process automation server. Here, software bots are utilized for unsupervised automation, which means administrative duties. For example, insurance claiming.

Integrating RPA in the front-end: They offer multiple ways for automation to interact with desktop programs like Salesforce CRM, PeopleSoft, SAP, and so forth. Similar to a human, a front-end automation can read and write data and the user interface.

Functioning of AI-Powered RPA

Advanced automation technology is referred to as "AI-powered RPA."

- It makes use of numerous technologies, including machine learning, text analytics, OCR

(optical character recognition), and artificial intelligence (AI).
- Another aspect of AI-powered RPA technology is attended and unattended RPA.

Machine learning gives the automation process new capabilities that aid in learning, growing, and continuously enhancing its skills, as well as some of its functionalities.

Artificial intelligence also helps bots that are programmed to handle exceptions. When handling exceptions in automation processes, AI employs the same techniques as human workers.

RPA Services

RPA services help businesses become more productive, save operating costs, and become more scalable by offering assessment, strategy, design, implementation, and support.

Below are a few of the significant RPA services:

Business Readiness Analysis: Customers using this service can find business processes and applications that are most suited for robotic process automation. The following are tasks that business readiness analysis services cover:

- Procedure Evaluation
- Scale and Comfort
- Report on Feasibility Study
- Estimating Effort and Benefits

Business Case Delivery: This is a business and process maturity evaluation to help create an optimization roadmap. The business team and experienced consultants identify effective workloads for automation. They also assist in choosing the best RPA platforms as per their needs.

Proof of Concept: The following tasks are covered by the RPA proof of concept services:

- Choosing a POC Process

- Choosing an appropriate RPA platform
- Pilot Project Execution
- Establishing a Reference Architecture

Implementation: The bots are tested and developed before being sent into the production environment. The following tasks are covered by the RPA proof of concept services:

- Choosing a POC Process
- Choosing an appropriate RPA platform
- Pilot Project Execution
- Establishing a reference architecture.

Legacy System Integration: RPA makes legacy system integration simple. These services make it simple to update and modernize systems so they are compatible with the newest technology and work as intended. This solution facilitates quicker operations and ensuing company expansion.

Web Extraction Service: Users of web extraction services can obtain authentic, structured, accurate, and relevant data in their preferred formats. They can use it for pricing comparison, sentiment analysis, market research, and other purposes.

RPA Monitoring and Support: The majority of RPA vendors keep an eye on and maintain the daily activities of bots. Routine examination of this kind assists vendors in eliminating operational problems to guarantee ongoing improvement.

Advantages of RPA Services

By removing tedious and repetitive manual operations, these services aid in the optimization of operating costs, digital transformation, and support.

- Growth in Deliverable Production
- Higher accuracy and quality assurance due to fewer errors
- Better Performance, Lower Operating Costs, and Quality
- Optimal Flexibility – Constantly Available Services

- Increased Output and Quicker Productivity Growth
- A rise in client satisfaction.

RPA Tools

RPA tools are programs that assist users in setting up different activities for automation. These are some well-known RPA tools, explained below:

UiPath

UiPath gives international businesses the option to create and implement a robotic workforce for their establishments. The community edition of UiPath, which has drag-and-drop functionality, is its strongest feature.

Other salient features of UiPath:

- It offers a variety of hosting choices, including virtual machines, cloud environments, and terminal services.
- It works with a wide variety of desktop and web apps.
- To operate bots, it supports the auto-login capability.
- It contains a scraping solution that maximizes accuracy when working with SAP, Java, Flash, PDF, Legacy, and DotNet.

Blue Prism

Blue Prism facilitates the agile and economical automation of manual, repetitive, and rule-based business processes for enterprises. There is drag and drop functionality to automate the tasks.

Other salient features of Blue Prism:

- It is platform-independent.
- Strong features like data encryption, load balancing, and end-to-end auditing are included.
- Every modification is therefore audited.
- Code developed in mainframe, Java, Windows, and even web-based applications can be

automated with Blue Prism.
- It works with every major cloud computing platform, including Amazon AWS and Microsoft Azure. Users can manage jobs centrally.

Automation Anywhere

A web-based administration tool called Automation Anywhere gives businesses the ability to perform and administer fully automated business processes. It makes it possible to automate a wide range of jobs, from the most complex networking and remote database operations to the most fundamental Windows configuration steps.

Features of Automation Anywhere are,

- It makes integrating with various platforms simple.
- By using credentials, encryption, and authentication, it offers bank-grade security.
- It quickly automates difficult and complex activities by dividing them up among several computers.
- It provides automation without the need for scripts.

Pega

Pega enhances the capability of task automation with the use of existing apps' user interfaces. By automating user activities, manual processes can be completed more quickly.

Features of Pega are,

- It offers an online solution.
- It facilitates the delivery of solutions to clients.
- It records observations on a desktop. It obtains information on the workflow.
- No execution data is kept in a database. Everything is kept in memory.

Tips to Choose the Right RPA Tool

Before selecting the RPA tool, take into account the following parameters:

- The RPA tool needs to support a wide range of applications and be platform-independent.
- It should be possible to increase the robotic workforce as needed.
- Before putting RPA into use, they must take every security precaution.
- There must be a lower total cost of ownership.
- According to the needs of the business, the RPA tool selection process must be simple and rapid.
- The automation procedure should be carried out with an RPA tool that is user-friendly and versatile.
- Selecting a knowledgeable vendor will significantly accelerate the deployment process and minimize the amount of labor needed to set up RPA software.
- Obtaining technological advancements, more seamless deployments, improved training and certifications, etc., are all made possible by strong vendor support.
- Additionally, it provides the user with displays, business rules, and validation—all of which are accessed through a virtual desktop.

Conclusion

We hope this robotic process automation tutorial will be helpful for you in getting started with RPA skills. Join SLA for the best **RPA training in Chennai** and enhance your career.

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