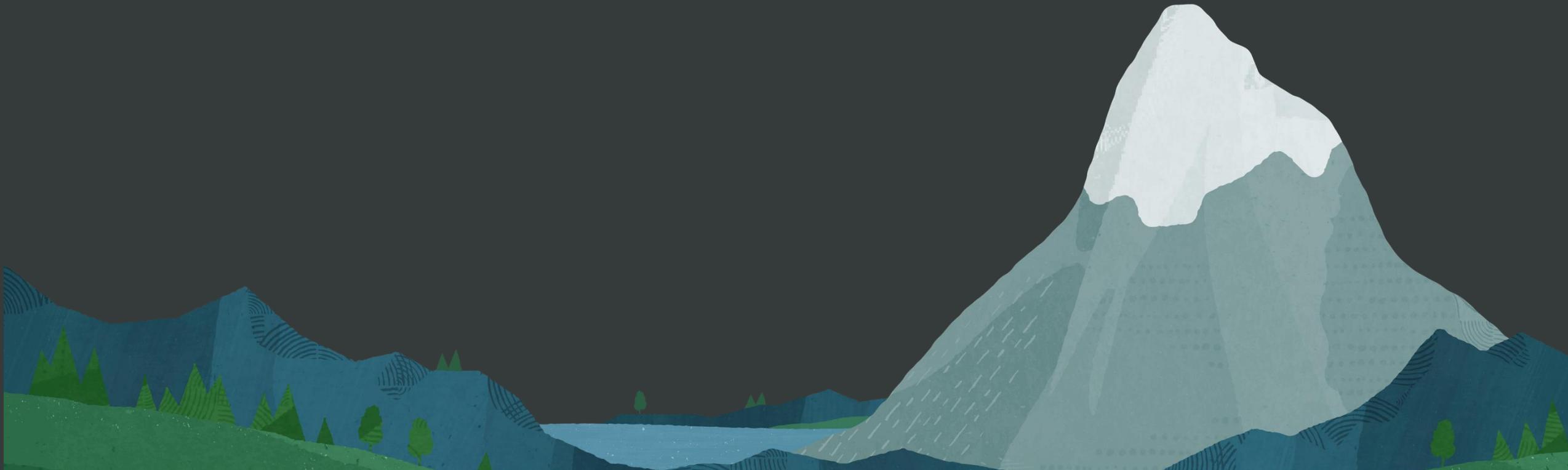


ORACLE | APEX

Workflows

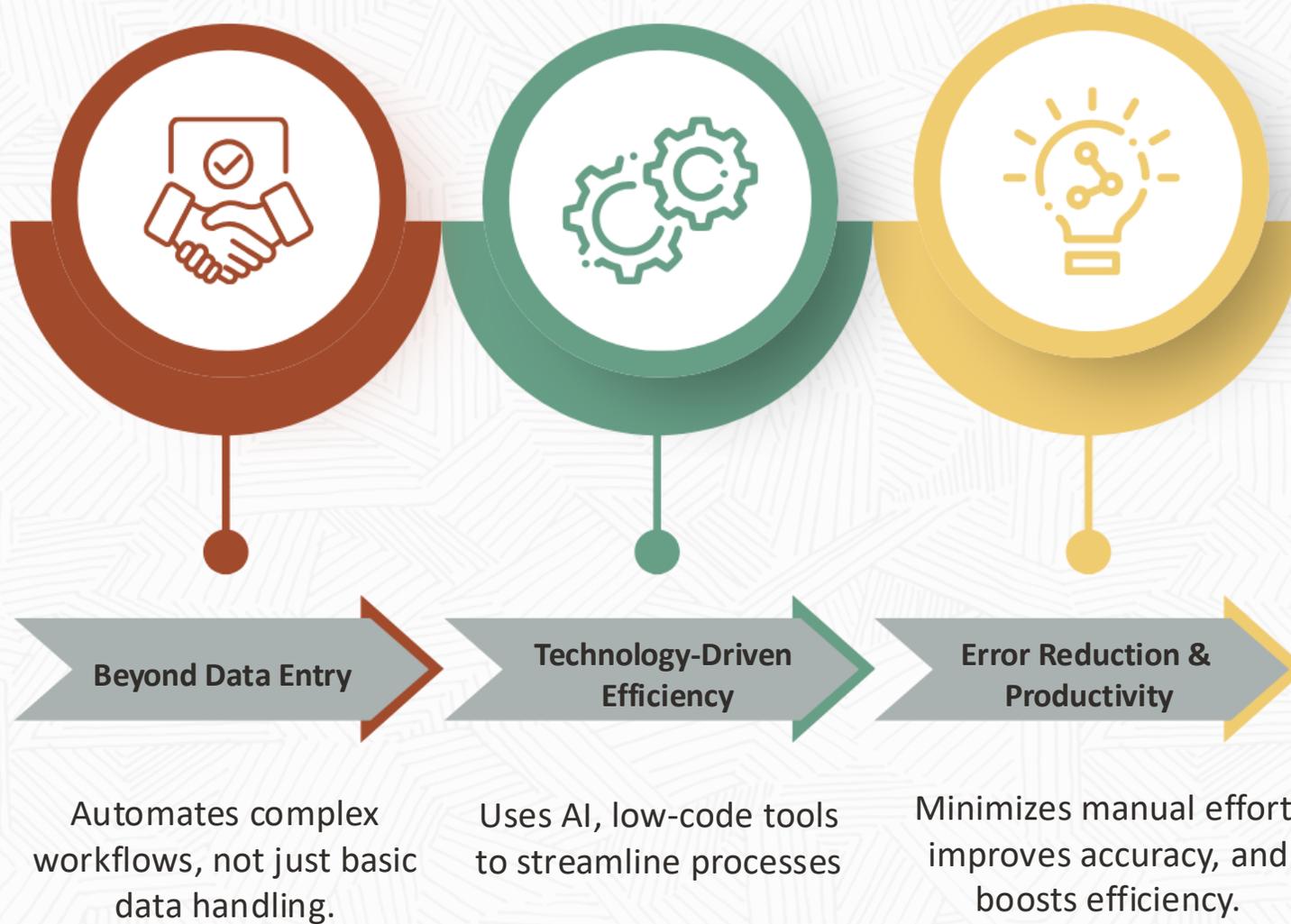
Oracle APEX



Safe harbor statement

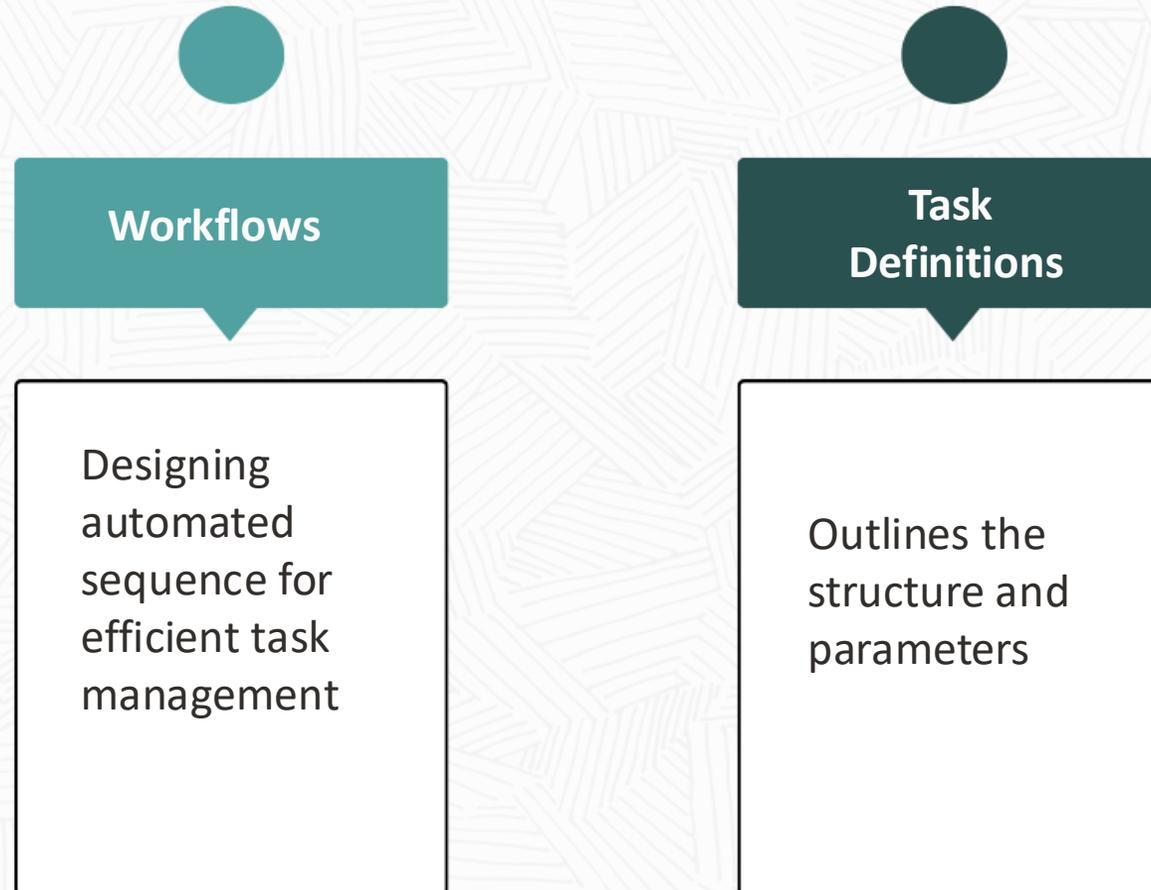
The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, timing, and pricing of any features or functionality described for Oracle's products may change and remains at the sole discretion of Oracle Corporation.

Process Automation



Process Automation in Oracle APEX

Oracle APEX Process Automation



Use Cases

Employee Onboarding

- Automate HR workflows for new hires

Expense Approvals

- Manage and approve expense claims digitally

Purchase Orders

- Streamline procurement approvals

Incident Management

- Track and resolve IT or business incidents

Document Approvals

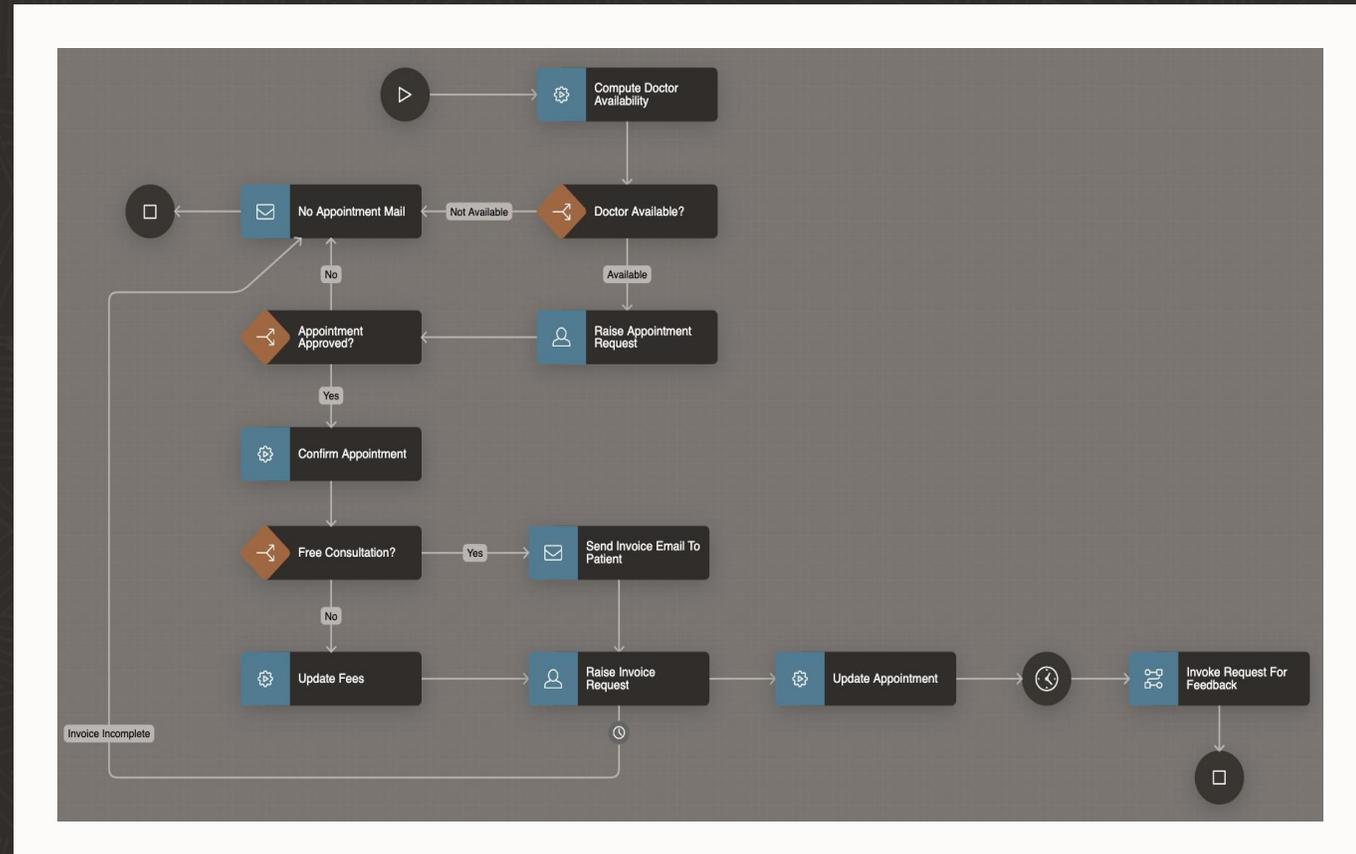
- Automate document review and approval processes.

* and many more



What is Oracle APEX Workflow ?

Oracle APEX Workflow allows developers to **design, implement and automate** business process, in whole or part, during which documents, information or tasks are passed from one participant to another for action, according to a set of procedural rules (e.g. sequence flow, transition conditions etc.)



Why APEX Workflow ?

Native Integration



Built into Oracle APEX for seamless use

Process Automation



Supports multi level approval and task assignments

Task Management



User can manage task through various platforms

Cloud Ready



Compatible with Oracle Cloud and on-premises setups



Low Code Designer

Drag and drop interface for any design



Role Based Security

Ensures Workflows are executed by authorized users



Customizable Workflows

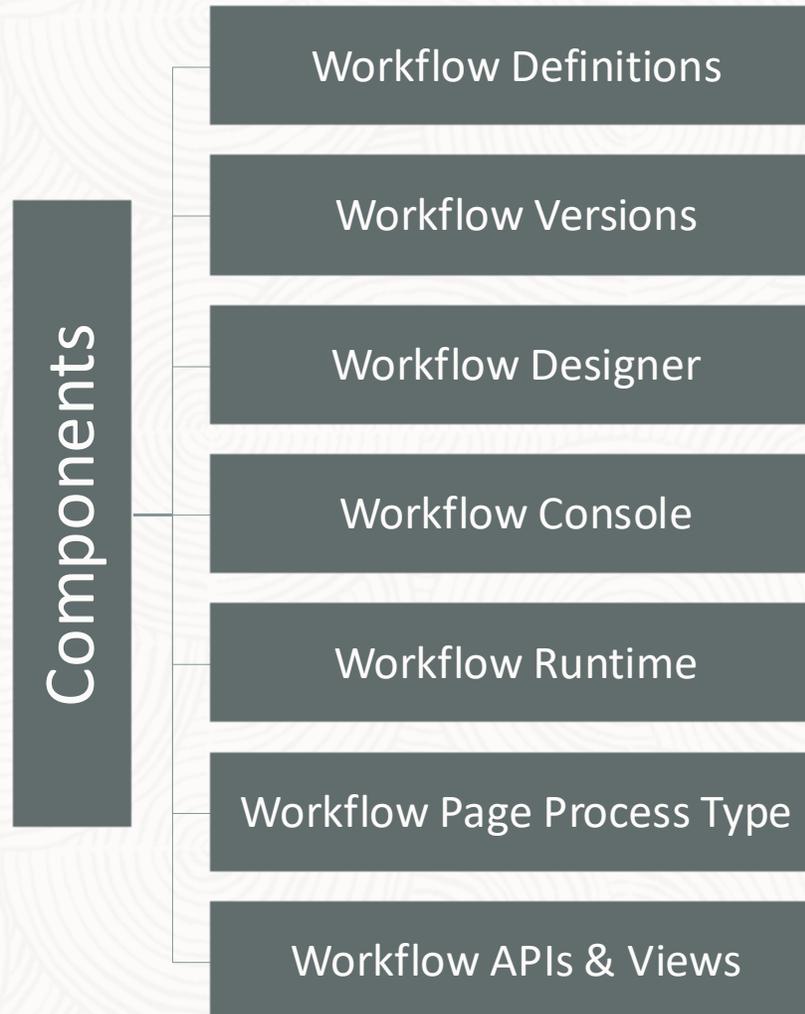
Supports REST APIs for external integration



Recovery Features

Allow resuming from various activities

APEX Workflow Components



Workflow Lifecycle



In Development

- Fully Editable
- Can only run in developer session
- Can be promoted to active
- Used for testing & updates
- Cannot be deleted



Active

- Partially Editable
- Can be used in production
- Cannot be moved back to development
- Used for live workflow execution
- Cannot be deleted



Inactive

- Not Editable
- Cannot start new instances
- Cannot be made Active or In Development
- Existing instances continue, but no new ones can start
- Can be deleted along with instances

APEX Workflow Visual Designer

Workflow Settings for selected elements in the diagram/tree

Diagram Control

Workflow Diagram

Workflow Navigation Tree

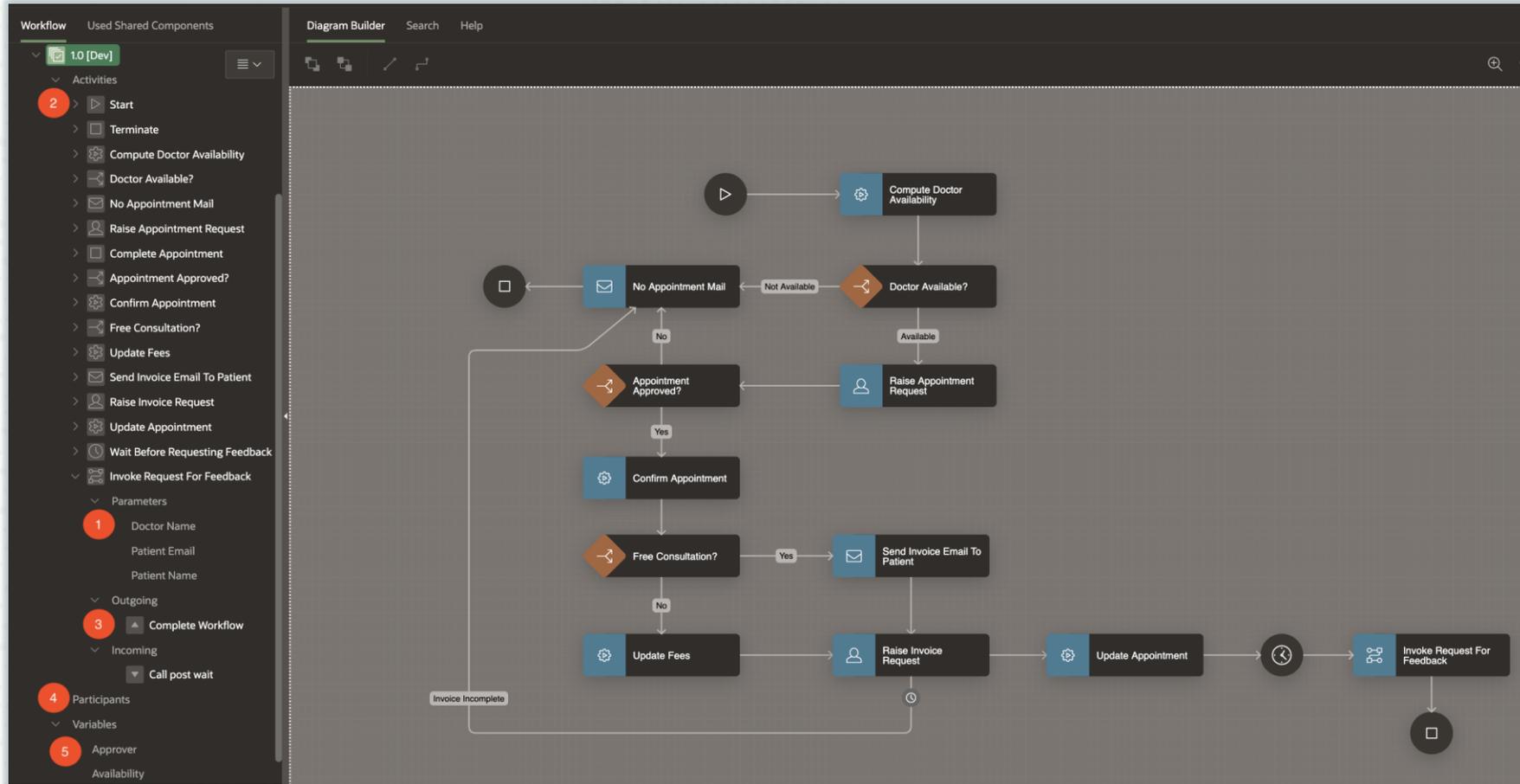
- Parameters
- Activities
- Variables
- Participants

Customizable Component Palette (Activities)

The screenshot displays the APEX Workflow Visual Designer interface. On the left is the 'Workflow Navigation Tree' showing a hierarchy of activities like 'Start', 'Terminate', 'Compute Doctor Availability', and 'No Appointment Mail'. Below it is the 'Customizable Component Palette (Activities)' with categories like 'Parameters', 'Outgoing', 'Incoming', 'Participants', and 'Variables'. The central area is the 'Diagram Builder' showing a flowchart with nodes such as 'Compute Doctor Availability', 'Doctor Available?', 'Appointment Approved?', 'Raise Appointment Request', 'Confirm Appointment', 'Free Consultation?', 'Send Invoice Email To Patient', 'Update Fees', 'Raise Invoice Request', 'Update Appointment', and 'Invoke Request For Feedback'. On the right is the 'Settings' panel for the selected 'Doctor Available?' activity, showing fields for 'Workflow Version' (1.0), 'State' (In Development), 'Type' (Table / View), 'Table Name' (DOCTOR), and 'Primary Key Column' (DNAME). At the bottom, there is an 'Activities' palette with icons for 'Human Task - Create', 'Send Push Notification', 'Invoke API', 'Workflow End', 'Invoke Workflow', 'Workflow Start', 'Execute Code', 'Switch', 'Send E-Mail', and 'Wait'.



Building Blocks of Workflow



- 1 Parameters
- 2 Activities
- 3 Connections
- 4 Participants
- 5 Variables



Workflow Activities

A workflow activity defines the tasks that APEX executes at a specific step in the workflow.

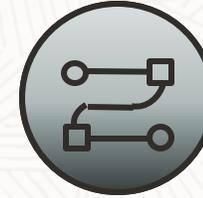
Workflow Activities



Human Task - Create



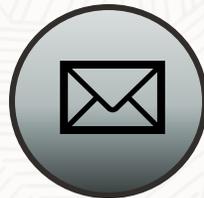
Invoke API



Invoke Workflow



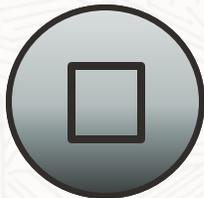
Execute Code



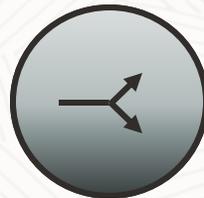
Send E-Mail



Send Push Notification



Workflow End



Switch



Wait

Workflow activities in APEX are extensible — you can integrate Custom Process Type Plug-ins to define custom workflow behaviour.

Understanding Human Tasks

Human Tasks in APEX are items that need to be actioned by people, rather than activities performed by a script or automation.



Approval Task

Tasks that can be approved or rejected.

Action Task

Tasks that need to be actioned

Building Blocks of Human Tasks

Task Administration

Search...

About this page

Due Date

Show expired tasks

Canceled

MacBook Pro Laptop Request for ADAMS

Laptop Approval · Initiated by JANE 57 minutes ago

Unassigned

MacBook Pro Laptop Request for ALLEN

Laptop Approval · Initiated by JANE 54 minutes ago · **Due 52 minutes ago** · Medium priority

Assigned

MacBook Pro Laptop Request for BLAKE

Laptop Approval · Initiated by JANE 53 minutes ago · Assigned to JANE · **Due 51 minutes ago** · Medium priority

- Task Definition
- Unified Task List
- Task Details Page
- Human Task - Create and Human Task - Manage
- APEX_HUMAN_TASK API Package



Unified Task Lists

The Unified Task List allows users to view, action, or edit task instances. When you configure the Unified Task List, you have different **Report Contexts** to choose from

- *My Tasks*

- *Admin Tasks*

- *Initiated by me*

Invoke Workflow Activity

The Invoke Workflow activity allows one workflow to call another, enabling modular and reusable process automation.

- **Improves Process Efficiency**

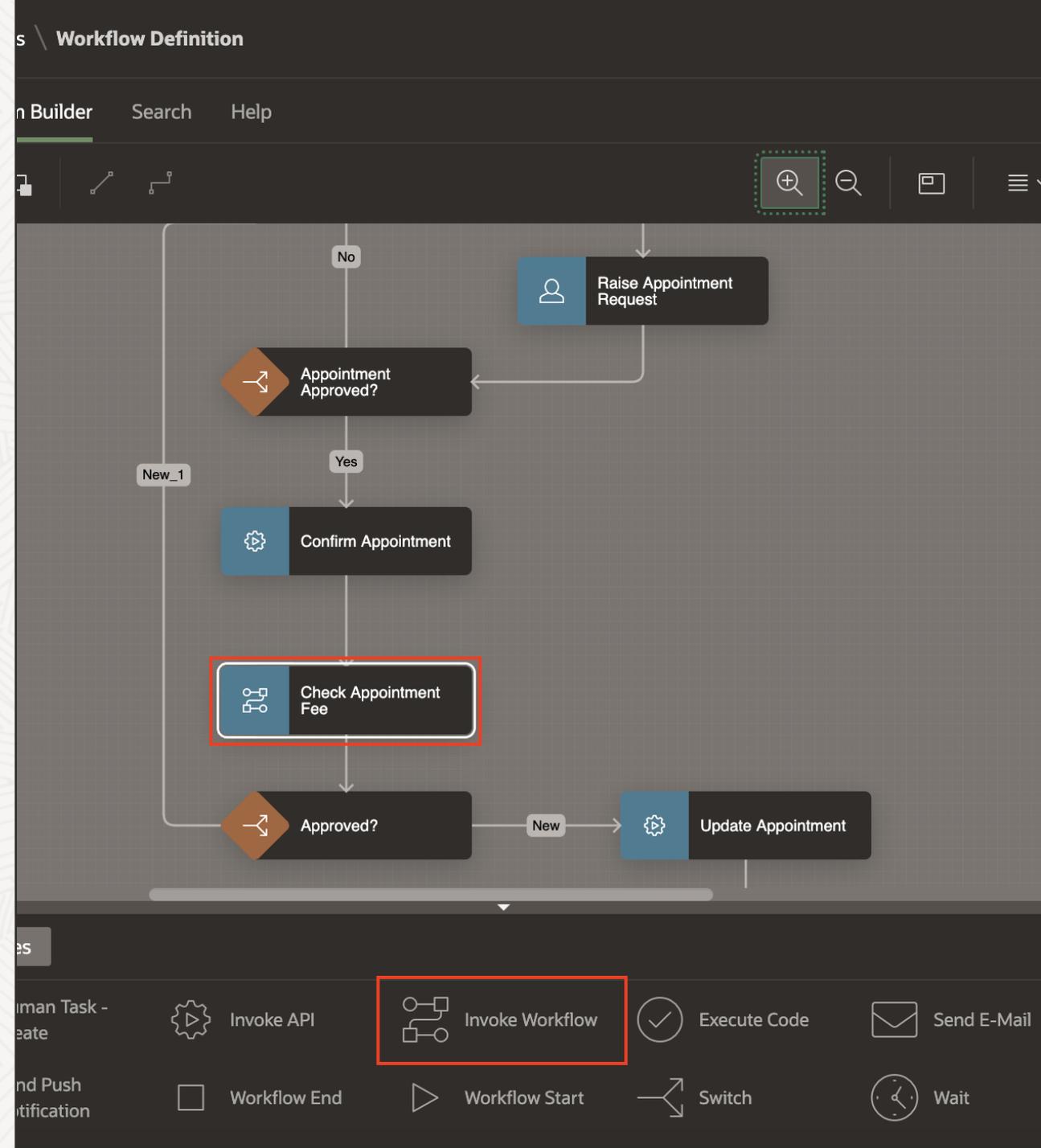
Automates complex workflows by breaking them into smaller, manageable workflows.

- **Enhances Reusability**

Common processes (e.g., approvals) can be reused across multiple workflows.

- **Ensures Scalability**

Supports dynamic workflow execution based on business logic.



Workflow Connections

Workflow Connections link workflow activities and determine the path through the workflow at runtime.

Types of Workflow Connection



Branches

Created by switch activities to split the flow based on conditions.



Transitions

- Normal
- Timeout
- Error

Workflow Participants

Workflow Participants are APEX users with operational privileges over a workflow.

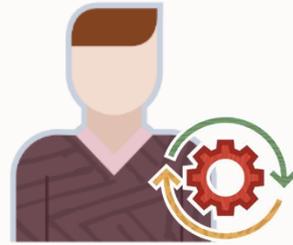
Workflow Participants

Task performed by the participants



Workflow Owner

- Start Workflow
- Terminate Workflow
- Retry Faulty Workflow



Workflow Administrator

- Start Workflow
- Terminate Workflow
- Suspend Workflow
- Resume Workflow
- Retry Workflow



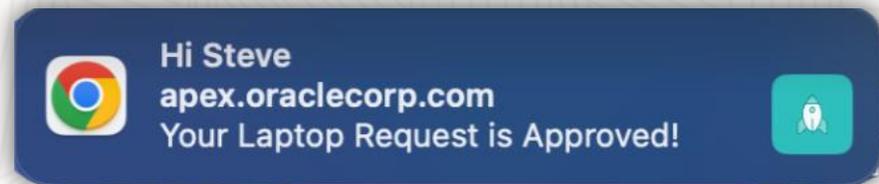
Workflow Initiator

- Start Workflow
- Terminate Workflow (the one initiated by them)



Stay Notified, Stay Ahead: Real-Time Push Alerts in APEX Workflow

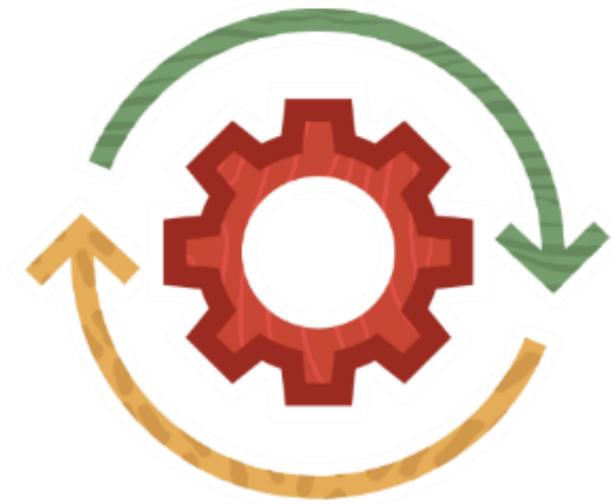
Push notifications in APEX Workflow provide **real-time alerts** to users about workflow events, such as task assignments, approvals, and status updates.



- Instant Updates
- Improved Responsiveness
- Better User Engagement
- Cross-Platform Support



Recovery Features



Suspended Workflows

Suspended workflows allow administrators to pause execution, modify variables like amount, and resume without restarting the process.

The screenshot displays the 'Admin Workflow' interface. At the top right, a green notification banner states 'Workflow suspended' with a checkmark icon. The main subject is 'Approval Workflow for requisition ID 10 and item Mac Book Pro for 2500.99', with a 'Suspended' status tag. Below this, the workflow steps are listed: 'Start' (Completed), 'Update Requisition Status In Review' (Completed), 'Requires Approval' (Completed), and 'Approve' (Waiting). A modal dialog is open over the 'Requires Approval' step, allowing the user to edit the 'Amount' variable. The dialog shows the 'Current Value' as 2500.99 and the 'New Value' as 900. At the bottom of the dialog are 'Close' and 'Apply Changes' buttons. The main interface also shows a 'Variables' section with 'Amount' (2500.99) and 'Approver' fields, each with an 'Edit' link. At the bottom of the workflow view, there are 'Close', 'Activity' (Update Requisition Status In Review), 'Resume', and 'Terminate' buttons.



Resume workflows from any activity

This feature allows a workflow to restart from a different activity than the original failed or stopped point.

The screenshot shows the 'Admin Workflow' interface for a workflow titled 'Approval Workflow for requisition ID 10 and item Mac Book Pro for 2500.99'. The workflow status is 'Suspended'. A green notification banner at the top right says 'Variable updated'. The 'Activities' section shows a list of activities: 'Start' (Completed), 'Update Requisition Status In Review' (Completed), 'Requires Approval?' (Completed), and 'Approve Requisition' (Waiting). The 'Variables' section shows 'Amount' as 900 and 'Approver' as empty. At the bottom, the 'Resume' button is highlighted with a red box.

Activity	Status	Time
Start	Completed	Completed 4 minutes ago
Update Requisition Status In Review	Completed	Completed 4 minutes ago
Requires Approval?	Completed	Completed 4 minutes ago
Approve Requisition	Waiting	Started 4 minutes ago

Variable	Value	Action
Amount	900	Edit
Approver		Edit

The screenshot shows the 'Admin Workflow' interface for the same workflow, now 'Active'. A green notification banner at the top right says 'Workflow resumed'. The 'Activities' section shows a list of activities: 'Start' (Completed), 'Update Requisition Status In Review' (Completed), 'Requires Approval?' (Completed), 'Approve Requisition' (Terminated), 'Update Requisition Status In Review' (Completed), 'Requires Approval?' (Completed), 'Update Requisition Status Auto Approved' (Completed), and 'Create Order' (Completed).

Activity	Status	Time
Start	Completed	Completed 4 minutes ago
Update Requisition Status In Review	Completed	Completed 4 minutes ago
Requires Approval?	Completed	Completed 4 minutes ago
Approve Requisition	Terminated	Started 4 minutes ago
Update Requisition Status In Review	Completed	Completed 3 seconds ago
Requires Approval?	Completed	Completed 3 seconds ago
Update Requisition Status Auto Approved	Completed	Completed 3 seconds ago
Create Order	Completed	Completed 3 seconds ago



Resume Workflows from any Activity

The screenshot displays a workflow management interface. On the left, a list of workflow instances is shown under the heading "Monitor Appointments". One instance, "Check Appointment Fee for patient RAJESH", is highlighted with a "Suspended" status. On the right, a detailed view of this workflow is shown. The workflow is titled "Form on Monitor Appointments" and is currently "Suspended". The main activity is "Check Appointment Fee for patient RAJESH", which is "Suspended". Below this, a list of activities is shown: "Start" (Completed), "Free Consultation?" (Completed), "Update Fees" (Completed), and "Raise Invoice Request" (Waiting). The "Raise Invoice Request" activity is currently in a "Waiting" state. At the bottom of the interface, there are several control buttons: "Resume" (highlighted with a red box), "Terminate", and "To Parent Workflow".

✓ Error Recovery

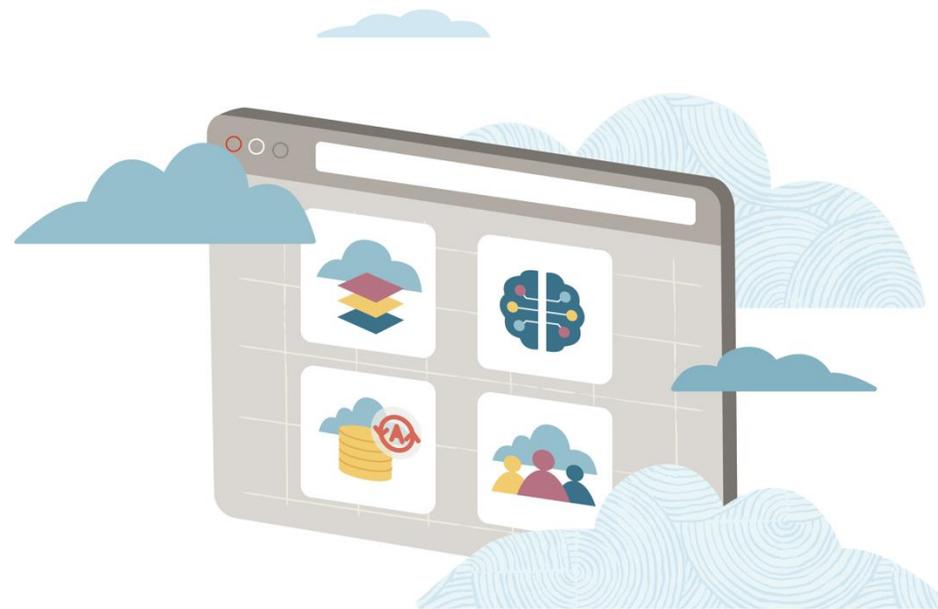
✓ Flexibility

✓ Improved Efficiency

✓ Better Control



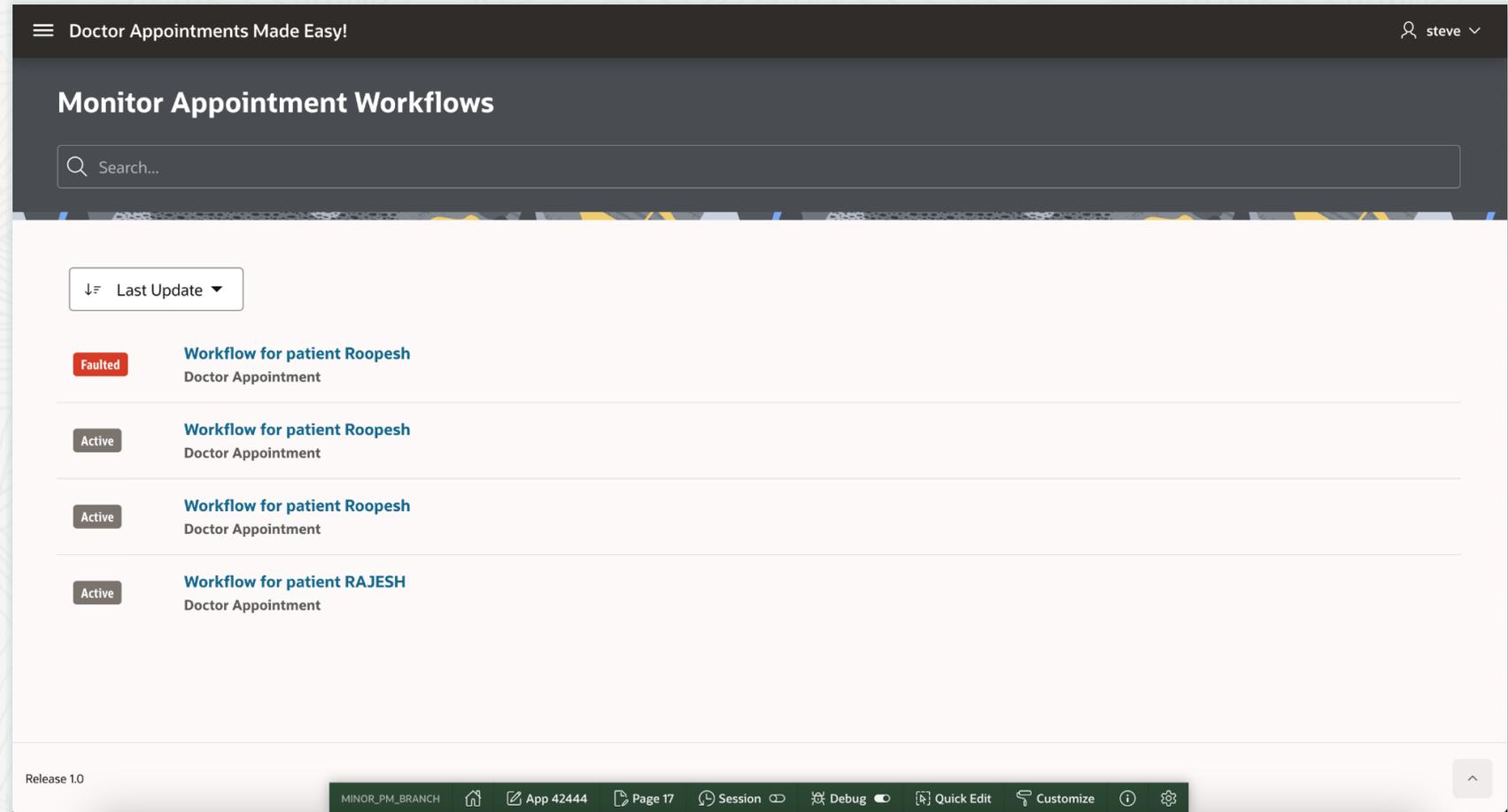
Workflow Administration



Workflow Console Page

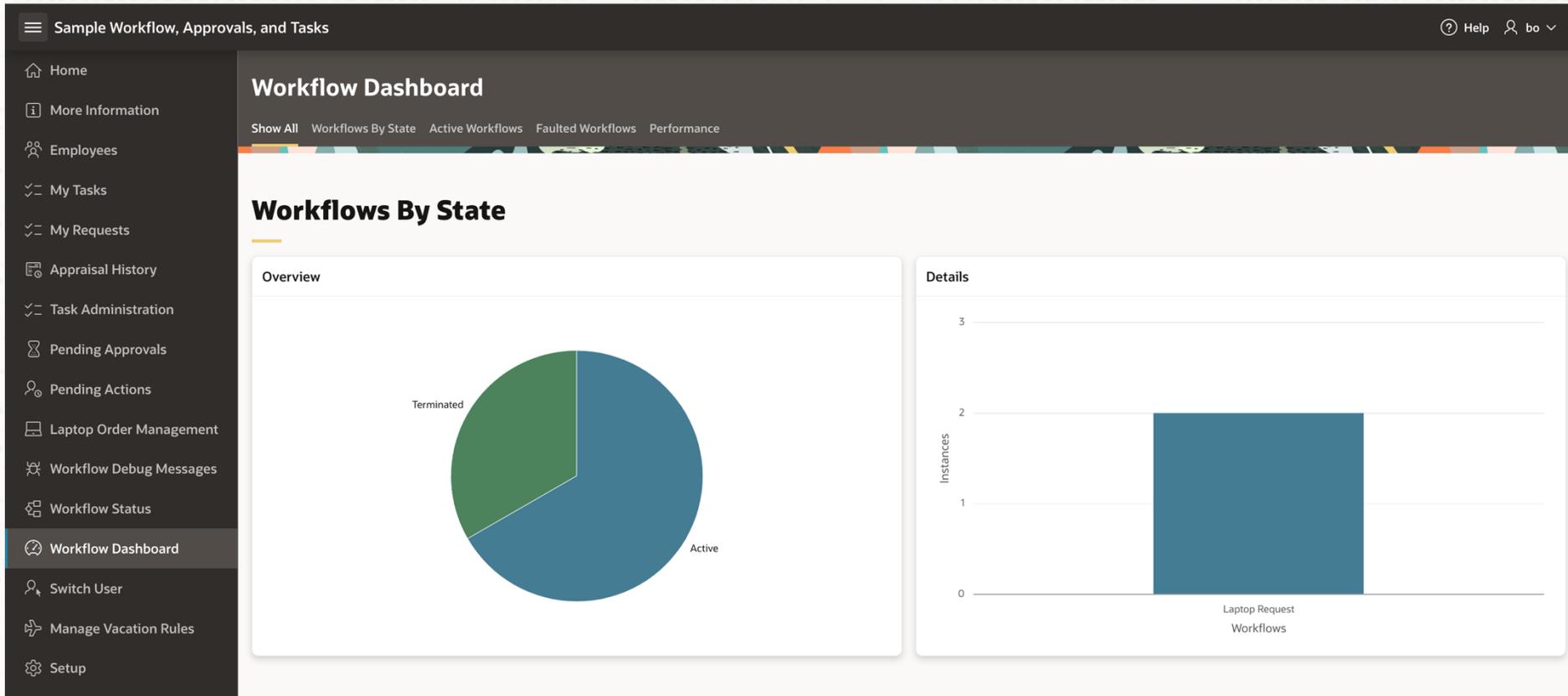
The Workflow Console enables users to view and manage their workflow instances. You can configure different Report Contexts based on user roles:

- **My Workflows**
For Workflow owners
- **Admin Workflows**
For Workflow administrators
- **Initiated by Me**
For workflow initiators



Workflow Dashboard Page

Workflow Dashboard Page features several tabs of information

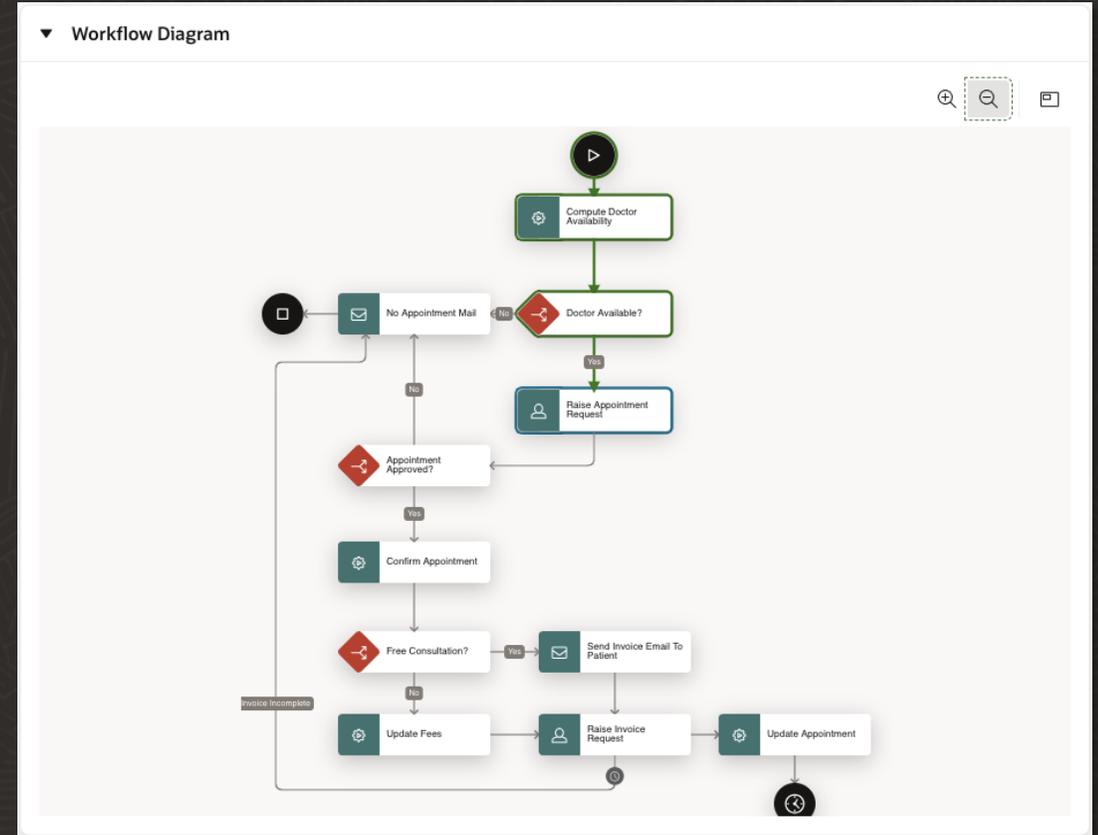


- Workflows by State
- Active Workflows
- Faulted Workflows
- Performance

Embeddable Workflow Diagrams

Embed and Track Workflow Status in your App Instantly

- **Seamless Integration** – Use the **Workflow Diagram** region in your existing page.
- **Real-time Updates** – Displays live workflow status inside your application.



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Summary



APEX WORKFLOW

Summary

- **Process Automation:**
Automate end-to-end business processes with visual workflows.
- **Why Workflow?**
Reduces manual intervention, enforces business rules, and improves efficiency.
- **Workflow Participants:**
Involves both system logic and human interactions for tasks and approvals.
- **Human Task Support:**
Assigns, tracks, and manages user tasks with deadlines and outcomes.
- **Workflow Connections:**
Defines execution paths using branches (conditional logic) and transitions (normal, timeout, error).
- **Editing Suspended Workflows:**
Pause and modify workflows mid-execution (e.g., update variables) without restarting.
- **Custom Activities:**
Extend functionality using custom plug-ins for specialized workflow steps.
- **Workflow Administration:**
Use the **Workflow Console** to monitor and manage instances, and the **Dashboard Page** to get quick insights into workflow performance.



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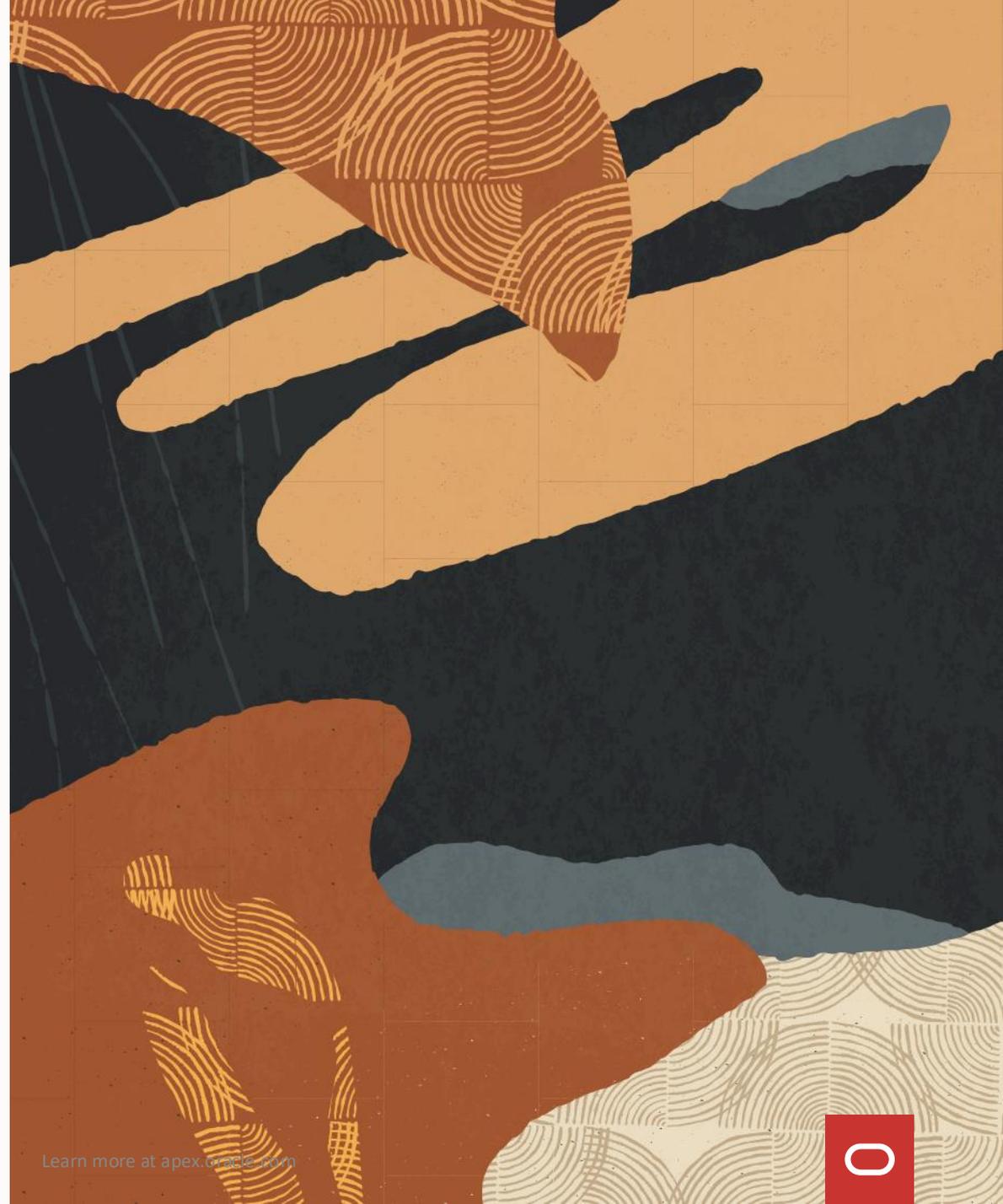
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