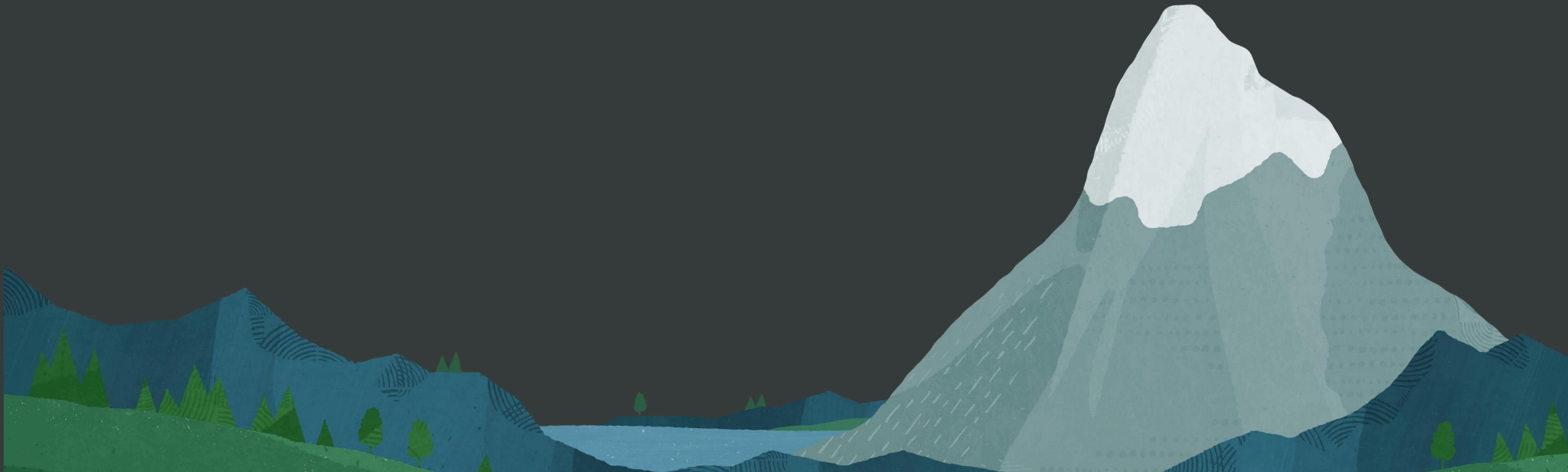


ORACLE | APEX

# Workflows

Oracle APEX

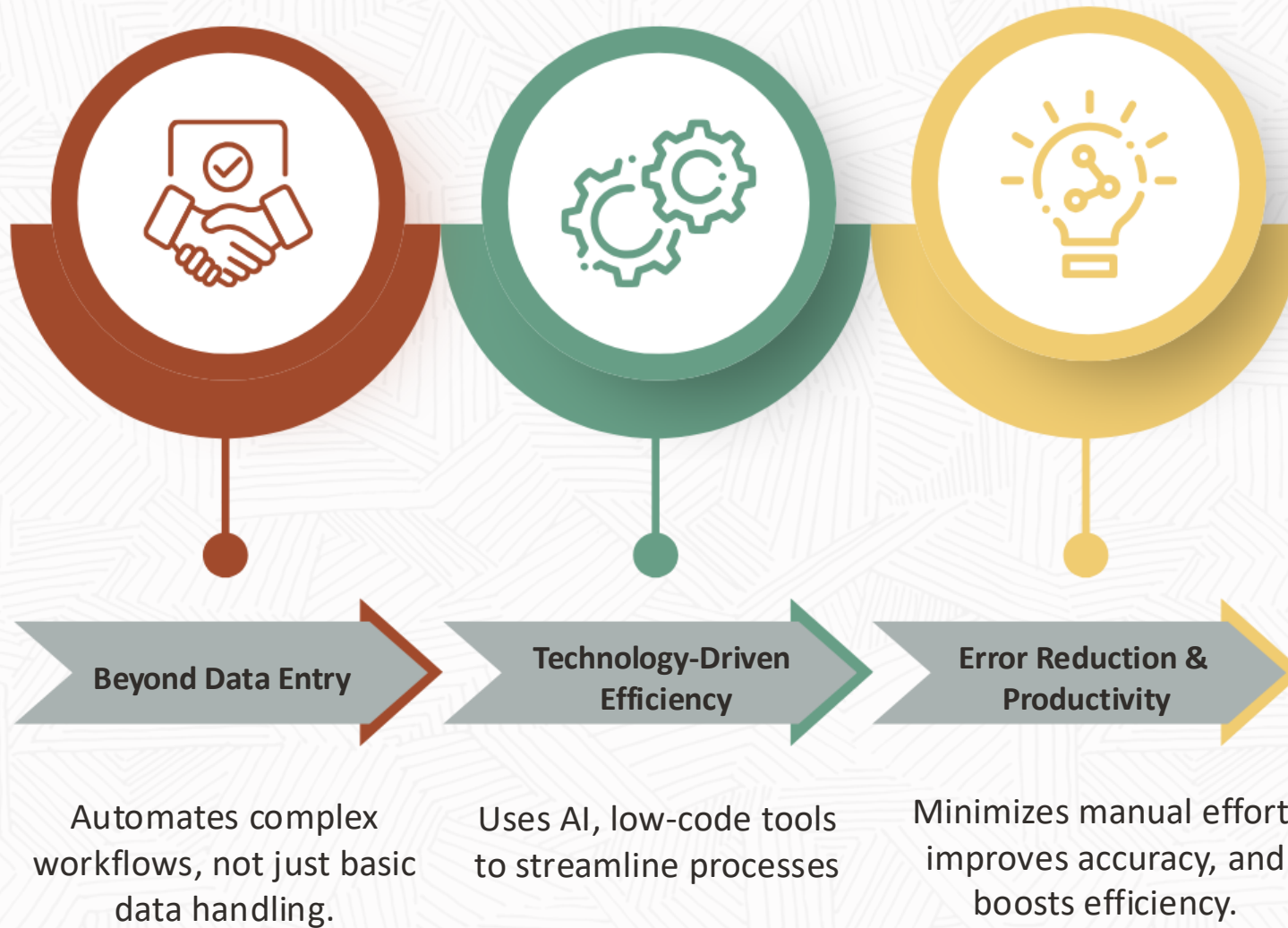


# Safe harbor statement

---

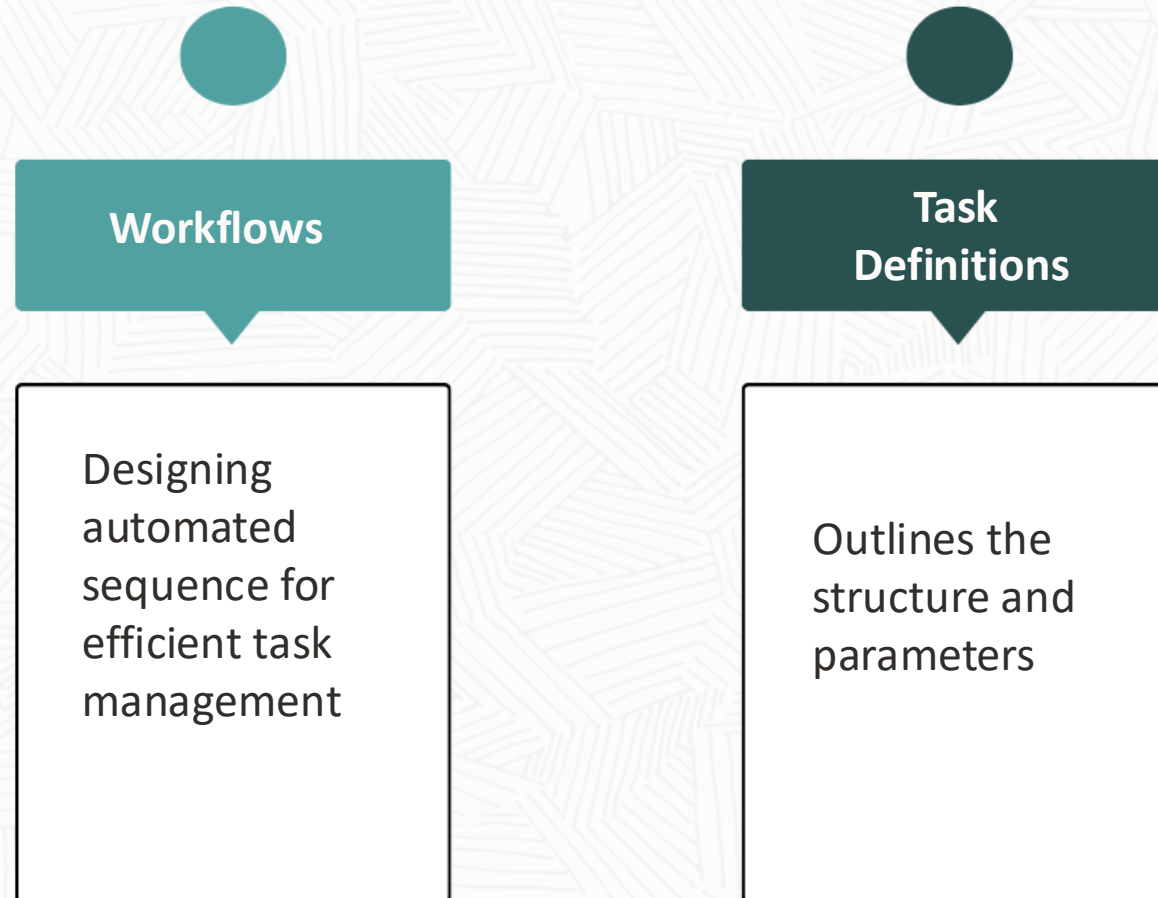
The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, 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

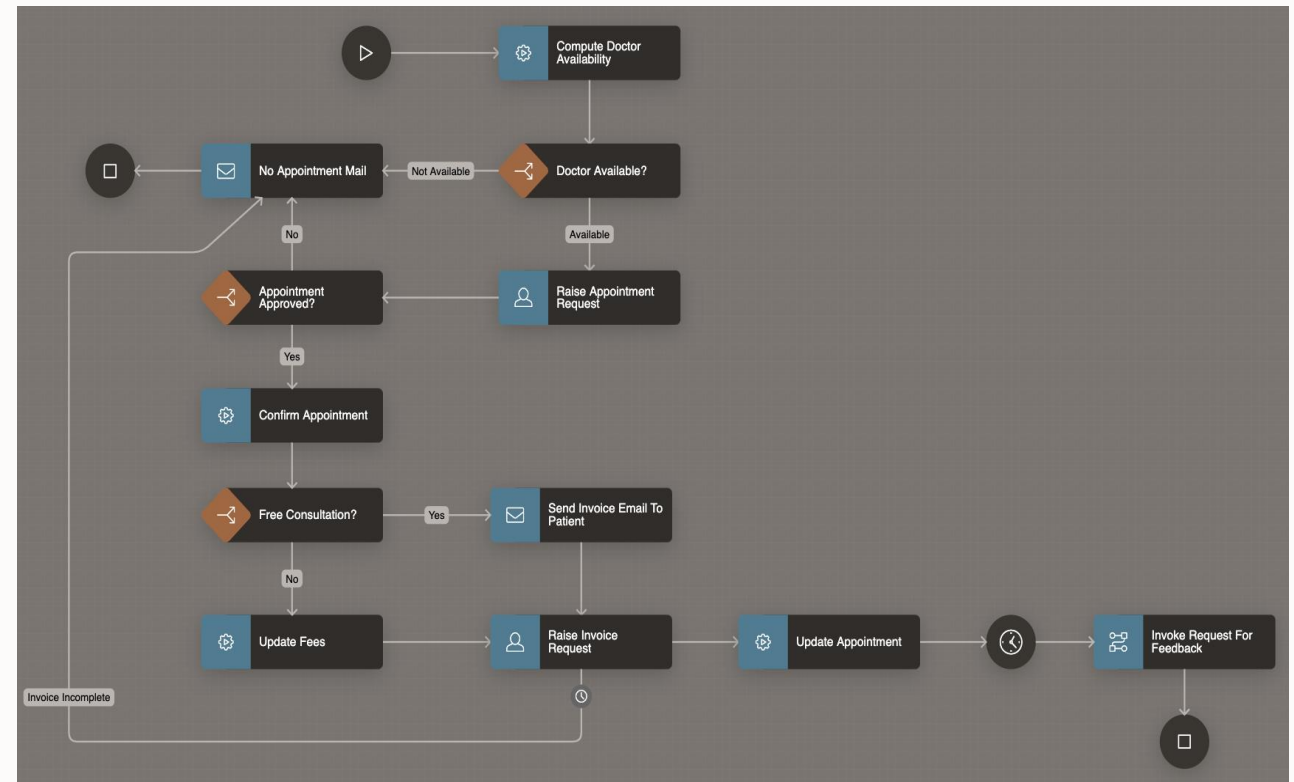
- Automate document review and approval processes.

\* 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

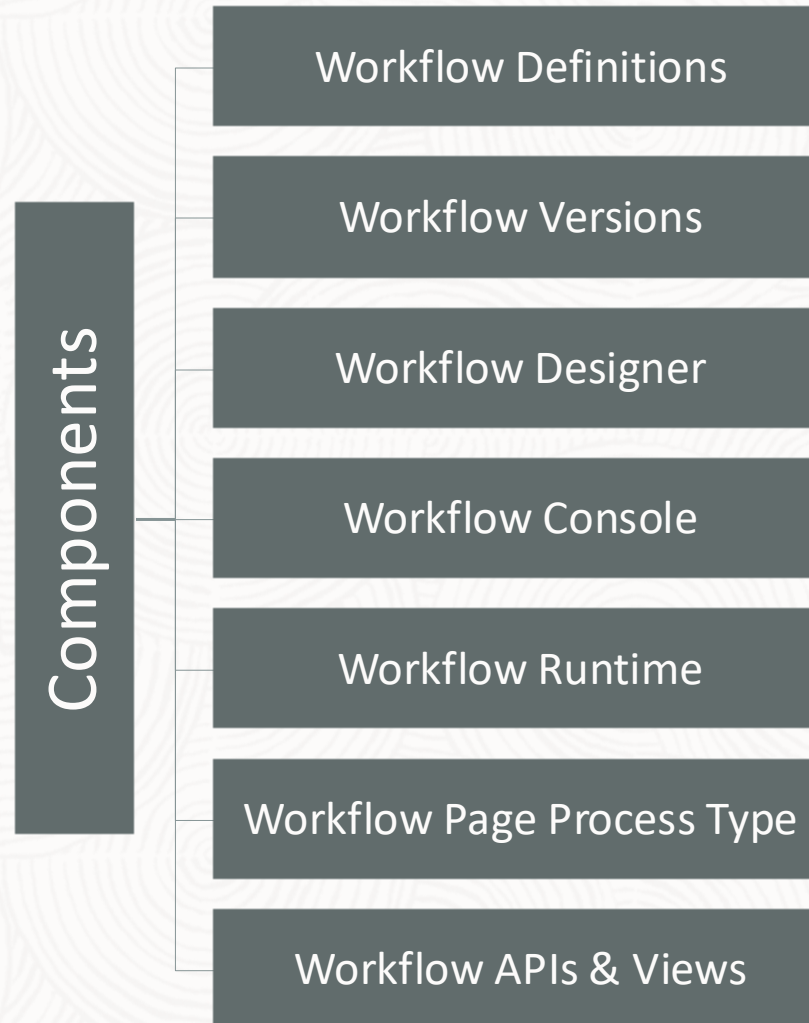


## Recovery Features

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

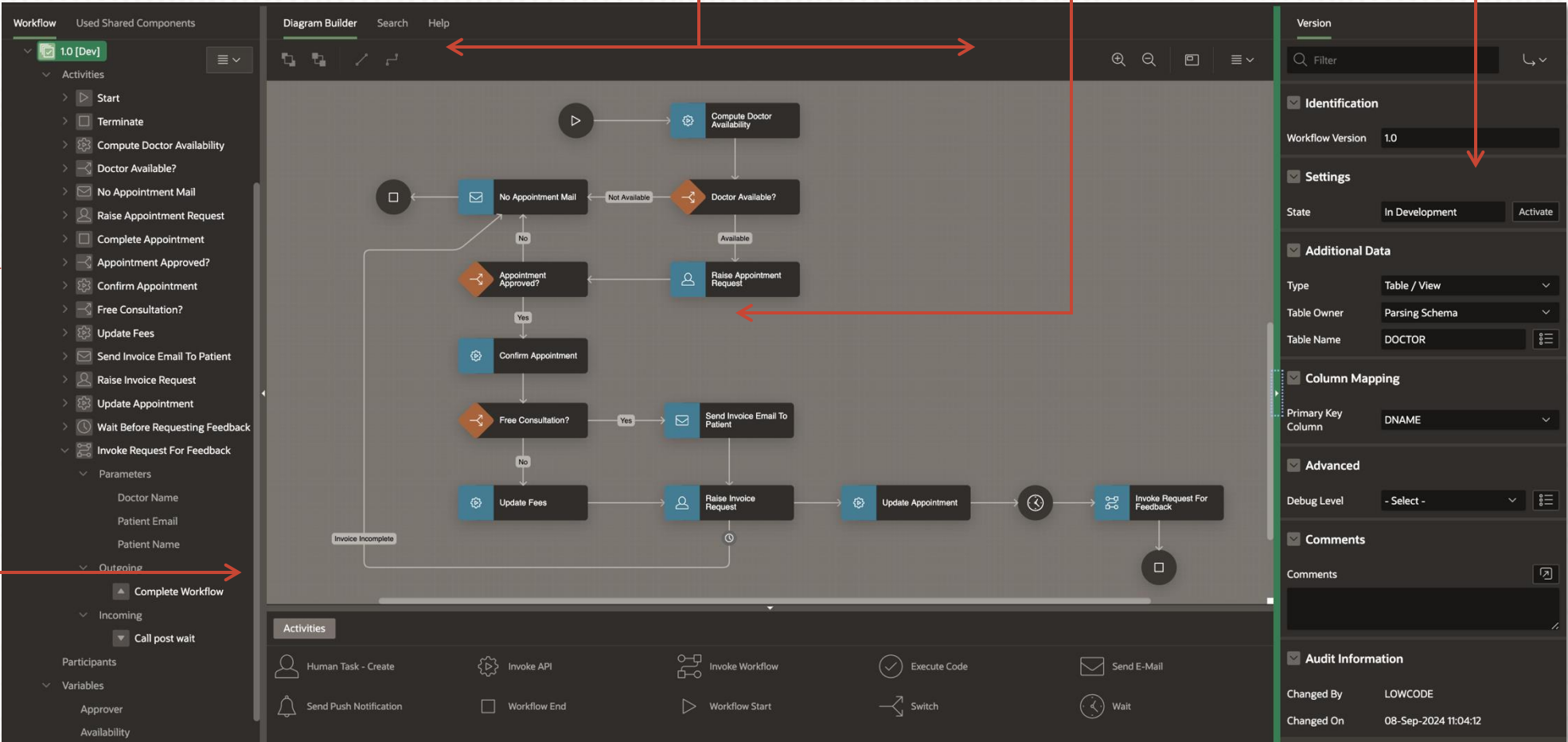
Diagram Control

Workflow Diagram

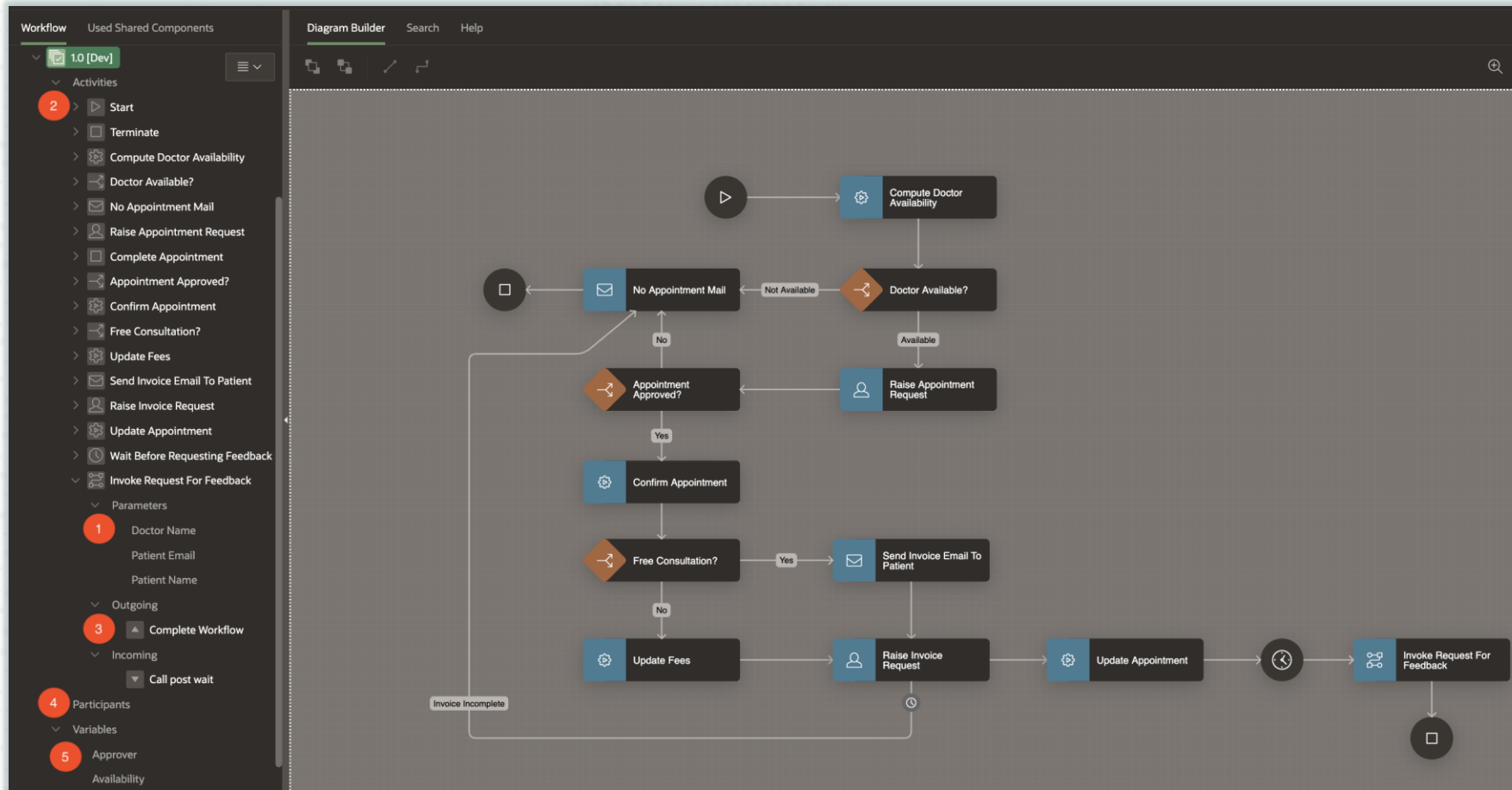
Workflow Navigation Tree

- Parameters
- Activities
- Variables
- Participants

Customizable Component Palette (Activities)



# Building Blocks of Workflow



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

# Workflow Activities

---

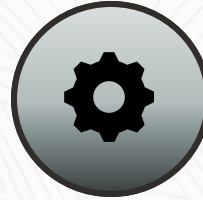
A workflow activity defines the tasks that APEX executes at a specific step in the workflow.



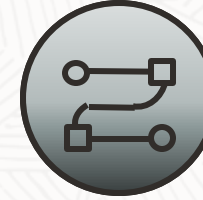
# Workflow Activities



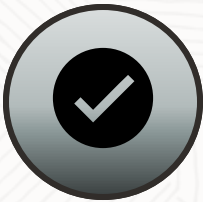
Human Task - Create



Invoke API



Invoke Workflow



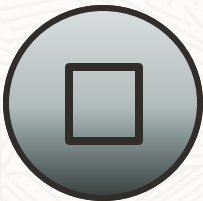
Execute Code



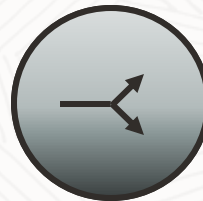
Send E-Mail



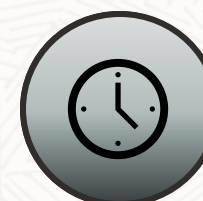
Send Push Notification



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*

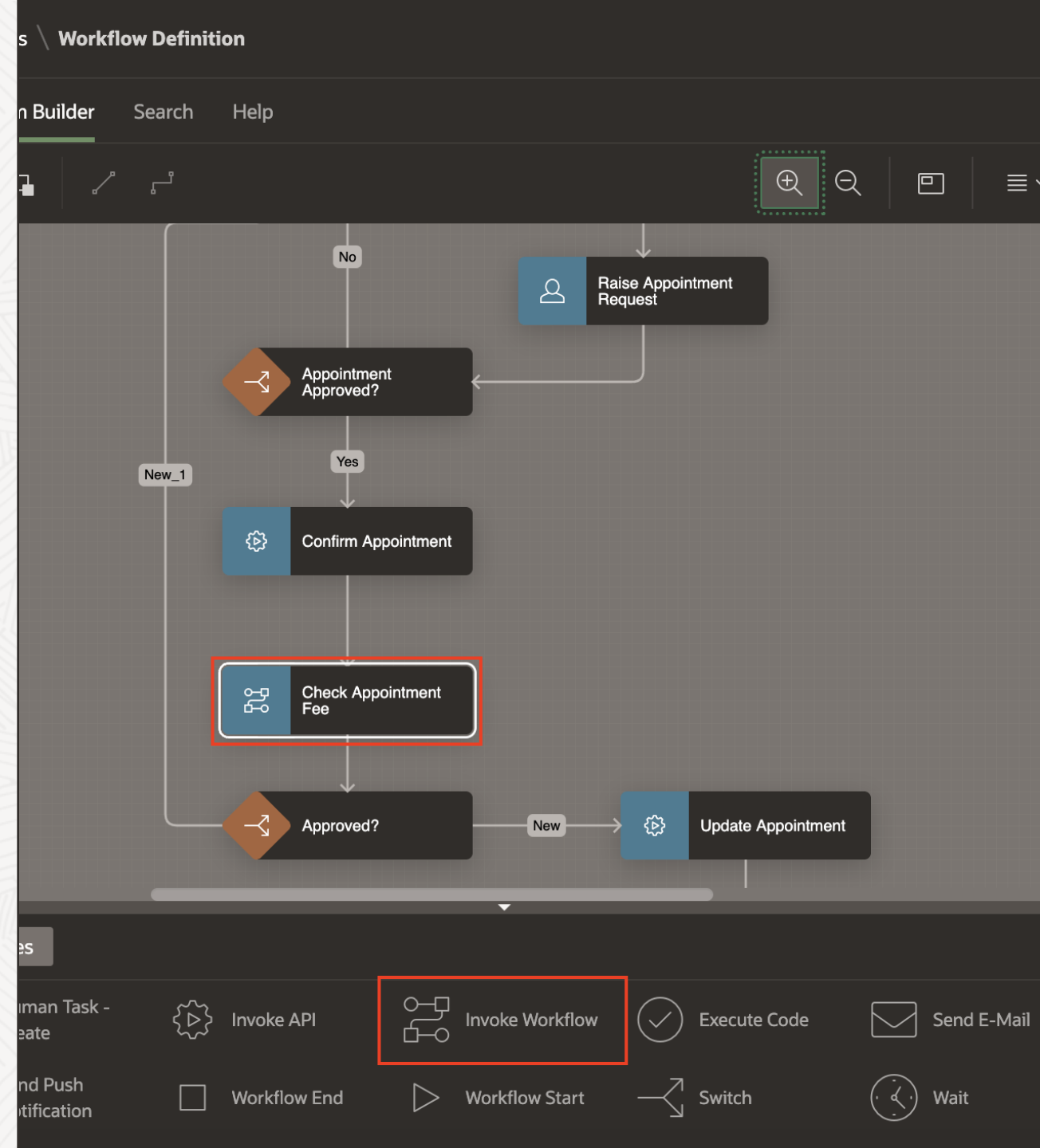
- *Initiated by me*



## 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



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



- 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



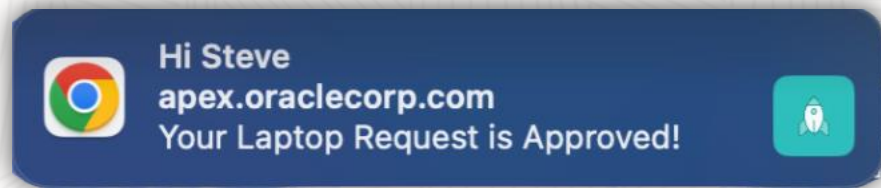
## Workflow Initiator

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

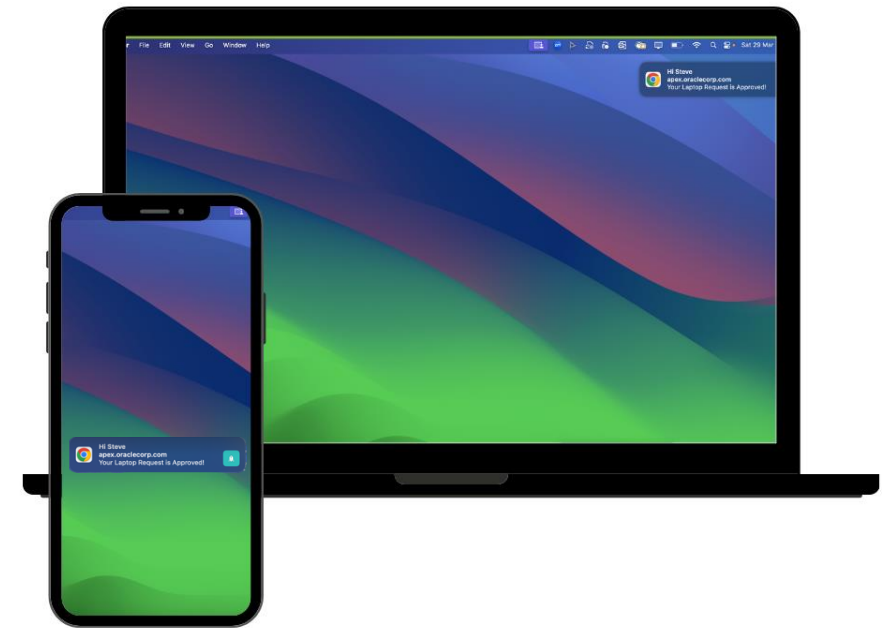


# Stay Notified, Stay Ahead: Real-Time Push Alerts in APEX Workflow

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

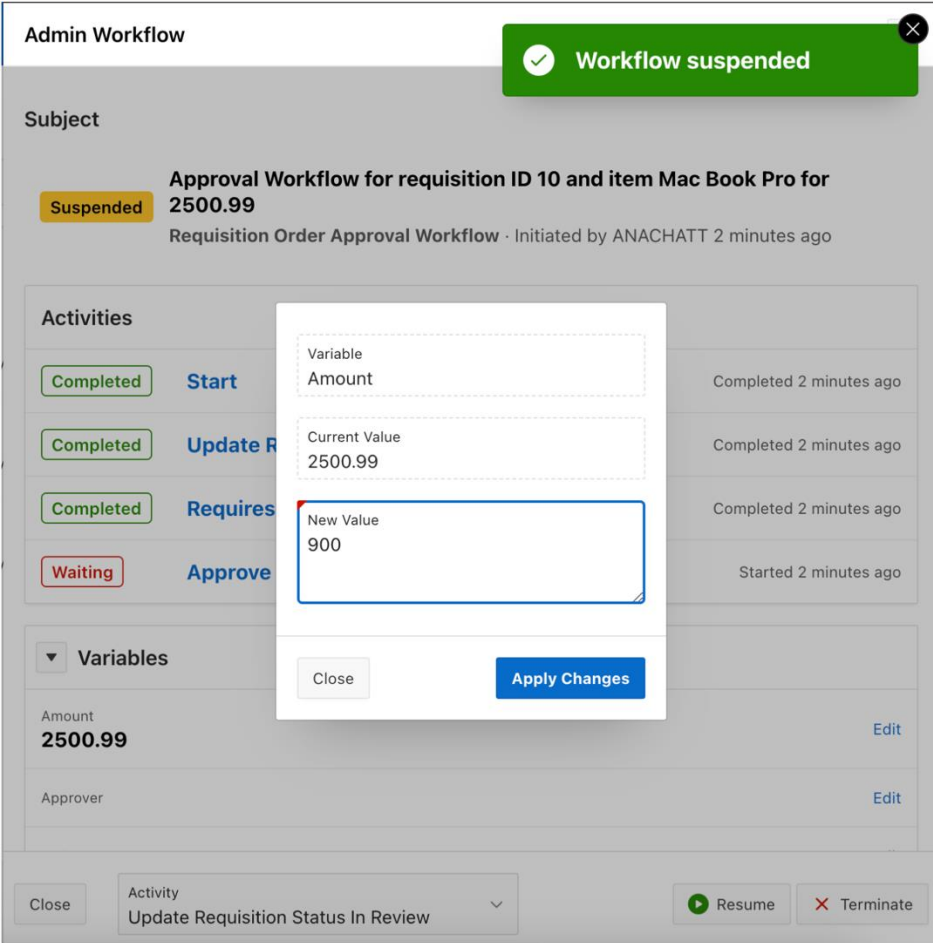


# Recovery Features



# Suspended Workflows

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





# Resume workflows from any activity

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

Admin Workflow

Subject

Suspended

Approval Workflow for requisition ID 10 and item Mac Book Pro for 2500.99

Requisition Order Approval Workflow · Initiated by ANACHATT 4 minutes ago

Variable updated

Activities

Completed

Start

Completed 4 minutes ago

Completed

Update Requisition Status In Review

Completed 4 minutes ago

Completed

Requires Approval?

Completed 4 minutes ago

Waiting

Approve Requisition

Started 4 minutes ago

Variables

Amount

900

Edit

Approver

Edit

Close

Activity

Update Requisition Status In Review

Resume

Terminate

Admin Workflow

Workflow resumed

Subject

Active

Approval Workflow for requisition ID 10 and item Mac Book Pro for 2500.99

Requisition Order Approval Workflow · Initiated by ANACHATT 4 minutes ago

Activities

Completed

Start

Completed 4 minutes ago

Completed

Update Requisition Status In Review

Completed 4 minutes ago

Completed

Requires Approval?

Completed 4 minutes ago

Terminated

Approve Requisition

Started 4 minutes ago

Completed

Update Requisition Status In Review

Completed 3 seconds ago

Completed

Requires Approval?

Completed 3 seconds ago

Completed

Update Requisition Status Auto Approved

Completed 3 seconds ago

Completed

Create Order

Completed 3 seconds ago



# Resume Workflows from any Activity

Doctor Appointments Made Easy!

### Monitor Appointments

Search...

Type **Calculate Fees** (9) State **Active** (9) Application **Doctor Appointments Made Easy!** (12) In

↓ Create Date

Suspended

Check Appointment Fee for patient RAJESH

Calculate Fees

Active

Check Appointment Fee for patient RAJESH

Calculate Fees

Active

Workflow for patient RAJESH

Doctor Appointment

Active

Workflow for patient RAJESH

Doctor Appointment

Suspended

Check Appointment Fee for patient RAJESH

Calculate Fees

Active

Check Appointment Fee for patient RAJESH

Calculate Fees

Active

Check Appointment

Calculate Fees

Form on Monitor Appointments

← To Parent Workflow

Suspended

Check Appointment Fee for patient RAJESH

Calculate Fees · Initiated by STEVE 6 minutes ago

Activities

Completed

Start

Completed 6 minutes ago

Completed

Free Consultation?

Completed 6 minutes ago

Completed

Update Fees

Completed 6 minutes ago

Waiting

Raise Invoice Request

Started 6 minutes ago · Due 24 minutes from now

Variables

Parameters

History

Workflow Diagram

Resume

Terminate

✓ Error Recovery

✓ Flexibility

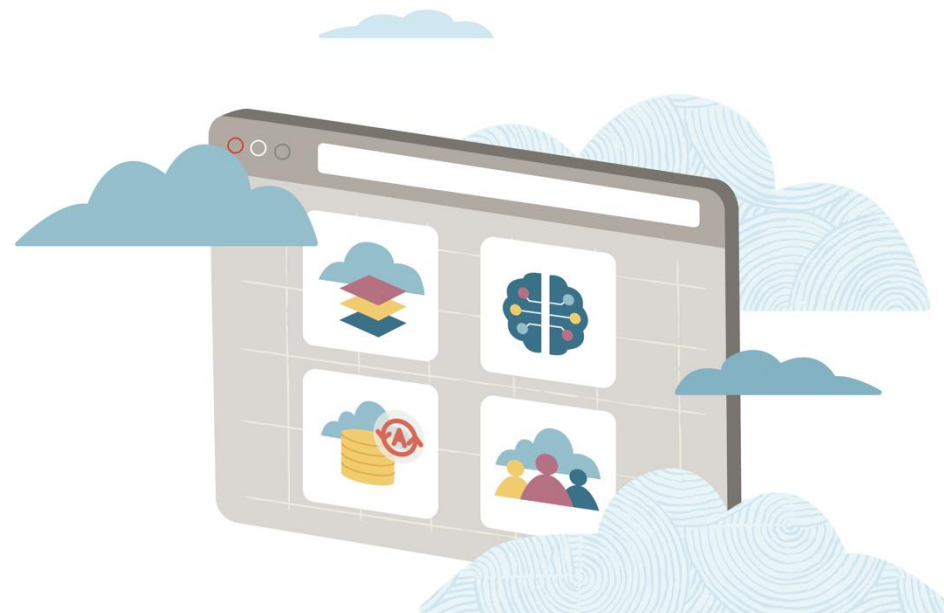
✓ Improved Efficiency

✓ Better Control

26

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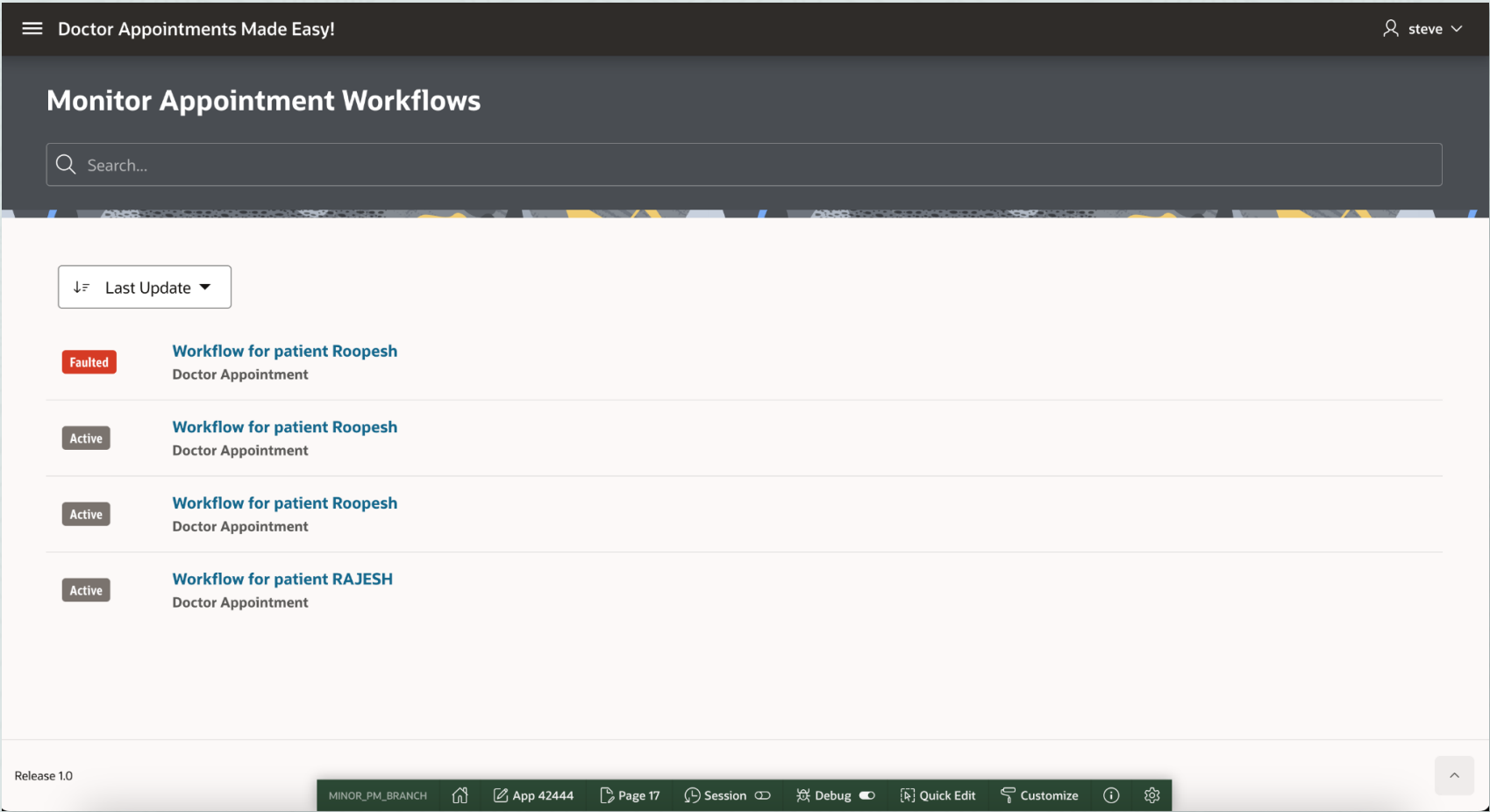
# Workflow Administration



# 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:

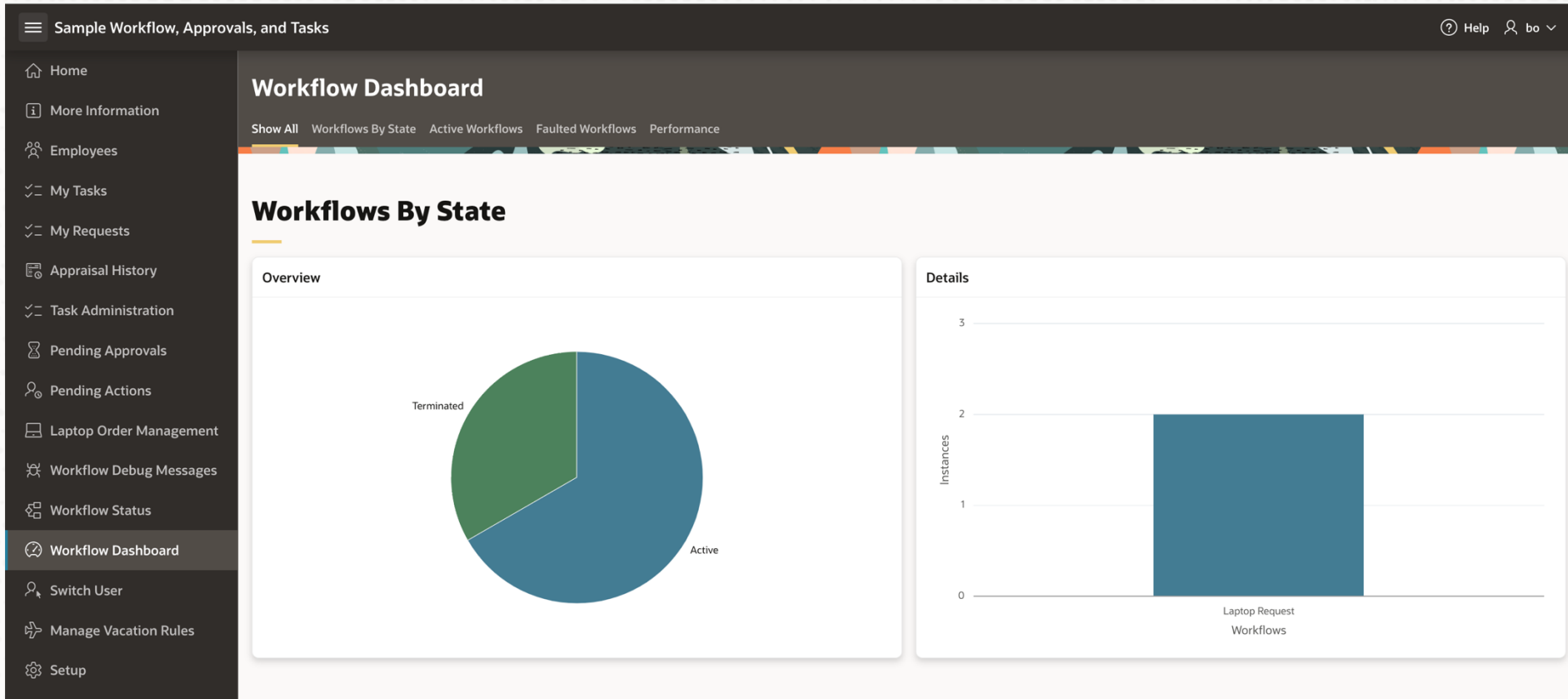
- **My Workflows**  
For Workflow owners
- **Admin Workflows**  
For Workflow administrators
- **Initiated by Me**  
For workflow initiators





# Workflow Dashboard Page

Workflow Dashboard Page features several tabs of information

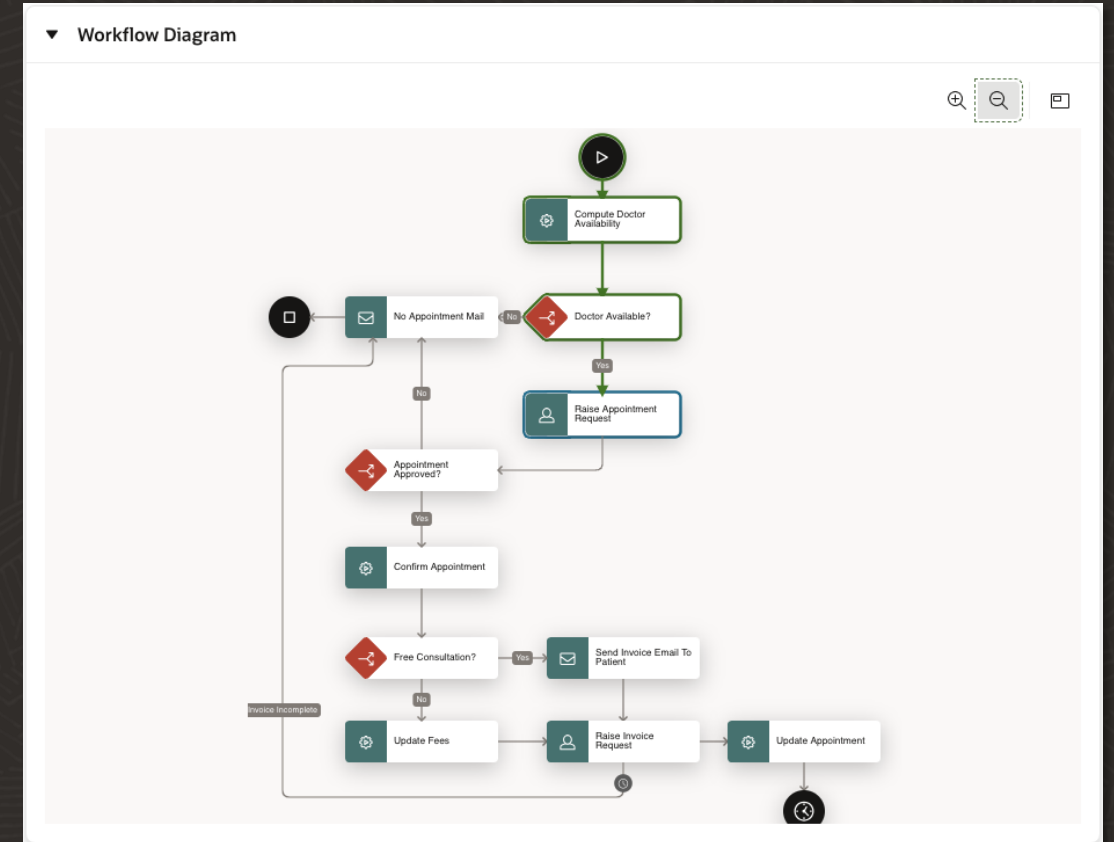


- Workflows by State
- Active Workflows
- Faulted Workflows
- Performance

# 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.



# Oracle APEX Training & Certification

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# Oracle APEX Training & Certification

[apex.oracle.com/go/training](https://apex.oracle.com/go/training)

## Learn Oracle APEX Foundations



Embark on your APEX journey by enrolling in the Oracle APEX Foundations course.

This 3-hour learning path is ideal for beginners looking for a general overview of APEX. Explore the core functionality of APEX such as the App Builder and SQL Workshop, and build your first cloud application with APEX on OCI.

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[apex.oracle.com/go/foundations](https://apex.oracle.com/go/foundations)

## APEX Developer Professional

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## Get Certified

[apex.oracle.com/go/professional-ai-lp](https://apex.oracle.com/go/professional-ai-lp)



# Summary

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# APEX WORKFLOW

## Summary

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- **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.



# Learn More...

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Primary site

APEX Shortcuts

APEX Community

Blogs

APEX on Autonomous

Database Cloud Services

Oracle APEX Education

Oracle APEX + AI

[apex.oracle.com](https://apex.oracle.com)

[apex.oracle.com/shortcuts](https://apex.oracle.com/shortcuts)

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[blogs.oracle.com/apex](https://blogs.oracle.com/apex)

[apex.oracle.com/autonomous](https://apex.oracle.com/autonomous)

[cloud.oracle.com/database](https://cloud.oracle.com/database)

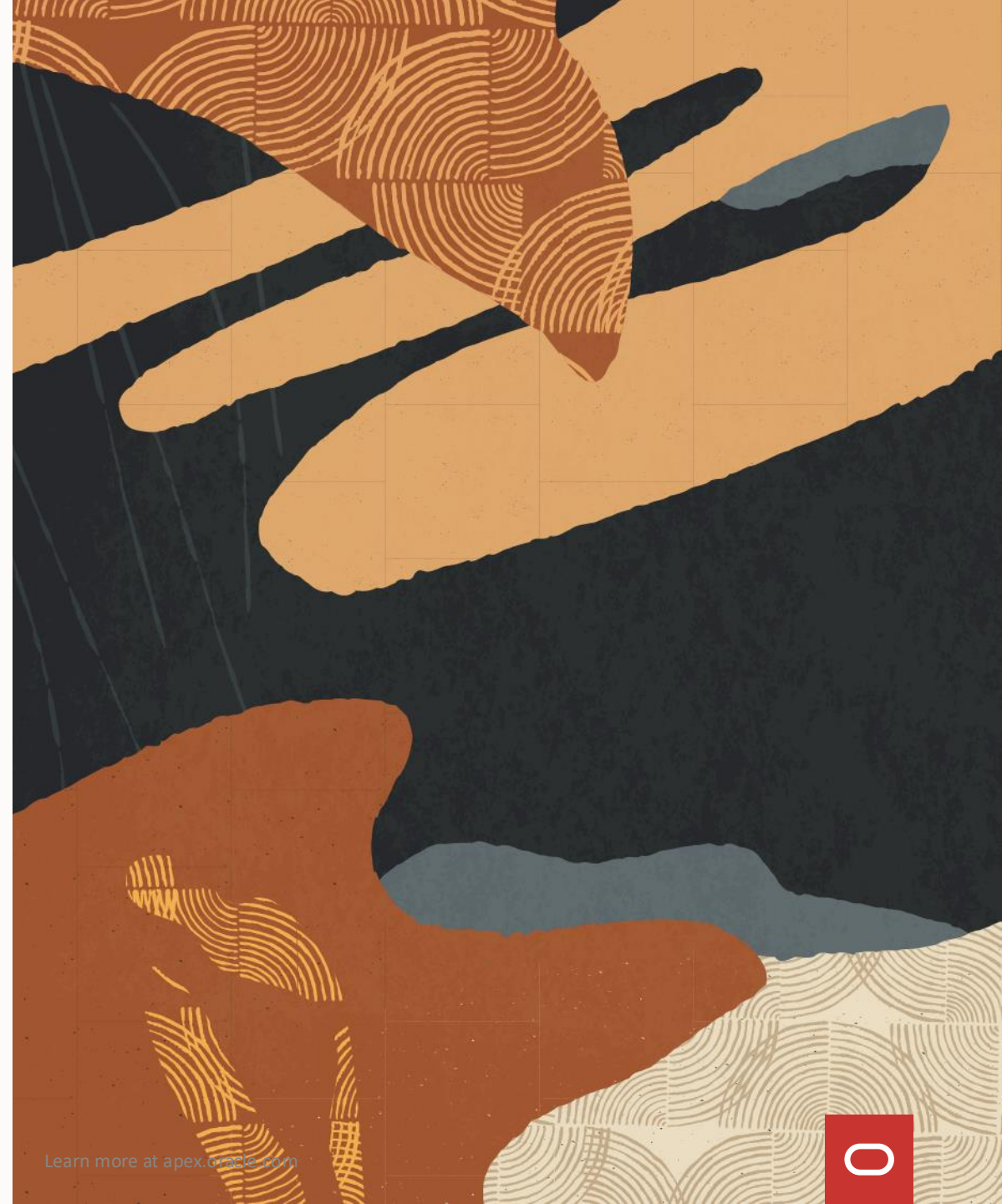
[apex.oracle.com/education](https://apex.oracle.com/education)

[apex.oracle.com/go/ai](https://apex.oracle.com/go/ai)



# Thank you

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data in new ways, discover insights,  
unlock endless possibilities.

