eBook

Oracle Forms to Oracle APEX

The 5 step migration path from legacy to modern applications

Including:
3 options for starting your application modernization

July 2023

PITSS
Simplifying Complexity

Who should read this?

This eBook is written for IT managers, enterprise architects, infrastructure administrators, technology executives - and anyone who directly or indirectly works with components from the Oracle Fusion Middleware suite, such as Oracle Forms.

From both a business and a high-level technical perspective, this eBook examines why and how to migrate from Oracle Forms to Oracle APEX and includes results from one specific use case.

Oracle Forms reached its limits years ago… now what?

For over four decades, Oracle Forms has been one of the world's most widely used application development tool for building enterprise applications that are tightly connected to the number one Oracle database. What was once celebrated as an innovation no longer corresponds to the state of the art, which thinks service-oriented and device-independent with responsive design or just cloud computing.

What are your alternatives?

Stay Legacy
If your Oracle Forms application is good enough for you and your future, runs well, is easy to maintain and doesn't anticipate business changes, then you may well stay with Oracle Forms. We recommend the latest Oracle Forms version 12c.

Migrate and modularize your App to APEX
If you need modern, powerful, scalable web and cloud-based applications, we recommend migrating to Oracle APEX as the natural successor to Oracle Forms, PL/SQL based, JS powered UI and the most awarded low-code platform of recent years.

Alternative 1: Stay legacy

Migrating to a new application technology is scary

Migrations are often highly complex and put critical data and systems at risk. With so much at stake, it's natural to be wary of migrating at all. If Oracle Forms seems to be doing enough of what you need for now or in future, it's easy to understand why staying legacy could be an option.

But let's take a closer look at the pros and cons of sticking with the status quo.

Pros
- **No new software to install.** Just continue with Oracle Forms.
- **No new learning required.** Stay with a technology and process you know.
- **Avoid migration risks.** Avoid problems like broken designs, queries, and security configurations.

Cons
- **Cost of maintenance:** No documentation available. Knowledge retires or disappears and the grown complexity in addition to technical debts ma kes any change or adjustment expensive.
- **You're technologically stuck.** Integration with modern software or modularization of the existing holds you back from innovating with new data sources, applications, and deployment techniques.
- **You could be stranded without help.** It will likely become increasingly difficult to find help when you need it as developers with experience or desire to work with old fashion products become scarce.

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Alternative 2: Modernize

Migrate your App to APEX

While avoiding a painful migration has obvious appeal, the reality is that alternative 1 is only delaying the inevitable. Migration is a matter of when and how, not if. And as we will show you, a controlled, proactive approach to modernization is the best way to reduce the risk of migration and enable your organization to safely develop more dynamically and capture new business opportunities.

Pros

- **APEX competes with the best. Easy to learn and highly efficient,** APEX offers a lightweight yet powerful architecture as well as cloud readiness, out-of-the-box REST API and mobile-ready JS frontend.
- **A low-risk migration.** Tightly integrated with the Oracle database, APEX can reuse much of the same business logic, components, and more as Oracle Forms.
- **Less costs.** APEX comes with the database and is royalty-free, so it can scale with your business needs.

Cons

- **Difficult to scope and hard to calculate.** In many cases, applications are old, grown and complex, making it difficult to determine the time and cost of a migration.
- **A lot of work.** You may need to rewrite the old code for each program, program unit or component and configure an environment that's compatible with the new system.

And the winner is...

Migration

Development „from scratch" devours enormous costs, can lead to the same problems of the past and it is not uncommon to run the risk of failure or even the termination of your project. On the other hand, everyone is rightly talking about sustainability and recycling. Migration, modernization, modularization starts right where you are, at a point that has been developed, tailored and matured over years to meet all your current business needs.

The functions and processes of your IT systems ensure that your company keeps running. Unless you plan to build an entirely different business, 60-90% of the processes implemented in your applications will cover the flows your business needs and make you successful.

If you take this into account, you hold in your hands a brilliant and unique concept „blueprint" of your business activities, which needs to be supported and supplemented in the future to make your company even more successful.

Modern applications require:

Cost awareness
- No costs for licenses, or upgrade fees
- Less maintenance
- Managed by smaller Teams

Flexible, open architecture
- Scalable and highly customizable
- CI/CD methods
- Use modern REST APIs
- Cloud ready

Features and Functions
- Authentication out of box
- Responsive design
- Browser independent

But modernization can be difficult!

Why is migrating to a new technology so hard?

Difficult to scope
Oracle Forms applications can consist of hundred and thousands of Forms. Each form is part of a gigantic structure of forms, functions, dependencies and data sources. With so many factors to consider the scoping process alone can be overwhelming.

Hard to select the right technology
Which technology is the best fit to replace Oracle Forms? How complicated, learning-intensive and costly is it? And how does it mesh with the entire system?

Painful to execute
Once scoping is complete, the process of transforming your existing Forms application to the new solution begins. Most expect a primarily manual effort. This often causes errors and takes much longer.

No margin for error
The application is needed day by day and cannot fail due to the migration. The migration must be done seamlessly. Errors could have catastrophic consequences - up to the total failure of the application.

Concerns about never ending projects
Set up as a pure consulting project and processed in manual steps, a migration can easily be never ending. Often, different teams are at work again and again. This does not allow the project to be completed successfully.

What do you need to master all difficulties?

Methodology of proven and reliable processes

If you want to migrate successfully, that is, in time, in budget and in that quality you expect, then you should use a proven methodology that combines knowledge and products in such a way that you are always on track and a part of the migration right from first day!

Automation

Cars haven't been built by hand for decades, why your IT? Automation makes sense where quality is required and where processes or work steps are repeated. Automation allows experts and teams to recognize, decide and implement much faster than just consulting.

Expertise

For successful modernization, whether as a separate micro-service or the entire application in a „phased approach", migration knowledge and experience are elementary for successful implementation.

Confirmation of success

Ask for references that have been successfully migrated to your desired architecture, functionality and at reliable prices. Learn from others who have had this experience and choose your migration partner carefully.

Why PITSS?

PITSS is an awarded specialist in the digital transformation of legacy Oracle systems.

With a combination of smart and powerful products and technical expertise from so many successful projects, the PITSS team has been supporting or migrating customers from Oracle Forms to Oracle APEX for years. This should make it easier for you to meet all your expectations right from the start.

Expertise – proven best practices

PITSS is prepared for your migration through extensive experience from many difficult and challenging migrations around the world in the last decades.
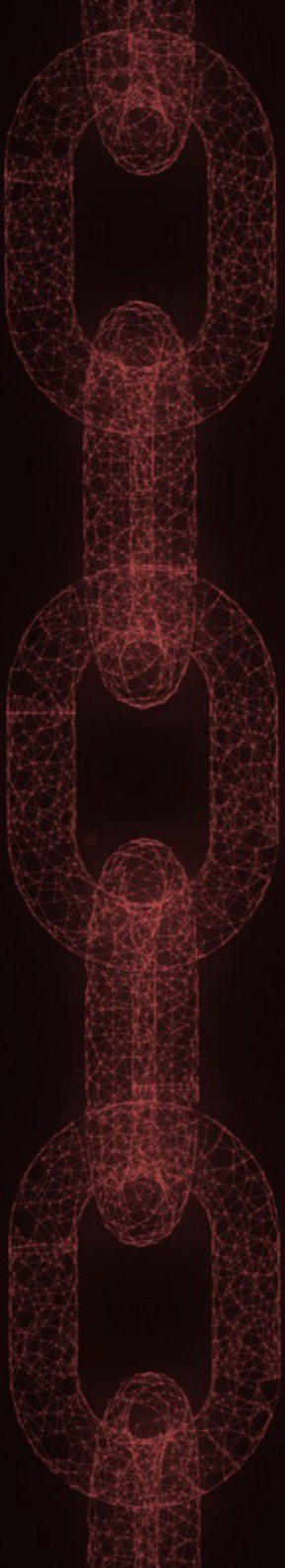
Products – automation

Intelligent, highly automated products (not just a script) with a wide customer base are easy to learn and use for you or partners to significantly reduce migration time with maximum flexibility and remarkable quality.

Innovation – awarded

PITSS was once again awarded by the German Ministry of Research in the IT sector for innovative approaches that independently identified business processes and focused on partially automated modernization.

Success – always on track

Start with an extremely precise analysis to put your project on a measurable track from the start. With such a mature and proven methodology, failing is not an option.

Why APEX?

APEX is Oracle's strategic low-code application platform that enables you to build scalable, secure enterprise apps, with world-class features, that can be deployed anywhere – whether in the cloud or on-premises. APEX is used for business applications by thousands of customers worldwide, it's easy to get started!

Web Dev Platform – managing the most
APEX manages all of the mundane aspects of Web app dev, like security, session state management, concurrency, data persistence, full-responsive design, mobile-ready by default and more.
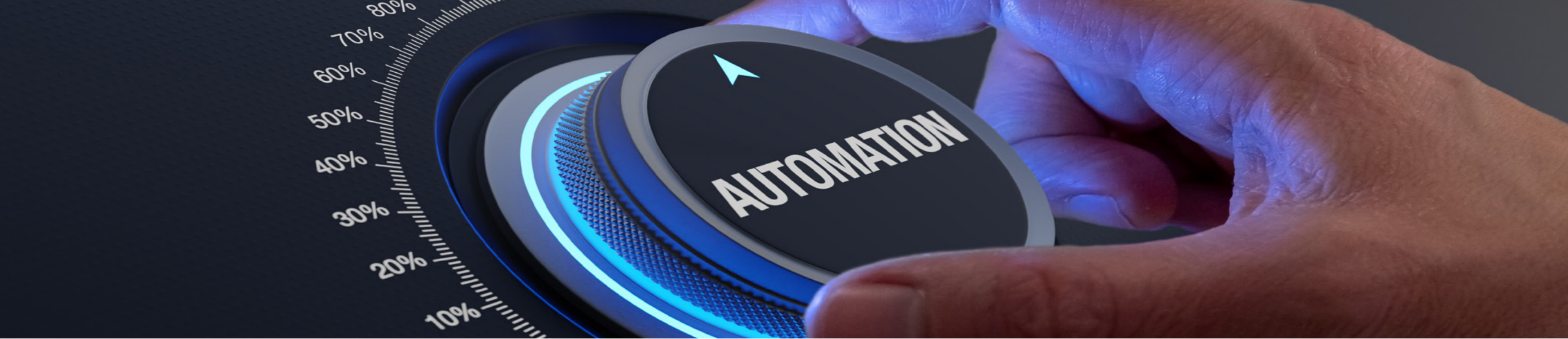
RESTful Integration – easy o connect
Using APEX and Oracle REST Data Services (ORDS) developers can readily expose and/or consume RESTful Web Services.

Fast learning curve
APEX is extremely fast to learn and your results get into production much faster than any mix of open source components. It's powerful Low-Code.

Close to Oracle Forms
Oracle Forms customers readily adapt to the Oracle APEX app dev experience, and as a bonus, you can easily reuse all of your existing SQL and PL/SQL!

FORMS 2 APEX
MODELER

Success in just 5 steps

Based on well mature, and highly efficient automation software combined with decades of migration experience across the globe, PITSS has successfully established a proven, product-based methodology that delivers its promises on time, on budget and on quality. Products and methods can be quickly learned by your team or your partners or used by us to make your migration transparent and successful right from the start.

The methodology covers the entire migration path, nothing will be forgotten and is able to meet all known and unknown challenges when your company moves from Oracle Forms to APEX. The process is well defined in a five-step plan where each step brings improvements and closer to your desired target.

The right ingredients:
- accurate numbers
- knowing each code and object
- planning support
- burndown charts
- project control
- rapid prototyping
- highly adjustable
- continuous improvements
- transparency

- and many more...
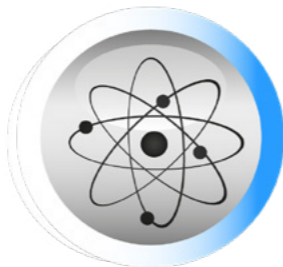
5 step migration process

1. ANALYSIS

Provides a 360 degree view of the application code as well as the defined project scope, work steps and its costs.

2. PREPARATION

Code refactoring eliminates technical debt and reduces code by up to 40%
- restructures and optimizes logic for the upcoming migration.

3. MIGRATION

Well prepared and with many preset parameters for UI, core logic and architecture, it goes into the migration per form or in groups.
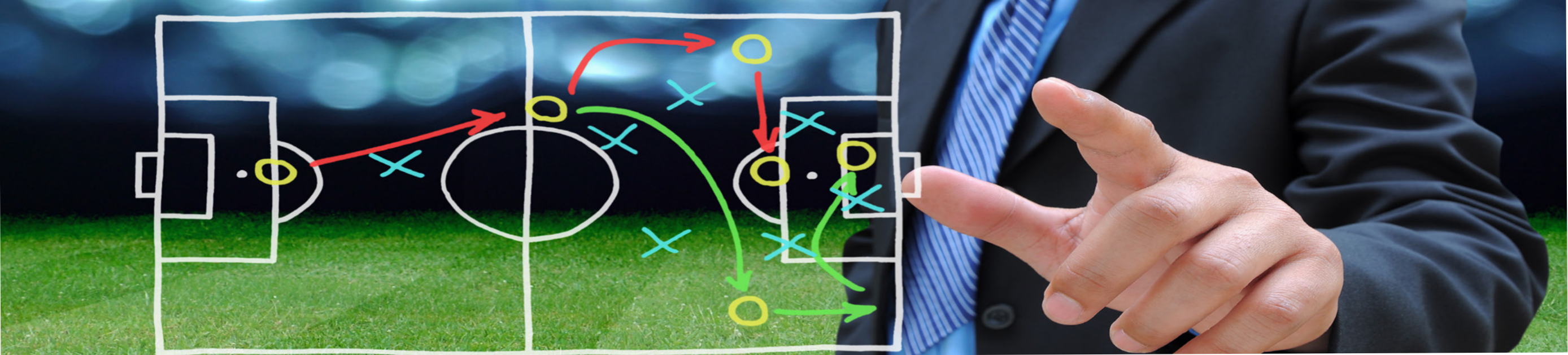
4. FINE TUNING

Refine the outputgenerated with high andconsistent quality, closely guided by gapless checklists and specific code documents.

5. ROLL-OUT

Fast delivery in sprints for testing and integration. Customer acceptance and satisfaction in one.

1. Analysis

In step 1, the Analyzer of PITSS.CON products is used to perform a comprehensive analysis of your existing Oracle application and its environment, detailing code optimization with a reduction of up to 40% and the remaining scope and effort for the entire migration.

Scope of work

- Load and parse all programs, libraries, scripts, DB schemas… related to your APP
- Visualization of dependencies, code usage, object calls
- Identification of contaminated sites
- Determination of the functional focal points for cluster formation
- Detect all migration problems

That's the basis of a goal-oriented decision-making workshop and process.
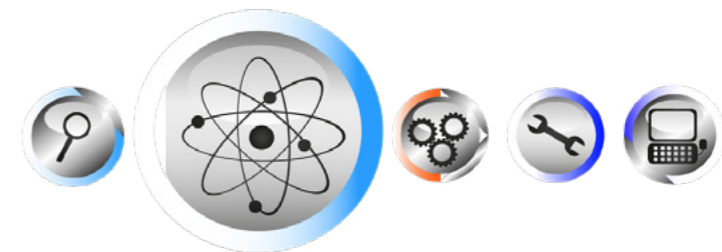
2. Preparation

In step 2, the Engineer of PITSS.CON products is used to optimize and to strip the existing application code down, so that a cleaned, structured and essential foundation remain for the migration.

Scope of work

- Migration scope and work definition
- Cleaning of unused and redundant code and objects
- Business logic analyzed and adapted to target environment
- Code refactoring for an optimal migration
- Business process identification for a process-driven migration by cluster
- Documentation of changes made by PITSS.CON and what remains to be done

That's the basis for a automated migration to generate exceptional quality.

3. Migration

In Step 3, the magic happens. As soon as the application has been analyzed, prepared and designed, parameterized, intelligent automatisms take over. According to the project's target definition, the architecture is shaped and the core functions of the application are built and underlaid for generation.

Scope of work

- Implementation specific add-on prepared
- Cross functionality are set up and structured
- Coding and programming guidelines considered
- Architectural Design Defined - Cluster Cut
- PITSS products are parameterized
- Cluster-wise migration to APEX
- Feedback loops (quality checks)
- Documentation

That's the basis for a guided, well-documented manual finalization.

4. Fine-tuning

In step 4, the generated APEX application is taken and finalized using guiding documentations so that the application looks and navigates as intended. For testing, code reviews and corrections programs are implemented in a new, clean and organized environment. The amount of fine-tuning required depends on the complexity of the application or sub-application.

Scope of Work

- Backlog is build
- Project management tool like Jira is initiated
- Burn down charts in place
- Tickets assigned to the team
- Working documents and checklists are generated

Thats the basis for targeted, in time delivery.

5. Roll-out

Step 5: Are you ready to get the acceptance and buy-in of all project members? Move the fine-tuned app to a valid test server for unit testing to integration testing as the last step of the migration. The Oracle Forms to APEX migration is complete and you can now deploy the new application in your production environment or ship it to your customers.

Scope of work

- Deployment pipeline
- Perform all tests to ensure everything is working as expected
- Roll-out APEX environment to production server

That's the basis for success.

And how to get started?

Here are some options of the smartest and most chosen starting points for Oracle Forms to APEX!

Analysis

**to get neccessary
facts & figures**

of your migration project.

Identify your real efforts with
timelines and budget to a variety
of options for your
migration challenges.

Hands On

**to understand the
technical challenge**

in a live experience workshop.

Invest just a few days and
experience a transition based on
your source.

Assessment

**of application, infrastructure
and your business**

to make a decision.

Get a grip on your modernization
odyssey
from a company perspective.

Use Case:

Unrivaled software products and services for public sector

Savantage Solutions is a premier provider of consulting, technology, maintenance, and operational support services and solutions to federal state, and local governments. The company is fully committed to the Oracle technology stack. To provide leading edge solutions, only the latest versions and technologies from Oracle are used.

Request
- Oracle Forms to APEX Migration

Motivation
- Business philosophy of staying in alignment with Oracle's path to provide leading edge solutions to customers.

Conditions
- Reliable calculation of the migration effort
- Best practice migration method
- Product based migration
- Guided by an Oracle valued partner

Migration process - product-based
- Analysis
- Pattern recognition
- Goal definition
- Calculation of work
- Stage approach
- Migration of entire application
- Tests and roll out

Listen to our webinar

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Talk to us

about your Forms to APEX migration project

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