



Artur Habel
Prokurist



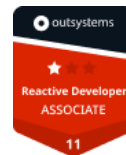
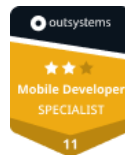
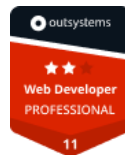
Martin Henning
Senior Consultant



Frank Wiele
Senior Consultant



OutSystems Fast-Start Workshop als Online-Training



Vorstellungsrunde

- ✔ Name
- ✔ Firma
- ✔ Job / Rolle
- ✔ Erwartungen

What you'll learn today



- agentbase: about us
- Low Code
- OutSystems Overview
- **Hands on: Build a web application (1+2)**
- Great UI - Meet Outsystems UI
- **Hands on: Build a web application (3)**
- Integration Live Demo
- **Hands on: Build a web application (4)**
- Live Demo
- Lunch
- Mobile Positioning
- **Hands on: Build a mobile app**
- Mobile Live Demo
- Operations
- Architecture & Security
- Next Steps
- Q&A, Feedback



agentbase: Über uns



Business Process Management



Robotic Process Automation



Low-Code Development

Über uns

Unser Werkzeuge für vielseitige Möglichkeiten

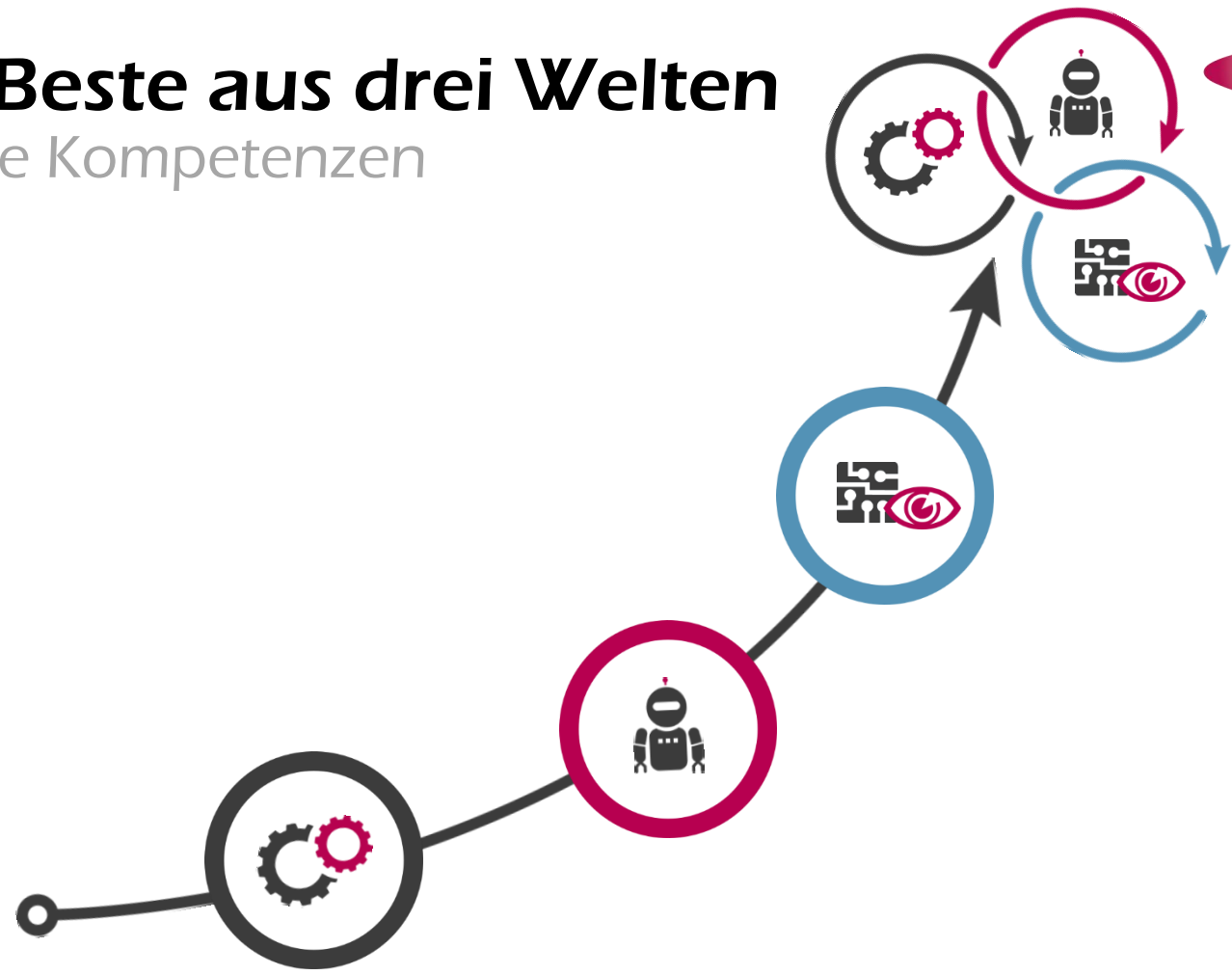




Über uns

Das Beste aus drei Welten

Unsere Kompetenzen

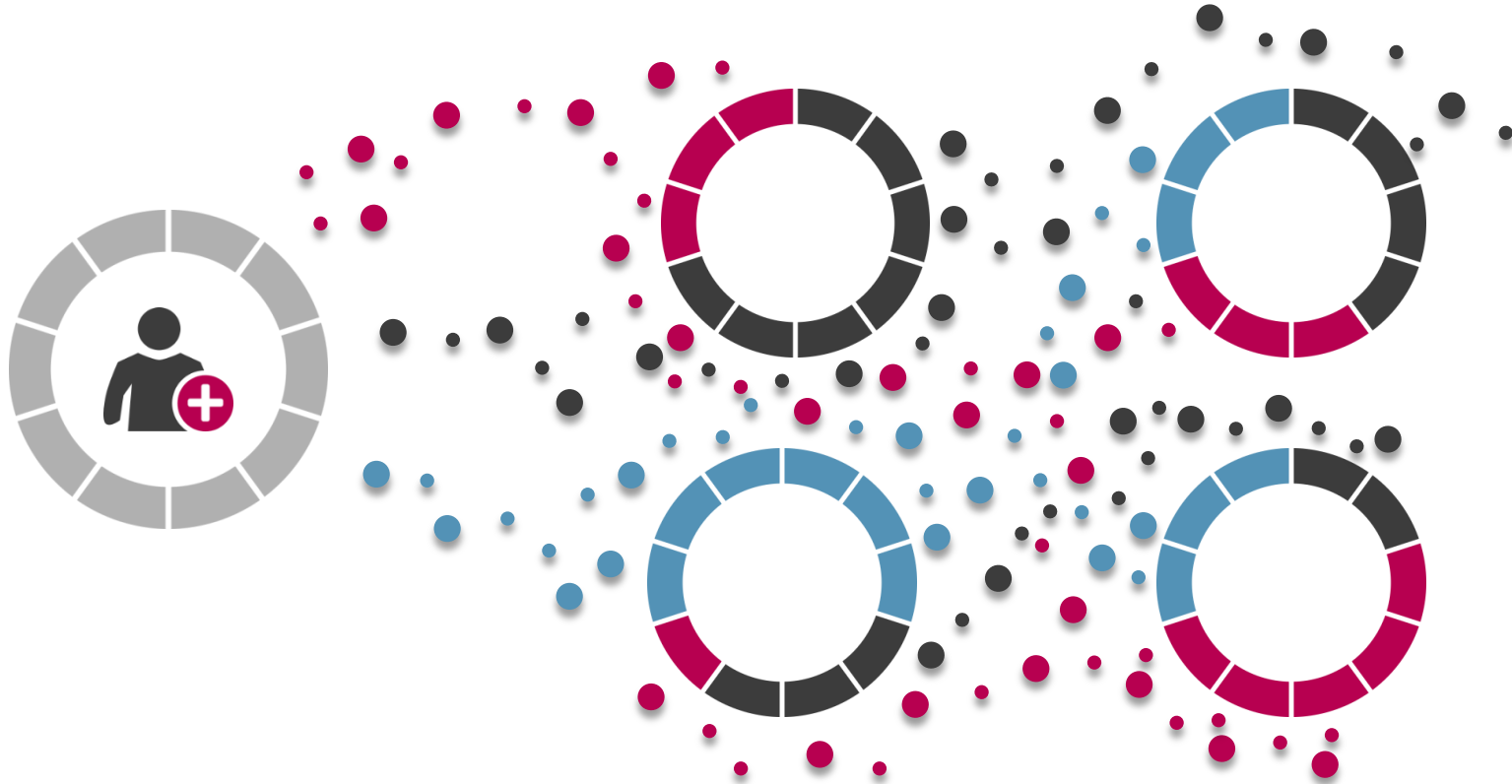


Das unterscheidet uns

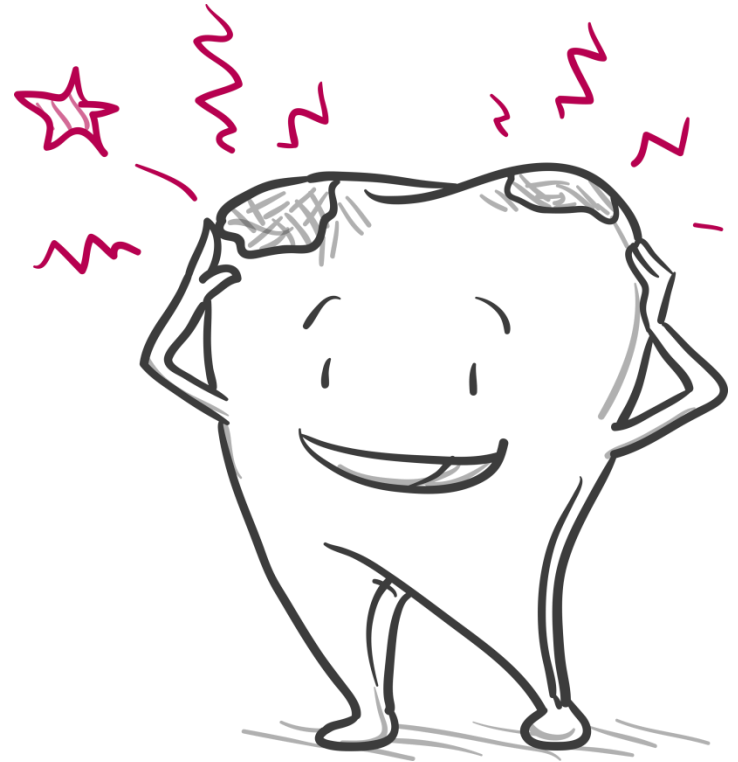


Unsere Lösungen sind individuell

wie unsere Kunden



Ihre Motivation / Ihr Schmerz?





Business Process Management

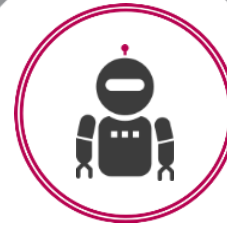
Business Process Management

Dokumentation

Automatisierung

Optimierung

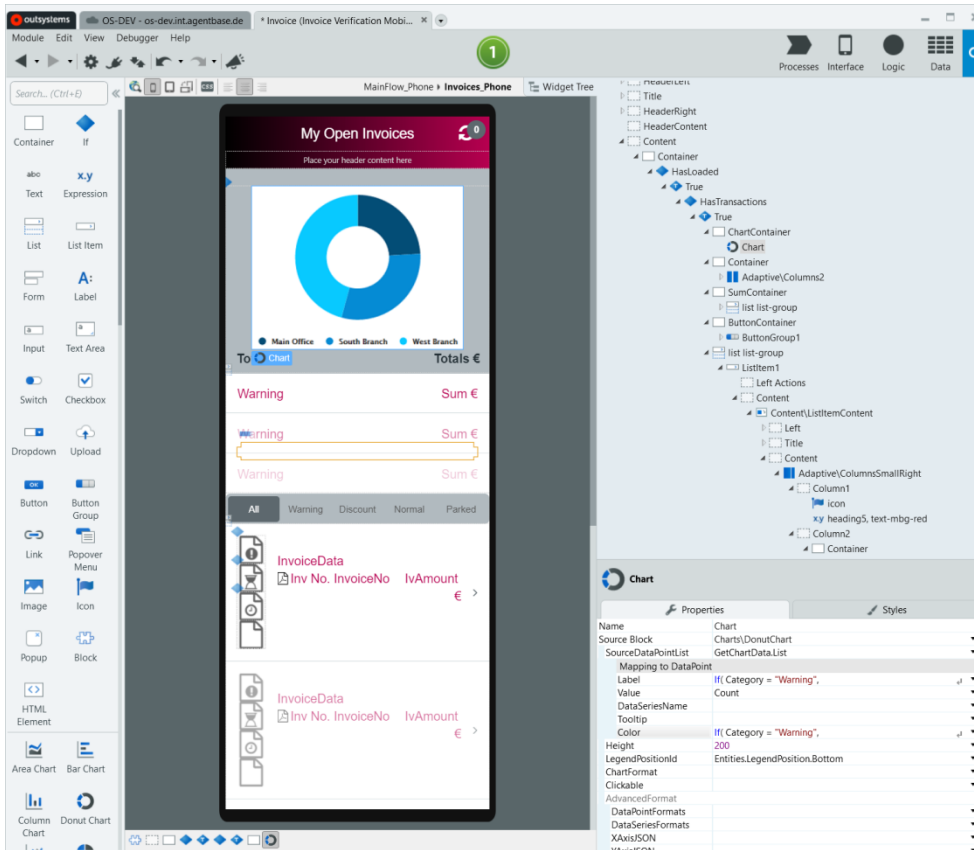
Ergebnis



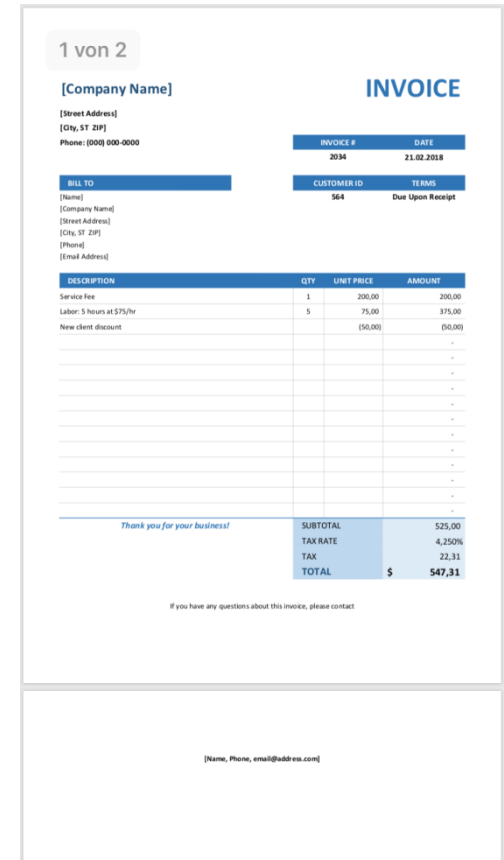


BPM Einsatzbeispiele

Scenario 1: Mobile App / Rechnungsgenehmigungs-Workflow



User Interface in the OutSystems ServiceStudio



Scenario 1: Mobile App / Rechnungsgenehmigungs-Workflow



My Open Invoices 0

Warning: 3

● Warning ● Discount ● Normal ● Parked

Totals 36.748,52 €

Warning 13.048,42 €

Discount 388,00 €

Normal 22.579,06 €

Parked 733,04 €

All Warning Discount Normal Parked

Customer Name, 12345 City Name
Inv No. 1912041 474,81 €

Invoices Sync Settings

Dashboard with my open invoices

My Open Invoices 0

Customer Name, 12345 City Name
Inv No. HQ120190041 11.900,00 €

AA TEST MH App, 33106 Paderborn
Inv No. 14786 673,61 €

Customer Name, 12345 City Name
Inv No. 228411 388,00 €

Customer Name, 12345 City Name
Inv No. 2019-03-0010 339,15 €

Customer Name, 12345 City Name
Inv No. 2019032704 416,50 €

Customer Name, 12345 City Name
Inv No. 4000349867 17.850,00 €

Customer Name, 12345 City Name
Inv No. 87H19000005 3.973,41 €

Customer Name, 12345 City Name
Inv No. 19605580 333,20 €

Invoices Sync Settings

My open invoices view

Invoice

ATTENTION: REMINDER - Please complete this activity as soon as possible!

Attachment
Invoice.pdf

Activity
Invoice Approval

Invoice Number
14786

Invoice Data
AA TEST MH App, 33106 Paderborn

Inbox Date 18.03.2019 Gross Amount 673,61 €

Invoice Date 13.03.2019 Net Amount 566,06 €

Booking Date 13.03.2019 VAT 107,55 €

Booking Text

Invoices Sync Settings

Invoice details

Positions

1. Position of 2

Account - Cost Center 11100600

Project
Services

Artikel No. 123456 Cost Unit 5

Budget Position 1 Year 2019

Amount 23,56 €

Customer
AA TEST MH App, 33106 Paderborn

Invoices Sync Settings

Position details

Invoice

18.03.2019 107,55 €

Booking Text
AA TEST, Re 456

Positions
1. Services 23,56 €
2. Kfz-Software

- Decision open -

Decline

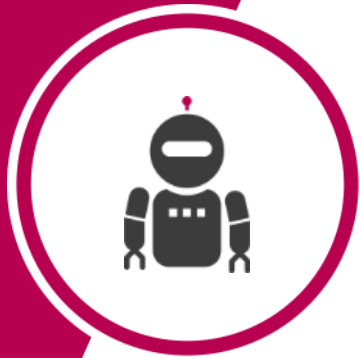
Approve

Adjust

- Decision open -

Invoices Sync Settings

Invoice approval



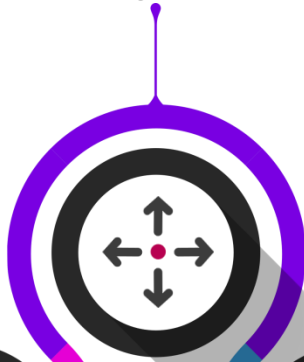
Robotic Process Automation

Robotic Process Automation

Sammelt Daten



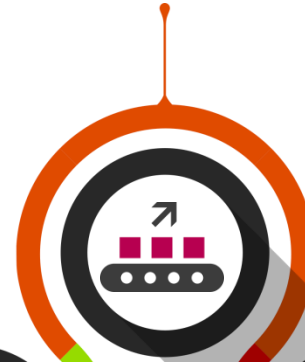
Bewegt Daten



Beschleunigt
Integrationen



Erhöht
Durchsatz



Validiert Daten



Reduziert Fehler



Reduziert
Entwicklungskosten

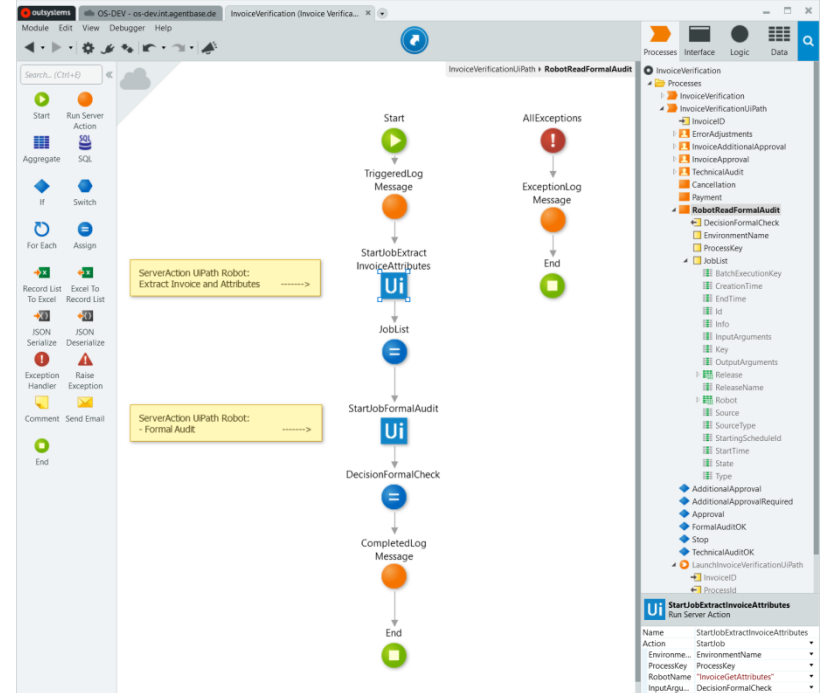
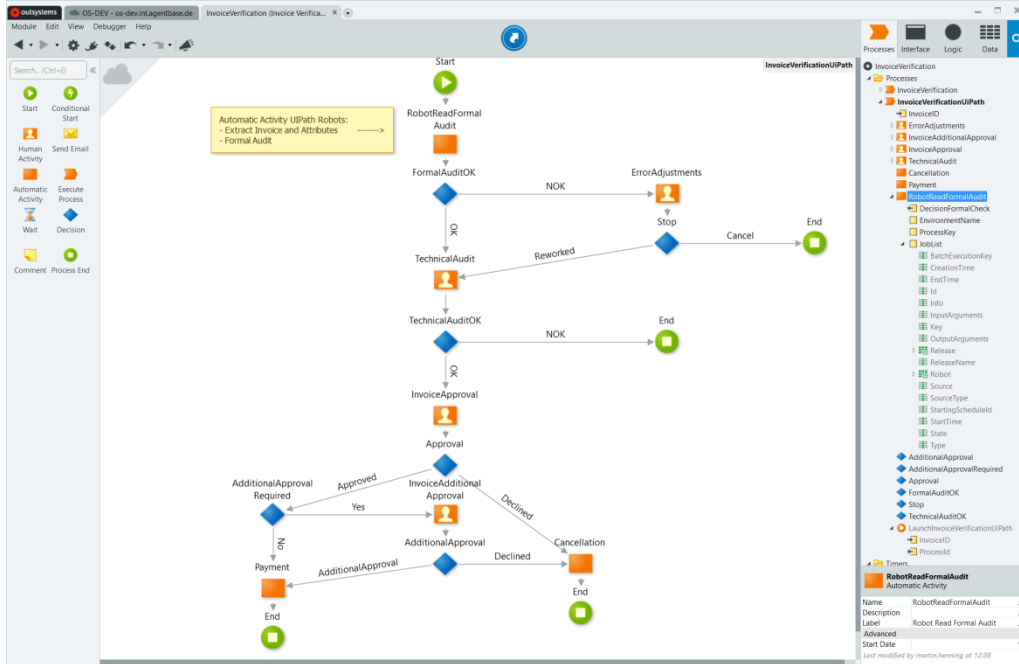


Automatisiert
Prozesse



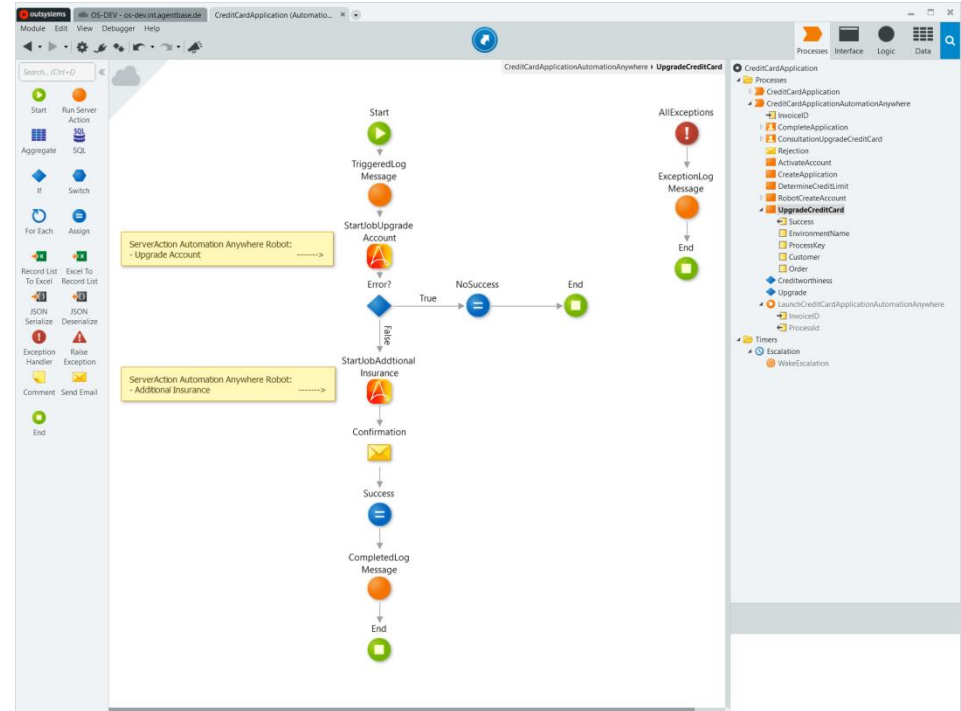
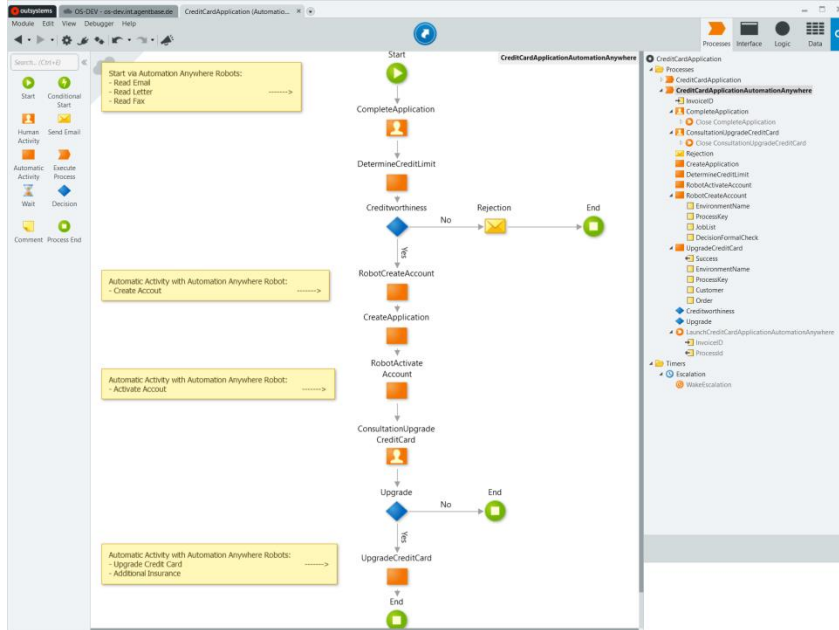
RPA Einsatzbeispiele

RPA Scenario 1: Rechnungsprüfung mit UiPath Robots



Invoice verification with UiPath Robots - Details Automatic Activity 2
UiPath Robots

RPA Scenario 2: Kreditkartenantrag mit Automation Anywhere Robots



CreditCardApplication with Automation Anywhere Robots - Details Automatic Activity with 2 Automation Anywhere Robots



Low-Code Development

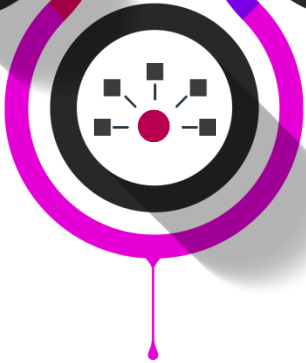
OutSystems Plattform im Überblick

Unschlagbare
Geschwindigkeit

Hohe User Experience

Eingebaute
Sicherheit

Unverwüsterlicher
Einsatz



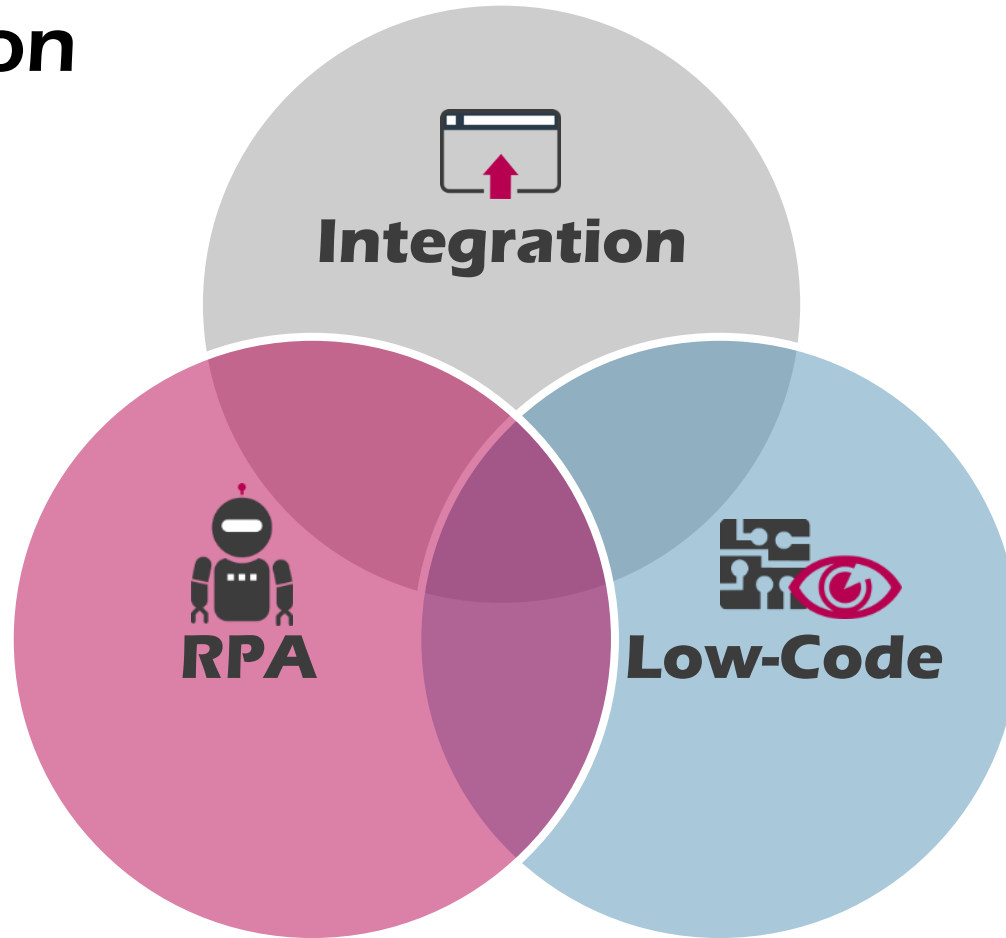
Mit allem
integrierbar

Ohne
Einschränkungen

Massive
Skalierbarkeit

Metriken von
Bedeutung

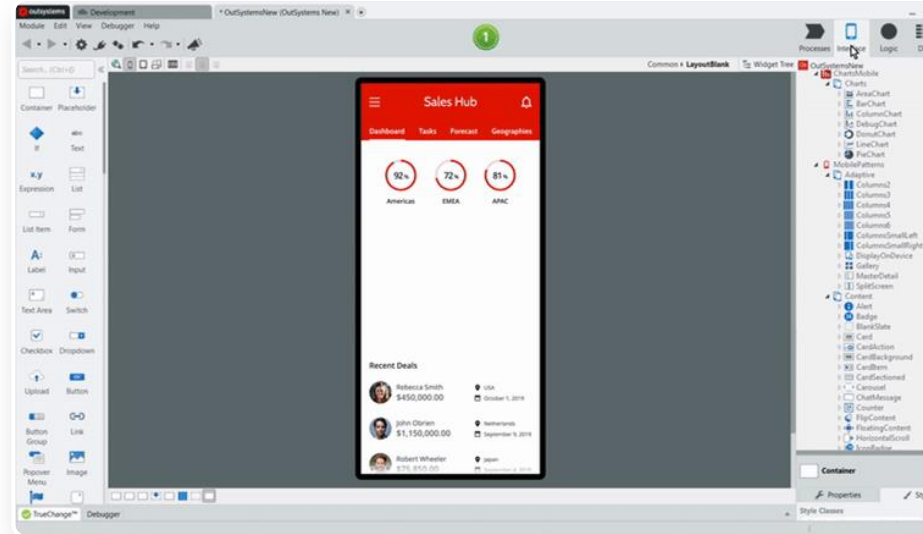
Integration





Low Code

Develop enterprise-grade applications. Fast.



It's all about code

Don't confuse Low-code with No-code

```
public class TcpClientSample
{
    public static void Main()
    {
        byte[] data = new byte[1024]; string input, stringData;
        TcpClient server;
        try{
            server = new TcpClient(" . . . .", port);
        }catch (SocketException){
            Console.WriteLine("Unable to connect to server");
            return;
        }
        NetworkStream ns = server.GetStream();
        int rcv = ns.Read(data, 0, data.Length);
        stringData = Encoding.ASCII.GetString(data, 0, rcv);
        Console.WriteLine(stringData);
        while(true){
            input = Console.ReadLine();
            newchild.Properties["ou"].Add("Auditing Department");
            if (input == "exit") break;
            ("Auditing.CommitChanges();
            newchild.Close();
            newchild.Dispose();
        }
    }
}
```

High-Code



**<no>
</code>**

Low-code is a way to design and develop applications fast and with **minimal hand-coding**.

It enables skilled people to **deliver value** more quickly and more reliably.

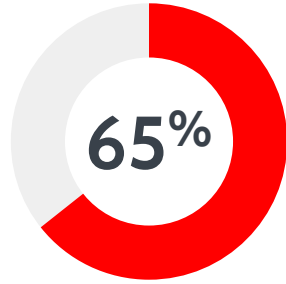




OutSystems

Company Overview





“65% of all software development will include low-code by 2024”

Experiences

Operations

Backends

Experiences

Integrate journey; **multiple touchpoints**

Immediate transactions, over API backends

High **scalability**

Operations

Backends

Experiences

Integrate journey; **multiple touchpoints**
Immediate transactions, over API backends
High **scalability**

Operations

Extend System of Records
New **Workflows**, Services & Apps
Increase operational efficiency

Backends

Experiences

Integrate journey; **multiple touchpoints**
Immediate transactions, over API backends
High **scalability**

Operations

Extend System of Records
New **Workflows**, Services & Apps
Increase operational efficiency

Backends

Rewrite to **modern cloud architectures**
Many small independent parts; No monoliths

OutSystems is a recognized leader



General App Dev



Multi Experience Dev

OutSystems is a recognized leader



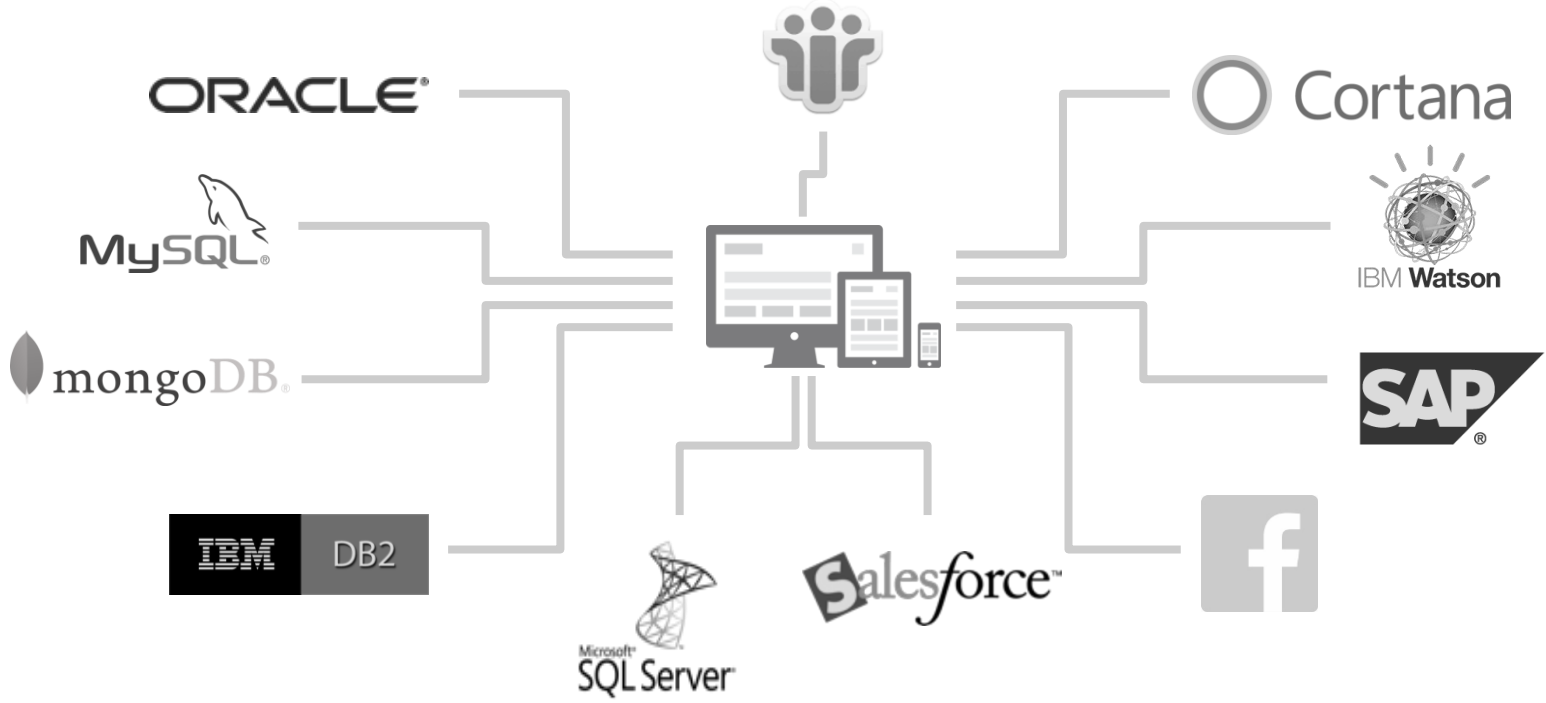
General App Dev

FORRESTER®



Mobile App Dev

we connect **your** ecosystem



Low-Code Leader with Global Footprint

52

Countries

340+

Global Partners

22

Industries

290K+

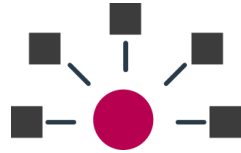
Community
Members



Warum ist OutSystems die #1 unter den Low-Code Plattformen?



1. Unschlagbare Geschwindigkeit



2. Mit allem integrierbar



3. Standardmäßig hohe User Experience



4. Low-Code ohne Einschränkungen



5. Eingebaute Sicherheit



6. Massive Skalierbarkeit



7. Unverwüchtlicher Einsatz

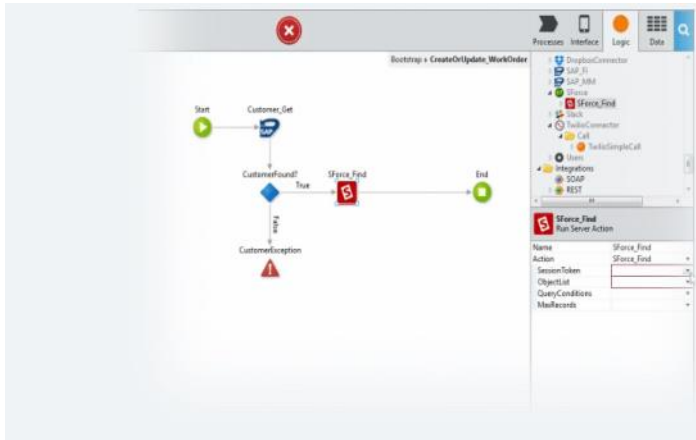


8. Metriken von Bedeutung

Unschlagbare Geschwindigkeit

- ✓ Datenmodell
- ✓ Business Logik
- ✓ Business Prozesse
- ✓ User Interface
- ✓ Web & Mobil (native)
- ✓ Integration
- ✓ Analyse
- ✓ Monitoring
- ✓ Jederzeit erweiterbar durch eigenen Code





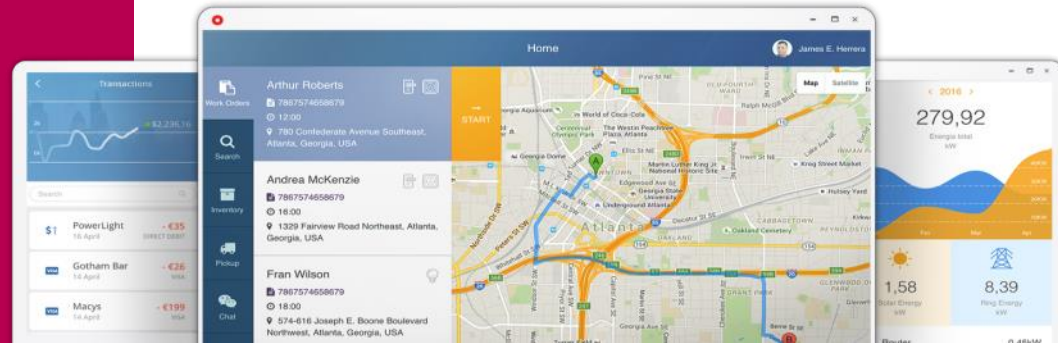
OutSystems

Mit allem integrierbar

- ✔ Vorgefertigte Konnektoren
- ✔ SOAP- und REST-Integration ohne Kodierung
- ✔ Verbinden Sie sich mit beliebigen Cloud-Diensten
- ✔ Mit Workflow und Geschäftslogik orchestrieren
- ✔ Bauen Sie Ihre eigenen Konnektoren

Standardmäßig hohe User Experience

- ✓ Schöne Designmuster und Widgets
- ✓ Reaktionszeit unter 80 Millisekunden
- ✓ Drag-and-Drop mit pixelgenauer Kontrolle
- ✓ Erweiterung mit eigenem UI-Code
- ✓ Einmal für Responsive Design entwickeln
- ✓ Sofort auf dem Gerät sehen und testen



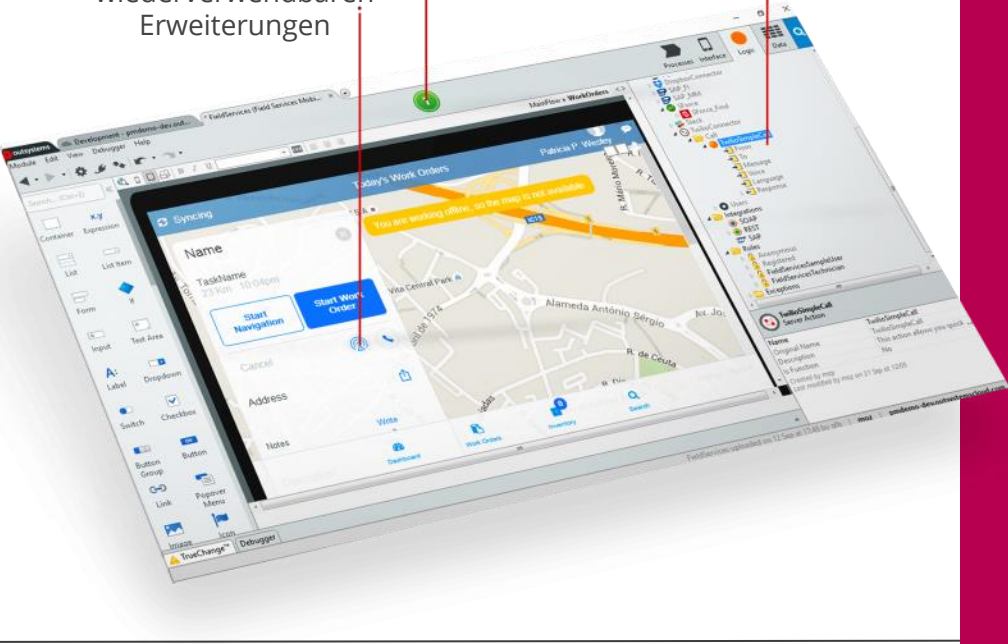
OutSystems

Low-Code ohne Einschränkungen

- ✔ Umschließen und vorhandenen Code einschließen
- ✔ Erstellen Sie wiederverwendbare Erweiterungen
- ✔ Keine proprietären Datenmodelle
- ✔ Keine Laufzeitinterpreter
- ✔ Kein Lock-In

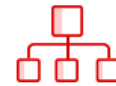
Keine Laufzeitinterpreter
Erstellen Sie Ihre eigenen wiederverwendbaren Erweiterungen

Vorhandenen Code einschließen



- ✓ Sicherheit
- ✓ Skalierbarkeit
- ✓ Performance
- ✓ Architektur
- ✓ Flexible Bereitstellungen

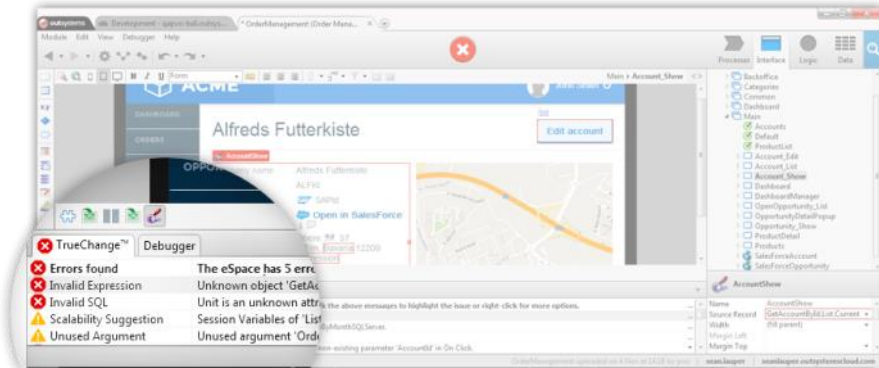
Van Ameyde entwickelte ein System, das 16 verschiedene Länder und deren einzigartige Anforderungen bei der Bearbeitung von Ansprüchen mit mehr als 835.000 laufenden Prozessinstanzen und mehr als 6.550.000 laufenden Aktivitäten unterstützt.



OutSystems

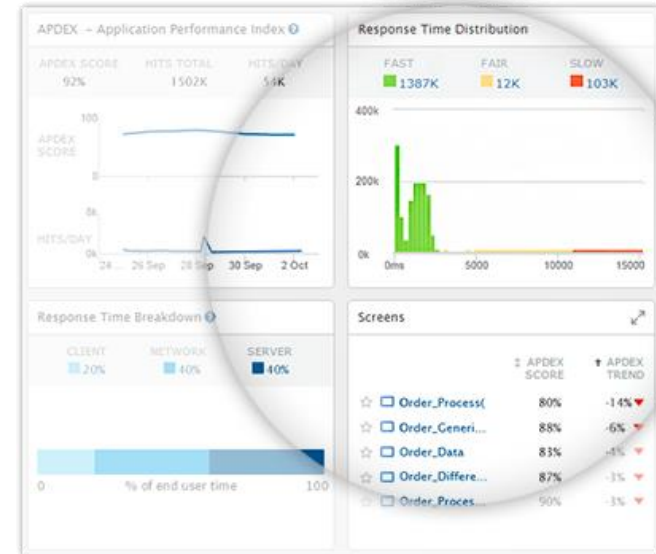
Unterbrechungsfreie Bereitstellung

- 👉 Automatische Folgenabschätzung
- 👉 Einzelklick-Rollback
- 👉 Automatische Inszenierung
- 👉 Automatische Abhängigkeitsaktualisierungen



Metriken von Bedeutung

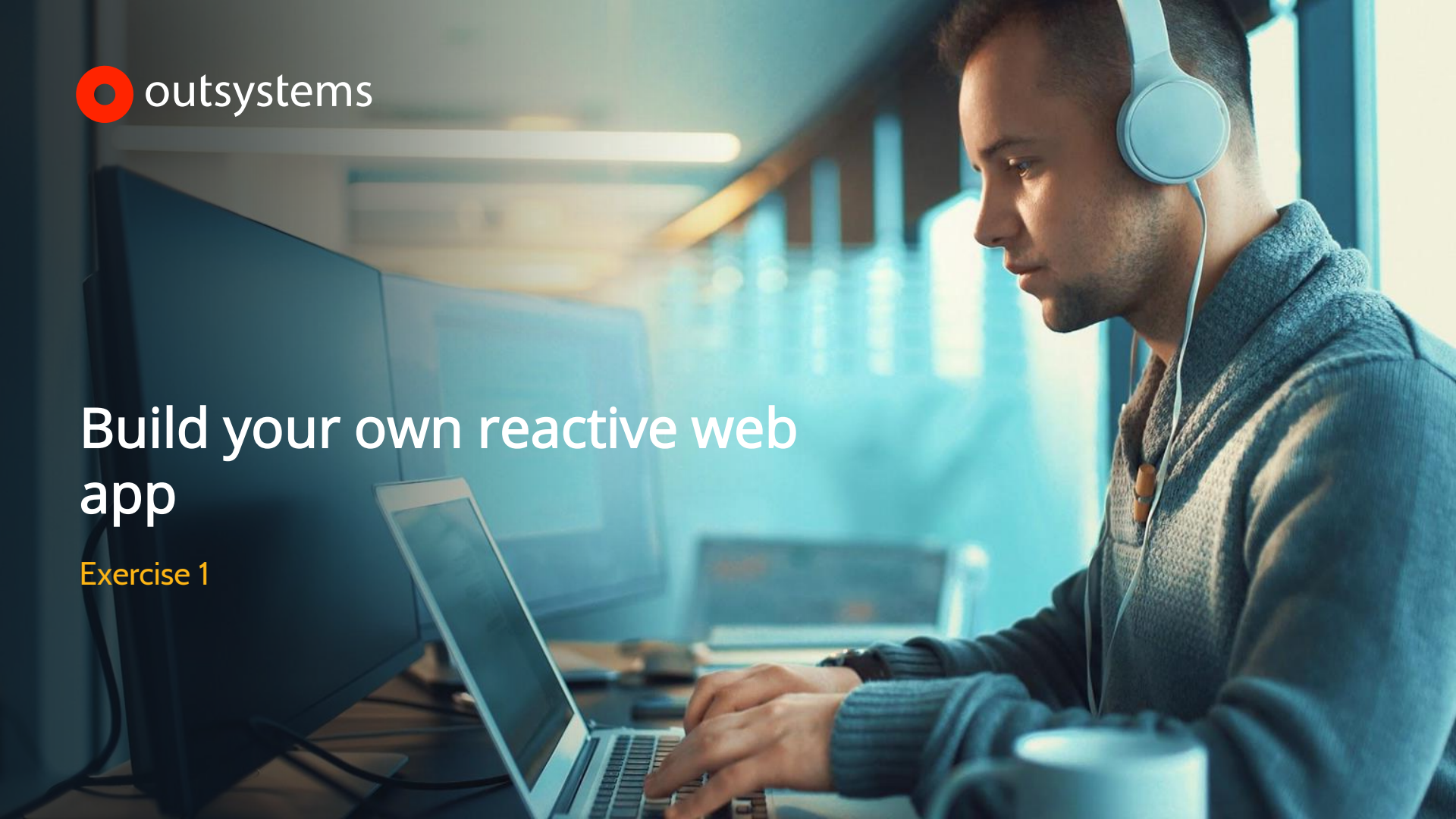
- ✓ Automatische Instrumentierung Ihrer Apps
- ✓ Überwachen Sie die Anwendungsleistung
- ✓ Echtzeit-Drilldown zur Ermittlung der Hauptursache
- ✓ Anpassbare Performance-Dashboards
- ✓ API-basierter Zugriff auf Leistungsdaten





Build your own reactive web app

Exercise 1



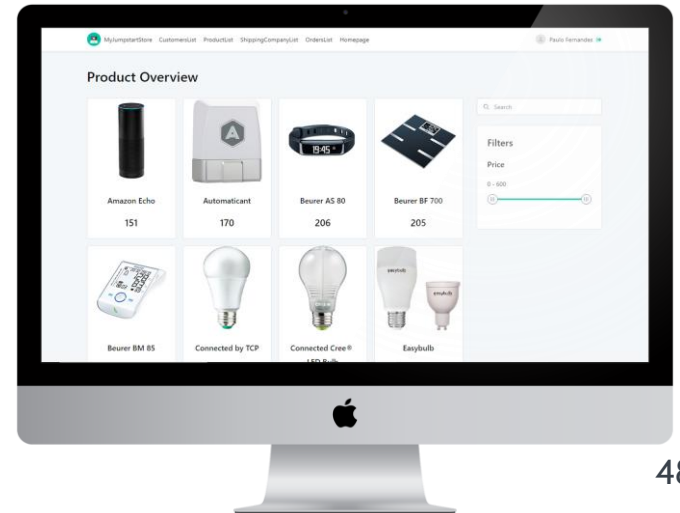
Context

“Company ACME Goods is a retail distribution company that acquires its products directly from the producers and sell them to small/medium shops, although is considering to sell them directly as well.

ACME Goods is looking for an application to manage their existing customer base information, manage their inventory and relations with their shipping companies.

Main Needs:

Customer Information Management
Inventory management
Shipping Companies management

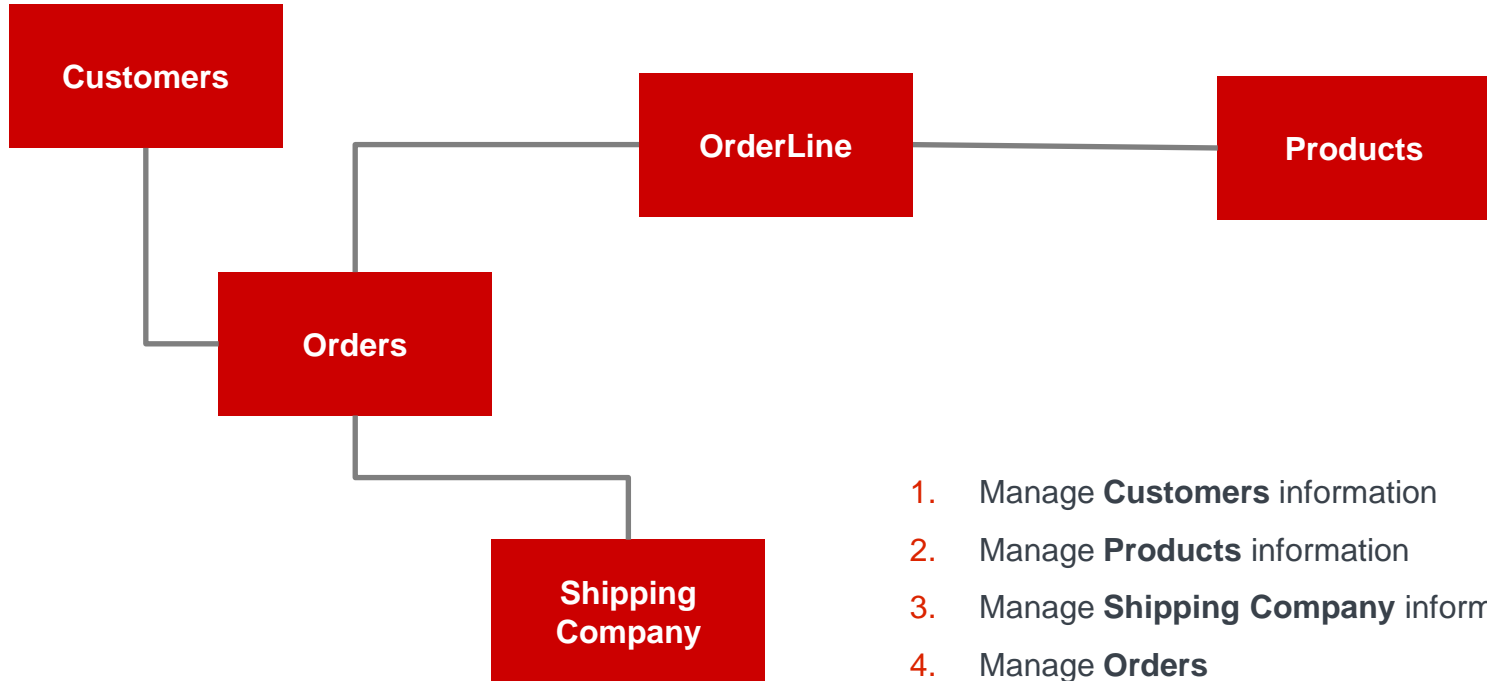


“As a **customer representative** I should be able to search for customers, edit their information, create new customers and register their purchases.”

As a **inventory manager** I should be able to access the products available, register new products, edit information about a product and associate products with suppliers.

Application Design

Basic Information Architecture



1. Manage **Customers** information
2. Manage **Products** information
3. Manage **Shipping Company** information
4. Manage **Orders**

Download Fast-Start Materials

1. Bitte rufen Sie folgenden Link auf unserer Webseite auf:

<https://www.agentbase.de/aktionen/vorbereitung-outsystms-jump-start-workshop/>

2. Laden Sie alle Materialien herunter

FOLGEN SIE DEN SCHRITTEN:

Bitte rufen Sie folgende URL auf: outsystms.com/get-started

1. Erstellen Sie Ihre **persönliche Umgebung** in der Cloud.
2. Merken Sie sich Ihr Passwort, da Sie es später benötigen.
3. Installieren Sie die **Entwicklungsumgebung (IDE)** [„Service Studio“]. Dafür benötigen Sie einen Laptop mit Windows-Betriebssystem. Wenn Sie auf einem Mac arbeiten, benötigen Sie eine VM mit Windows.
4. Öffnen Sie die IDE, melden Sie sich an und starten Sie das **interaktive 5-minütige Tutorial**, um Ihre erste Applikation zu erstellen

EINRICHTUNG DER UMGEBUNG



LEITFADEN ALS PDF DATEI HERUNTERLADEN

JUMPSTART ÜBUNGSAUFGABEN



EXERCISE 1 - OUTSYSTEMS
REACTIVE WEB
APPLICATION



EXERCISE 2 - OUTSYSTEMS
MOBILE APP AND REST
INTEGRATION

RESSOURCEN



CUSTOMERS (EXCEL-DATEI)



GADGETS CATALOG



ONLINE SHOPPING ICON



SHIPPING COMPANIES
(EXCEL-DATEI)



Fast-Start Exercise 1

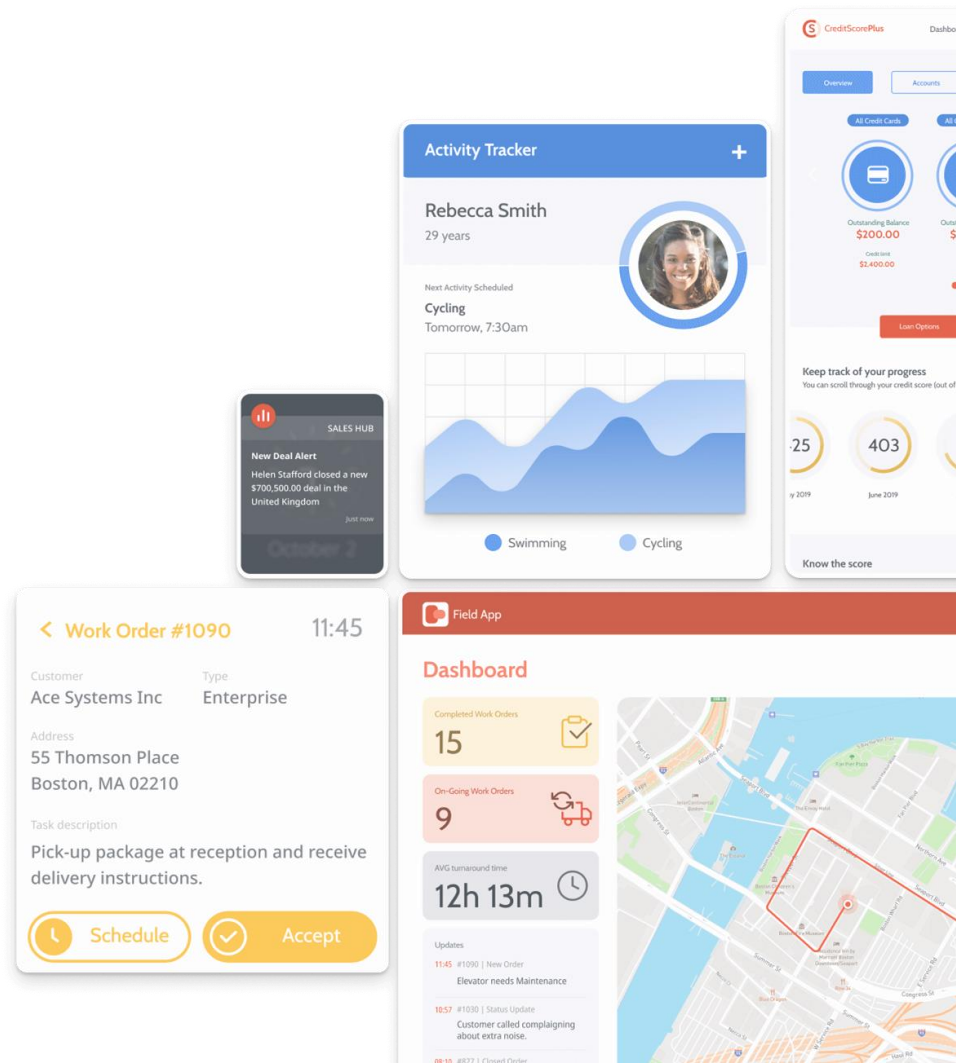
Section 1 - Customer Management
Section 2 - Products and Shipping Company





OutSystems UI

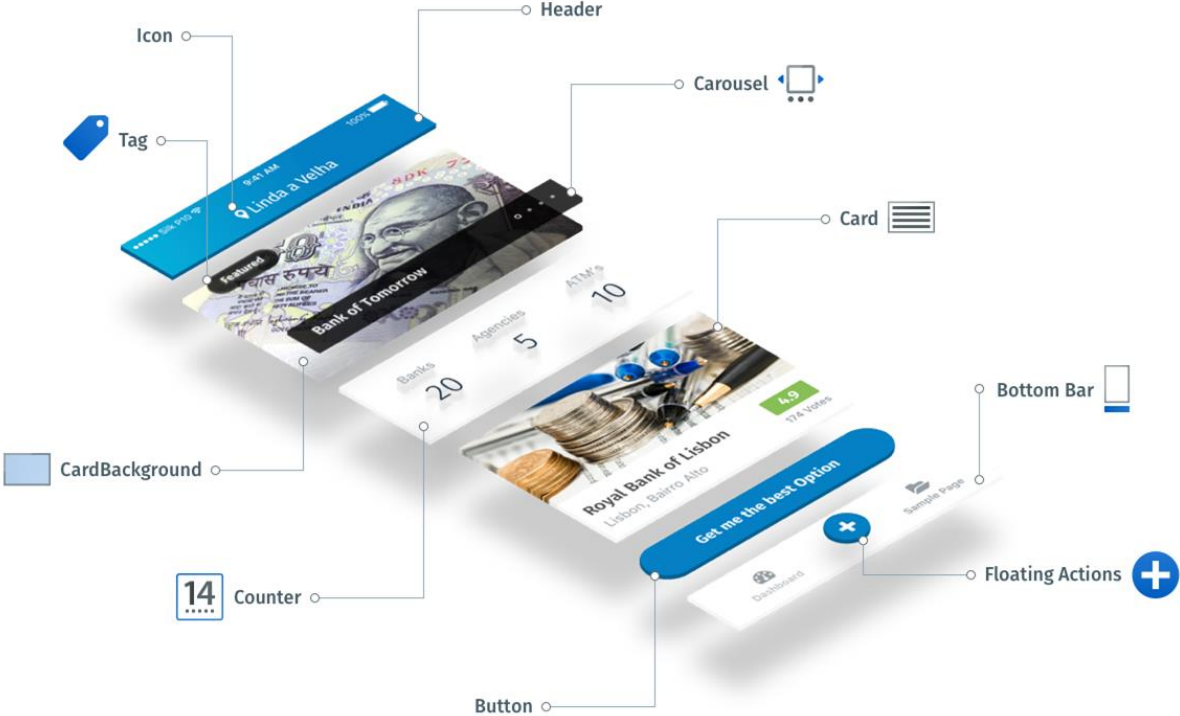
Great UX from day 1



we analyzed the 70 most popular apps...



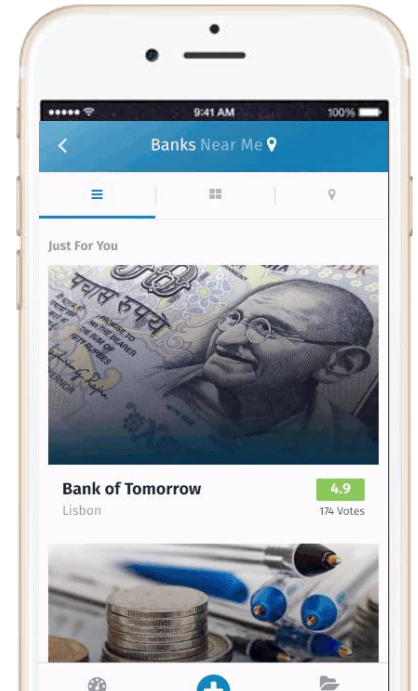
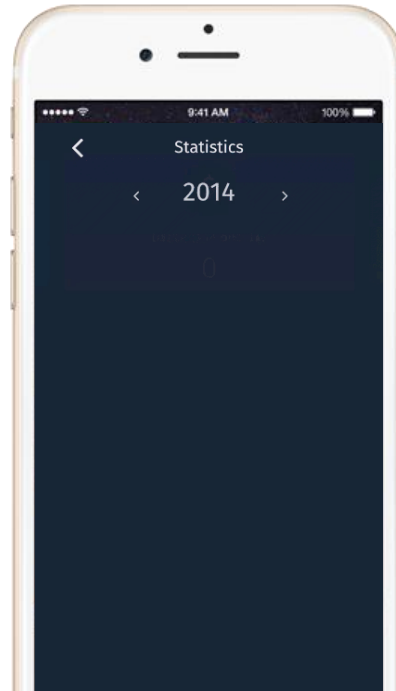
and built the **60 patterns** that address 84% of mobile experiences



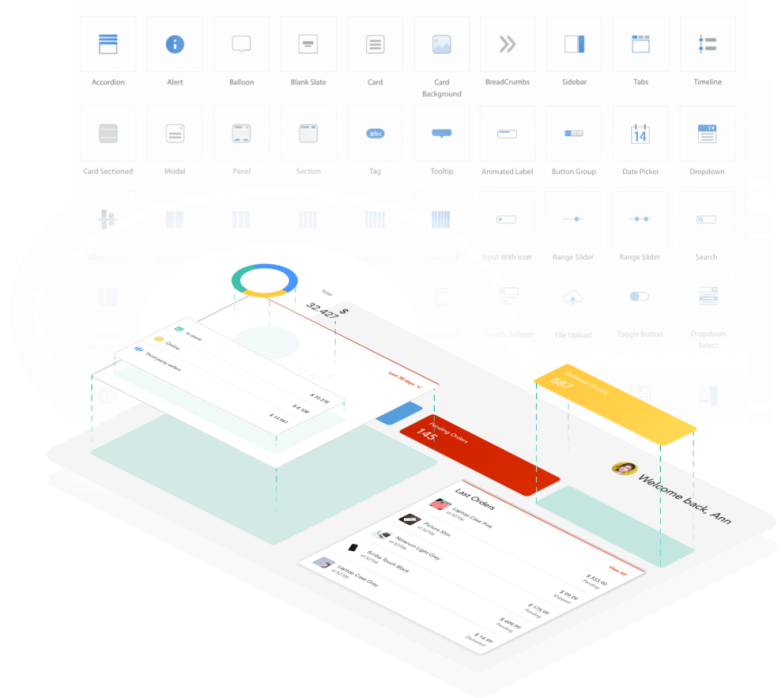
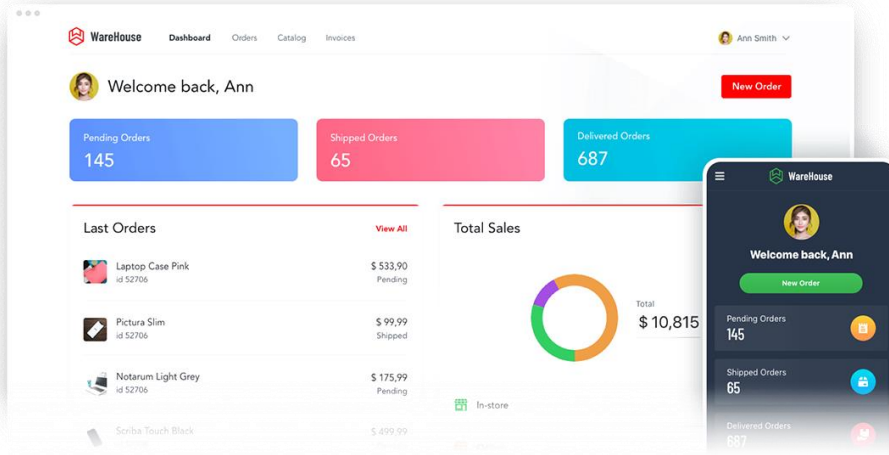
with patterns and controls for **beautiful** web experiences



and give you **pixel-perfect** customization when you need it



Developers can access **screen templates** and **patterns** already pre-built with mock data



Making **extreme prototyping** possible right inside the Outsystems IDE

Welcome back, Ann [New Order](#)

Pending Orders 145

Shipped Orders 65

Delivered Orders 687

Last Orders [View All](#)

Scriba Touch Black id 56255	\$ 533,90 Pending
Pictura Touch Black id 76175	\$ 99,99 Shipped
In-Ear Audio Silver id 12096	\$ 175,99 Pending
Notarum Black id 23683	\$ 499,99 Pending
Fortis Series id 21754	\$ 14,99 Delivered

Total Sales [Last 30 days](#)

Total **\$ 32.427**

In-store	\$ 10,378
Online	\$ 8,108
Third party sellers	\$ 13,941

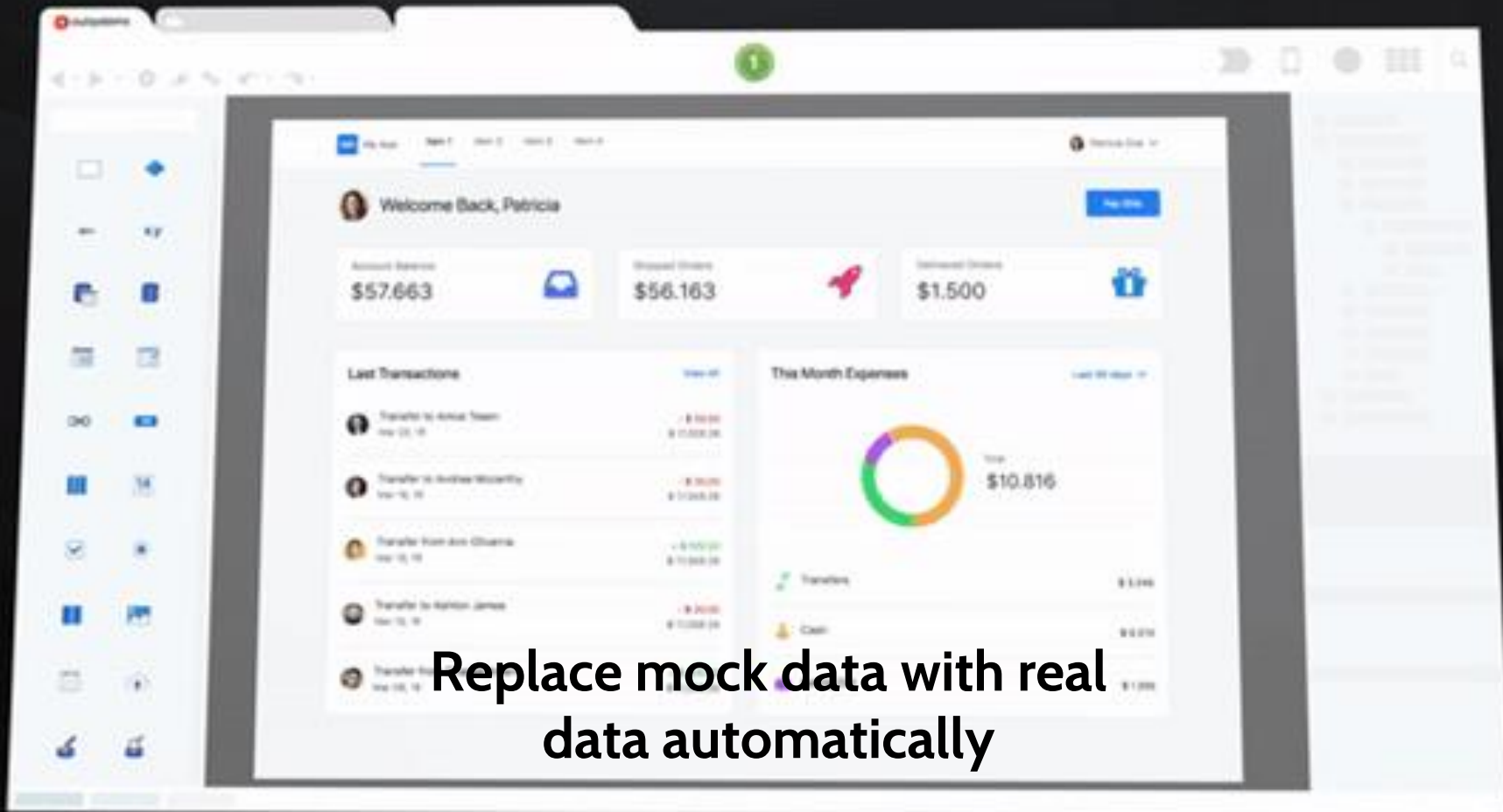
In-Ear Audio Black
Audio

In-Ear Audio Silver
Audio
\$ 99,99 In Stock

Fortis Series
Lenses
\$ 499,99 In Stock

In-Ear Audio Black
Audio
\$ 158,99 In Stock

Scriba Touch Green
Phones
\$ 129,85 In Stock



OutSystems UI

Complete collection of Styles, UI Patterns, Widgets, and Layouts based on the OutSystems UI framework.

[Outsystems UI Website](#)

outsystems.com/outsystems-ui

[Knowledge base](#)

success.outsystems.com/Documentation



Personal Loan

Take control with a loan made for you. Access your loan information whenever you need it, we developed tools to give you freedom to focus on the most important things.

[Simulate Loan](#)

Employee Name

Bryan Pena

Search

- Verna Brooks
- Darlene Washington
- Bryan Pena
- Beatrice Gilbert

26

Completed Requests



New Request

Success! The

Log in to your account

Email Address

Password

Remember me [Forgot password?](#)

Log In

23-11-2019

November 2019

SR

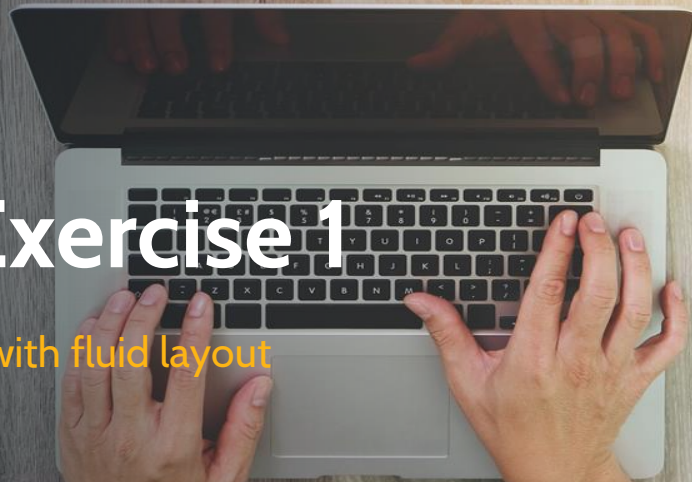
Notif

Fanni
requ



Fast-Start Exercise 1

Section 3 - Image Gallery with fluid layout



Integration Capabilities

REST, DB, BAPI, External Code, ... you name it!





no man **app** is an island

Integrate with Everything

(it's easy!)

SOAP Web Services and REST APIs

Inspects the WSDL and JSON response to generate everything needed to invoke the service methods

SAP BAPI + OData

Import BAPI or ZBAPI, and use them in your low-code logic flow.
ODATA for integrating SAP Business Hub services

Existing Databases

Microsoft SQL, Oracle, MySQL, DB2 (AS400),...

Import Excel, CSV and XML files

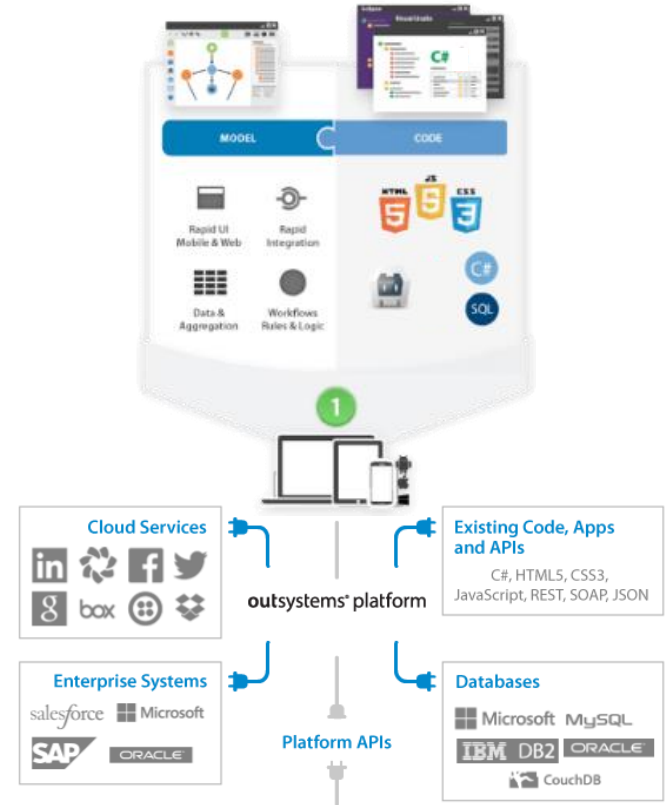
Import, export, parse it.

Available connectors for Cloud Services

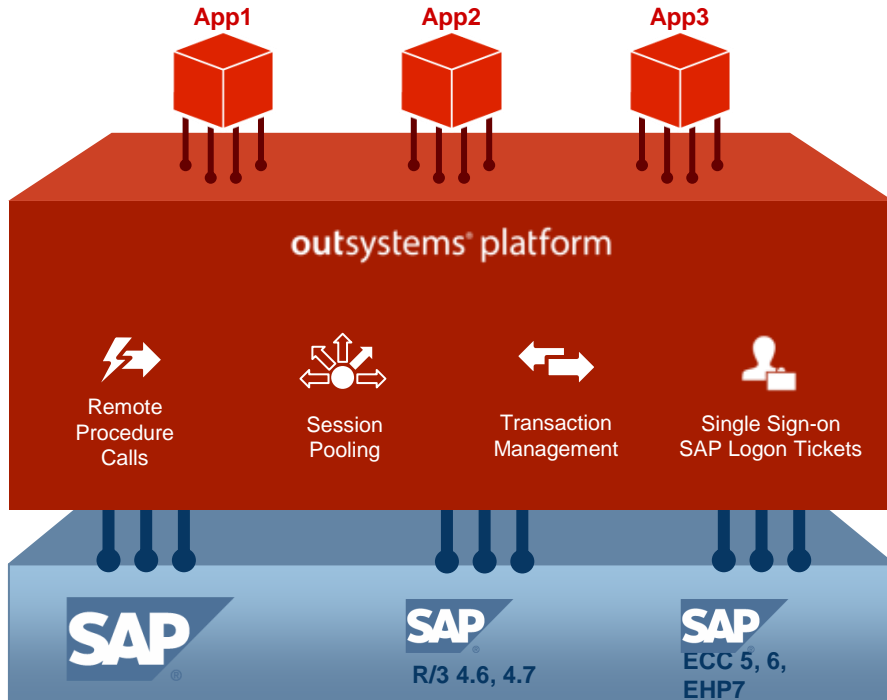
In Forge, use connectors to cloud services, like Facebook, Twitter, Zendesk,...

C# code

Libraries that expose their functionality via .NET



Certified SAP Integration



Rapid Development

- BAPI discovery & documentation
- One-click BAPI consumption
- Visual modeling of integration flows

Rapid Deployment

- Integrated in Lifecycle management
- Governance over exposed services/APIs

Rapid Management

- Auditing & Troubleshooting
- Performance tracking and bottleneck detection

Integration

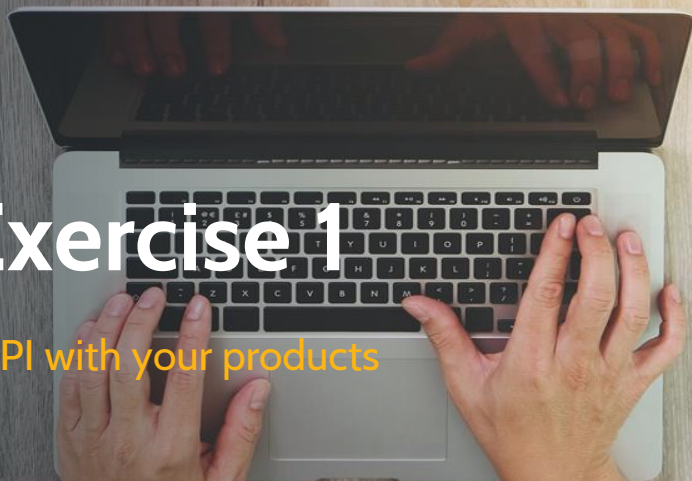
Live Demo





Fast-Start Exercise 1

Section 4 - Expose REST API with your products



Live Demo



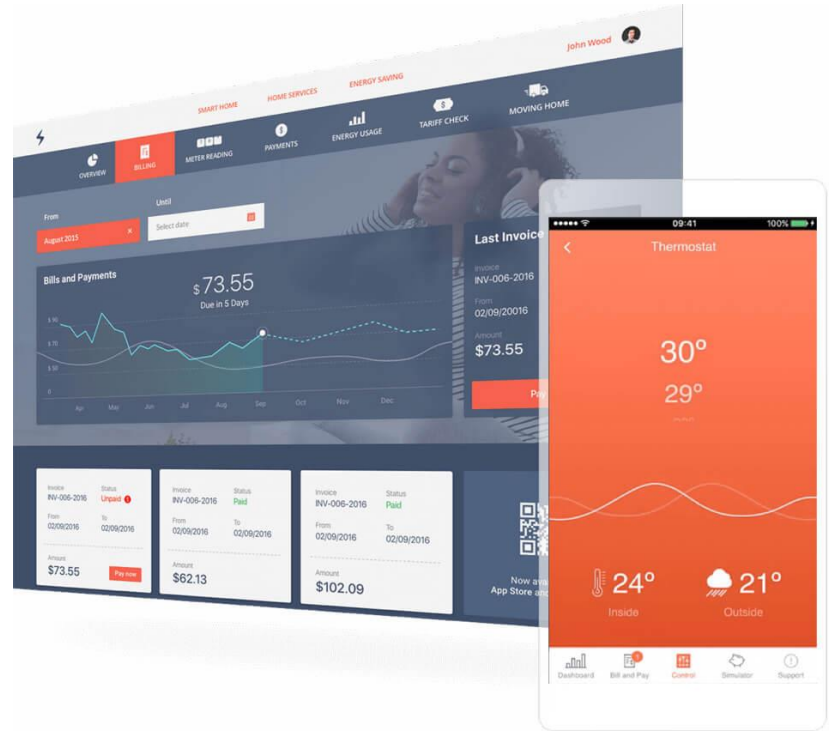
*let's
do* **LUNCH**





Mobile Apps

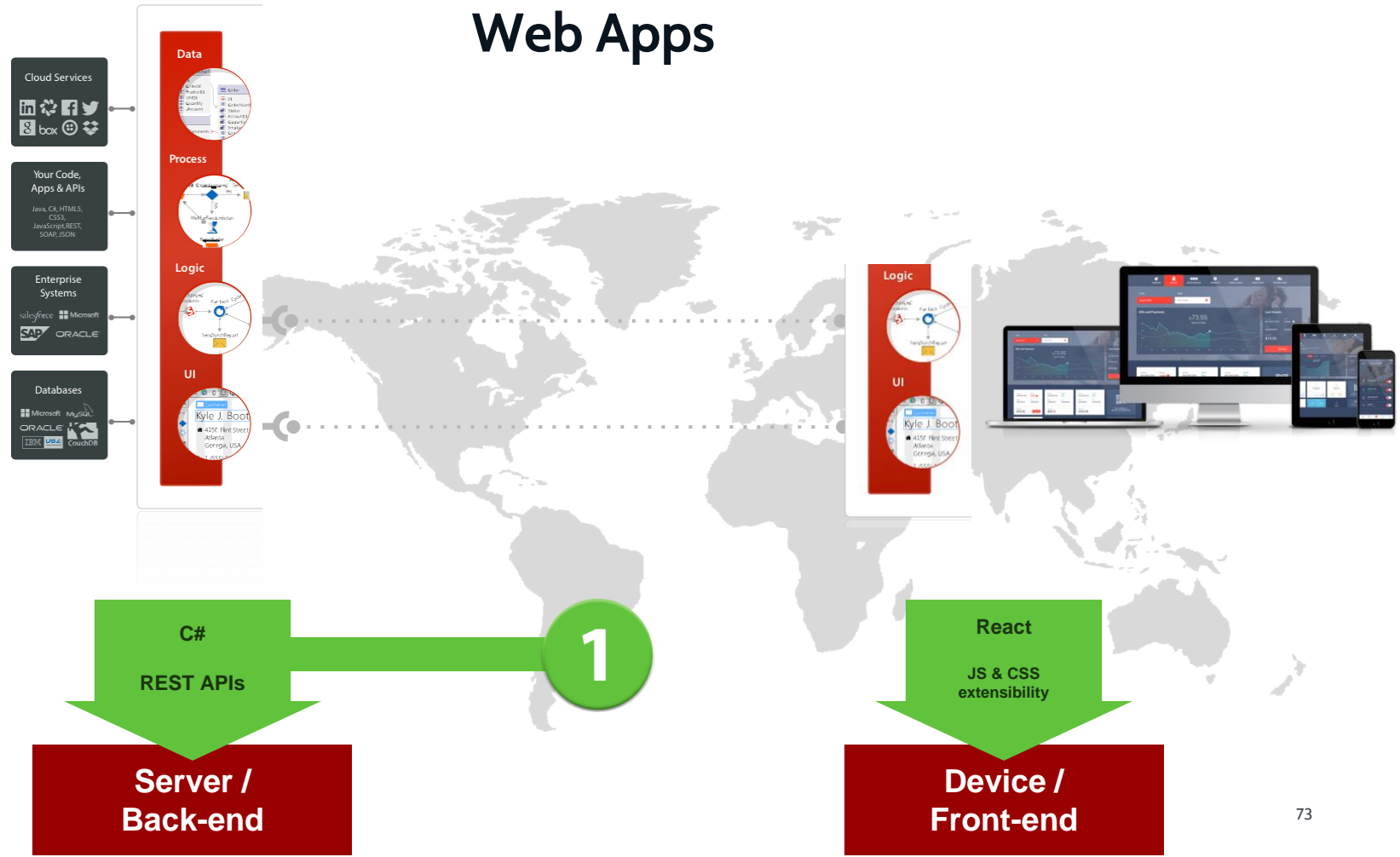
Create beautiful experiences



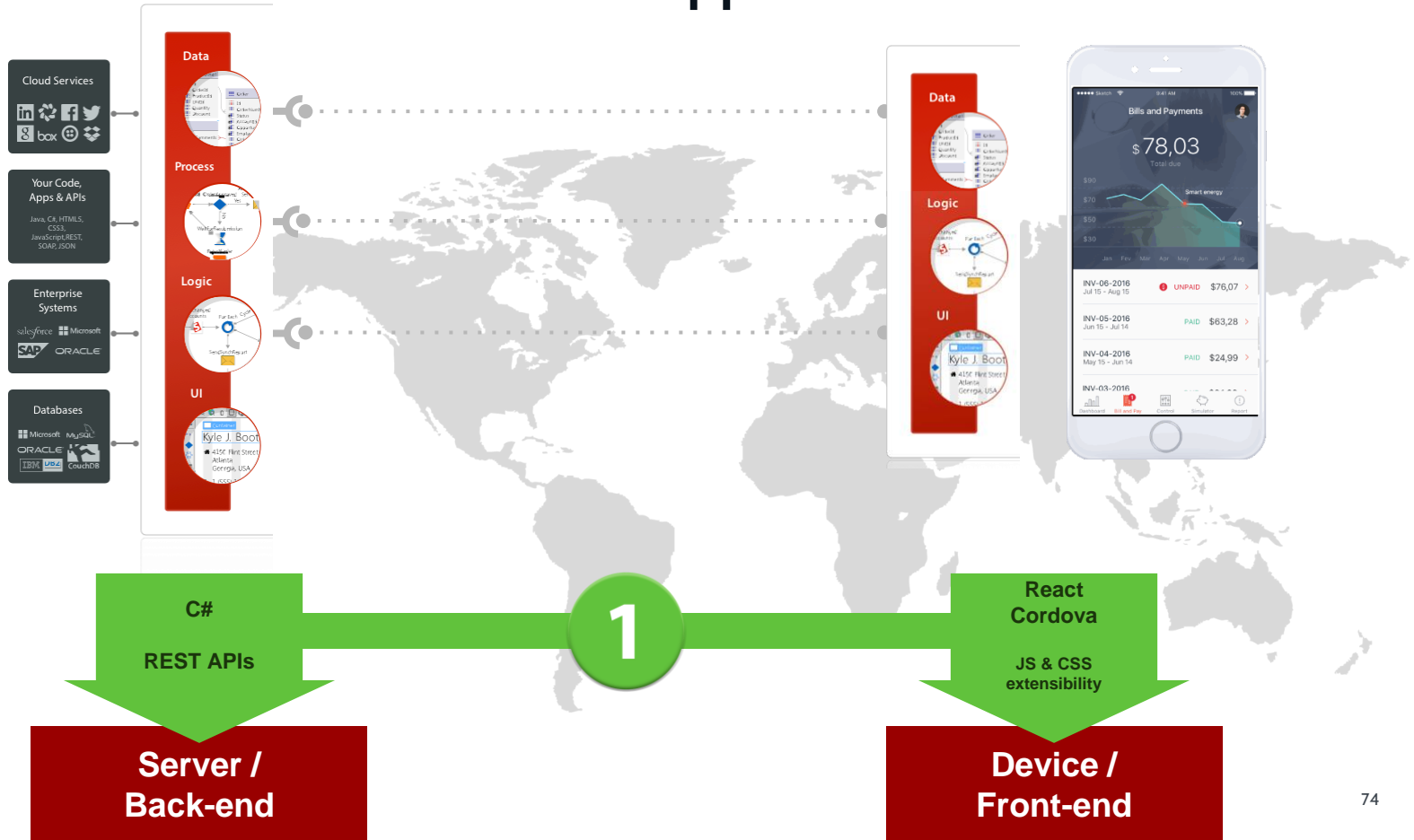
Web Vs Mobile



Web Apps

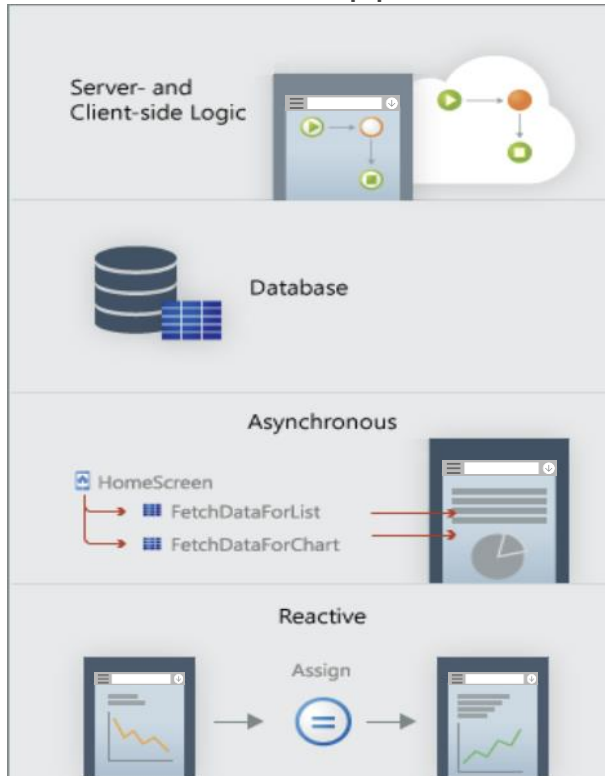


Mobile Apps

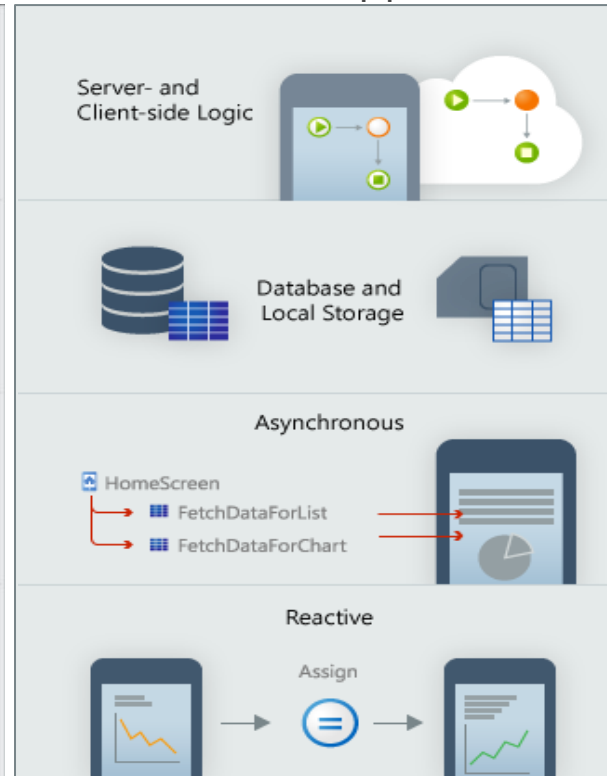


Delightful multi-channel experiences

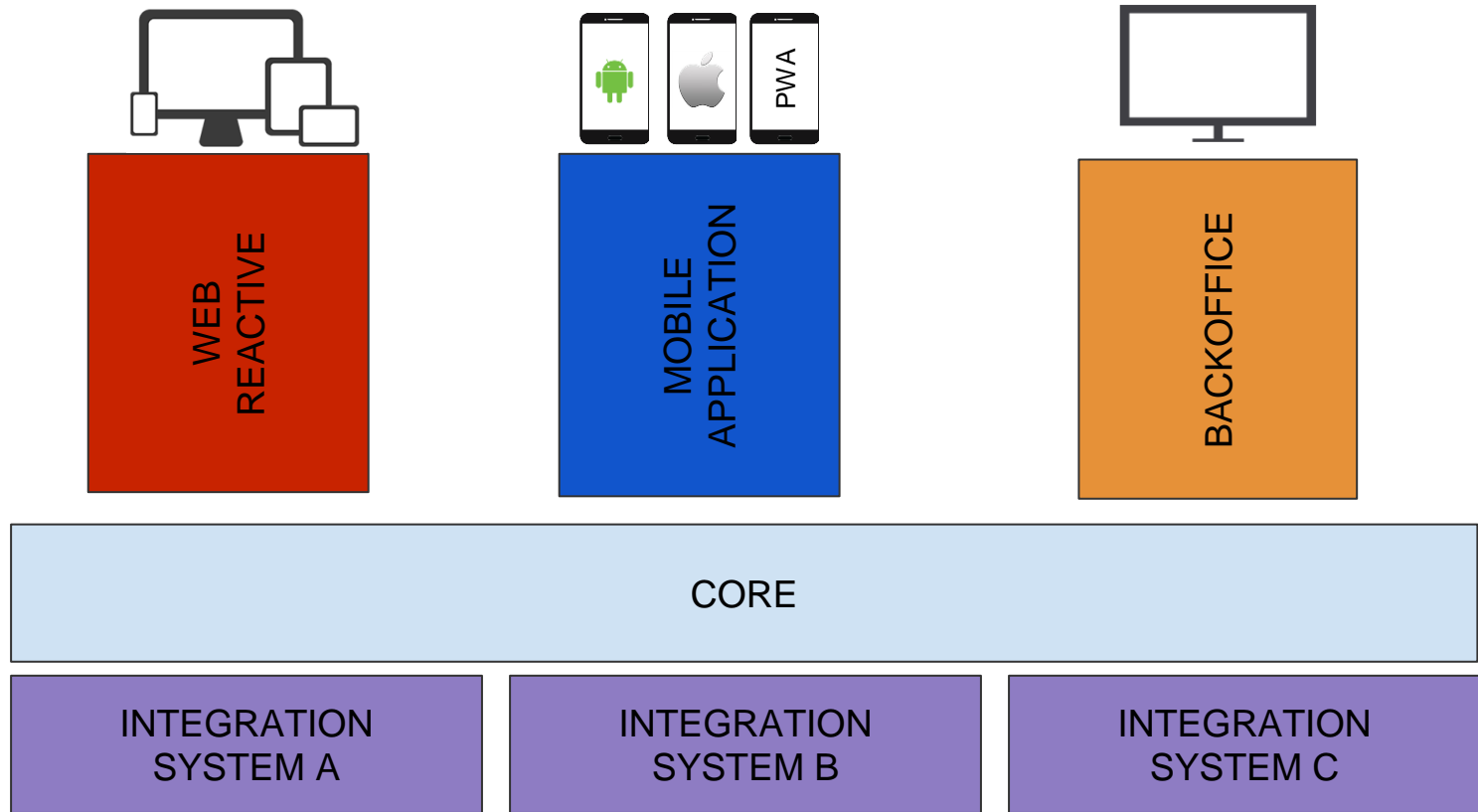
Web Apps



Mobile Apps

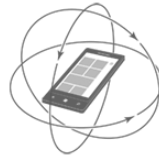


Delightful multi-channel experiences



But beauty is more than skin deep...

low-code integrated with all device **sensors** and **capabilities**



and...



offline



secure



on-device logic

Testing Mobile Apps

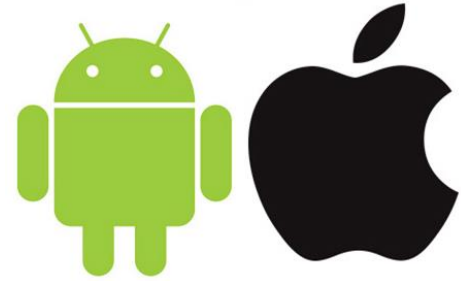
Choose your weapon(s)



1. Browser



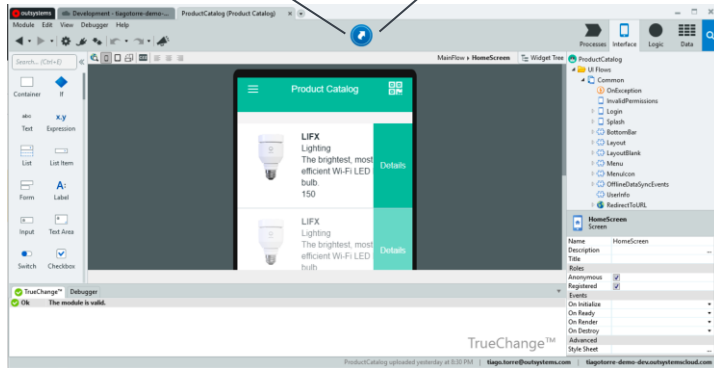
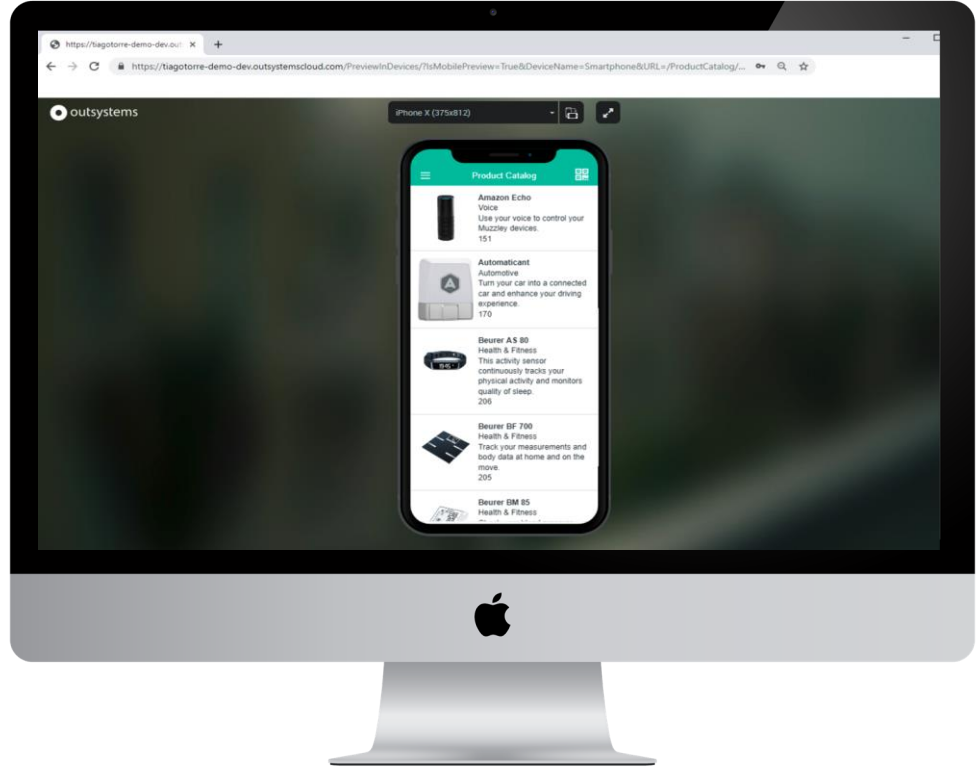
2. PWA



3. Native Build

Testing - Browser

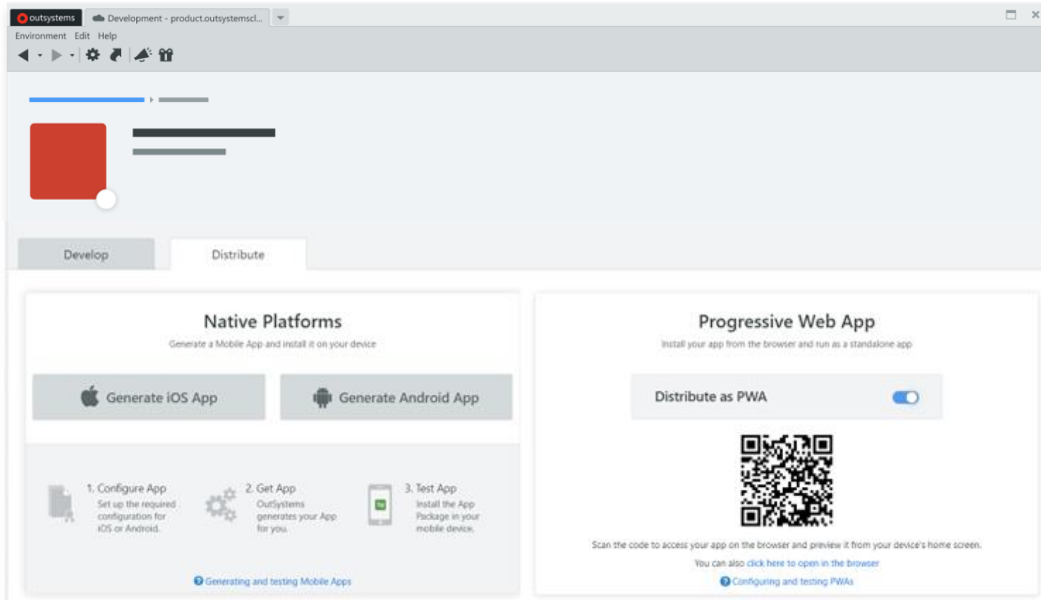
1 click away



Fast-Start Training

Testing - PWA

Native-like experience, zero hassle



No stores involved

Start testing on a device without paid developer accounts.

Develop, test, iterate

Develop your application, publish and test. Iterate it.

Access device's native capabilities

Take photos, scan barcodes, ...

Share your app to test

Anyone with the link to the app can start testing it.

Testing - Native build





Fast-Start Exercise

2

Build a mobile app in one hour

Field Services Live Demo





Operations

Manage the application full life cycle



Fast Development Delivery

FULL STACK
EMPOWER DEVELOPERS
EXTEND REACH OUTSIDE OF IT



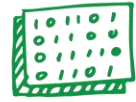
UI



LOGIC

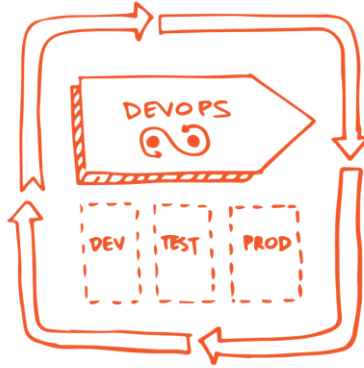


PROCESS



DATA

FULL LIFECYCLE
BE AGILE AND CONTINUOUSLY CHANGE
AUTOMATED SOFTWARE LIFECYCLE



CI/CD
MONITORING
USER FEEDBACK
GOVERNANCE

EXPERIENCES
REACH ALL TOUCHPOINTS
WIDEST RANGE OF DIGITAL EXPERIENCES



WEB/MOBILE



APIS
WEB SERVICES



CHAT
VOICE
SMS/EMAIL

INTEGRATE & EXTEND
NEVER START FROM SCRATCH
LIMITLESS AND EASY INTEGRATION



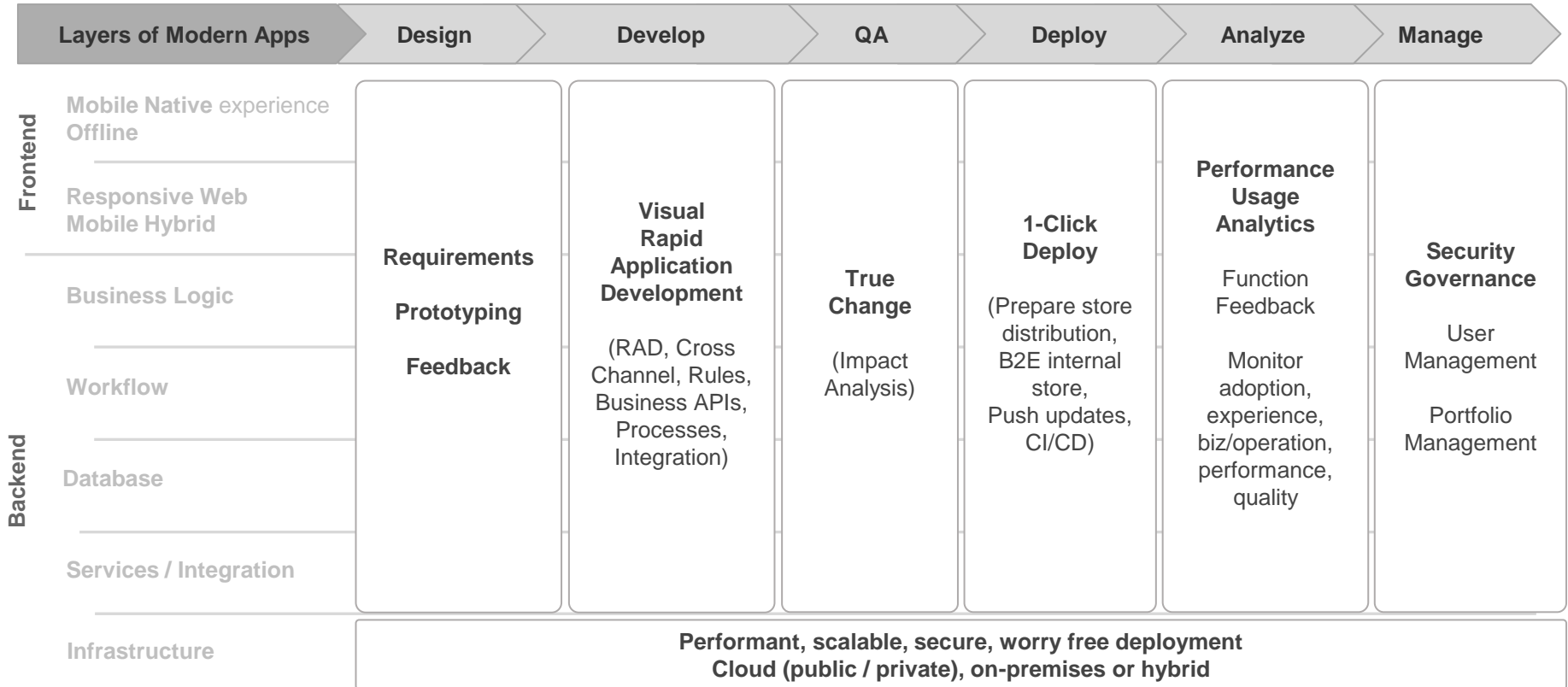
ENTERPRISE
SYSTEMS



DATABASES

OVER 2000 OPEN SOURCE COMPONENTS

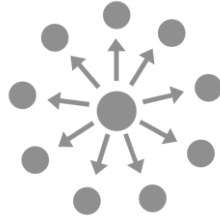
Full lifecycle, Full Stack, Web & Mobile



pre-built **enterprise-grade** qualities you expect **need**



Security



Scalability

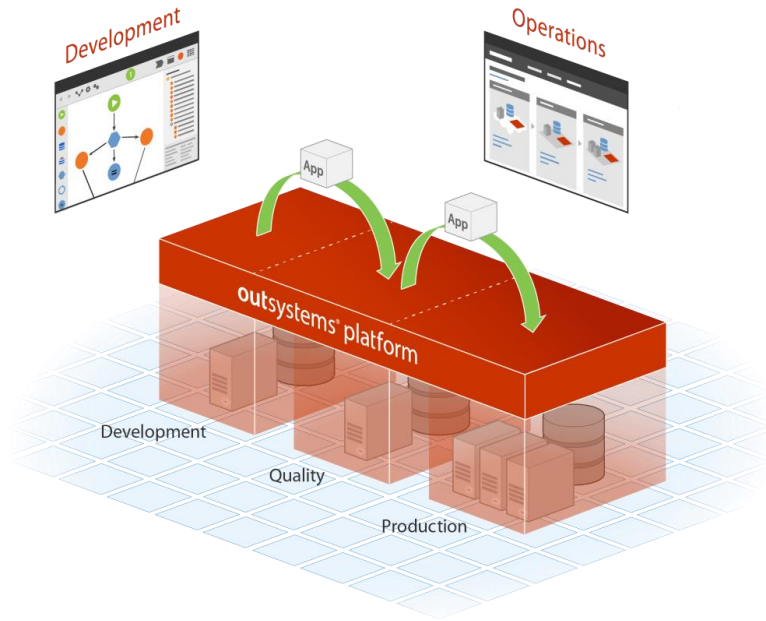


Performance



Governance

OutSystems



Develop, manage and change enterprise web and mobile apps

With the same technology

On top of your favorite middleware stack

.NET

Combines high productivity, change management and full application lifecycle

Supporting your DevOps activities

Manages continuous application change

1-click code promotion between environments

OutSystems

Service Studio

IDE to develop web and mobile web applications

Integration Studio

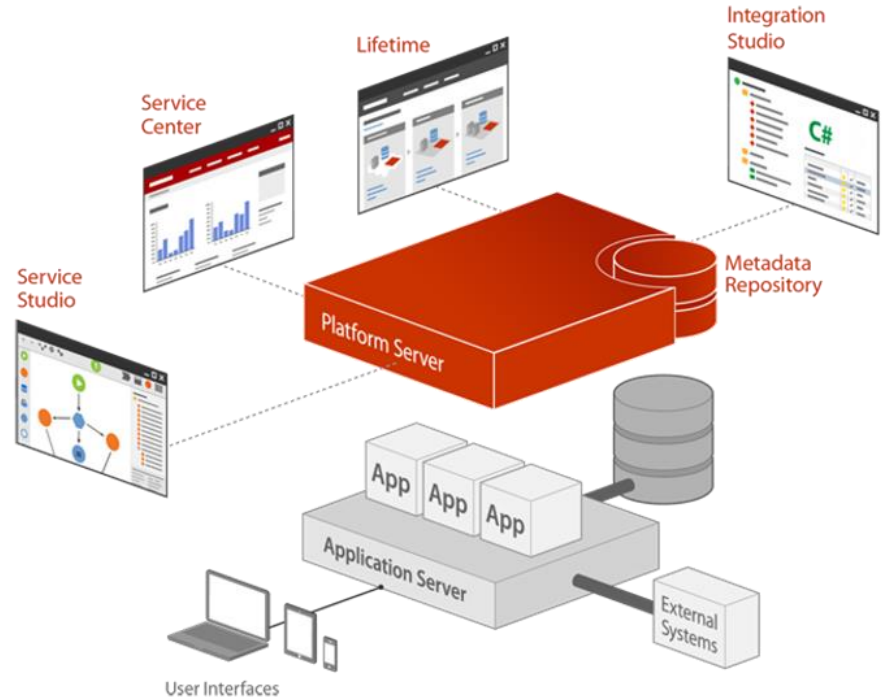
IDE to extend the language and integrate external systems

Service Center

Platform environment management console

Lifetime

Unified console with visibility of all the environments on the same OutSystems infrastructure



Service Studio

OutSystem IDE

Highly productive visual IDE

Create and change

all layers of web and mobile apps

Integrated application layers

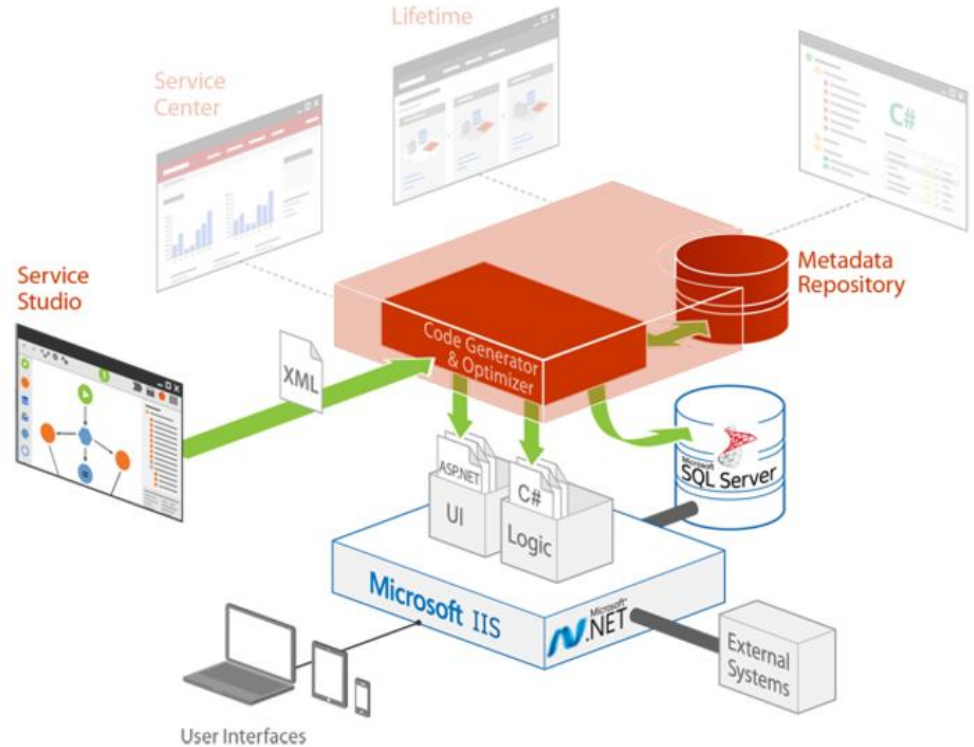
Data model, UI, processes, business logic, web services, security rules and batch jobs

Standard .NET applications

With the same code syntax: just OutSystems

TrueChange,

a reference-checking and self-healing engine



Integration Studio

Extend your OutSystems applications

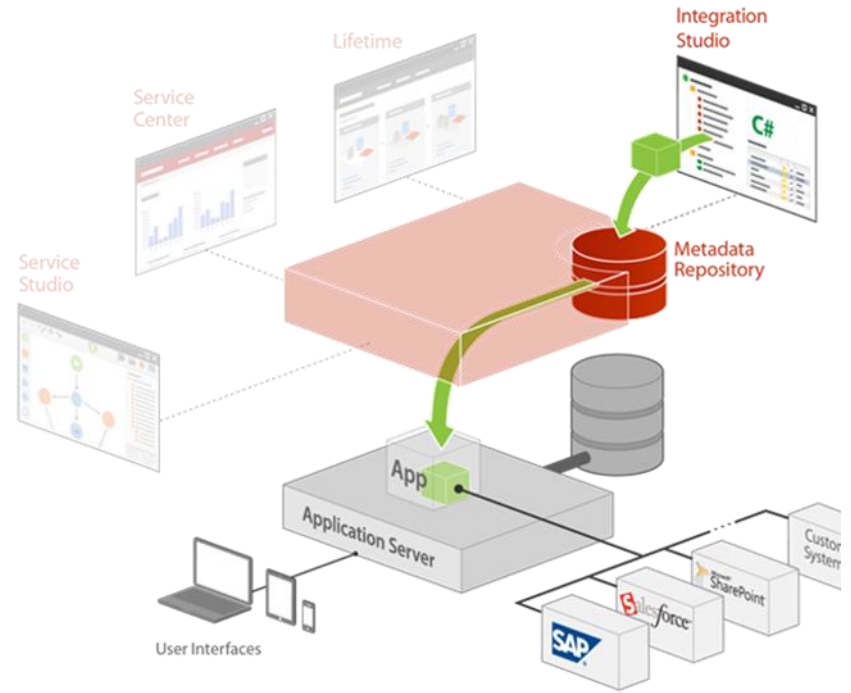
Quickly create custom components to integrate or to extend the OutSystem. Include your .NET handwritten code.

Database connections

Wizards to connect to existing databases and services

Reuse extensions

Components and connectors deployed once and reused across multiple applications



Service Center

Service Center is the centralized management console

of each individual OutSystems environment

A web application

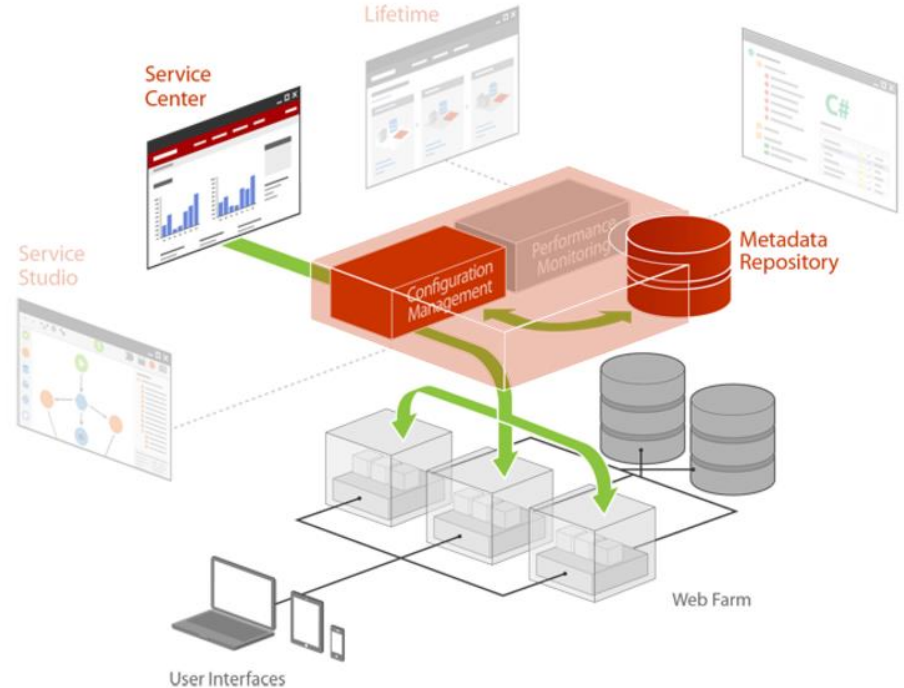
that interacts with all the components of the Server

Centralized entry-point

Provides a centralized entry point for IT operations to manage, monitor, and troubleshoot each OutSystems environment

Benefits from built-in instrumentation

That provides system administrators with an enterprise-grade viewport into the OutSystems health, ranging from consolidated error logging to web page and database query performance metrics.



Lifetime

Streamline DevOps processes

Stage interdependent apps and components

Simplifies staging

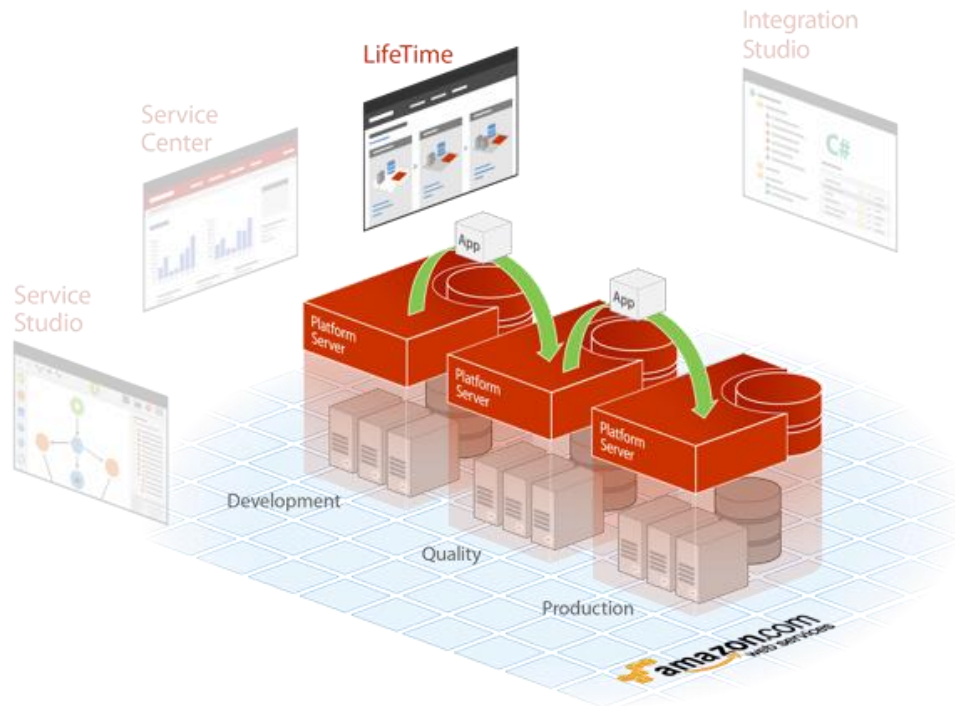
via a complete dependency analysis across environments with one click

Define your IT team's access to applications

Manage infrastructure security in a single point (users, roles and teams)

Factory management

Manages the IT users and their security as well as the deployment of applications across all environments











Mobile app lifecycle management

Search Applications

Search applications by name or team

Search

Show All

	Development	DEPLOY...	Production
 Amazon Rekognition	0.1+ Oct 9, 16:01 Administrator		0.1 Sep 4, 14:29 joao.carvalho@outsystems.cc
 Barcode Plugin	0.1+ Oct 19, 08:59 joao.carvalho@outsystems.cc		0.1 Sep 4, 14:29 joao.carvalho@outsystems.cc
 Business Activity Monitoring	0.1+ Oct 19, 09:00 joao.carvalho@outsystems.cc		0.1 Sep 4, 14:29 joao.carvalho@outsystems.cc
 Camera Plugin	0.1+ Oct 19, 09:04 joao.carvalho@outsystems.cc		0.1 Sep 4, 14:29 joao.carvalho@outsystems.cc
 Card IO Plugin	0.1+ Oct 19, 09:00 joao.carvalho@outsystems.cc		0.1 Sep 4, 14:29 joao.carvalho@outsystems.cc
 Charts Mobile	1.0+ Oct 19, 08:54 joao.carvalho@outsystems.cc		1.0 Sep 4, 14:29 joao.carvalho@outsystems.cc
 Charts Web	1.0+ Oct 19, 08:55 joao.carvalho@outsystems.cc		1.0 Sep 4, 14:29 joao.carvalho@outsystems.cc
 Common Plugin	0.1+ Oct 19, 08:58 joao.carvalho@outsystems.cc		0.1 Sep 4, 14:29 joao.carvalho@outsystems.cc

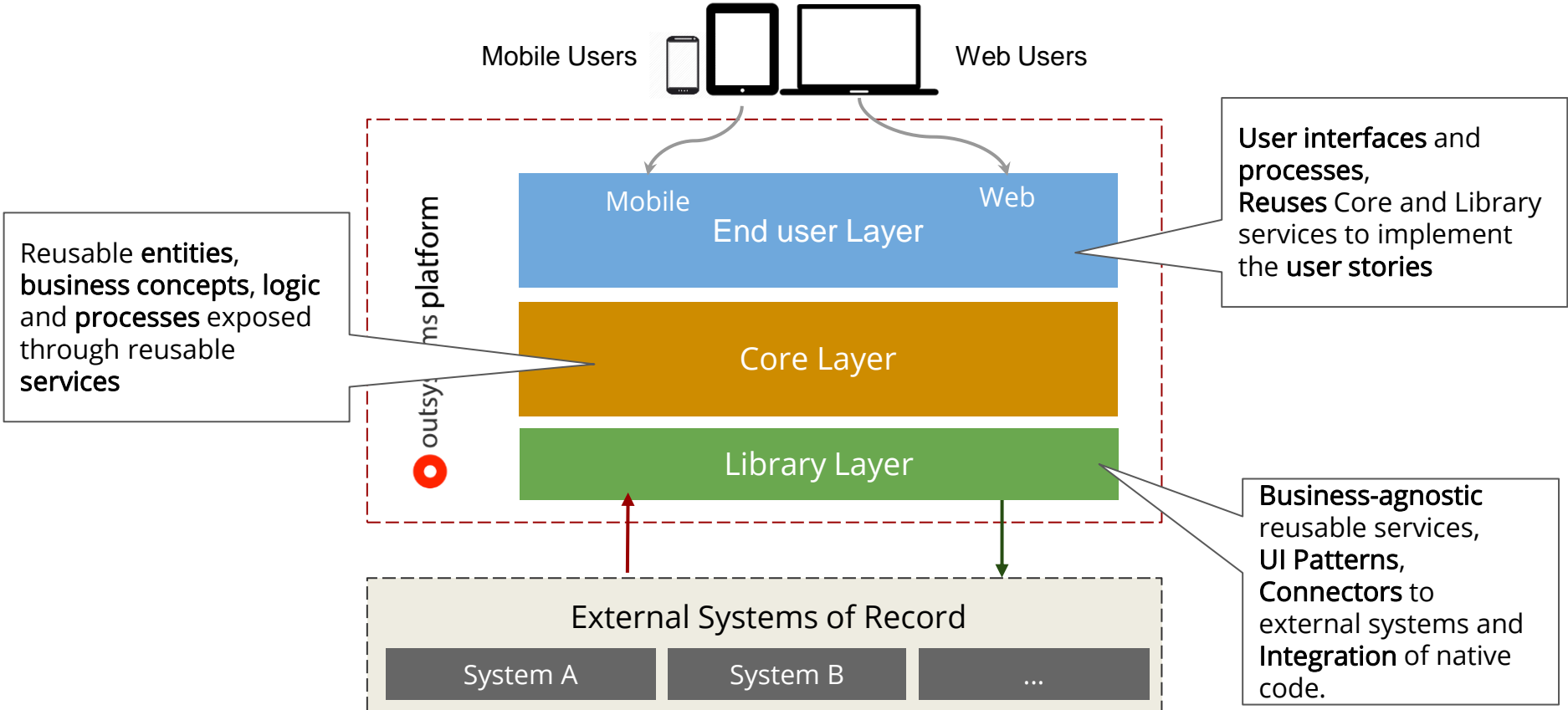


Architecture and Security

What is under the hood



Typical Enterprise Architecture



Architecture Dashboard

Allow organizations to build and expand a portfolio of applications that copes with business time-to-market demands, without creating technical debt, and not constrained to highly specialized skills.



Who is it for?



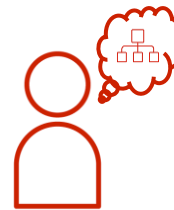
Developers

- Ensure their code reflects best practices
- Focus on skills enablement and proficiency



Team Leads

- Validation of team's work
- Ensure team delivers with quality and future work is not compromised



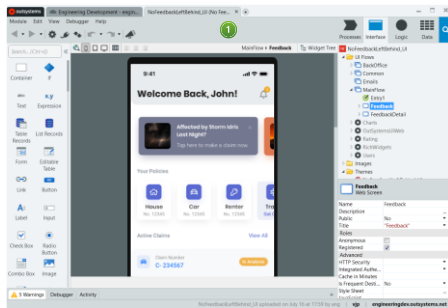
Architects

- Portfolio overview
- Focus on keeping technical debt under control

Governed Development

Eliminate Technical Debt

Developer Studio



Architecture Dashboard

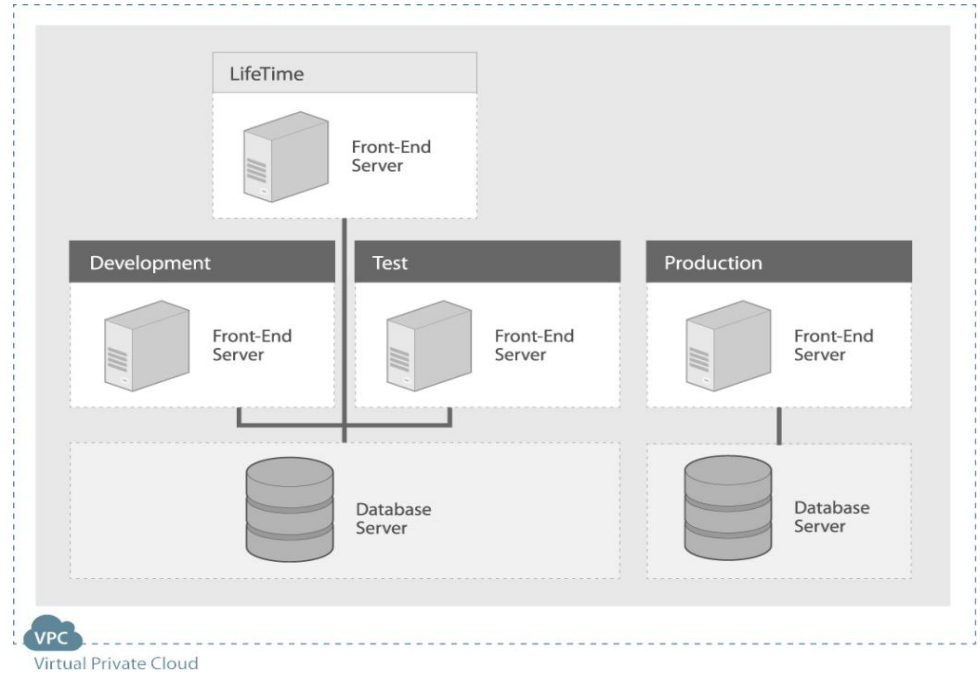


OutSystems Infrastructure

Typical Physical Architecture

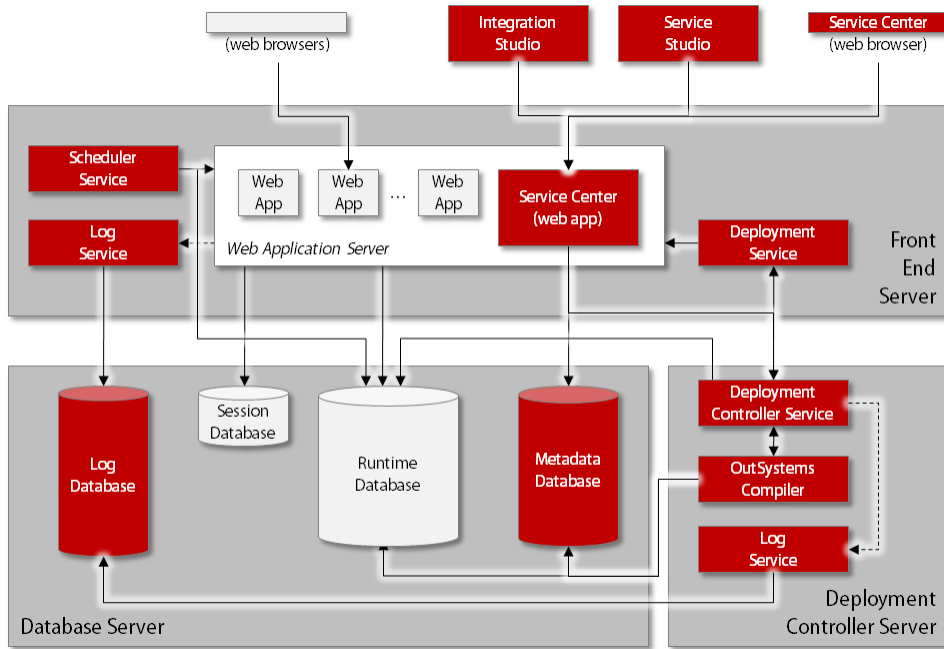


ORACLE®



Architecture

Behind the scenes



Front-end server

standard Web Application Server (IIS) environment
complemented with 3 extra OutSystems services

Deployment Controller Server

compile the applications and deploy in front-end servers

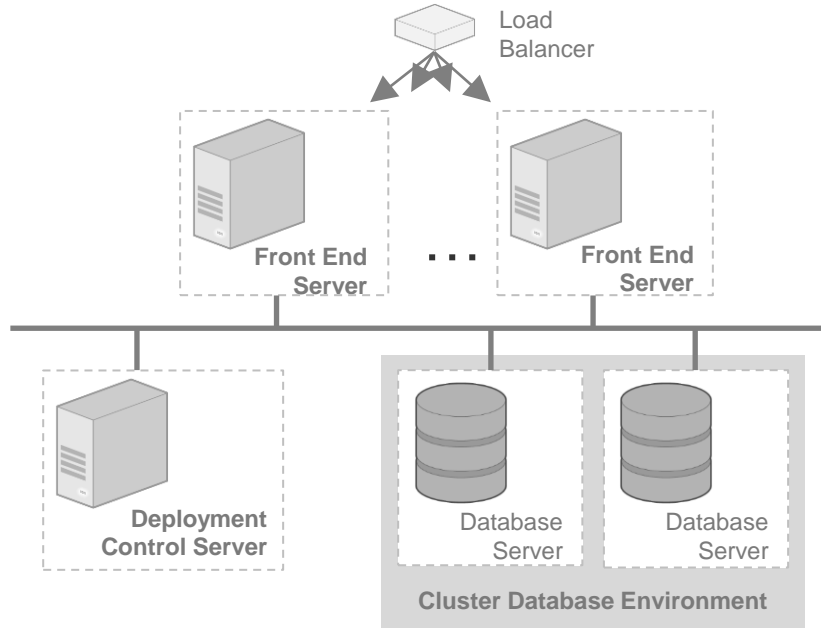
Database Server

The Database Server is a Relational Database Management System (RDBMS), such as Microsoft SQL Server, Oracle or Microsoft SQL Azure database

<http://success.outsystems.com/Evaluation/Architecture>

High Performance and Availability

Farm configuration for high scalability



Horizontal Scalability
Load Balancing
Database clustering
Content Delivery Networks
Reverse Proxies
...

OutSystems Platform architecture is compliant with industry standards

Highly Performing Apps

Assemble & Change

- **Visual language** oriented for optimized app design;
- **No low-level programming** (no pointers, no object handling)
- **High performance patterns**, ready to be assembled

Code/Model Validation

- Underperforming and unexpected pattern usage **warnings**
- **Performance impact analysis** on change.
- Maintenance **suggestions**

Code Generation & Optimization

- Page Size (View State) Optimization
- **Database fetch size containment**
- Database connection pool containment
- External integration **timeout management**:
schedulers + web services + custom integration

Deployment

- Multi-Server **farm deployment**
- **Hot deployment**
- Optimized (**differences based**) deploy
- **Zero-downtime upgrades** across app server farm

Runtime & Configuration

- **Shared runtime code**
- High performance, **asynchronous event logging**
- Scheduler **Scalability & Throttling**

Security



Built-in security Framework

- **Role based security**
- **Single-Sign-on**
- **Security API** for role based business rules
- **Extensible authentication model**

Code Generation

- **Encrypted password** for DB connections
- **SQL and C# code injection prevention**
- **Dedicated and isolated DB connection pools**
- **Strong session identifier validation mechanisms**
- **Total runtime isolation and containment**
- **Full exception handling**

Deployment & Architecture

- **Application isolation** in different frontends / network areas
- **Multi-tenant architecture** for automatic data segmentation

Runtime & Configuration

- **HTTP / SSL encryption support**
- **Windows Integrated Authentication**
- **Active Directory Authentication**
- **Centralized configuration** of users and roles

IT Security Governance

- **Role based security** for different IT profiles
- **Network based security**
- **Detailed log** of all IT operations
- **Automatic instrumentation** of all events
- **Centralized monitoring and auditing console**

Security

outsystems platform

APPLICATIONS

USERS & ROLES

ENVIRONMENTS

ANALYTICS

Security settings for Development environment

This screen allows setting up security configurations and shows the configurations that are currently applied.

Secure Connections

Please ensure the environment has a valid SSL certificate.

Enable HTTP Strict Transport Security (HSTS):

Ensure all screens use HTTPS. When enabled, all HTTP page requests will be redirected to HTTPS. Enabling this option overrides the security definitions of all web flows, web screens and the Force HTTPS for screens' application setting for all applications. This setting doesn't apply to Mobile Applications.

ON

Force HTTPS for screens in Web Applications:

Ensure all screens in Web Applications use HTTPS. When enabled, all HTTP page requests will be redirected to HTTPS. Enabling this option overrides the security definitions of all web flows and web screens. Note that all screens of Mobile Applications always use HTTPS whether this setting is on or off.

ON

Force HTTPS for exposed integrations in Web Applications:

Ensure all exposed SOAP and REST integrations in Web Applications are only served via HTTPS requests. Enabling this option overrides the security definitions of all exposed integrations for the application modules. Note that all exposed SOAP and REST integrations in Mobile Applications are always served via HTTPS whether this setting is on or off.

OFF

Content Security Policy

This section doesn't apply to Mobile Applications.

Enable Content Security Policy:

Instructs the client browser from which location and which type of resources are allowed to be loaded.

OFF

Save

Cancel

Mobile Applications Authentication

[Environment Security](#) | [Mobile Applications Authentication](#)

This screen allows setting up mobile applications authentication settings and shows the configurations that are currently applied.

Common Login Settings

Settings applicable to all kinds of authentication mechanisms available for Mobile Applications

Cache Time In Minutes

5 minutes

Specifies the number of minutes the authentication information sent by the device is considered valid by the server without needing to fetch it from the database. Authentication information will only be considered valid after ensuring it was not tampered with. Default value is 5 minutes.

Authentication HMAC Key

Secret key used when signing authenticators sent to the device allowing the server to ensure its authenticity upon each request. Generating a new key will invalidate all established authentications forcing users to login again in their mobile applications.

Generate

Persistent Login Settings

Long-lived authentication mechanism that remains valid even if the application is closed

Max. Idle Time

Specifies the number of days a user authentication is recognized by the server as being valid. Default value is 30 days.

30 days

Cookie Expiration

Specifies the number of days a user will remain authenticated in the application without going to the server. Default value is 365 days.

365 days

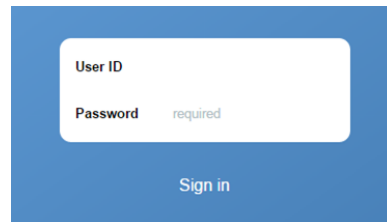
Session Login Settings

Authentication mechanism that revokes user login when the application is closed

Max. Idle Time

Specifies the number of minutes a user authentication is recognized by the server as being valid. Default value is 30 minutes.

30 minutes



Brute force protection

More Security

Best practices and security warnings - from Dev to Prod



Code Injection

HTML, Javascript, SQL

- EncodeUrl
- EncodeJavascript
- **SanitizeHtml**
- **VerifyJavascriptLiteral**
- EncodeSql
- **VerifySqlLiteral**

Open Redirect

- GetRequestDomain
- **ReplaceURLDomain**

The screenshot displays a security scanner interface with several warning messages:

- SQL Injection**: Please ensure your argument is correctly encoded to avoid SQL injection security flaws.
- Open Redirect**: Please enclose input parameters with a `ReplaceURLDomain()` function from `HttpRequestHandler` to avoid
- JavaScript Injection**: Please ensure your expression is
- HTML Injection**: Please ensure your expression is correctly encoded or sanitized to avoid HTML injection security flaws.
- Hidden Warnings**: There are 7 hidden warnings.
- Warning found**: The module is valid, but 1 warning was found in this module. Double-click the above message to highlight the issue or right-click for more...

A red circle highlights the "Warning found" message. A debugger window is open, showing the "Expression" tab with the following details:

Name	Value
Value	GetProductById.List.Current.Produ...
Example	Bag with engraved wooden f
Style Classes	
Escape Content	No

More Security

<https://www.outsystems.com/trust>



Wrap-up



OutSystems Plattform im Überblick

Unschlagbare
Geschwindigkeit



Mit allem
integrierbar

Hohe User Experience



Ohne Einschränkungen

Eingebaute
Sicherheit



Massive
Skalierbarkeit

Unverwüster
Einsatz



Metriken von
Bedeutung

Fast Development & Delivery

FULL STACK
EMPOWER DEVELOPERS
EXTEND REACH OUTSIDE OF IT



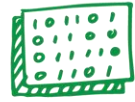
UI



LOGIC

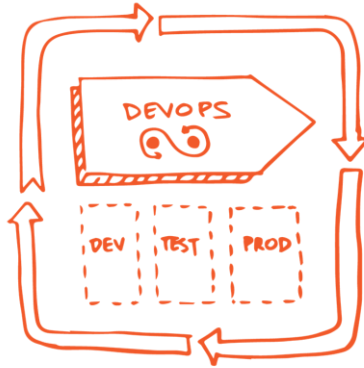


PROCESS



DATA

FULL LIFECYCLE
BE AGILE AND CONTINUOUSLY CHANGE
AUTOMATED SOFTWARE LIFECYCLE



CI/CD
MONITORING
USER FEEDBACK
GOVERNANCE

EXPERIENCES
REACH ALL TOUCHPOINTS
WIDEST RANGE OF DIGITAL EXPERIENCES



WEB/MOBILE



APIS
WEB SERVICES



CHAT
VOICE
SMS/EMAIL

INTEGRATE & EXTEND
NEVER START FROM SCRATCH
LIMITLESS AND EASY INTEGRATION

OVER 2000 OPEN SOURCE COMPONENTS



ENTERPRISE
SYSTEMS



DATABASES



Next Steps...



Your Success Program

Our Community is available 24/7 :



[Learn](#)



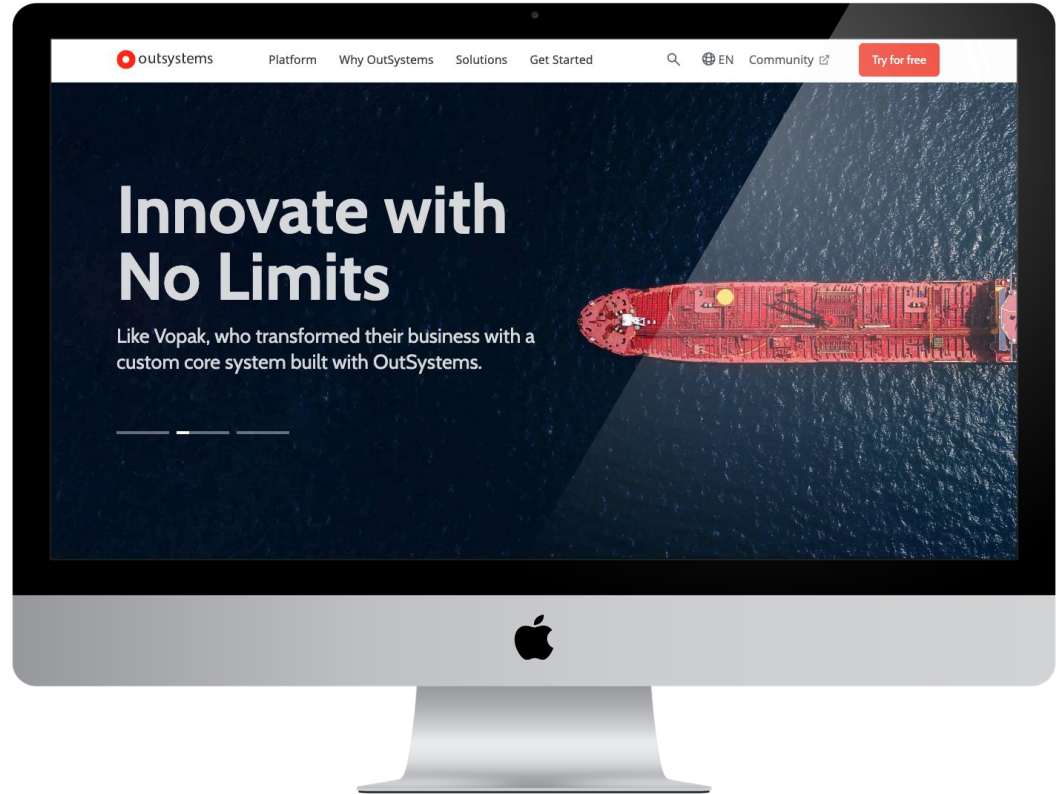
[Forums](#)



[Knowledge Base](#)



[Forge](#)



Learn

Training

Welcome to OutSystems University! Learn to build apps. Make new friends. Graduate without any crippling debts!

Learn to Build with OutSystems

Learn OutSystems your way. Follow a path or take a course. View webinars or read docs. And, don't put too much pressure on yourself. Remember, Frodo took three whole movies to get to Mordor, but it was worth it.



Guided Paths

If you're just starting with OutSystems, these guided paths help you learn our IDE and build responsive web and mobile apps with our tools.

Let us be the Dumbledore to your Harry, the Faria to your Dantes, the little floating fairy thing to your Link. You get it.



[Mobile Developer](#)

[Reactive Web Developer](#)

[Traditional Web Developer](#)

[Front-end Developer](#)

[Tech Lead](#)

[Tester](#)

Forums

Community · Forums

Community Forums

Reactive Web: The Next Generation of Web Apps 143 REPLIES
News and Announcements 232
[NEXTSTEP](#) [REACTIVE](#) [REACTIVWEBAPP](#) Jorge Martins replied 1 day ago

Contribute to the 2020 Developer Survey Today 85 REPLIES
News and Announcements 104
[SURVEY](#) Thiago Mari replied 6 days ago

Improve your Forge documentation and win prizes 66 REPLIES
News and Announcements 40
Prajakta Roshankhede replied on 7th Jan.

Mini Treinamento OutSystems em Português (Iniciativa Dig... 62 REPLIES
News and Announcements 109
[OUTSYSTEMS](#) [PORTUGUÊS](#) [CURSO](#) [TREINAMENTO](#) [APRENDER](#) Roger Diogo replied 13 days ago

Progressive Web Apps - Early access now open to everyone 55 REPLIES
Early Access Features 31
[PWA](#) Roy van de Kerkhof replied 7 hours ago

check from one entity's screen if another entity's attribute ... 39 REPLIES
Development questions and troubleshooting 23
[RELATIONSHIP](#) [1:RELATIONSHIPS](#) [ONETOMANYRELATION](#) Eduardo Jauch replied on 2019-08-08

Next Events

Training

- 6 Apr** [Developing OutSyste...](#) Remote, Netherlands
- 13 Apr** [Advanced Developer ...](#) Lisbon, Portugal
- 14 Apr** [Mobile for OutSystem...](#) Remote, Netherlands
- 20 Apr** [Developing OutSyste...](#) Remote, Australia
- 20 Apr** [Developing OutSyste...](#) Helsinki, Finland

Last Month's Top Posters

- Nuno Miguel Verda...** 1st
- Kilian Hekhuls** 2nd
- Nordin Ahdi** 3rd

Knowledge Base

The screenshot shows the 'OutSystems Evaluation Guide' page. The header includes the OutSystems logo, navigation links for Platform, Why OutSystems, Solutions, and Get Started, a search icon, language selection (EN), a Community link, and a 'Try for free' button. The main content area has a dark red background with the title 'OutSystems Evaluation Guide' and a sub-headline: 'This condensed guide answers the most common questions asked by teams considering OutSystems.' Below this is a search bar with the placeholder text 'Search for a question or topic...'. On the left, a sidebar lists navigation items: Overview (selected), Why OutSystems?, Developing with OutSystems, Lifecycle Management, Getting Started With OutSystems, Architecture, Deploying OutSystems, Mobile, and Integration. The main content area features a section titled 'Why OutSystems?' with a sub-headline and a paragraph: 'OutSystems, the #1 platform for low-code rapid application development with advanced capabilities for enterprise mobile and web apps. Explore why it will help you and your company solve your app problems today.' Below this, there is a 'Featured Articles:' section with three links: 'It began with a vision', 'The two major IT pressure points today', and 'How OutSystems solves the problem'. A right-pointing arrow is visible at the end of the 'Why OutSystems?' section.

outsystems Platform Why OutSystems Solutions Get Started Search EN Community Try for free

OutSystems Evaluation Guide

This condensed guide answers the most common questions asked by teams considering OutSystems.

Search for a question or topic...

- Overview**
- Why OutSystems?
- Developing with OutSystems
- Lifecycle Management
- Getting Started With OutSystems
- Architecture
- Deploying OutSystems
- Mobile
- Integration

Why OutSystems?

OutSystems, the #1 platform for low-code rapid application development with advanced capabilities for enterprise mobile and web apps. Explore why it will help you and your company solve your app problems today.

Featured Articles:

- [It began with a vision](#)
- [The two major IT pressure points today](#)
- [How OutSystems solves the problem](#)

Lots of articles and how-to's

- Developing with OutSystems
- Lifecycle Management
- Getting Started With OutSystems
- Architecture
- Deploying OutSystems
- Mobile
- Integration
- Security
- Scalability
- Performance

outsystems Platform Learn Community Support

OutSystems.com Sign up Log in

Language: English | 日本語

Welcome to OutSystems Docs

Search the documentation...

OutSystems 11

OutSystems 11 delivers advanced capabilities specifically designed to address the challenges of replacing massive systems and large application portfolios.

[New in OutSystems 11](#) [OutSystems 11 Docs](#)

[Developing an Application](#)
[Delivering Mobile Apps](#)
[Extensibility and Integration](#)
[Managing the Applications Lifecycle](#)
[See More](#)

Most Popular

- [Create Your First Mobile App](#)
- [Screen Templates](#)
- [Reuse and Refactor](#)
- [Integrate with an External Database](#)

Best Practices

[OutSystems Platform Best Practices](#) [The Complete Guide to Core Components](#)

Forge

Community > Forge

Forge

The OutSystems Forge is a repository of reusable, open code modules, connectors, and UI components to help speed up app delivery time.

[Check our FAQs for more information.](#)

Not finding the component you need? [Submit an idea!](#)



[Login to Create New Component](#)

[SEARCH](#)

[Advanced Search](#)

Featured



OutSystems.AI Chatbot

by OutSystems.AI Team

★★★★★ 10

Use OutSystems.AI Chatbot to allow your users to interact with your services via a chat interface.



OutSystems.AI Chatbot

★★★★★ 10



OutSystems UI

★★★★★ 78



OutSystems Workato Connector

★★★★★ 1

[All Apps](#)

[Applications](#)

[Components](#)

[UI & Widgets](#)

[Libraries](#)

[Mobile Plugins](#)

[Samples & How-tos](#)



Brand Building Sponsor

nextstep

And don't forget...

Join us at
NextStep

Virtual NextStep 2020

15. & 16. September 2020

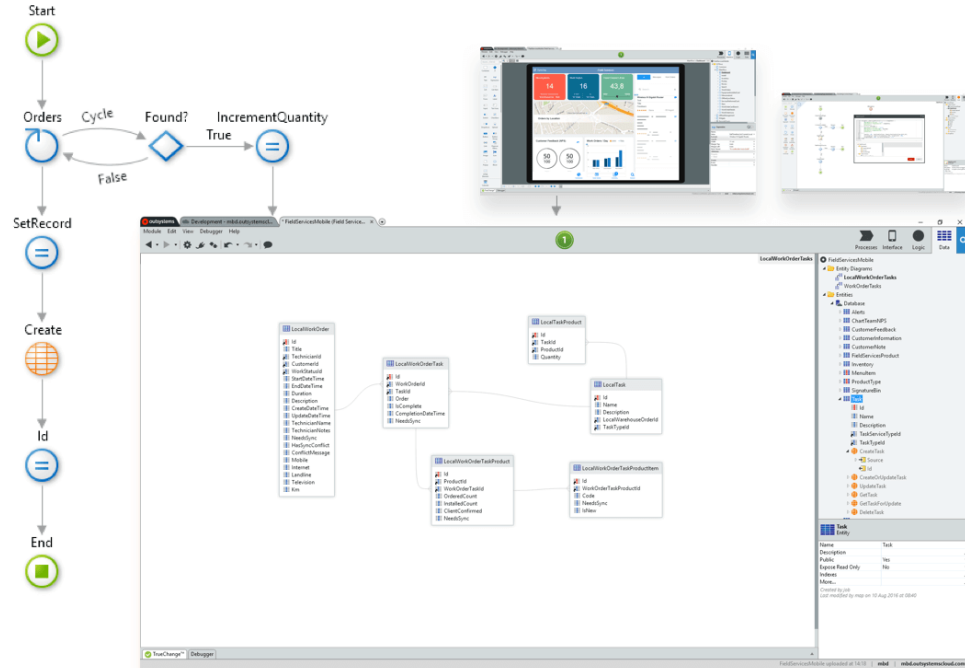
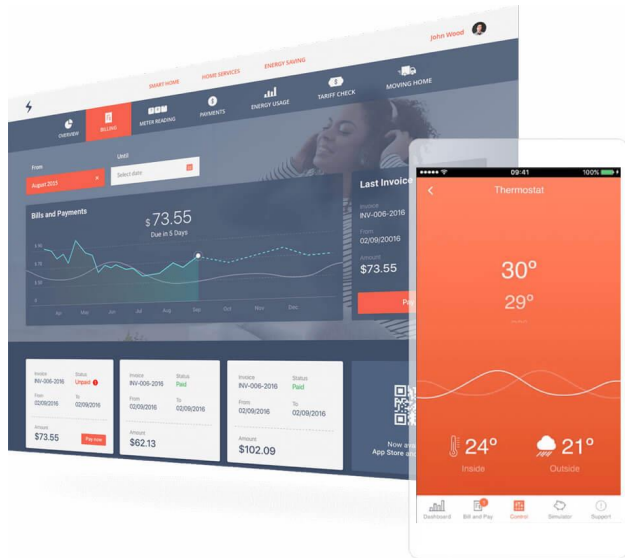
Die Teilnahme ist **kostenfrei!**

Anmeldung unter: <https://www.outsystems.com/nextstep/>

Personal Environment

Explore more possibilities

Build your ideas



Q&A

Feedback

Your Next Steps





Thank You!



Copyright

This material is owned by OutSystems and may only be used in the ways described in this Copyright Notice:

1. You may take temporary copies necessary to read this document
2. You may print a single copy of this material for personal use
3. You must not change any of this material or remove any part of any copyright notice
4. You must not distribute this material in any shape or form