



**2nd Annual**  
**MidPoint Community Meetup**

**midPoint Deployment Essentials**

# Agenda

- Planning the deployment
- Architecture & Requirements
- Deployment methods
- Deployment strategy



# Planning the Deployment

Environment and target assessment

# Planning Deployment

- First Steps Methodology
- Assess the current environment and legacy systems
- Review the data type and clarity
- Address Security constraints

## Key Questions:

- Are we starting from scratch?
- Do we already have part of the environment up and running?
- Are we deploying for test, development or production?

# Demo preview

- Fully deployed midPoint environment
- Contains resources and most used scenarios
- Publicly available for testing and assessment
- Reset every midnight or on-demand

<https://demo.evolveum.com>

The screenshot shows the midPoint user management interface. The top navigation bar includes the midPoint logo and the page title "Edit Person leonardo". The left sidebar contains a navigation menu with categories like "SELF SERVICE" and "ADMINISTRATION", with "Users" selected. The main content area shows the user profile for "Leonardo da Vinci (leonardo)" with a profile picture and a "Painting Lounge" role. Below the profile, there are operation buttons: "Back", "Save", "Preview changes", "Change archetype", "Delete object", and "Edit raw". The "Properties" section is expanded, showing fields for Name, Full name, Given name, Artistic Name, Family name, Nickname, Email, Telephone number, Personal Number, and Jpeg photo. The "Basic" section is also visible, showing a list of projections and assignments.

# POC Sessions

- POC sessions to set a dry run
- Review real / demo scenarios to assess midPoint in your environment
- Work with a dedicated engineer for midPoint essentials walkthrough and deployment
- Obtain a valuable insight to prepare for actual deployment

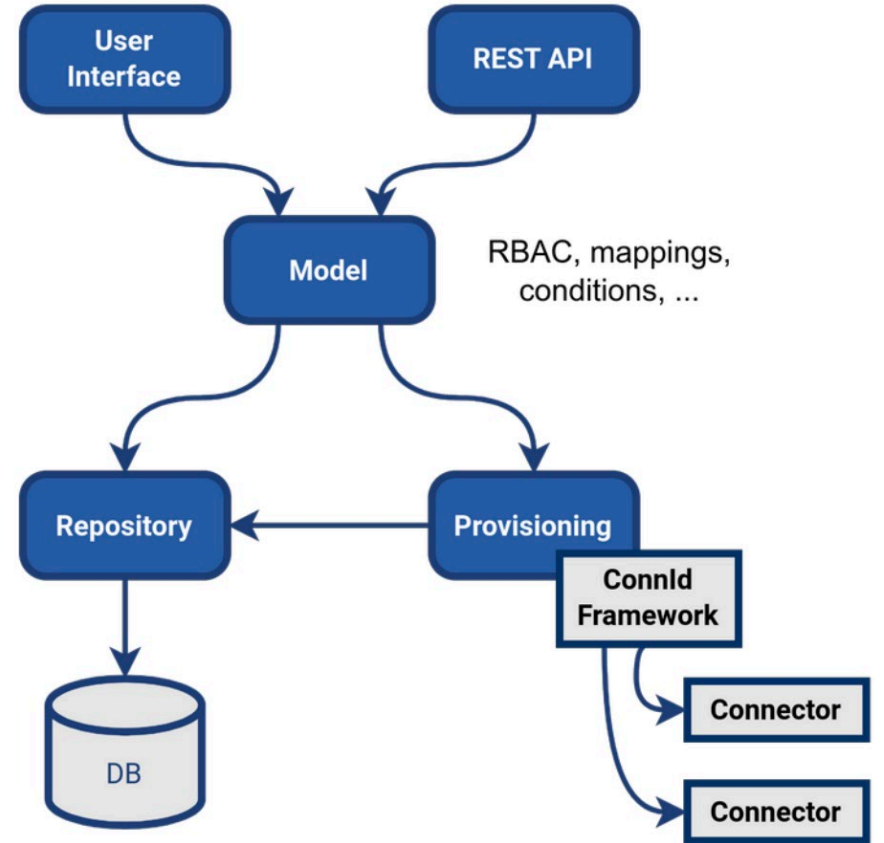


## midPoint Architecture & Requirements

Components worth considering

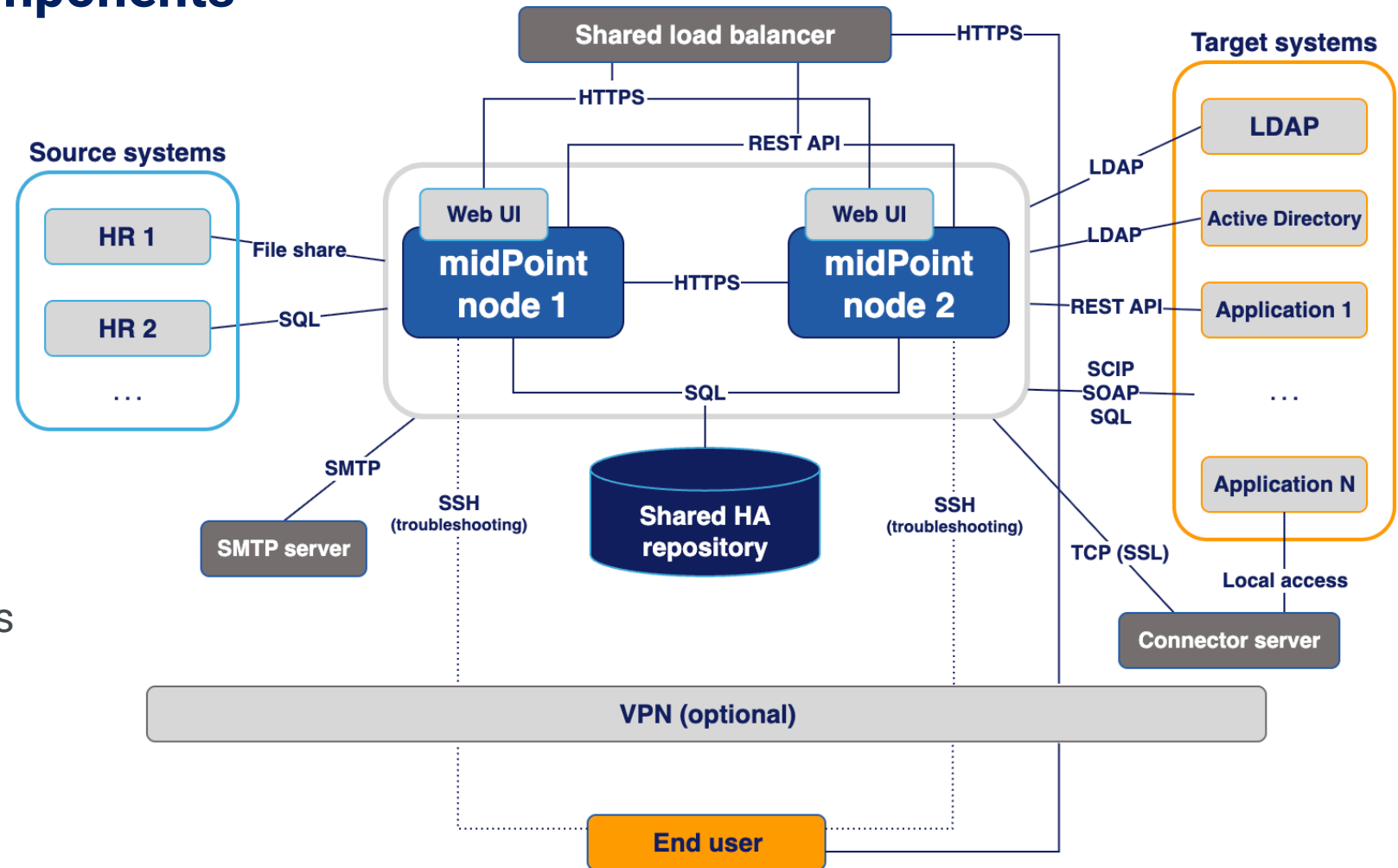
# Basic Architecture

- Java web application
- Embedded Tomcat
- Small number of components
- Uses XML/JSON to represent internal data
- midPoint needs a repository to store its configuration and identities
- Audit log is by default stored in the same repository
- Native repository (PostgreSQL)



# Considering Other Components

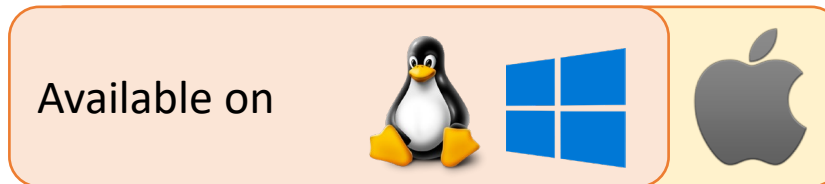
- Load Balancer
- Connector Server
- Connector Requirements
- SMTP Server
- SSH / VPN
- Container / Virtual Machines
- Multi Node Environment



# System Requirements: Hardware Requirements

midPoint server	Minimum	Less than 5,000 users	5,000 – 50,000 users	50,000 – 100,000 users	More than 100,000 users
CPU	1 core	4 cores	8 cores	16 cores	Custom sizing
RAM	4 GB	8 GB	16 GB	16 GB	Custom sizing
Disk space	2 GB	10 GB	20 GB	40 GB	Custom sizing
Disk I/O	Negligible	Negligible	Negligible	Negligible	Custom sizing

Database	Minimum	Less than 5,000 users	50,000 – 100,000 users	More than 100,000 users
CPU	1 core	2 cores	8 cores	Custom sizing
RAM	2 GB	3 GB	12 GB	Custom sizing
Disk space	1 GB	5 GB	20-100 GB for 3 months audit	Custom sizing
Disk I/O	Small	Medium	Medium to High	Custom sizing



# Deployment Methods

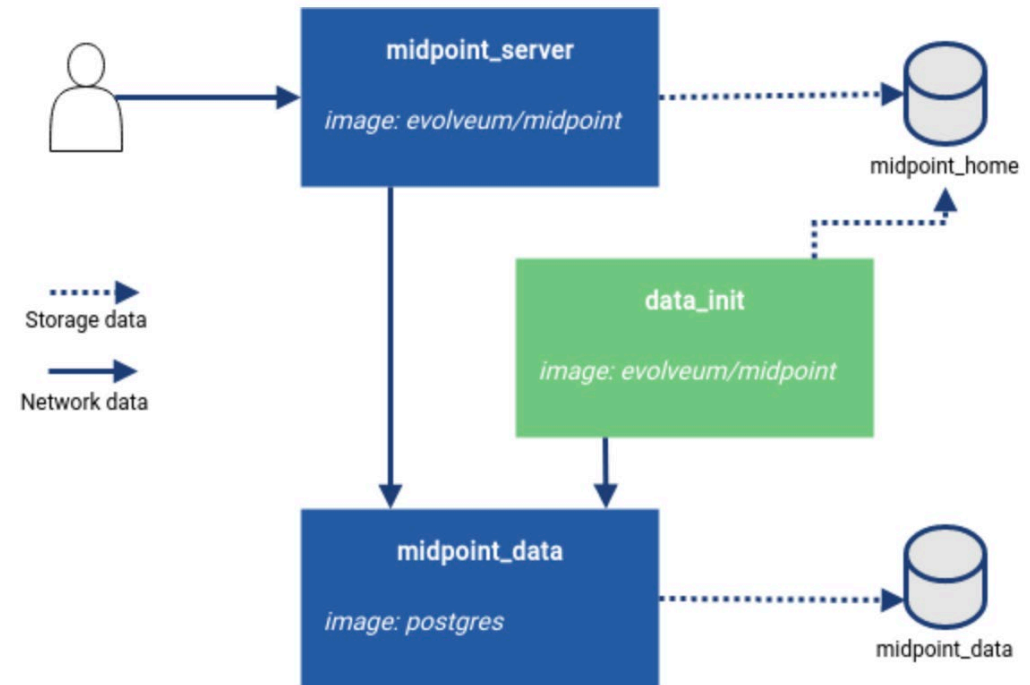
Which way to go

# Deployment Methods - Test Environment

## Quick Start

- Automated deployment
- Pre-packaged containers
- Local orchestration
- Standardized baseline
- Frictionless setup
- Safe sandboxing
- Learning stepping-stone

## Docker Compose



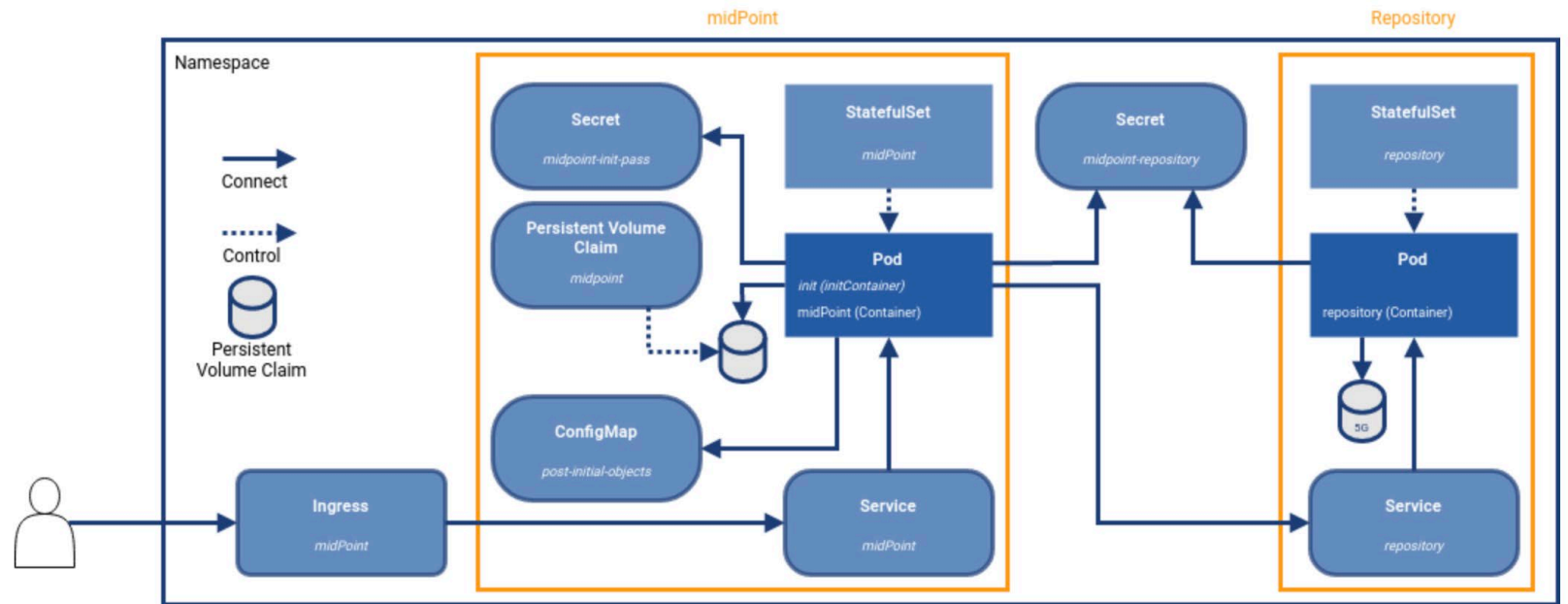
# Deployment Methods - Production

Kubernetes

Distribution Package

Source Code

- Enterprise Architecture
- Kubernetes (Cloud-native)
- Externalized dependencies
- High Availability & Resilience
- Massive scalability
- Deep customization



# Deployment Strategy

Few tips for the best practices

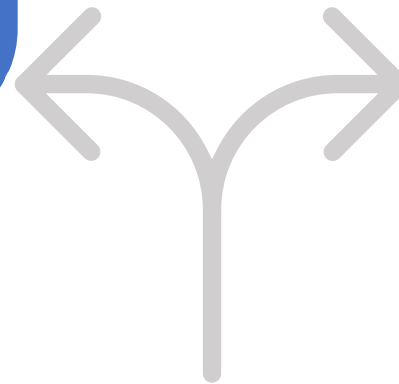
# Deployment Prioritization

## Deployment

Which deployment method  
Current Environment / Data Analysis  
GitOps / CI/CD approach  
Kubernetes configuration  
Automation  
...

## Configuration

Connecting Data  
Configuring relationships  
Defining rules, policies, flows  
Configuring object types  
Automation  
...



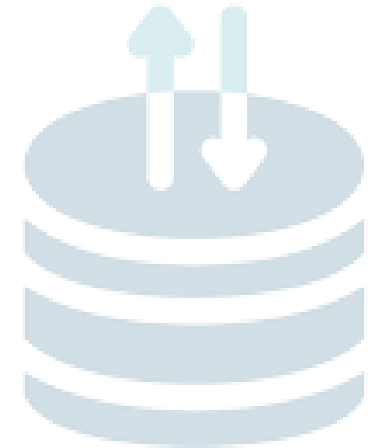
# Preparing for deployment

- Decide which version (Feature releases / LTS)
- Ensure availability (network routes, firewall rules, access accounts,...)
- Ensure resources are ready (demo/semi-production data clarity, schema definitions, scope, expected results on Target)
- Review the best approach for testing and development but also maintenance and update.
- Define key stakeholders and their authorization levels (users, service desk, approver, operator,...)
- Prepare clear description of the expected result, including test scenarios to verify the expectations are met



## Import / Export Data

- Review data clarity, conduct a cleanup on resource level
- Ensure that the data format matches production data
- In test phase declare test import/export method (CSV Resource, REST API, Task, ...)
- Review associations and mapping expectations



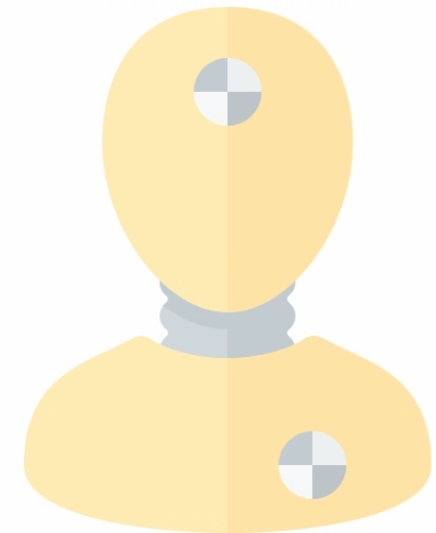
# Simplify

- Identify which object types and components will be used
- Leverage inducement approach where possible to avoid duplicities
- Use Environment variables and Secrets
- When necessary, substitute faulty resources or methods with POC solutions
- Configure in iterations and use simulations



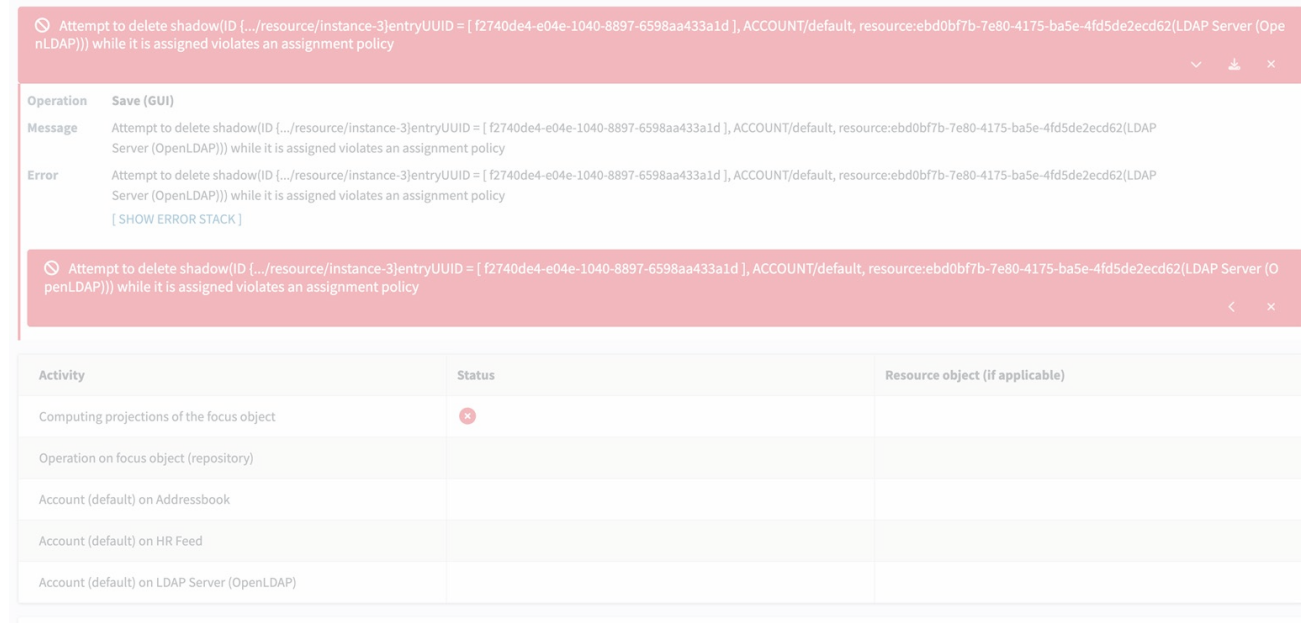
# Test

- Ensure all parties are aligned – management, DevOps, network, security, application owners,...
- Define the Types of Testing
- Success Criteria & Rollback
- Conduct regular Demo sessions to ensure configuration is on the right path
- Update any changes made into a Ticket system or Documentation



# Troubleshoot

- Review midPoint errors in GUI
- Check audit log records
- Adjust log levels and categories
- Configure with simulations and in iterations
- External Monitoring & Logging
- Reach out to Community & Support



Attempt to delete shadow(ID [.../resource/instance-3]entryUUID = [ f2740de4-e04e-1040-8897-6598aa433a1d ], ACCOUNT/default, resource:ebd0bf7b-7e80-4175-ba5e-4fd5de2ecd62(LDAP Server (OpenLDAP))) while it is assigned violates an assignment policy

Operation Save (GUI)

Message Attempt to delete shadow(ID [.../resource/instance-3]entryUUID = [ f2740de4-e04e-1040-8897-6598aa433a1d ], ACCOUNT/default, resource:ebd0bf7b-7e80-4175-ba5e-4fd5de2ecd62(LDAP Server (OpenLDAP))) while it is assigned violates an assignment policy

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[ SHOW ERROR STACK ]

Attempt to delete shadow(ID [.../resource/instance-3]entryUUID = [ f2740de4-e04e-1040-8897-6598aa433a1d ], ACCOUNT/default, resource:ebd0bf7b-7e80-4175-ba5e-4fd5de2ecd62(LDAP Server (OpenLDAP))) while it is assigned violates an assignment policy

Activity	Status	Resource object (if applicable)
Computing projections of the focus object	✖	
Operation on focus object (repository)		
Account (default) on Addressbook		
Account (default) on HR Feed		
Account (default) on LDAP Server (OpenLDAP)		

# Maintenance

- Ideal to approach Infrastructure as a code & GitOps
- CI/CD Pipeline to ensure correct deployment
- How to approach Upgrades & Patching
- Ensure backups of all necessary components
- Think about how to conduct Disaster Recovery



# Wrap Up

## Wrap Up

- Assess of what type of deployment is the best match for you
- Review midPoint's capabilities by checking the Demo or arranging a POC
- Try to run deployment and configuration side by side
- Prepare data and external components
- Chose the correct objects and approach to build a functioning environment
- Granulate the tasks into simple steps, deploy through iteration
- Use the correct resources when troubleshooting, reach out to the community
- Think about the best ways to maintain and backup the existing environment



# Evolveum

## Thank you for your attention

Feel free to ask your questions now!



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