



# Salesforce Certified Technical Architect (CTA)

## Candidate Preparation Workshop

Version 0218\_01

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2



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## Logistics

- Class etiquette and participation
- Breaks



## Courseware and Agenda

- Agenda for this class
- Layout of the manual and exercises



## Your Fellow Students

- Your name
- Preparation to date



## BECOMING A CTA IS BOTH AN ART AND A SCIENCE

Knowing the feature set and capabilities of Salesforce is the Science, choosing the appropriate solution to address a business requirement is the Art!

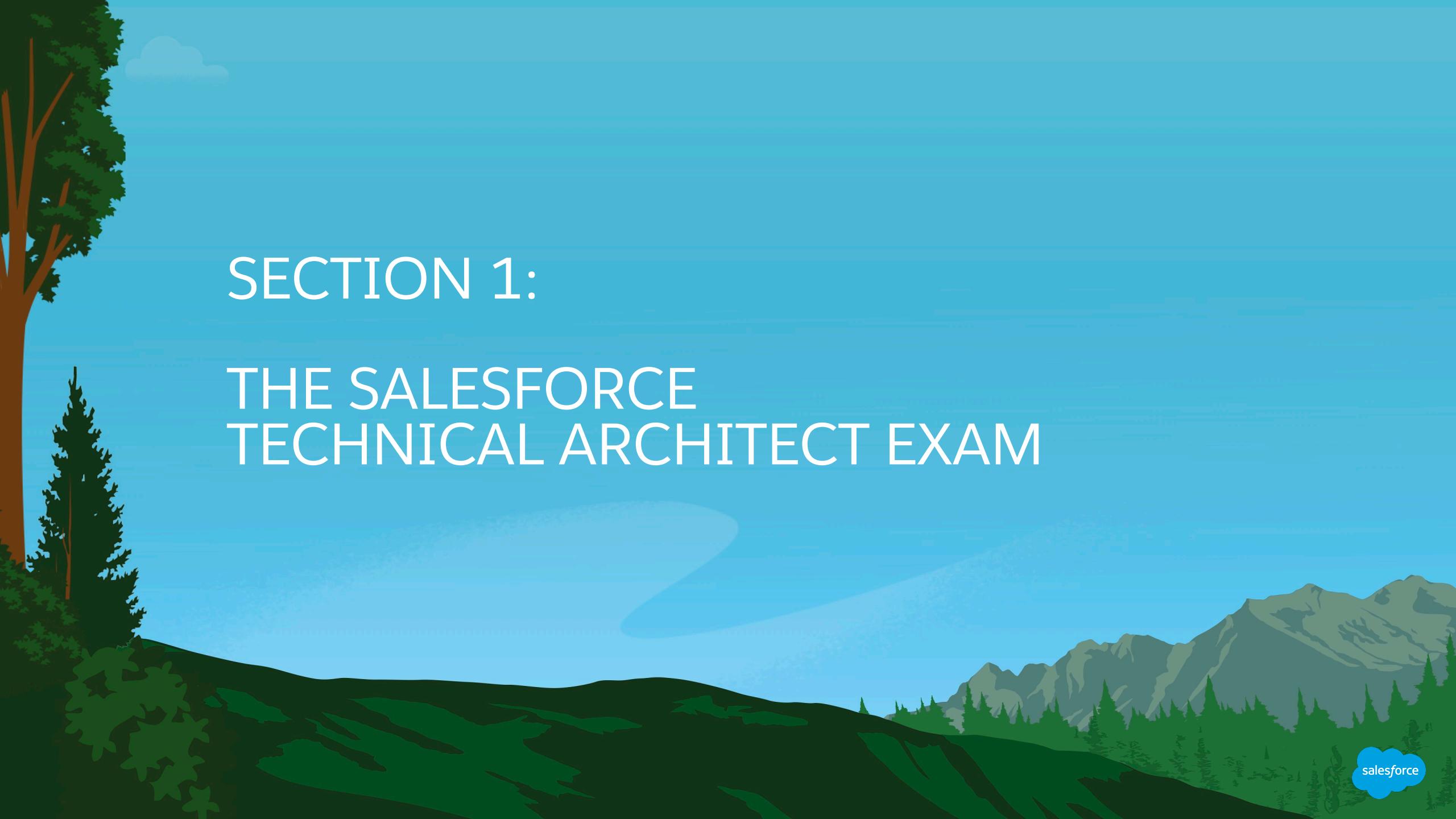
There is no ONE way to pass the CTA exam. There are many ways, all equally valid. The most important thing is that you find YOUR way. And the best way to find your way is thru hard work and practice

Nothing in the following content should be considered prescriptive. It is a compilation of best practices, tips, resources, and activities gathered from elite CTA coaches around the world



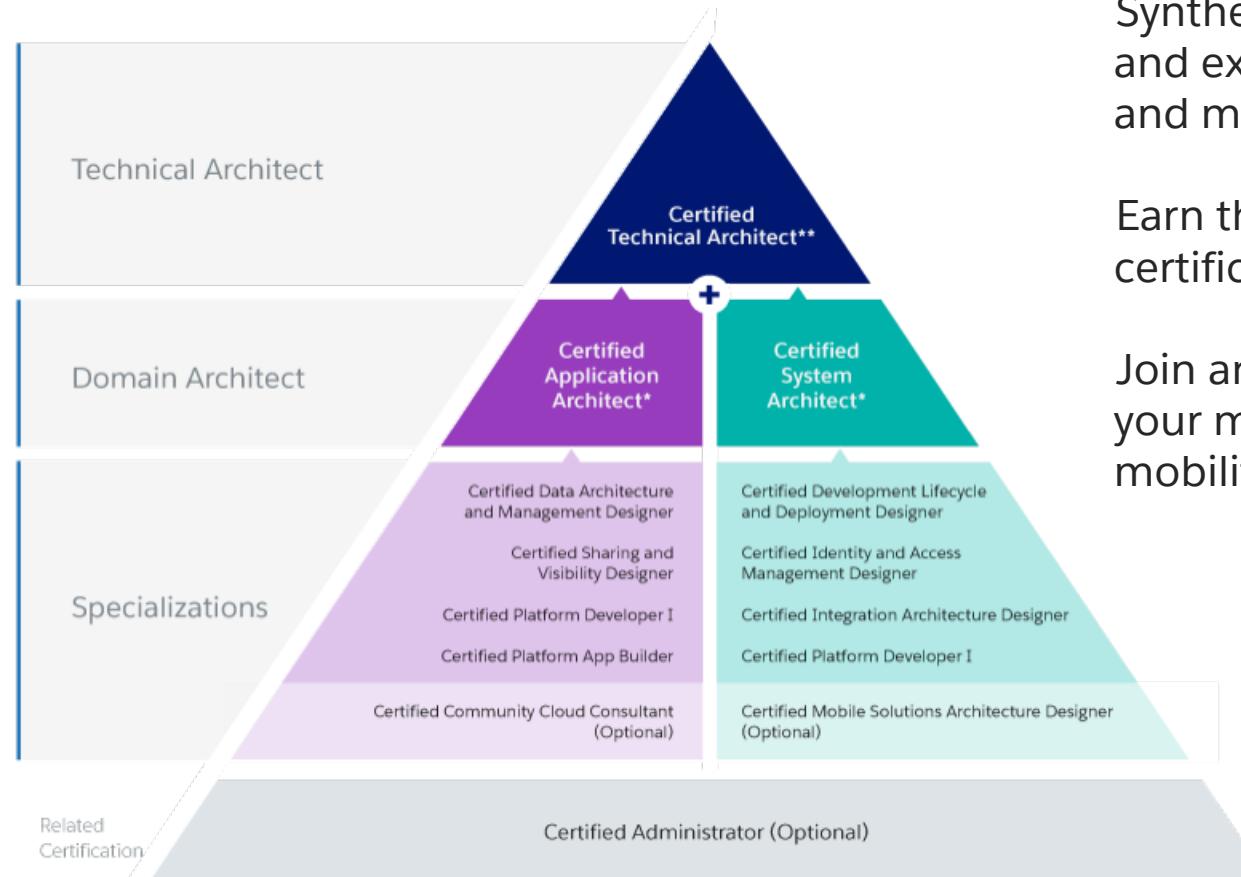
# Agenda

- Introductions
- Section 1: The Salesforce Technical Architect Exam
- Section 2: The Exam Scenario
- Section 3: Key Diagrams and Artifacts
- Lunch
- Section 4: The Presentation
- Section 5: The Q&A Period
- Section 6: Your Path Forward



# SECTION 1: THE SALESFORCE TECHNICAL ARCHITECT EXAM

# Reach the Salesforce Certified Technical Architect (CTA) Summit



Synthesize depth and breadth of technical knowledge and experience to solve customers' business problems and maximize the potential of the Salesforce platform

Earn the toughest and most rewarding Salesforce certification

Join an elite group of architects and greatly increase your marketability, earning potential and upward mobility

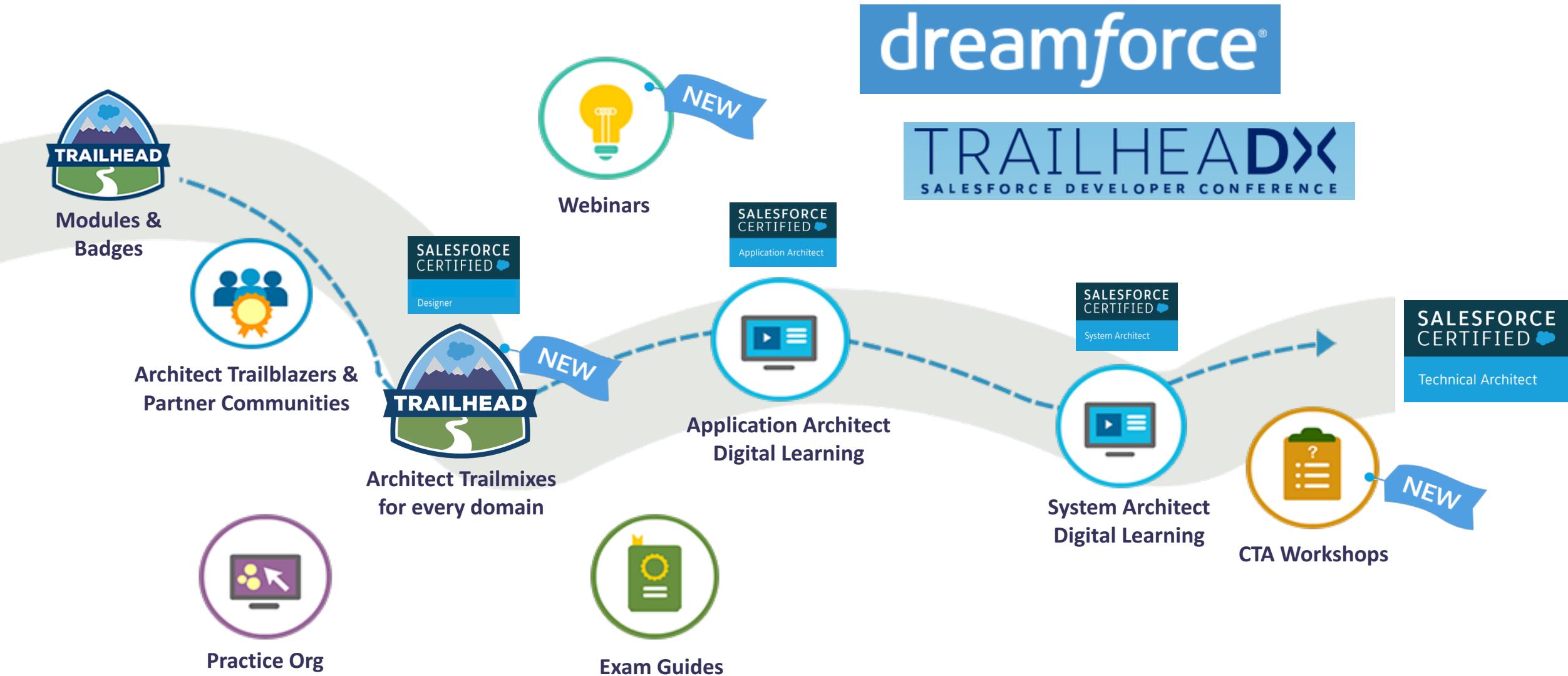


\* Credential earned upon completion of exams within the specializations tier, no additional exam requirements.

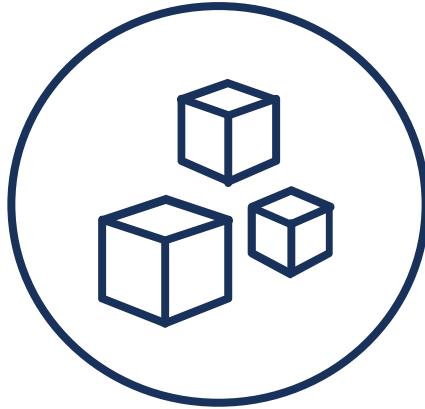
\*\* Credential earned upon successful completion of the Domain Architect tier and Review Board.

# The Salesforce Architect Learning Environment

9



# Domain Areas



## System Architecture

Big picture systems landscape  
Salesforce license choice  
Mobile and 3<sup>rd</sup> Party choice  
On or Off Platform



## Data

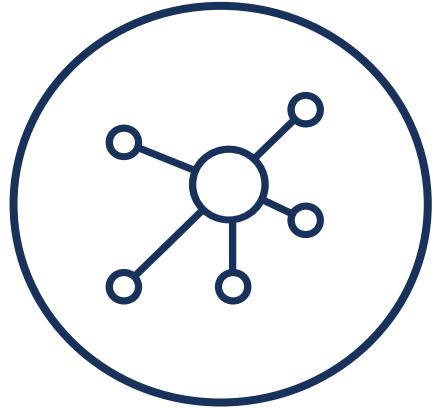
Data model design  
Declarative features  
Customization  
Reporting



## Security

Ensures trust is #1  
Data at rest, in transit and in use

# Domain Areas



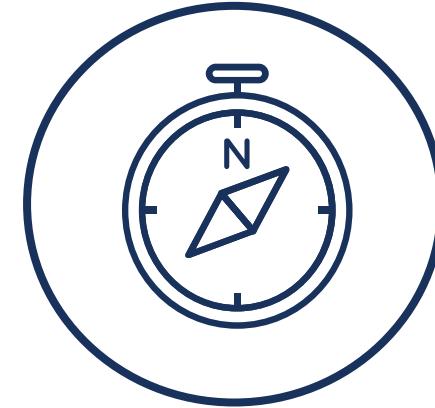
## Integration

Pattern choice  
Best Practices & Limits



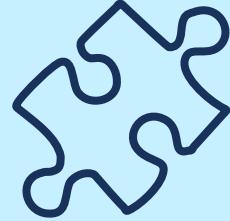
## Identity Management

Internal Users  
External Users



## Development Lifecycle & Deployment Planning

Risk Mitigation  
Project Methodologies  
DevOps



## Goal:

Gain a deeper understanding of exam expectations while practicing your ability to solution quickly and communicate concisely

## Tasks:

1. Using the next several slides, read the objective out loud and explain what it means
2. Given a micro requirement related to that objective, solution and present in less than 30 seconds



- Given a scenario, determine the appropriate mix of systems, including both on and off-platform components, taking into consideration the Salesforce platform capabilities, constraints, and limits
- Given a scenario, describe the design and platform considerations, trade-offs, and risks for reporting and analytics
- Given a scenario, describe the architectural considerations when planning, defining, or working within a single or multi-org environment
- Given a scenario, describe the design considerations, trade-offs, and risks for mobile solutions and recommend the appropriate mobile platform
- Given a set of requirements, recommend the correct mix of required license types taking into account the capabilities, trade-offs and constraints



- Given a scenario, describe the platform architecture considerations, platform impact and optimization methods used when working with large data volumes
- Given a scenario, describe data modeling concepts and implications of database design and modeling
- Given a scenario, determine the data migration strategy, considerations, and appropriate tools to use



- Given a set of requirements, architect a solution that utilizes the appropriate platform security mechanisms
- Given a scenario, identify the security considerations and risks, and leverage the appropriate security capabilities to design a secure portal architecture including access by both internal and external users
- Given a scenario, identify the declarative platform security features that can be used to meet record level security requirements
- Given a scenario, identify the programmatic platform security features that can be used to meet security requirements
- Given a scenario, describe how to incorporate the platform security features into a solution to give users the appropriate object and field access permissions



- Given a set of requirements, recommend the appropriate enterprise integration landscape and describe associated risks, trade-offs, and business and technical considerations within a customer environment
- Given a scenario, describe the capabilities of the appropriate technology and justify their use as part of the overall integration architecture
- Given a scenario, recommend and justify the appropriate integration strategy and the use of common integration patterns
- Given a scenario, recommend and justify the appropriate platform-specific integration technology used to integrate with external systems and describe the capabilities, limitations and trade-offs

# Development Lifecycle and Deployment Planning

17



- Given a scenario, identify the project risks and mitigation strategies. Given a customer project environment and development methodology, identify the technical considerations, risks, and impact on the technical work streams
- Given a scenario, recommend an appropriate comprehensive test strategy and discuss how testing mitigates any project risks
- Given a scenario, describe the considerations, stakeholders, and impact of decisions around a technical solution relative to customer project governance
- Given a scenario, describe the platform tools, use cases, limitations, and best practices for environment management
- Describe the common tools, benefits, and rationale for using source control and continuous integration for release management



- Given a set of business requirements, describe the appropriate combination of declarative and programmatic functionality within a solution
- Given a scenario, describe the benefits, considerations, and trade-offs of incorporating external applications into an optimal solution architecture

# Communication

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- Articulate the benefits, limitations, considerations, and design choices for a solution architecture and handle objections related to the design
- Demonstrate how visualization and documentation tools can be used to articulate the technical solution
- Demonstrate the ability to handle unexpected roadblocks and determine the appropriate next steps

## SECTION 2: THE EXAM SCENARIO



# Typical Components of a Scenario



## Examples

- Scenario context
- Services provided by company
- Geographic location
- Growth strategies/goals
- Pain points and challenges
- Groups of people that interact with system



# Typical Components of a Scenario



## Examples

- Current systems
- Technologies currently used
- Business function supported
- Company strategies on keeping or replacing systems
- Risks and concerns



# Typical Components of a Scenario



## Examples

- The bulk of the scenario
- Written as a series of requirements
- Consists of functional, integration, and data requirements



# Typical Components of a Scenario



## Examples

- Identity Management
- Where employee credentials are stored
- Whether there is an expectation for external users to use their social media accounts for authentication
- Current management of mobile device access
- Expectations for user experience



# Typical Components of a Scenario



## Examples

- Application and network Security
- A list of actors, their relationships and assignments
- Note: Covers a range of platform security features (for example, sharing rules, groups, sets, permission sets, profiles, platform encryption, Apex managed sharing, IP restrictions, 2FA)



# Typical Components of a Scenario



## Examples

- Key reports required
- Data needed to support requirements
- Expectations regarding information to be made available



# Typical Components of a Scenario



## Examples

- Governance considerations
- Time constraints for project
- Additional risks and issues

# SECTION 3: KEY DIAGRAMS



## PRACTICE YOUR PRESENTATION TECHNIQUE THEN PRACTICE SOME MORE

PowerPoint? Whiteboard? Flipchart?

It doesn't matter

What does matter is that you find a style that works for you and that you practice it to perfection

Just like a marathon runner wouldn't try new shoes on race day, don't change your technique the day of the exam

Trust your preparation



## STRIVE FOR INFORMATION DENSITY

*When drawing artifacts and presenting,  
strive to provide the judges  
the greatest amount of relevant information  
in the shortest time with the least amount of words and ink*

# Key Diagrams

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System Landscape

Data Model

Role Hierarchy

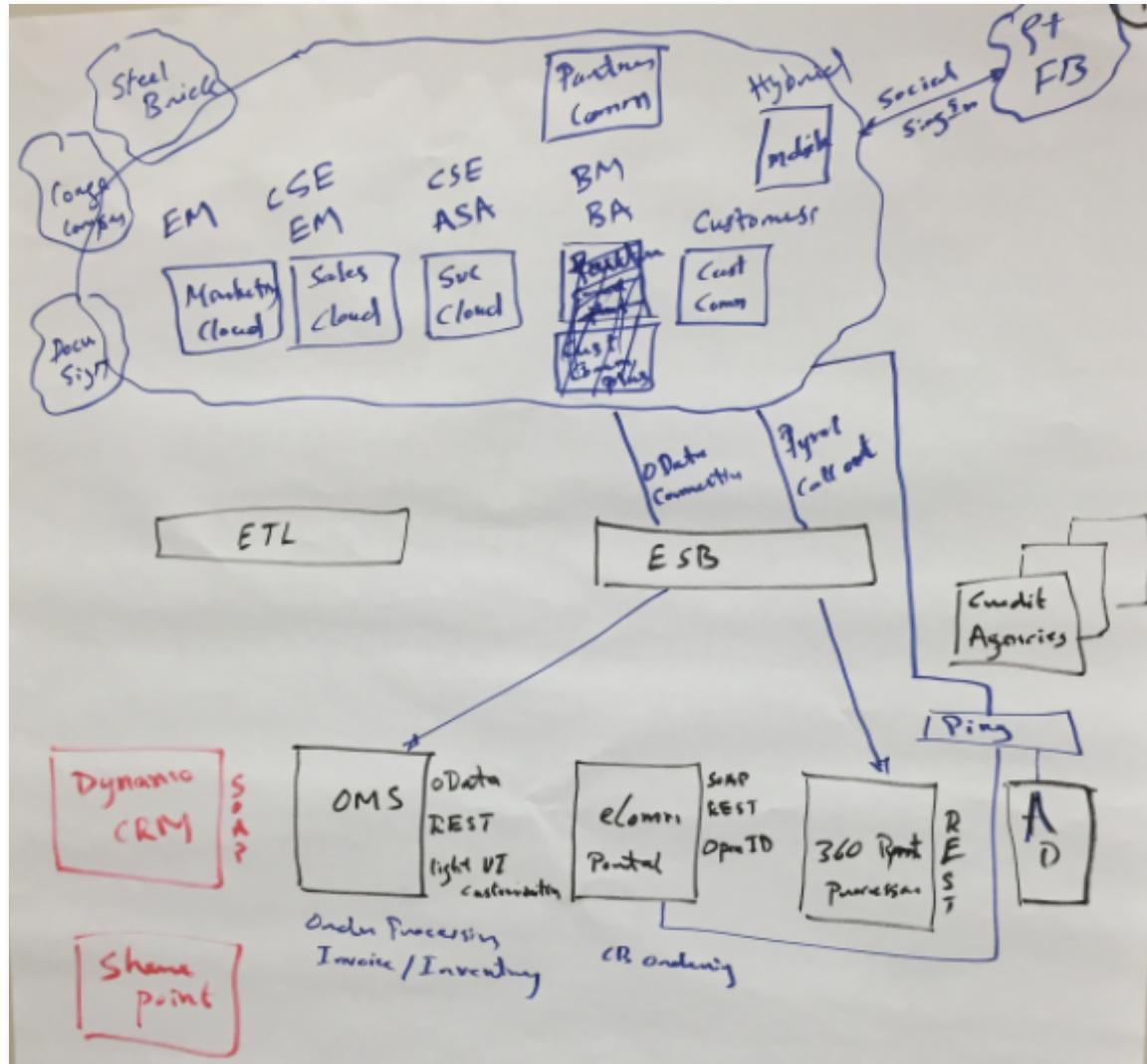
Release Management

SSO/oAuth Flows



# System Landscape

32

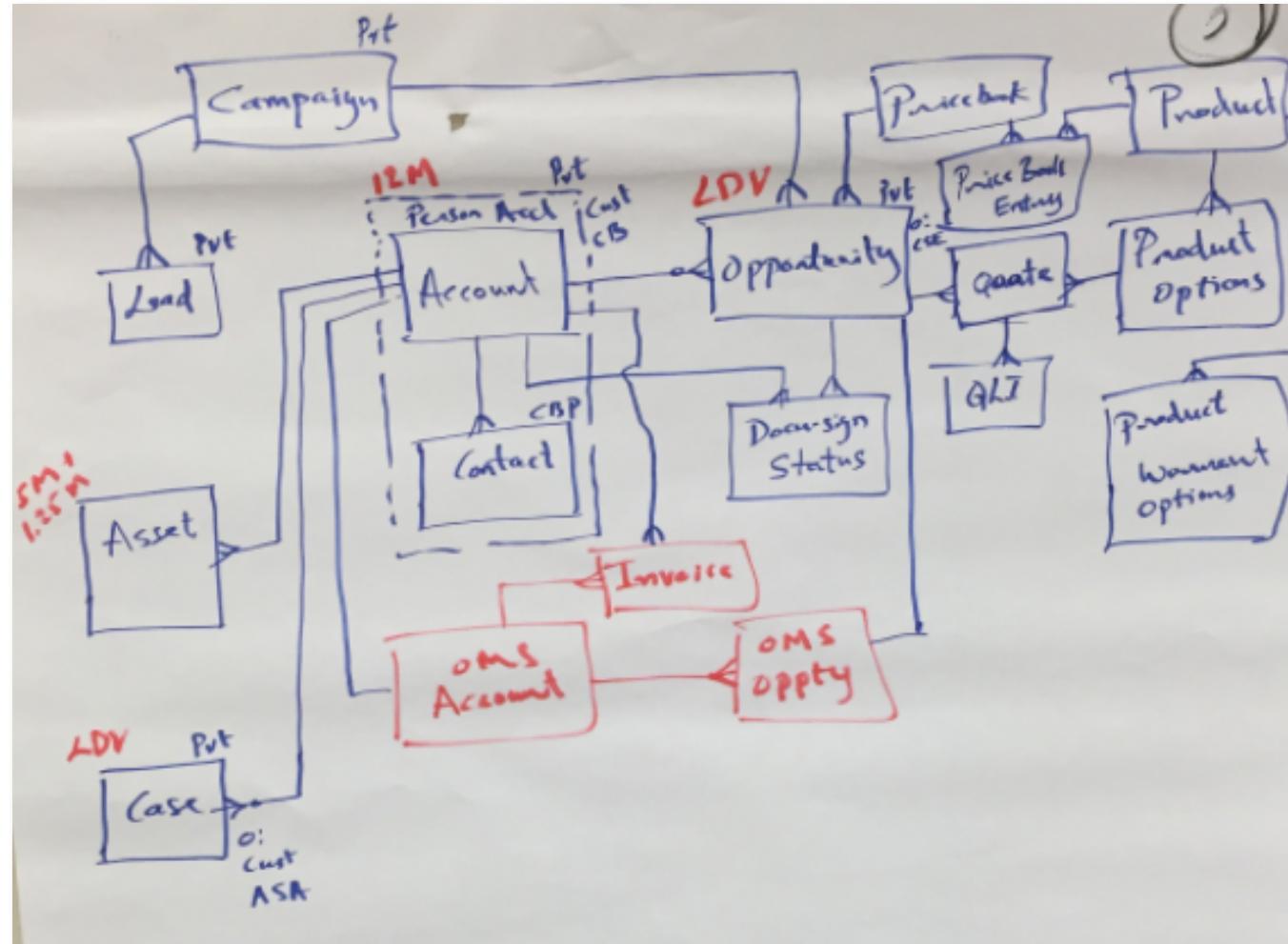


## Considerations

- Key components (systems and applications)
  - What's existing, new and being decommissioned
- Key Salesforce licenses and actors?
  - Which actor uses which license(s)
- Multi or Single Org
- Key third party systems or applications
- How will you migrate data (initial vs. on going)

# Data Model

33

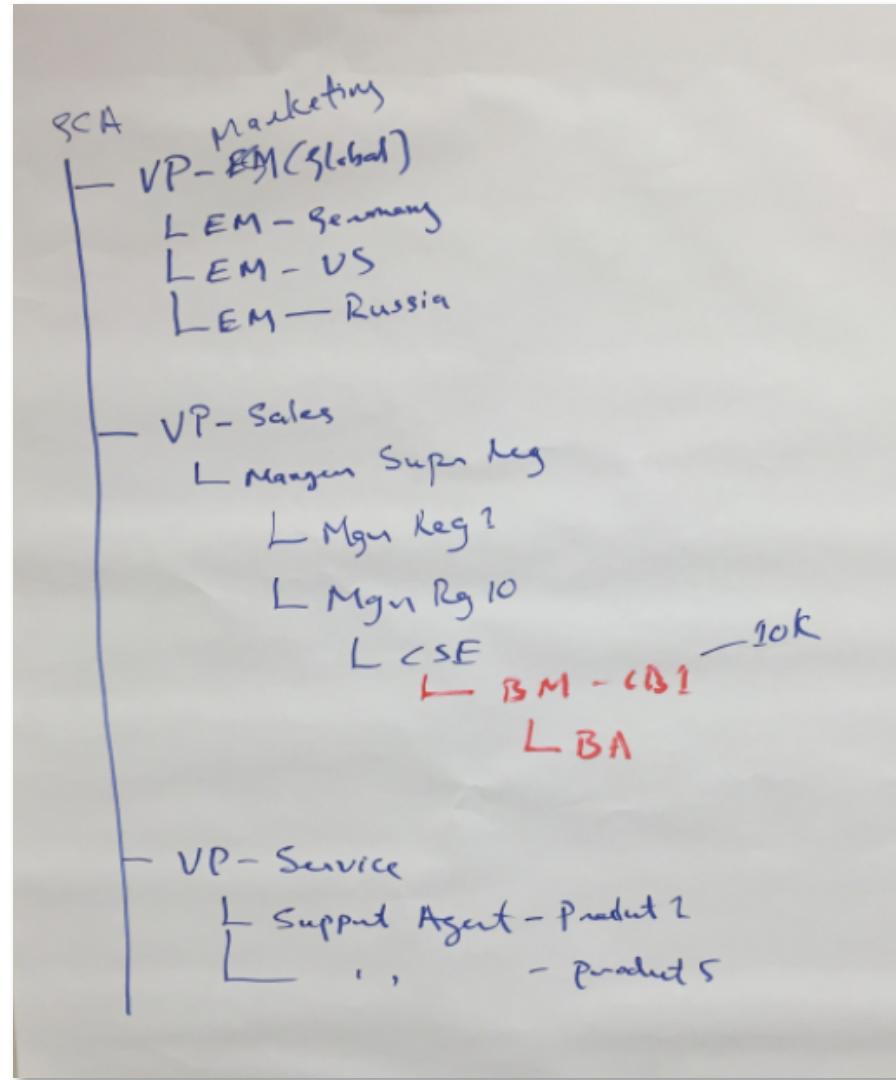


## Considerations

- Entity Relationships
- Custom vs. Standard objects
- Lookup vs M:D relationships
- Integration
- OWD (Private or Public)
- Owners
- LDV (or not)
- External Object

# Role Hierarchy Diagram

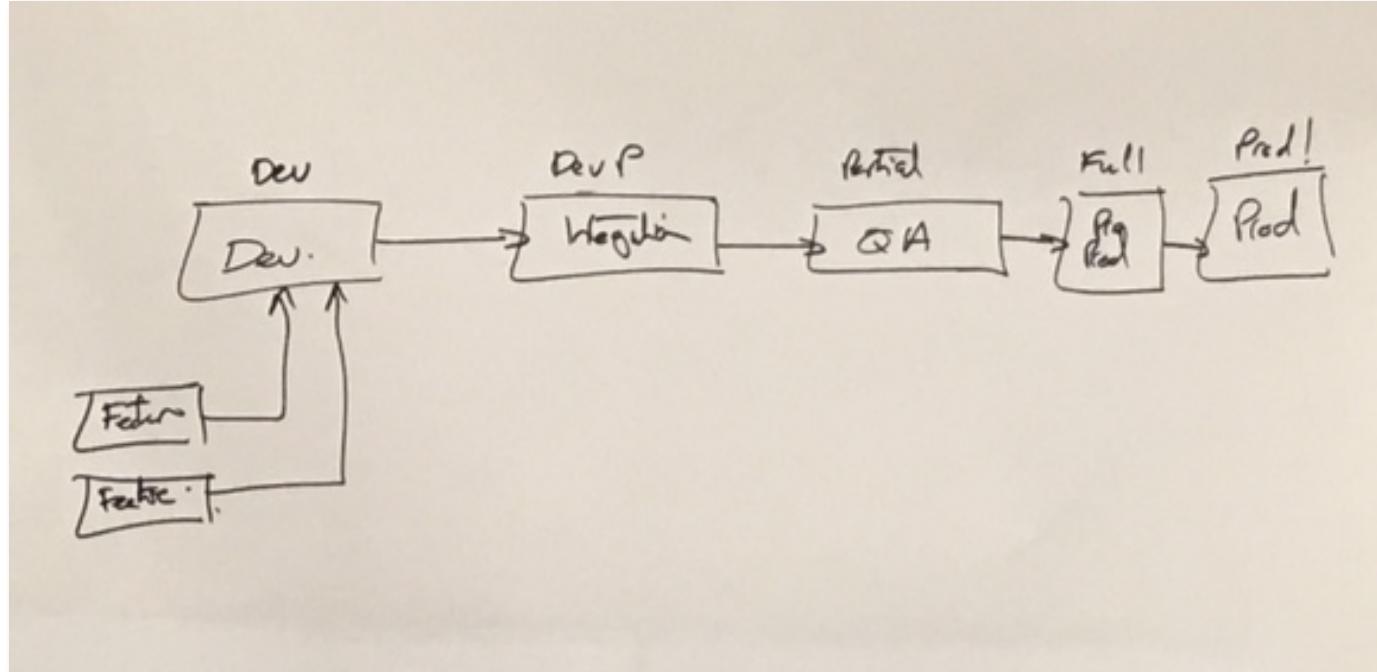
34



## Considerations

- Internal roles
- External roles

# Release Management Diagrams

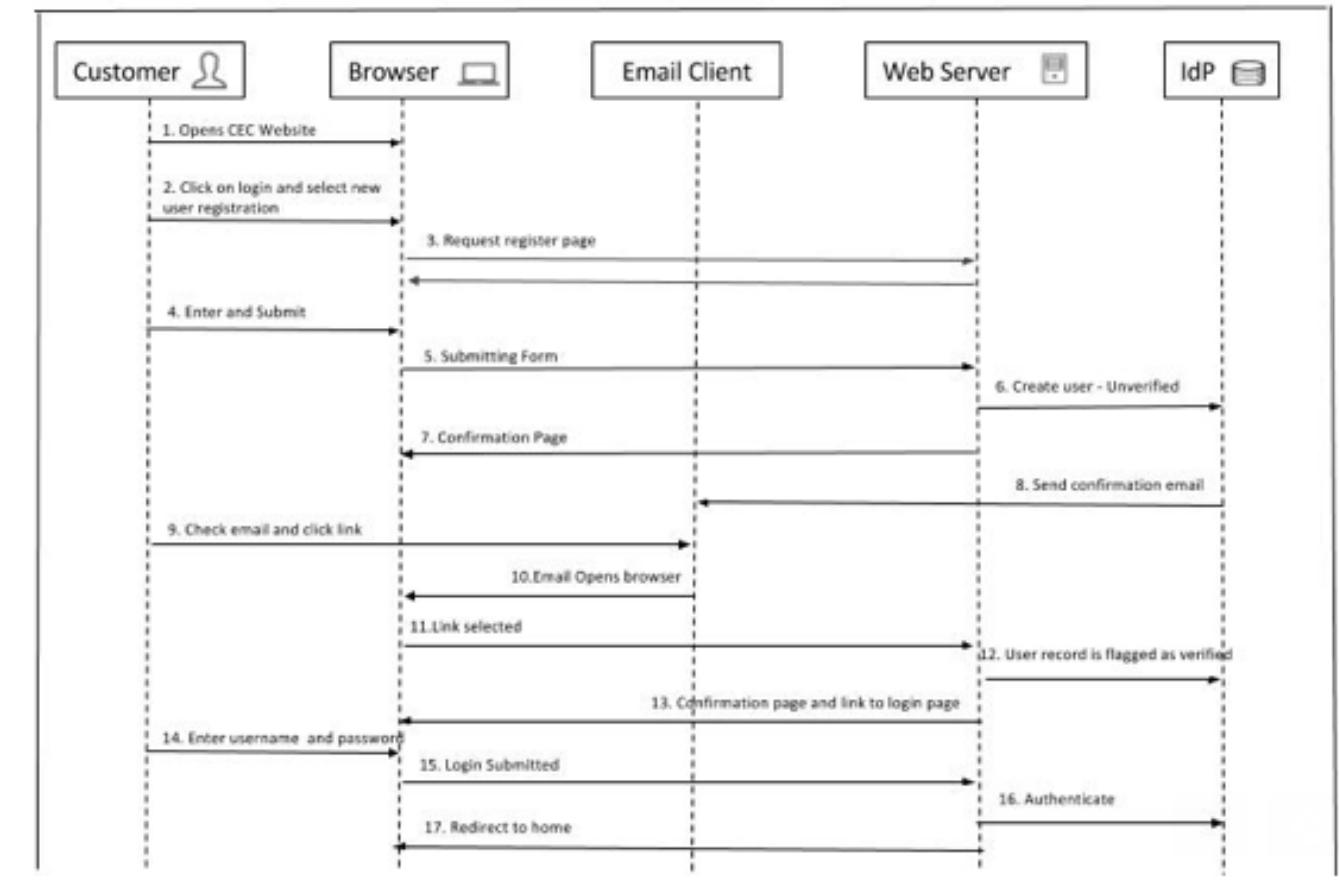


## Considerations

- Key environments
- Release management plans
- Sandbox types
- Tools and/or application used

# SSO/oAuth Flow Diagrams

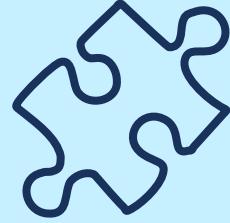
36



- Know your flow diagrams
- Practice flipping the swim lanes around and drawing out the flows
- Know what is happening in each stage and what information is being passed between each system
- Know the Salesforce components involved (Connected App, My Domain, Auth Provider, etc.) and how to configure them

# Activity: Interactive Diagramming

37



## Goal:

Gain practice drawing the different artifacts discussed. Consider information density and experiment finding techniques that work best for your individual style

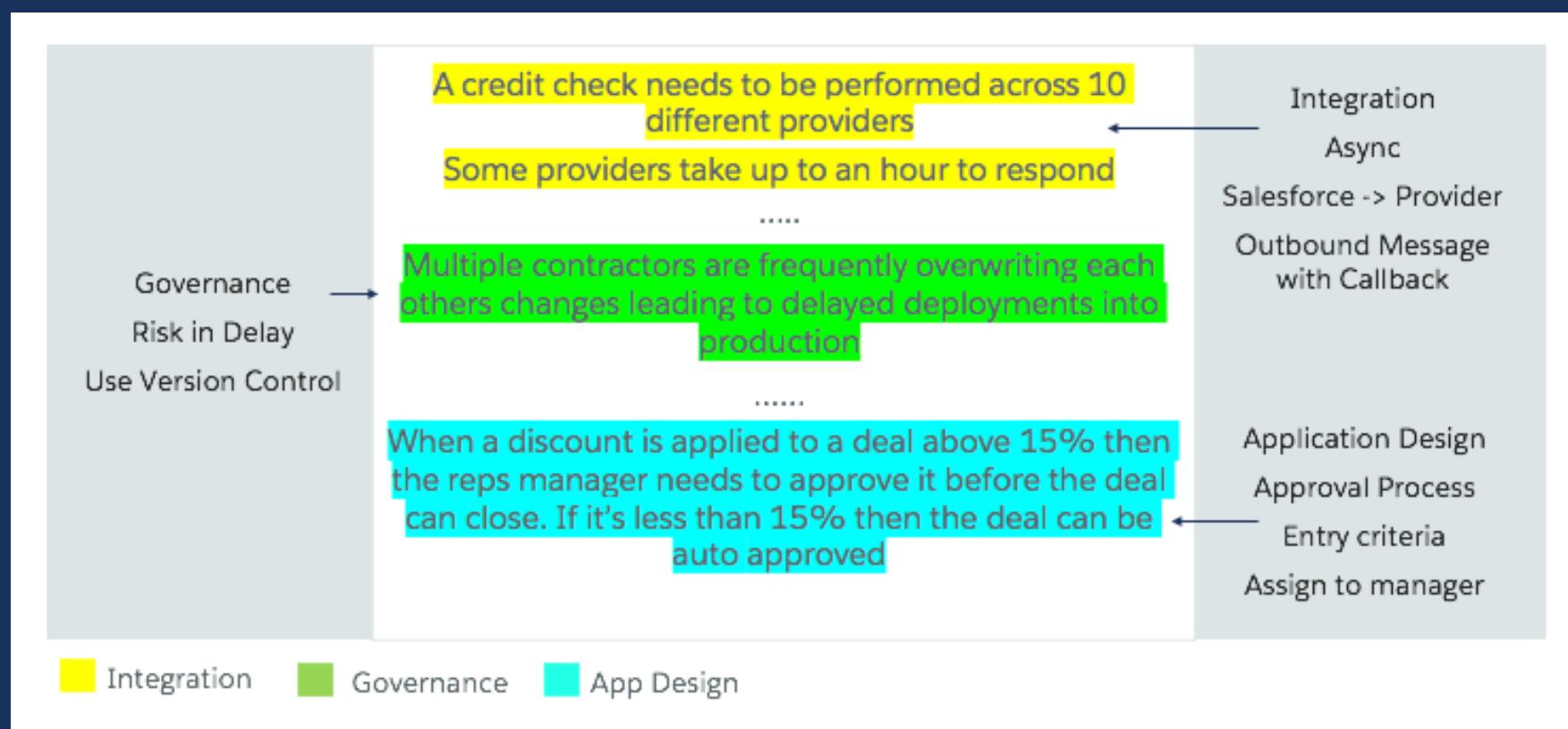
## Tasks:

1. Divide into groups per your facilitator's directions
2. Draw artifacts to represent hypothetical scenario posed by your facilitator
3. Discuss best practices within your group
4. Debrief with the entire class

# SECTION 4: THE PRESENTATION



## READ AND ANNOTATE THE ENTIRE SOLUTION BEFORE SOLUTIONING





## CHOOSE A SOLUTION, DON'T JUST PRESENT THE OPTIONS

We are looking for confident architects who can develop a strong, justified point of view

Don't bluff or use extensive buzzwords



## TELL THE STORY

Start your presentation with a few paragraphs to set the scene

What services do they provide?

Where are they based?

What is their growth strategy/goals?

What are some of their pain points and challenges?

Who are the groups of people that interact with the system?



## TIE BACK TO THE REQUIREMENTS

Be sure to articulate the relationship of  
the requirements to your solutions

# A Solution Without a Requirement

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“I have modelled Accounts, Contacts....made OWD Private...used a custom object...made this a Master Detail relationship”

# Better Alternative: A Solution Driven by a Requirement

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“A key actor in the scenario are fitness coaches who are external to the company. I have modelled their companies as Accounts (e.g. 24 Hour Fitness) and will model the fitness coaches as Contacts.”

# A Solution Without a Requirement

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“I will create a sharing rule to allow internal sales managers to access fitness companies”

# Better Alternative: A Solution Driven by a Requirement

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“The **requirement** for all internal users to see all partner companies but not be able to edit them means that as my OWD is private I will have to create an owner based sharing rule to share any Accounts (companies) owned by sales managers will all internal users as read only...making them visible but not editable”



# Example: A Solution Without a Requirement

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“I will do a callout to do the credit check”

# Better Alternative: A Solution Driven by a Requirement

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“When a fitness centre manager submits a credit check for a new member you have a **requirement** for the request to be sent and have the manager notified as soon as the check is complete and display an error if the check fails.

To meet this I will implement a Visualforce page and controller class that provides a submit button and logic. The controller class implements the desired format for a REST callout and submits the request to the Mulesoft middleware. The middleware will orchestrate the call to the credit decision engine and send the response back to the controller class which can display a success or failure message to the end user.”

## SECTION 4: THE Q&A PERIOD



## REMEMBER THAT Q&A IS NOT YOUR ENEMY

*The judges are not attempting to trick you during the Question & Answer period*

*They are actually trying to give you additional opportunity to demonstrate that you have the knowledge and skills to pass the exam*

*Breathe*

*The judges want you to succeed!*



## LISTEN AND BE CONCISE

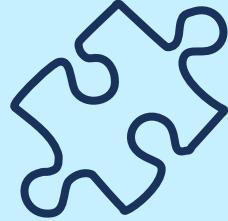
*Keep your answers concise so the judges have the opportunity to cover all their questions in the limited time period*

*Trust the judges to use the Q&A period time in your best interest*



## BEWARE THE DOMINO EFFECT

*Don't immediately assume that because the judges asked a question, your solution is incorrect and start changing it without considering the consequences as it may cause ripple effects thru your entire solution*



## Goal:

Simulate a CTA Review Board Exam. Practice solutioning under pressure and time constraints. Hone artifacts and presentation.

## Tasks:

1. Using only the tools available during a real Review Board, solution the scenario indicated by the facilitator in the time given
2. If you are not chosen to be the presenter, use the CTA Review Board Feedback sheets to capture your critique and comments. Think like a judge! It will help you pass the exam!

## SECTION 4: THE PATH FORWARD

# Four Steps to Succeeding at the CTA Review Board Exam

55



1 Achieve System and Application Architect Credentials (even if you passed legacy exam)

2 Gain real world experience

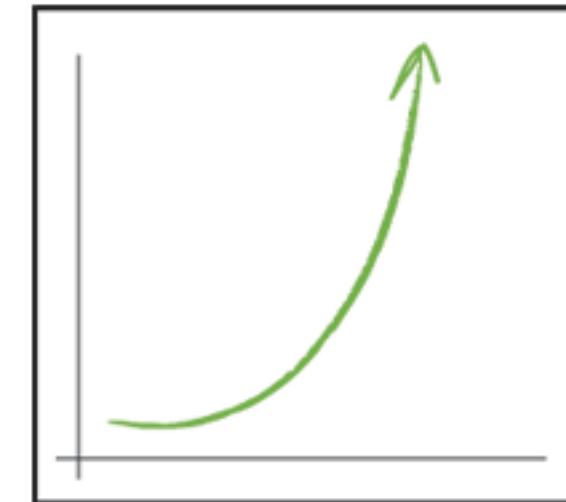
- 8+ years recommended Salesforce experience
- Take stretch assignments to broaden your exposure to different types of projects and requirements

3 Find a mentor and colleagues on the same path. Use the Architect Trailblazer Community!

4 Practice!

- Pretend it is the actual exam
- Set the timer
- Feel the pressure
- Present to someone

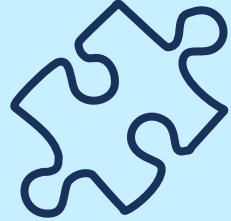
Pass Rate



# Mock Review Boards prior to exam

# Activity: Personal Action Planning

56



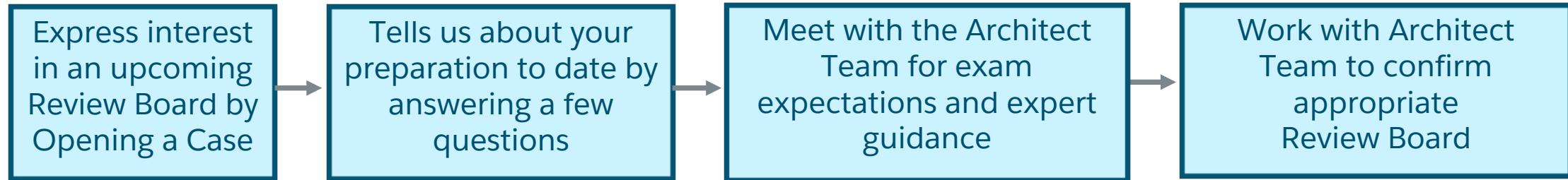
## Goal:

Reflect on the day and craft a personal action plan for your preparation.

## Tasks:

1. Take 15 minutes to reflect and craft your personal action plan
2. Share your personal action plan with your colleagues

# Review Board Exam Sign Up Process



- Candidates who have earned both the Salesforce Certified Application Architect AND the Salesforce Certified System Architect credentials have demonstrated a higher success rate.
  - As such, exam slots for upcoming Review Boards are being prioritized for those candidates.
  - Additional factors such as Salesforce Platform experience and additional work toward exam preparation (such as workshop attendance) will also be considered
- To Open a Case, visit <http://certification.salesforce.com/reviewboards>



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# Thank You For Attending!

Your satisfaction is very important to us. Please respond to the email survey you will receive to give us your feedback.

## What's Next?

### Architect Trailblazer Community

[https://success.salesforce.com/\\_ui/core/chatter/groups/GroupProfilePage?g=0F930000000bIKvCAI](https://success.salesforce.com/_ui/core/chatter/groups/GroupProfilePage?g=0F930000000bIKvCAI)

### Partner Community

[https://partners.salesforce.com/\\_ui/core/chatter/groups/GroupProfilePage?g=0F9300000009MrJ](https://partners.salesforce.com/_ui/core/chatter/groups/GroupProfilePage?g=0F9300000009MrJ)

### Trailhead

[trailhead.salesforce.com](http://trailhead.salesforce.com)

### Social

Twitter: [@Trailhead](https://twitter.com/Trailhead)

Facebook: [/SalesforceTrailhead](https://facebook.com/SalesforceTrailhead)



# APPENDIX: COACHING TIPS FROM THE EXPERTS

# Coaching Tip from the Expert

60



Matthew Watson



Director, Cloud Services  
Salesforce

CTA #42

## Have a point-of-view, and be able to justify it

You will definitely encounter some requirements that don't necessarily have a single 'right' answer, there is a spectrum of possibilities

What is important is that you have a point of view that you can justify and explain to the board. Don't obsess over the 'right' answer, trust your judgement and be confident in your justification.

For example, have you chosen to use a custom object instead of a standard one? Why? Are the reasons valid and have you considered the benefits and downsides to your approach?

We are looking for confident architects who can develop a strong, justified point of view



Nathan Tableman



Program Architect Director  
Salesforce

CTA #157

## The tools you can use to solve are limited; it is a defined set

Candidates often become overwhelmed when working through the solution with the perception of an unlimited toolbox. While Salesforce is a robust and mature platform it is not unlimited; in fact is a quite limited in the sense that there are only a certain number of ways to solve a particular problem

Take sharing for example: what are the options; sharing rules, role hierarchy, ownership, manual, groups, certain org-wide defaults, and APEX. That is it; that is the set

Each requirement actually can only be met by a finite set solution and while several may be technically feasible, one will be the optimum solution when considering the customer needs as a whole

# Coaching Tip from the Expert

62



Jan-Willem Brokamp



Sr. Program Architect  
Salesforce

CTA #208

## How can I cover everything within the available time?

One of the challenges you will have is how to convey your entire solution to a panel of judges within an extremely limited time frame. On the one hand you want to share the full breadth and depth of your knowledge whilst on the other hand the clock is ticking and you need to hit all the main points. Both during the presentation and during the Q&A.

You have probably heard a variation on the quote "If you can't explain something in simple terms, you don't understand it". Keep this in mind when rehearsing and studying for the board. If you need 2 minutes to explain, to a friend or colleague of comparable experience, the key arguments on why you recommend a certain approach over the alternatives then you do not fully understand the domain.

Also realize the audience you're presenting to and that there is no need to go back to first principles to support every statement you make - however be prepared and able to do so when challenged/requested!

# Coaching Tip from the Expert

63



Michael Semegran



Program Architect Director  
Salesforce

CTA #187

## Speak the language of your audience

One of the key challenges for every candidate is communication. Using concise, accurate, and appropriate language is important, and it's something that you can practice.

For example, be specific about the features that you are using. “Time-Based Email Workflows”, “Criteria-Based Sharing”. The same goes for patterns. “Request Reply using a Rest Callout to an ESB”, “Fire and Forget using an Outbound Message with a Callback”

This is important to ensure both that the judges know exactly what you are talking about and to remove any room for interpretation on your solution. Also time is always an issue. Knowing the right phraseology will help train your brain how to talk about the solution in a quick and concise manner without the time-consuming need to explain.

# Coaching Tip from the Expert

64



Manu Erwin



Senior Program  
Architect

CTA #39

## Tie your solutions to the requirements

Make sure that your solutions match back to the stated requirements in the review board scenario, that is, be prescriptive in your recommendations; don't talk in generalities; or throw out lots of technical terms in the hope that some will stick.

We need you to justify why you are recommending a particular solution to a requirement. To that end, using a format of What -> How -> Why demonstrates your understanding of what the requirement is, followed by your understanding of how the solution meets it, and ultimately demonstrates your understanding of why that is your recommended solution (i.e. justifications, tradeoffs, considerations).

The review board is not just about knowledge, but the application of knowledge.



Nathan Tableman



Program Architect Director  
Salesforce

CTA #157

## What is the right level of detail?

The correct answer to this question is, "You need to give the level of specificity that explains your solution."

To elaborate, you have your presentation and you have Q&A. Your goal in the presentation is to cover all the subject areas listed in the study guide. If you can accomplish that, then any time you have after needs to be devoted to providing more details. This requires practicing your timing, content, and presentation structure

If you are going to explain that one of the solutions involves outbound messages, make sure that is not spoken about in isolation - explain it end to end. The Q&A will be used to fill in any of the gaps, but leave as few gaps as possible by combining requirements into logical groups; using the outbound message example, it is likely part of some larger set of requirement and your solution should answer that set in a cohesive manner



Matthew Watson



Director, Cloud Services  
Salesforce

CTA #42

## Develop and refine your own plan of attack

You will hear and receive LOTS of advice as you prepare for the CTA Review Board, and lots of recommended approaches to take in defining your solution.

Remember there is no \*right\* approach - use your preparation time to figure out what approach works best for YOU. How do you want to approach reviewing the hypothetical scenario? How will you ensure you have captured each requirement? How do you want to deliver your solution?

Do you want to use a PowerPoint? Flip Charts? Pen & Paper? A mix of the lot?

Figure out an approach that works for you, then practice it repeatedly before the Review Board.

# Coaching Tip from the Expert

67



Chyan Yee Goh



Director, Program  
Architect

CTA #141

## Balancing where you spend your time

One of the pitfalls I have seen some candidates do is to spend an enormous amount of time on areas which are their core strengths while avoiding topics that they are weak in.

I would recommend avoid doing this, trying and taking a stab at a requirement has a better chance of possibly getting it right rather than not trying and have no chance of getting it right.

Go in with a plan and structure how you would like to present, candidates who are structured in how they present generally do better than candidates who jump around randomly all over the place.

Cut out the erms and ahs. Stick to the point, identify the requirement, state your preferred solution and in cases where there are multiple possible solutions be able to justify your recommendations and state your assumptions.

# Coaching Tip from the Expert

68



Chyan Yee Goh



Director, Program  
Architect

CTA #141

## How do you understand a topic in depth?

If you do not understand the topic, build it out. There are plenty of materials in the Architect Resource Guides as well as hands on available in Trailhead to understand the topic in depth.

Trying to articulate something from memory without application of the topic is unlikely to show an understanding of the topic and would expose weakness to the judges.