SAFe® 4 Practitioner

Exam Study Guide (V4.6)

Scaled Agile Professional Certification Program

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Welcome to Role-Based Learning

Scaled Agile, Inc.'s role-based offerings focus on the skills, knowledge, and experience required to successfully perform the job. As part of your Scaled Agile Framework® (SAFe®) learning journey, we encourage you to attend training, read recommended books and articles, take advantage of videos and enablement, gain real-world experience in the role, and then take the exam.

About This Study Guide

This study guide is designed to provide relevant and content-specific exam information, such as the certification role description and skill level, exam objectives, and a comprehensive reading list as defined by our subject matter experts (SMEs). Reviewing this study guide does not guarantee success on the exam, but it will provide guidance on your journey to become certified in SAFe.

The exam section numbers may not specifically map to the course lesson numbers because the course content may evolve to support an ongoing learner-centric instructional approach. Please review the "Exam Section Numbering and Course Lesson Numbering" section for more information.

Thank You - Subject Matter Experts

This exam and related study materials are made possible by a very dedicated group of global SAFe subject matter experts. Scaled Agile thanks these individuals for their hard work, focus, and willingness to dedicate many hours to the success of this project.

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Preparing for the Exam

Congratulations on taking the first step toward becoming part of a growing community of Certified SAFe® professionals!

Preparation	Required/Recommended	Access
☐ Course Attendance	Required	Classroom Training: SAFe for Teams
☐ Exam Study Guide	Recommended	Learning Plan in the SAFe Community Platform
☐ Sample Test	Recommended	On Scaled Agile Website: SAFe for Teams
☐ Practice Test	Recommended	Learning Plan in the SAFe Community Platform
☐ Exam	Required	Learning Plan in the SAFe Community Platform

Candidate Agreement and Delivery

This exam is accessed and delivered through the web on the SAFe Community Platform after course completion. This is a "closed book" exam which means no outside materials (including the SAFe website or training materials) or assistance can be used during the exam.

Please review the Candidate Agreement on the Certification Program Policies page for information related to terms of testing and certification. Each candidate will be required to agree to these terms prior to launching the exam.

Exam Details

Information, such as the number of questions, time on exam, and exam format, can be found under "Exam Details" on the Exam and Certification Summary page.

Course Attendance

The first step toward becoming a Certified SAFe® professional is to attend the SAFe for Teams training class. Course attendance is required (all days), and completion provides access to the exam, which is part of the SAFe Learning Plan. A complete list of courses, including dates and locations, is on the Scaled Agile website.

Note: Attending the class does not guarantee passing the exam. Please take the time to review the materials covered in this study guide.

Certification Role—SAFe 4 Practitioner

A Certified SAFe® 4 Practitioner (SP) is a SAFe team member responsible for using Scrum, Kanban, and Extreme Programming (XP) in a SAFe environment. Key areas of responsibility include planning Program Increments (PIs) and Iterations, breaking requirements into Stories, developing incrementally with Built-In Quality, demoing value at a Team and Program Level, and problem-solving impediments to drive relentless improvement.

Key Areas of Competency

- Explain SAFe Lean-Agile Principles
- Plan iterations
- Plan PIs
- Execute iterations and demonstrate value
- Improve Agile Release Train (ART) processes
- Integrate and work with other teams on the ART
- Perform as a member of an Agile team on an ART

Prerequisite Skills and Knowledge

- Familiarity with Agile concepts and principles
- Familiarity with Scrum, Kanban, and XP
- Working knowledge of software or hardware development processes

Target Candidate (Qualifying Standard: Five Levels of Competency)
This job role is defined as part of the Job Task Analysis (JTA) and is based on a standardized 5 levels of competency. Candidates who pass this exam have met this qualifying standard and can demonstrate knowledge or perform skills at the designated level below:

1 - [Novice] Minimal knowledge or experience
2 - [Competent] Some knowledge or experience; can perform tasks with assistance
3 - [Proficient] Capable; can perform tasks with some assistance << SAFe Practitioner
4 - [Expert] Fully competent; can perform tasks with little assistance
5 - [Master] Content developer or contributor; can perform tasks with no assistance

Exam Content Overview, Reading List, and Objectives

The first step in developing a role-based curriculum is to conduct a JTA workshop, where a group of SMEs work together to define the tasks, skills, and knowledge related to a specific job role. The JTA creates the foundation for the exam objectives and competency standard, which serves as the basis for the exam. The output of the JTA includes key areas of competency, prerequisite skills and knowledge, the candidate qualifying standard, and a comprehensive list of objectives and tasks related to the job role.

Scaled Agile SMEs use these objectives to develop exam questions. It is recommended you review these objectives and ask yourself: Do I know how to complete the tasks in the objective? Am I familiar with the terms and concepts? Do I know the outcome of NOT performing the tasks correctly (anti-patterns)?

Exam Section Numbering and Course Lesson Numbering
The exam section numbers may not specifically map to the course lesson numbers because the course content may evolve to support an ongoing learner-centric instructional approach. For example, exam section 1 content may be covered in course lessons 2 and 4. What is important to focus on are the content details of the exam objectives and the course materials and not the section or lesson numbers.

The exam objectives and course materials do overlap either at a high level or in some cases with more detail so be sure to review the materials in this study guide as well as additional resources listed in each exam section's "Reading and Reference List".

Exam Content Percentage
The table outlines the approximate percentage of questions from each section that will appear on the exam.

Exam Sections	Percent of Items on Exam
SECTION 1: Introducing the Scaled Agile Framework	20%
SECTION 2: Building an Agile Team	18%
SECTION 3: Planning the Iteration	18%
SECTION 4: Executing the Iteration	24%
SECTION 5: Executing the Program Increment	20%

Exam Reading and Reference List
As part of the exam development process, each exam question is assigned a reference -- where the answer can be found for the question. The references are converted into a reading list and provided at the end of the relevant exam section in this study guide. Be sure to read the linked content and resources contained in the reading list, because there is at least one exam question written to each item.

Please remember that the goal of this reading list is not only to provide answers to the exam questions, but also to provide a broader context for learning.

Exam Objectives

SECTION 1: Introducing the Scaled Agile Framework	
1.1	Connect with SAFe and the SAFe Configurations
1.1.1	Have a basic understanding of SAFe
1.1.2	Define an Agile Team
1.1.3	Define an Agile Team of Teams
1.1.4	Coordinate large Value Streams
1.1.5	Define the purpose and intent of an Agile portfolio
1.2	Explore Lean, the Agile Manifesto, and SAFe principles

1.2.1	Describe the SAFe House of Lean
1.2.2	Describe the Agile Manifesto
1.2.3	Describe how Agile impacts development (waterfall versus Agile)
1.2.4	Outline the SAFe Lean-Agile Principles
1.2.5	Describe the principles as they relate to the SAFe Practitioner role (focus on Principles #1, #2, #3, #4, #7, #8, and #9)
1.2.6	Describe the differences between and impacts of small batch pull versus large batch pull
1.3	Identify Scrum, Kanban, and XP practices
1.3.1	Compare traditional development to Agile regarding teams, requirements, and value delivery
1.3.2	Identify the three roles on Agile Teams (Development Team, Scrum Master, Product Owner [PO])
1.3.3	Define Kanban and describe the benefits of a Kanban board
1.3.4	Define Kanban and describe the benefits of an XP environment
1.3.5	Describe how SAFe teams are part of an ART

Reading and Reference List for Section 1

At least one exam question is written from each of these resources:

- *SAFe for Teams Student Workbook* (available only from taking the course): materials and exercises from lesson 1 and lesson 4
- www.scaledagileframework.com/
- www.scaledagileframework.com/agile-release-train/ -- Search for "align value"
- www.scaledagileframework.com/lean-agile-mindset/ -- Search for “Pillar 4”
- www.scaledagileframework.com/lean-agile-mindset/ -- See SAFe House of Lean diagram - Figure 1
- www.scaledagileframework.com/product-owner/
- www.scaledagileframework.com/safe-core-values/
- www.scaledagileframework.com/scrumxp/
- www.scaledagileframework.com/unlock-the-intrinsic-motivation-of-knowledge-workers/
- www.scaledagileframework.com/visualize-and-limit-wip-reduce-batch-sizes-and-manage-queue-lengths/

SECTION 2: Building an Agile Team	
2.1	Build your team
2.1.1	Describe aspects of an Agile Team
2.1.2	Describe the flow of value in Agile
2.1.3	Define the benefits of cross-functional Agile Teams
2.1.4	Define the benefits of collocated teams
2.1.5	Describe each Agile Team role: Development Team, Product Owner, Scrum Master
2.1.6	Define the purpose and role of the System Team
2.1.7	Describe the benefits of organizing teams around value
2.1.8	Compare Feature teams and component teams
2.2	Explore the Scrum Master and Product Owner roles
2.2.1	Describe the role of the Scrum Master within the Enterprise
2.2.2	Describe the role of the Product Owner within the enterprise
2.3	Meet the teams and people on the ART
2.3.1	Describe an ART and its purpose
2.3.2	Describe the ART roles: Release Train Engineer (RTE), Product Management, and System Architect/Engineering

Reading and Reference List for Section 2

At least one exam question is written from each of these resources:

- *SAFe for Teams Student Workbook* (available only from taking the course): materials and exercises from lesson 2
- www.scaledagileframework.com/agile-release-train/
- www.scaledagileframework.com/release-train-engineer-and-value-stream-engineer/

- www.scaledagileframework.com/agile-release-train/
- www.scaledagileframework.com/scrumxp/

SECTION 3: Planning the Iteration	
3.1	Prepare the backlog
3.1.1	Define Solution features for the Program Backlog
3.1.2	Identify feature benefits and acceptance criteria
3.1.3	Describe the Team Backlog
3.1.4	Define user stories and the 3Cs (Card, Conversation, Confirmation)
3.1.5	Describe the purpose of INVEST in user stories
3.1.6	Define the three types of Enabler stories
3.1.7	Describe how to split features and stories
3.1.8	Describe the purpose and benefits of acceptance criteria
3.1.9	Estimate stories with relative story points
3.1.10	Describe how ‘estimating poker’ can be effective in estimations
3.1.11	Explain the benefits of whole team estimation
3.1.12	Describe how to sequence stories
3.1.13	Describe the purpose and benefits of capacity allocation
3.2	Plan the iteration: purpose, process, result, commitment
3.2.1	Explain the four steps of plan and commit: purpose, process, result, reciprocal commitment
3.2.2	Describe how Iteration Planning should flow

3.2.3	Explain how size can be used to estimate duration
3.2.4	Describe ways to establish velocity when historical data does not exist
3.2.5	Describe the purpose of Iteration Goals
3.2.6	Perform story analysis and estimation
3.2.7	Describe ways a team can commit to iteration goals
3.2.8	Describe how iteration planning works for Kanban teams

Reading and Reference List for Section 3

At least one exam question is written from each of these resources:

- *SAFe for Teams Student Workbook* (available only from taking the course): materials and exercises from lesson 3, lesson 4, and lesson 5
- www.scaledagileframework.com/story/

SECTION 4: Executing the Iteration	
4.1	Visualize the flow of work
4.1.1	Identify the steps to complete a story
4.1.2	Set Work in Process (WIP) limits
4.2	Measure the flow of value
4.2.1	Track status with charts (ex., burn-up charts, Cumulative Flow Diagrams)
4.3	Build in quality
4.3.1	Describe the benefits of building quality into work
4.3.2	Define emergent design and intentional architecture

4.3.3	Describe Architectural Runway
4.3.4	Describe ways to perform continuous system integration
4.3.5	Describe benefits of test automation
4.3.6	Explain the benefits of and reasons for refactoring
4.3.7	Explain the benefits of pair work
4.3.8	Explain the benefits of collective ownership
4.3.9	Describe Model-Based Systems Engineering (MBSE) and the benefits of use
4.3.10	Define Set-Based Design
4.4	Continuously integrate, deploy, and release
4.4.1	Describe continuous story integration
4.4.2	Describe continuous system integration
4.4.3	Identify the recommended practices for Continuous Deployment (CD)
4.4.4	Develop on Cadence. Release on Demand.
4.4.5	Decouple the release from the solution
4.4.6	Describe DevOps
4.4.7	Define a CALMR approach to DevOps
4.5	Control flow with meetings
4.5.1	Describe the purpose and benefits of the Daily Stand-up (DSU) meeting
4.5.2	Describe the purpose and benefits of the backlog refinement session
4.6	Demo value

4.6.1	Describe the purpose and benefits of the team iteration demo
4.6.2	Describe the SAFe Definition of Done (DoD)
4.7	Retrospect and improve
4.7.1	Define the Iteration Retrospective and benefits for the team
4.7.2	Discuss iteration Metrics

Reading and Reference List for Section 4

At least one exam question is written from each of these resources:

- *SAFe for Teams Student Workbook* (available only from taking the course): materials and exercises from lesson 4, lesson 1, lesson 3, and lesson 5
- www.scaledagileframework.com/continuous-deployment/

SECTION 5: Executing the Program Increment	
5.1	Plan together
5.1.1	Describe the benefits of cadence-based PI Planning meetings within an Agile enterprise
5.1.2	Explain the main goal of PI planning
5.1.3	Identify and execute PI planning day one agenda activities
5.1.4	Describe the benefits of presenting new PI content up front
5.1.5	Describe activities during team breakout #1
5.1.6	Create a list of PI Objectives
5.1.7	Describe stretch objectives and identify them within each team
5.1.8	Explain what SMART team PI objectives are
5.1.9	Explain team deliverable details for iterations, Innovation and Planning (IP), objectives, and risks

5.1.10	Describe the purpose and benefits of a program board
5.1.11	Identify dependencies with other teams
5.1.12	Describe the purpose and activities of the management review meeting at the end of day one
5.1.13	Identify and execute PI planning day two agenda activities
5.1.14	Describe activities during team breakout #2
5.1.15	ROAM the risks
5.1.16	Describe the purpose of the confidence vote at the team and program levels
5.1.17	Participate in the confidence vote at the team and program levels
5.2	Integrate and demonstrate together
5.2.1	Define program execution
5.2.2	Describe the ART sync and how it relates to the Scrum of Scrums and PO sync
5.2.3	Perform new system increment every two weeks
5.2.4	Perform/participate in System Demo every two weeks
5.2.5	Identify roadblocks or challenges to system increments or system demos
5.3	Learn together
5.3.1	Describe and participate in the Innovation and Planning Iteration
5.3.2	Describe and participate in Inspect and Adapt (I&A)
5.3.3	Describe and participate in PI system demos
5.3.4	Describe and participate in the problem-solving workshop
Reading and Reference List for Section 5	

At least one exam question is written from each of these resources:

- *SAFe for Teams Student Workbook* (available only from taking the course): materials and exercises from lesson 5 and lesson 4
- www.scaledagileframework.com/pi-planning/

Additional Reference Materials

Scaled Agile Download Resources
The exam covers main ideas and concepts found in these resources on the www.scaledagileframework.com website:

- SAFe for Lean Enterprises Configuration (Big Picture)
- SAFe Glossary
- SAFe Implementation Roadmap
- SAFe Self-assessment Worksheets
- Case Studies

Search the Scaled Agile Framework Site
Need help finding a SAFe article? Looking for more details about the latest information in SAFe or one of the SAFe roles? Use the web search option on www.scaledagileframework.com to search the entire site based on your key search terms.

Sample Test

The sample test provides examples of the format and type of questions to expect on the exam (these are sample and not the actual exam questions). Performance on the sample test is NOT an indicator of performance on the exam, and it should NOT be considered an assessment tool. The sample test (.pdf) can be found under "Exam Study Materials" on the Exam and Certification Summary web page.

Practice Test

The practice test is designed to be predictive of success on the actual exam. It contains the same number of questions as the exam and the same level of difficulty, covers the same content areas (using different questions), and has the same timebox for completion. It is available on the Scaled Agile Community Platform as part of your Learning Plan.

The practice test is available at no additional charge, and you can take it as many times as you like no matter the outcome of pass or fail. However, it provides the same bank of questions randomized in a different order. Use the practice test score report to focus on areas where you may need improvement.

NOTE: Be sure to take a screen shot of the score report, as the practice test will reset after completion and previous score reports will not be available.

The practice test falls under the candidate agreement policy, and you are not authorized to copy, share, or reproduce it in any way.

Learning Journey: Checklist

- ☐ Attend the course.
- ☐ Study based on the course and exam study materials provided.
- ☐ Incorporate your learnings into your real-world experiences.
- ☐ Take the practice test on the SAFe Community Platform.

  If you pass the practice test, then you may be ready to take the exam.

  If you do NOT pass the practice test, review how you did by section on the score report and compare it against the section breakdown at the beginning of this study guide. Focus on the areas where you need improvement. You can take the practice test as many times as you like; however, it provides the same bank of questions randomized in a different order.

  Take a screen shot of your score report as it resets after each attempt.
- ☐ Take the actual exam through the SAFe Community Platform.
- ☐ Pass the exam and become a member of the Certified SAFe® professional global community.
- ☐ Share your Certified SAFe® professional digital badge and have your skills recognized worldwide.
- ☐ Continue your learning journey through active participation in your Community of Practice on the SAFe Community Platform.

Acronyms and Abbreviations

ART	Agile Release Train	**PO/PM**	Product Owner/Product Manager
BO	Business Owner	**PO**	Product Owner
BV	Business Value	**LPM**	Lean Portfolio Management
BVIR	Big Visual Information Radiator	**ROAM**	Resolved, Owned, Accepted, Mitigated
CFD	Cumulative Flow Diagram	**RR**	Risk Reduction
CapEx	Capital Expenses	**RTE**	Release Train Engineer
CI	Continuous Integration	**S4T**	SAFe® for Teams
CoD	Cost of Delay	**SAFe®**	Scaled Agile Framework
CoP	Community of Practice	**SA**	SAFe® Agilest
DoD	Definition of Done	**SM**	Scrum Master
DSU	Daily Stand-up	**SoS**	Scrum of Scrums
EA	Enterprise Architect	**SP**	SAFe® Practitioner
EO	Epic Owner	**SPC**	SAFe® Program Consultant
FW	Firmware	**SW**	Software
HW	Hardware	**UX**	User Experience
I&A	Inspect and Adapt	**VS**	Value Stream
IP	Innovation and Planning (iteration)	**STE**	Solution Train Engineer
MBSE	Model-Based Systems Engineering	**WIP**	Work in Process
NFR	Non-functional Requirements	**WSJF**	Weighted Shortest Job First
OE	Opportunity Enablement	**XP**	Extreme Programming
OpEx	Operating Expenses		
PDCA	Plan, Do, Check, Adjust		
PI	Program Increment		
PM	Product Manager		

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