Training session catalog
2023

CESAMES ACADEMY

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CESAMES

CESAMES Institut is Qualiopi certified (Certificat number: FR067885-1, valid until the 12th of August 2024).

Qualiopi
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RÉPUBLIQUE FRANÇAISE

CESAMES Institut is Datadock registered.

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DATADOCKÉ

2023 TRAINING SESSIONS CONDITIONS AND CALENDAR

We organize inter-company classroom training sessions (in Paris) and remote training sessions according to modalities described later in the document. Any participant can attend a classroom training session remotely if needed.
If not otherwise indicated inter-company training sessions are in French. Nonetheless any of the trainings proposed in this catalog can be given in English.
Participants can only access a training session once registration administrative formalities are completed, according to the following calendar.

CERTIFYING TRAININGS

CESAM Associate

— SYSTEMS ARCHITECTURE - THE FUNDAMENTALS (3 DAYS): **20-22th of March | 19-21th of June | 20-22th of November |**

Digital collaborative training session (English): **3, 6, 8 et 10th of February**

— ENTERPRISE ARCHITECTURE - THE FUNDAMENTALS (3 DAYS): **3-5th of April | 16-18th of October**

— INTRODUCTION TO ENTERPRISE ARCHITECTURE 4.0: **26-28th of September**

CESAM Confirmed

— ON-THE-JOB TRAINING IN SYSTEMS ARCHITECTURE: S1: **22-26th of May** | S2: **11-15th of September** (for more information refer to online calendar orcontact academy@cesames.net)

PRODUCT LINE TRAININGS

— PRODUCT LINE ARCHITECTURE (2 DAYS): **11-12th of May | 3-4th of July | 5-6th of December**

ADVANCED TRAININGS

— INTRODUCTION TO AGILE ENTERPRISE ARCHITECTURE: UPON REQUEST

— SYSTEMS ARCHITECTURE - INTRODUCTORY TRAINING FOR EMBEDDED SYSTEMS: **3-5th of October**

— NEEDS CAPTURE: UPON REQUEST

— COLLABORATIVE ARCHITECTURE: UPON REQUEST

CESAMES

WHAT IS CESAMES ACADEMY?

- Upon request of the companies, CESAMES Academy have been training and supporting Industry, Services and Administration major accounts for more than 10 years.
- CESAMES Academy trainers and coaches are all confirmed architects with strong operational background and seniority.
- Their **business and sector knowledge, combined with their architectural expertise**, make CESAMES trainers and consultants highly efficient, relevant and adaptable to our clients.

WHO ALREADY ATTENDED CESAMES ACADEMY TRAININGS?

In order to meet the needs of our clients and to offer trainings suited to all levels of maturity, CESAMES Academy offer a multi-level and certifying skill-rising course in system architecture or in enterprise architecture.

Our trainings are based on the **CESAM** (CESAMES Systems Architecting Method), **operationally** deployed on more than 1000 system design projects. This methodology is used by many large accounts: 10,000 engineers, project managers and managers have already followed our training, in France and abroad. Among these accounts: AIRBUS, ARIANE GROUP, AVIC, AXA, COMAC, COVEA, DAHER, DASSAULT SYSTEMES, EDF, FRAMATOME, HUAWEI, IDEMIA, MBDA, MITSUBISHI, NISSAN, OTIS, PSA, RENAULT, SAFRAN, SAGEMCOM, SAINT-GOBAIN, SCHNEIDER ELECTRIC, SOCIETE GENERALE, SOMFY, SONY, THALES, VALEO, ZTE.

CESAM (CESAMES Systems Architecting Method)

- Our intervention model is based on the CESAM (CESAMES Systems Architecting Method), a systems architecting & modelling framework, implemented since 2003 in close interaction with many industrial leading companies. It is dedicated to the working systems architects, engineers or modelers to help them better master the complex integrated systems they are dealing with.

- CESAM provides all architects with operational and pragmatic processes and tools to build the right architectural views of a system and create convergence among all the project stakeholders on a common vision.

- CESAM is complementary with INCOSE (system engineering) et TOGAF (enterprise architecture) certifications.

- CESAM allows to easily evaluate level of knowledge and experience in both system and enterprise architecture of a collaborator, regardless of their seniority and level in the company.

OUR TRAININGS

FOR WHOM?

The CESAM course is aimed at all system architects, engineers, project managers, managers or directors who wish to better master the complex integrated systems they work on: **system architects, enterprise architects, solution architects, software architects, system engineers, project managers, urbanists, functional architects, managers, technical directors...**

WHY ATTEND CESAMES ACADEMY TRAININGS?

- Understanding and implementation of the system architecting method will allow you to **better control/manage product development and/or design** as well as a complex transformation project in order to enhance their performances.
- Our goal: **make you efficient quickly**! For this, our trainings focus on practical application with exercises on real case studies, so that you can implement immediately and concretely the theoretical and conceptual aspects transmitted.
- An employee who joins the CESAM course has his skills and expertise recognized within his company and with an ecosystem of major international players.
- Furthermore, it incorporates the trainee in a community with high added value that promotes the sharing of good practices and maturity. CESAMES Association has built **the largest community in the world around the MBSE**. It has the support of major academic, institutional and professional partners.

WHAT ARE THE BENEFITS FOR YOUR COMPANY?

- In an increasingly complex environment, with heavy and fluctuating external constraints, as well as increasing and demanding stakeholders, **architectural methods** are becoming essential to ensure the competitiveness of companies. They allow to **mitigate project risks, secure project objectives, minimize time to market for new products and complex services**.
- A company with CESAM certified collaborators can factually advertise the capacity of its resources to implement an architectural method and thus prove the quality and efficiency of its processes, products and complex services and therefore obtain markets.
- A company may also use the training to animate the rise in skills and motivate the team.

> CERTIFYING TRAININGS

SYSTEM ARCHITECTURE: THE FUNDAMENTALS

INTRODUCTORY TRAINING | 3 DAYS | CESAM FUNDAMENTALS

Mastering the complexity of the industrial systems and projects you work on within your industrial organizations is increasingly difficult. The insufficient maturity of the integration processes of these complex industrial systems, the operation in silos and the difficulty in correctly capturing the needs of your internal or external customers are often the cause of these problems.

We offer you an introduction to **systemic modeling** and **collaborative dynamics** to help you better **control the costs, quality and performance** of the complex industrial systems you design and/or manage.

Training objectives:

At the end of the training, you will be able to:

- Understand how model-based systems engineering can help any system designer to better connect key stakeholders needs to design choices
- Understand the main principles of systems analysis in order to implement a system architecture approach within your organization
- Understand what a need and a requirement are
- Understand the three system architecture views used to describe any complex system
- Architect the environment and the needs of your system
- Architect the functions, components and requirements of your system

Who should attend? Engineers, architects, project managers, managers or directors, designers, IVV managers or anyone involved in the design or management of product systems or complex projects.

Prerequisite: Have at least 3 years of experience in the field of design and management of complex industrial systems.

Methods used & agenda: We dedicate a large part of our modules to conversing and practice to facilitate learning. During these 3 days you will immediately put into practice the architectural processes and tools on a simple industrial system, collectively chosen.

Day 1	Day 2	Day 3
1. System architecture fundamentals 1.1. System architecture motivation 1.2. System architecture framework 1.3. Stakeholder analysis *1.4 Exercise: Stakeholder analysis* **2. Operational architecture** 2.1. Needs architecture *2.2 Exercise: Needs architecture*	2.3. Lifecycle 2.4. Use cases *2.5 Exercise: Lifecycle & use cases* **3. Functional architecture** 3.1. Functions & function interactions 3.2. Functional modes *3.3 Exercise: Functional interactions* 3.4. Functional requirement architecture	**4. Constructional architecture** 4.1. Components & constructional interactions *4.2 Exercise: Constructional architecture* 4.3. Prioritization & trade-off analyses 4.4. Constructional requirements architecture 4.5. Requirement traceability *4.6 Exercise: Requirement traceability* **5. Advanced topics** 5.1. Verification & validation 5.2. Collaborative architecture *5.3. Collaborative exercise*

ENTERPRISE ARCHITECTURE: THE FUNDAMENTALS

INTRODUCTORY TRAINING | 3 DAYS | CESAM FUNDAMENTALS

The enterprise architecture is a **systemic analysis approach** and an international methodological standard of integrated business & IT design. The implementation of this approach helps to **master the complexity of organizations and information systems** to improve their **efficiency and performance**.

Training objectives:

At the end of the training, you will be able to:

- Understand the **systemic paradigm** on which enterprise architecture is based;
- Introduce the great **architectural views** that describe a business;
- Present the major **enterprise architecture processes** that structure the business architect's profession;
- Introduce **architectural modeling languages** (BPMN & UML) that implement the enterprise architecture approach;
- Understand how the **enterprise architecture approach** can be used in practice in a business environment.

Who should attend? Enterprise architects, functional architects, data architects, urbanists, system architects, senior engineers, senior designers, program managers and directors, project managers,

Prerequisite: Have at least 3 years of experience in the field of design and management of organizations and information systems.

Methods used & agenda: We dedicate a large part of our modules to conversing and practice to facilitate learning. During these 3 days you will immediately put into practice the architectural processes and tools on a simple enterprise, collectively chosen. Relationships between enterprise architecture and agile methods are highlighted along the training.

Day 1	Day 2	Day 3
1. The fundamentals of enterprise architecture 1.1. Concepts 1.2. Environment analysis *1.3 Exercise:* Environment analysis **2. Needs and Requirements Engineering** 2.1. Needs *2.2 Exercise: Needs* 2.3. Requirements	**3. Business Architecture** 3.1. Motivation 3.2 External Services 3.3 Internal Processes 3.4 Business Organization *3.5 Exercise; Business architecture* **4. Solution Architecture** 4.1. Motivation 4.2. Solution functionalities 4.3 Solution components *4.4 Exercise: Solution Architecture* **5. Architecture patterns**	**6. Collaboration** 6.1. Influencing techniques 6.2. Collaborative Workshop **7. Implementation** 7.1. Roadmap 7.2 Exercise: Roadmap 7.3 Project Systems Architecture

INTRODUCTION TO ENTERPRISE ARCHITECTURE 4.0

INTRODUCTORY TRAINING | 3 DAYS | CESAM ENTERPRISE 4.0

In a changing industrial context, managing the **interactions** and **interdependencies** of machines, warehouses, logistics systems and engineering within cyber-physical systems and integrating multiple new technologies (augmented reality, big data, additive manufacturing...) into the enterprise processes is a challenge that induce continuous transformations of the enterprise. In order to master these transformations, any enterprise should be able to **apply enterprise architecture to any involved enterprise department** (engineering, manufacturing, services...). The enterprise architecture is a **systemic approach** and an international methodological standard of integrated business & IT design. The implementation of this approach helps to **master the complexity of organizations and information systems** to improve their **efficiency and performance**.

Training objectives:

At the end of the training, you will be able to:

- Present the fundamentals of **Enterprise Architecture 4.0**,
- Introduce a simple **Enterprise Architecture framework** (on which relies the detailed Systems Architecture process that will be discussed in the next sections),
- Illustrate the Enterprise Architecture framework through **cases studies and Exercises**,
- Understand the process that leads to the identification and the construction of the system **environment**

Who should attend? engineers, technical experts, project managers, managers and directors

Prerequisite: Have at least 3 years of experience in the field of design and management of organizations and information systems.

Methods used & agenda: We dedicate a large part of our modules to conversing and practice to facilitate learning. During these 3 days you will immediately put into practice the architectural processes and tools on a simple enterprise, in relation with industry 4.0 stakes.

Day 1	Day 2	Day 3
1. The fundamentals of enterprise architecture	**3. Business Architecture**	**6. Collaboration**
1.1. Enterprise 4.0 definition & stakes	3.1. Motivation	6.1. Influencing techniques
1.2 Organizational complexity	3.2 External Services	6.2. Collaborative Workshop
1.3. Environment analysis	3.3 Internal Processes	
1.4 Exercise: Environment analysis	3.4 Business Organization	**7. Implementation**
2. Needs and Requirements Engineering	*3.5 Exercise; Business architecture*	7.1. Roadmap
2.1. Needs		7.2 Exercise: Roadmap
2.2 Exercise: Needs	**4. Solution Architecture**	7.3 Project Systems Architecture
2.3. Requirements	4.1. Motivation	
	4.2. Solution functionalities	
	4.3 Solution components	
	4.4 Exercise: Solution Architecture	
	5. Architecture patterns	

CLASSROOM OR REMOTE

DURATION
21 hours (3 days)
9h00-12h30/13h30-17h00

SUPPORTS
Pdf version is sent by email before the training

TRAINER
CESAMES senior architect

FORMAT
Inter-company
or intra-company

WHERE?
For classroom trainings:
CESAMES Academy (Paris)

COST
Inter-company
3.000 euros excl. taxes/pers. (Including lunch & snacks)
Intra-company
Upon request

EVALUATION & CERTIFICATION
"CESAM Associate" – 30 correct answers to an online multiple-choice questionnaire (MCQ) comprising 40 random questions.
Certification price: 200€ including VAT.

FOLLOW-UP
Attendance sheet signed by the trainees and the trainer each half-day and proof of attendance

EVALUATION OF SATISFACTION
Feedback forms completed by each trainee.

ON-THE-JOB TRAINING IN SYSTEMS ARCHITECTURE

CERTIFYING ON THE JOB TRAINING | INTER-COMPANY | CESAM FUNDAMENTALS

Architecture is an operational body of knowledge: one must both master its main concepts & be able to put them in practice.

Our training is therefore based on a mix of conceptual & methodological aspects (training sessions) and real practice on concrete industrial system design projects brought by the trainees (coaching periods). It requires an investment of each trainee about 1 day per week (time spent on file) for the duration of the training. This training covers both enterprise & system architecture domains.

Training objectives:

At the end of the first training session, you will be able to:

- **Analyze a system environment**
- Define **stakeholders needs** & **system requirements**
- Identify the **lifecycle phases** & **use cases** of a system
- Define the **good practices** that should be applied on his/her own project during the first coaching session

At the end of the second training session, you will be able to:

- Organize **functional & technical architecture** of a system
- Identify risks & possible malfunctions
- **Verify & validate a system**
- Put in place **collaborative practices**
- Define the **good practices** that should be applied on his/her own project during the second coaching session

Who should attend? Enterprise architects, functional architects, data architects, urbanists, system architects, senior engineers, senior designers, program managers, project managers, IVV managers

Prerequisite: Have at least 3 years of experience in the field of complex system design and/or management of organizations and information systems and hold an advanced university degree

Training content:

- Two **collective training sessions** of 5 days each
- A **remote training** supervised individually by a dedicated trainer
- **Practical exercises** to improve skills & expertise
- Trainee is supported to realize a **systems architecture file** necessary to prove architecture of systems skill acquisition
- Evaluation of the trainee's system architecture file by his/her trainer followed by an oral presentation in front of an evaluation committee before it is allowed to be submitted to an independent final certification jury.

Module	Intitulé	Durée
Session #1	**Introduction to architecture of systems**	8 hours
	Environment analysis	4 hours
	Operational architecture	16 hours
	Functional architecture	12 hours
Session #2	**Technical architecture**	12 hours
	Roadmaps	4 hours
	Verification & validation	8 hours
	Project & collaborative architecture	16 hours

> PRODUCT LINE TRAININGS

PRODUCT LINE ARCHITECTURE

Industry organizations and manufacturers of complex products and services now face fragmented markets where each segment is characterized by fierce competition and a high degree of specificity required by customers and end-users. There is therefore a real **competitive advantage** to be able to offer to end-users, and at **controlled cost, products that suit their needs**.

Our training answers this industrial challenge: **how to make custom products at controlled costs and risks?** You learn how to maximize the **reusability** of existing components, while mastering the diversity of a family / product line, leading to **flexible and modular architectures**.

Training objectives:

At the end of the training, you will be able to:

- Understand the s**takes, issues, challenges and foundations of modular architecture**;
- Implement, concretely, an **operational, functional & constructional architecture approach** in the context of a family or a product line;
- Know the strategic, **managerial, organizational and financial impacts** of setting up a family policy or product line.

Who should attend? Engineers, project managers, managers or directors, and/or you are involved in the design or management of product systems or complex projects.

Prerequisite: Have at least 3 years of experience in the field of design and management of complex industrial systems and know the fundamentals of system architecture

Methods used & agenda: We dedicate a large part of our modules to conversing and practice to facilitate learning. During these 2 days you will immediately put into practice the architectural processes and tools on a simple industrial system, collectively chosen

Day 1	Day 2
0. Introduction of the module	- Generic & family-specific functions and functional requirements / product lines
	- Generic and family-specific components and organic requirements / product lines
1. Panorama of families and product lines	- Exercise: functional analysis of a family / product line
	- Synthesis
2. Business Architecture of a Family / Product Line	
- Identification of stakeholder variability and use cases	**4. Family strategy / product line**
- Definition of the segmentation grid of the environment & products	- Definition of a platform strategy and a diversity management policy
- Identification of the variability of needs	- Definition of an instantiation strategy and the governance of a family / product line
- Exercise: Operational Architecture of a Family / Product Line	- Exercise: defining a family / product line strategy
- Synthesis	- Synthesis
3. Functional and organic architecture of a family / product line	**5. Conclusion**
- Objectives, progress and deliverables	

CLASSROOM OR REMOTE

DURATION
16 hours (2 days)
9h00-12h30/13h30-18h00

SUPPORTS
Pdf version is sent by email before the training

TRAINER
CESAMES senior architect

FORMAT
Inter-company
or intra-company

WHERE?
For classroom trainings:
CESAMES Academy
(Paris)

COST
Inter-company
2.000 euros excl. taxes/pers. (Including lunch & snacks)
Intra-company
Upon request

FOLLOW-UP
Attendance sheet signed by the trainees and the trainer each half-day and proof of attendance

EVALUATION OF SATISFACTION
Feedback forms completed by each trainee.

> ADVANCED TRAININGS

INTRODUCTION TO AGILE ENTERPRISE ARCHITECTURE

ADVANCED TRAINING | 3 DAYS | CESAM AGILITY

Architecture and agility are often perceived as antagonistic. Yet they are two necessary factors for the **success of your transformations**. The implementation of an **architecture approach** ensures the objectives of your transformation are consistent with the expectations of the stakeholders, the constraints of the environment and the business and IT activities of your company. In addition, the success of this transformation, is based on your ability to lead it with **agile, incremental steps that create value** to reach the expected target. Our training will show you how the combination of agile at scales methods and enterprise architecture approaches is the key success factor for your transformation projects.

Training objectives:

At the end of the training, you will be able to:

- To understand the **added value of Enterprise Architecture**, even in an agile environment such as SAFe®
- To understand what is **expected of Architects**, even in an agile environment.
- To understand how to perform **Enterprise Architecture activities in an agile manner**, with a pragmatic and collaborative approach.
- To understand the key properties and characteristics of **Agile Architectures**
- To understand the **values, principles and mindset** of an Agile architect.

Who should attend? Enterprise architects, System architects, Solution architects, Software architects, technical directors and managers

Prerequisite: Have at least 3 years of experience in the field of design and management of complex systems.

Methods used & agenda: We dedicate a large part of our modules to exchange and practice to facilitate learning. During these 3 days you will immediately put into practice the architectural processes and tools on a simple enterprise, collectively chosen.

Day 1	Day 2	Day 3
1. Reconciling Architecture and Agility@Scale 1.1. Pitfalls of traditional architecture 1.2. Pitfalls of Agility 1.3. Cesames Agile Architecture Manifest **2. Architecture and Agility Key Concepts** 2.1. Architecture concepts 2.2. Agility concepts **3. Developing a shared Vision and Target Intent** 3.1. Environment Exercise: Environment analysis 3.2 Needs and Requirements	**3. Developing a shared Vision and Target Intent** Exercise: Needs and Requirements 3.3 Business Target intent Exercise: Business Target intent 3.4: IT Target intent *Exercise: IT Target intent*	**4. Agile architecture patterns** **5. Charting a path** 5.1. Transformation stakes 5.2. Path charting process Exercise : Charting a path **6. Execution** 6.1 Roles and responsibilities 6.2 Project System Exercise: Execution **7 Governance**

CLASSROOM OR REMOTE

DURATION
21 hours (3 days)
9h00-12h30/13h30-17h00

SUPPORTS
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CESAMES senior architect

FORMAT
Inter-company
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WHERE?
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Inter-company
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SYSTEMS ARCHITECTURE - INTRODUCTORY TRAINING FOR EMBEDDED SYSTEMS

ADVANCED TRAINING | 3 DAYS | CESAM FUNDAMENTALS

Critical embedded systems are complex systems with an increasing need of system engineering approaches in their design activities. The purpose of this training is to show how to succeed embedded system design and **improve quality, cost, performances and time to market** of theses systems using an architectural approach. It offers a mix of pragmatic concepts, case studies, discussions and exercises with the support of MBSE, applied to embedded systems.

Training objectives:

At the end of the training, you will be able to:

- Understand how systems architecture can help any system designer to **better connect key stakeholders needs to design choices**
- Introduce the **three architectural views** that are used to describe any system
- Showing how **software / hardware engineering** can be interfaced with Systems Architecture
- Understand how systems architecture can be a framework for some **advanced analyses** (V&V, trade-off, ...) and for **collaborative project development**
- Promote a **standard vocabulary & process** for deployment of systems architecture

Who should attend? Engineers, project managers & directors in charge of the design of embedded systems

Prerequisite: Have at least 3 years of experience in the field of design and management of complex industrial systems.

Methods used & agenda: We dedicate a large part of our modules to conversing and practice to facilitate learning. During these 3 days you will immediately put into practice the architectural processes and tools on an embedded system, collectively chosen.

Day 1	Day 2	Day 3
1. Introduction	3.4 View B4: Stakeholder Need Analysis	**5. White Box Architecture**
2. The fundamentals	Exercise: Needs architecture & exercise debriefing	5.1 View W1: Software Implementation Analysis
2.1 Systems architecture motivation		5.2 View W2: Software Deployment Analysis
2.2 Systems architecture framework	**4. Grey Box Architecture**	5.3 View W3: Hardware Technical Architecture
	4.1 View G1: System Functional and Logical Analysis	5.4 View W4: Technical Requirement Analysis
3. Black Box Architecture	Exercise: Functional & Logical Analysis	Exercise: Software Implementation Analysis / Hardware Technical Analysis
3.1 View B1: Stakeholder Analysis	4.2 View G2: Software Logical Analysis	
Exercise: stakeholder analysis	4.3 View G3: Software Process Analysis	**6. Related topics**
3.2 View B2: Lifecycle Analysis	4.4 View G4: Hardware Logical Analysis	6.1 Verification & Validation
3.3 View B3: Use Case Analysis	4.5 View G5: Functional Requirement Analysis	6.2 Collaborative architecture
Exercise: Lifecycle and use cases & exercise debriefing		6.3 Collaborative exercise
		7. Conclusion

CLASSROOM OR REMOTE

DURATION
21 hours (3 days)
9h00-12h30/13h30-17h00

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EVALUATION OF SATISFACTION
Feedback forms completed by each trainee

NEED CAPTURE

PMI's annual Pulse of the Profession® 2014 Global Study found that "inadequate collection of needs and requirements" remained the **primary cause of failure** of complex product and industrial design projects. 61% of major international group leaders observe a **gap between the strategic business vision and its operational derivative** in the company. Only 51% of the strategic transformation initiatives are successful and **deliver expected added value**. This training's purpose is to present and put into practice adequate methods & tools for need capture and needs formalization in a transformation context.

Training objectives:

At the end of the training, you will be able to:

- **Oversee** a need capture and formalization process
- **Facilitate need collect** in the context of an organizational transformation project with dedicated techniques and the right posture
- **Mobilize and engage** all the stakeholder in order to manage change resistance

Who should attend? Engineers, project managers

Prerequisite: Have at least 3 years of experience in the field of design and management of complex product or services

Methods used & agenda: We dedicate a large part of our modules to conversing and practice to facilitate learning. During these 2 days you will immediately put into practice the methods and tools during applicative exercises, on collectively chosen system.

Day 1	Day 2
1. Introduction of the module **2. Overview of Requirements Capture and Requirements Engineering** Notions of system architecture Overview of the requirements architecture process and requirements **3. Capture and needs architecture** Preparation of the procedure Exercise: definition of a needs capture plan Objectives and progress of the process Exercise: collecting and writing needs Synthesis **3. Engineering and Requirements** Architecture Objectives and progress of the process	Exercise: coverage analysis of a repository of needs and requirements Synthesis **5. Requirements capture and requirements engineering in practice** Example of use of needs & requirements in practice Capture, engineering and management of needs and requirements on the product Capture, engineering and management of needs and requirements on the project **6. Verification and validation** Overview of the verification and validation process Links between Requirements & Requirements Engineering and Verification & Validation Exercise: analysis and specification of a test case **7. Conclusion**

CLASSROOM OR REMOTE

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COLLABORATIVE ARCHITECTURE

ADVANCED TRAINING | 2 DAYS | CESAM AGILITY

All traditional business sectors now have to **design complex products** in environments that are also becoming more and more complex each day. Mastering this internal and external complexity requires **collaborative engineering.**

All relevant stakeholders must be able to **co-design** the complex product / service by performing the necessary architectural trade-offs as early as possible. Benefits: Design the "right" systems that integrate all the needs and constraints of their environments.

Training objectives:

At the end of the training, you will be able to:

- to present the **basics** of collaborative architecture,
- to explain the **methods & techniques** of collaborative architecture,
- to understand **how to set up a collaborative architecture workshop** to make the actors of a project system converge on a shared vision of their technical system

Who should attend? Engineers, project managers and directors

Prerequisite: Have at least 3 years of experience in the field of design and management of complex product or services

Methods used & agenda: We dedicate a large part of our modules to conversing and practice to facilitate learning. During these 2 days you will immediately put into practice the methods and tools during applicative exercises, on collectively chosen system.

Day 1	Day 2
0. Introduction	*2.3 – Meeting facilitation techniques*
	2.4 – System Architecture exercise (2/3)
1. Collaborative overview	*2.5 – Collaborative architecture workshop*
	2.6 – System Architecture exercise (3/3)
2. Collaborative Architecture techniques	
2.1 – Socio-dynamic elements	**3. Conclusion**
2.2 – System Architecture exercise (1/3)	
2.3 – Meeting facilitation techniques	

CLASSROOM OR REMOTE

DURATION
16 hours (2 days)
9h00-12h30/13h30-18h00

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Feedback forms completed by each trainee

CESAM CERTIFICATION PATH

CESAM "Systems Architect" skills enhancement pathway

- ▪ The CESAM "Systems Architect" skills enhancement pathway certifies the ability to implement system architecture or enterprise architecture methods in a professional situation, which are key tools for the competitiveness of organizations.

- ▪ This CESAM certification path is based on the CESAM Pocket Guide and on the "System Architect" skills repository, which covers all our certification paths in system architecture and enterprise architecture (refer to https://cesam.community/methode-et-outils/)

Benefits of CESAM Certification?

As an engineer, project manager or architect?

- • A certification recognized by the whole professional community in architecture & systems engineering
- • A framework used by the major professional actors to promote employability
- • A multi-level course adapted to all maturities
- • A community with high added value that promotes the sharing of good practices and engages its participants in more in-depth topics, mutual skills reinforcement and virtuous exchanges (to be certified CESAM allows to have reduction to participate in the events of the community)

As a director or manager?

- • The implementation of our certification path allows to promote the development of skills in systems architecture and engineering and to motivate employees

- • Having the right resources to develop and make complex systems evolve in order to provide cost effective and efficient solutions to the needs and constraints of its stakeholders

- • Demonstrate factually to third parties the ability of its staff to implement a rigorous and comprehensive systems architecture method

FELLOW

CESAM Fellow is the highest acknowledgement of one's architectural professional skills by its peers. This certification validates a key contribution to the CESAM method evolution.

SENIORITY ACKNOWLEDGEMENT

CESAM Expert certification is intended for professionals with more than 15 years of experience as a system architect or enterprise architect.

Evaluation & Certification: Validate his/her professional experience with a jury formed by CESAMES experts.

ON-THE-JOB TRAINING – 6 to 12 months

CESAM confirmed certification is delivered mainly after undertaking the on-the-job-training (6 to 12 months) which allows the trainees to put into practice, with the support of a dedicated Cesames trainer/coach, **the overall architectural process on a concrete industrial system design project brought by the trainees.**

Evaluation & Certification: Evaluation of the trainee's projects (on the basis of a systems architecture file and an oral presentation) is done by an evaluation committee submitted to the approbation of an independent certifying jury formed by customer experts & CESAMES referent

INTRODUCTORY TRAINING – 2 to 3 days

CESAM Associate certification validates the overall **understanding of architectural processes and problematics.** It can be achieved after attending an architecture (system or enterprise) introductory training.

Evaluation & Certification: The issuance of the certification is conditional on obtaining 30 correct answers to an online multiple-choice questionnaire (MCQ) comprising 40 random questions on system architecture topics.
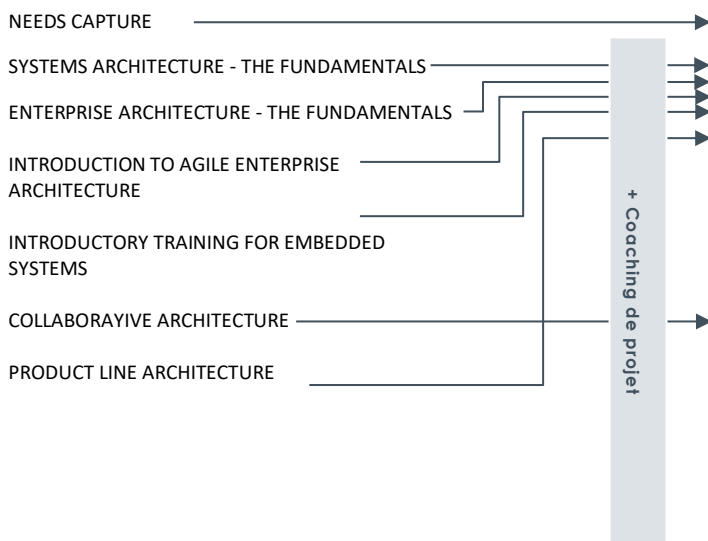
INTRODUCTORY TRAININGS ARE ENTRY POINTS FOR CERTIFICATION

Most of our trainings allow to validate one or more system architect's' skills that are necessary to be CESAM Confirmed

Skills that can be validated using this mechanism are shown here after. Their validation requires to demonstrate their implementation on a professional project.

- If needed, coaching sessions with the support of one of CESAMES' architects will allow to build a file that will demonstrate the required skillset on a professional project. The work must then be presented to an evaluation committee and submitted to the approval of an independent certifying jury formed by customer experts & CESAMES referent

Trainings

NEEDS CAPTURE

SYSTEMS ARCHITECTURE - THE FUNDAMENTALS

ENTERPRISE ARCHITECTURE - THE FUNDAMENTALS

INTRODUCTION TO AGILE ENTERPRISE ARCHITECTURE

INTRODUCTORY TRAINING FOR EMBEDDED SYSTEMS

COLLABORAYIVE ARCHITECTURE

PRODUCT LINE ARCHITECTURE

+ Coaching de projet

System architect skills for CESAM Confirmed certification

1 – Complex system need analysis

2 – Complex system architecture

3 – Verification & validation of a complex system

4 – Collaborative management of the design project system

GENERAL INFORMATION

Professional opportunities

Cesames trainings mainly lead to System architect or Enterprise architect positions, with responsibilities and perimeters depending on the trainee seniority, experience and on the completed training. Our introductory trainings provide interesting and more in-depth insight into such professions. Our on-the-job training allows to validate operational skills which bring visible added value in a professional career and therefore contribute to long-term employability of the trainees. CESAM Confirmed certification award could also lead to more advanced and specialized training.

Handicap & accessibility

In order to make our trainings accessible to most, Cesames has nominated a handicap subject matter expert and all trainers have followed a course to raise awareness on handicaps and accessibility issues. In order to put in place the adequate compensation measures, and aware that any success is the result of good preparation, Cesames invites all beneficiary who wish to, to contact our handicap referent who is receptive to all situations.

This contact will allow to exchange and co-analyze the needs of the beneficiary in order to put in place the adequate answers, leading to suited compensation measures. With beneficiary consent, handicap referent will solicit Cesames partner network in order to realize a first feasibility & realistic deadline evaluation of the foreseen compensation measures. The beneficiary will be informed of the outcome of this analysis and will be able to decide on the action to be taken, which will start the implementation or not of the necessary compensation measures. The beneficiary will be informed of the advancement and will potentially be an actor until the start of the training.

Contacts

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