

CORTICON CERTIFIED PROGRAM GUIDE

The Corticon Certified program consists of four different tracks which focus on the essential functions of selling, implementing, integrating, supporting, and teaching Corticon Business Rules Management software products. Each track offers two levels of certification, allowing our users to choose the specialized skills best suited to their needs and the needs of their business, partners, and customers.

WHICH CERTIFICATION TRACK IS RIGHT FOR YOU?

Modeling (M)

The Modeling, or “M” track, emphasizes proper and efficient use of Corticon Business Rule Studio, ensuring that in-house implementers, consultants, and other users have the skills to model, analyze, and test rules and decisions.

Technical Integration (T)

The Technical Integration, or “T” track, is designed for technical integrators and architects who design or build decision-consuming applications and processes, and need to understand Corticon decision service deployment, and Server installation, interfaces, and tuning.

Support (H)

The Support, or “H” track, is designed to ensure that Corticon reseller partners and others who offer Level 1 and/or Level 2 support services to their customers have the depth and breadth of knowledge necessary to provide effective troubleshooting and workarounds.

Instruction & Training (I)

The Instruction & Training, or “I” track, is designed to ensure that providers of Corticon product training are highly trained themselves and capable of conveying their knowledge to new users. Corticon reseller and system integration partners who want to offer training services for Corticon software are encouraged to become certified instructors.

WHICH CERTIFICATION LEVEL IS RIGHT FOR YOU?

Professional (1)

Professional certification level is achievable by anyone desiring to learn and leverage the Corticon family of products. Professional certification ensures that you have the essential skills necessary to perform the task, whether selling, implementing, integrating, supporting, or teaching Corticon Business Rules Management software products.

Professional level certification is convenient, affordable and closely aligned to Corticon training courses. Most tracks are achievable in 1-2 weeks.

Master (2)

Master certification level requires a deeper level of product knowledge as well as proven experience. Corticon Masters are the most marketable resources, demanding the highest salaries due to their outstanding skills with the Corticon Business Rules Management software products. Master-level resources address the most demanding customer requirements, ensuring the greatest possible customer experience with Corticon products.

Master-level certification is intended for those frequently and deeply involved in building, maintaining or supporting Corticon-based systems and applications. In other words, Master-level certification recognizes the elite power-users within the Corticon community. It demands strong analytical, technical, and communication skills and a dedicated commitment to becoming the very best.

HOW WILL YOU BENEFIT?

Each level of certification described in this Guide contains a list of benefits and privileges.

Successfully completing a certification level entitles you to, among other things, display the associated Corticon Certified title and logo on your personal and business materials, in accordance with the terms of the **Corticon Certified Candidate Agreement**.



Additional benefits depend upon the track and level of certification, but may include:

- Receiving a formal certificate of completion.
- Listing in the Corticon Certified Professional Registry, published on the Support Site.
- An announcement of your certification to the Corticon user community in an issue of Core Sample.
- Eligibility to subcontract to the Corticon Professional Services team for customer implementations.

WHAT WILL IT COST?

Exam fees vary by track and level, and cover the examination, assessment, and the certificate for candidates who complete all requirements successfully.

HOW TO REGISTER

- All registrations for in-person examinations must be received by telephone at central registration (650-212-2424 ext 219).
- In-person exam registrations are taken only through central registration and will only be taken up to 5 business days prior to the scheduled exam event.
- Registration cancellation refund policy for in-person exams is outlined in the following table:

If you cancel your registration...	Cancellation charge
more than 10 business days before the scheduled start date of the exam	none
more than 3 but less than or equal to 10 business days before the scheduled start date of the exam	50% of the fees
3 business days or less before the scheduled start date of the exam	100% of the fees

- For remote, correspondence, or electronically delivered examinations, no cancellation refunds will be given once examination materials or logins have been sent to the candidate. If examination materials have not yet been sent, then a candidate may cancel at any time for a full refund.

- Payment by certified check or funds is due within five business days from date of registration. If no payment is received within the five business days, Corticon will release the registration and a notification of cancellation will be issued.

EXAMINATIONS

- Written exams typically consist of true/false, multiple choice, and short answer questions, and last between 2 and 3 hours depending on the certification. Master-level exams may include questions which require longer explanations, drawings, or may include other types of unstructured answers.
- Practical exams typically consist of modeling or integration problems requiring you to build a Vocabulary, Rule Set or Test; analyze a problem; generate a service contract; map a data payload; troubleshoot or work around an error; or demonstrate some other practical aspect of Corticon products. A practical exam may last between 2 and 3 hours depending on the certification - in-person Masters exams may last longer.
- Oral boards are required only for M2 and H2 certifications and involve verbal questioning by a small panel of other Masters. Content and format are left completely to the discretion of the panel. Oral boards typically last between 60 and 90 minutes.

UPGRADING CERTIFICATION

When a new version of a Corticon product is released, an updated certification program will be made available as close to the new product's release date as possible. In some cases, upgrading an existing certification may be accomplished by taking a "Delta" examination, which only focuses on differences between new and previous product versions. In other cases, an entirely new examination must be passed in order to upgrade a certification. Corticon reserves the right to determine the certification upgrade path for any new product release.

Certification upgrades must be completed no later than six months following availability of the upgrade program. For example, for a new product version released January 1 and a corresponding certification upgrade program made available March 1, prior version certifications will expire on September 1. Program participants whose certifications expire will be removed from the Corticon Certified Register.

See ***Corticon Certified Policies, Terms, and Conditions*** for more information about certification upgrades and expiration.

Purpose

Upon achieving this level of certification, you should be able to:

- Actively and productively participate in a Corticon implementation in the role of Rule Modeler, taking requirements discovered or provided by others to create Rule Sets of moderate complexity.
- Demonstrate “Studio literacy”, i.e. use the features of Corticon Studio to analyze, validate, and test Rule Sets to ensure they function as intended.
- Perform or audit ongoing maintenance of Rule Sets to ensure updates and changes are made correctly, consistently, and efficiently.

Objectives

To achieve this level of certification, you will need to demonstrate:

- Strong familiarity with the Studio user interface, menus, options, and most features.
- Strong familiarity with available Studio documentation and other supporting resources.
- Some experience using Studio to model real business rules and decisions.

Full details are listed in the [Certification Standard](#) for this level.

Prerequisites

- Introduction to Corticon Studio (RM-01) and Advanced Studio Concepts (RM-02) are highly recommended but not required. M1 candidates who take these courses will have a very good chance of passing the M1 written and practical exams.

Certification Exam Requirements

As an M1 candidate, you must successfully:

- Pass the M1 written exam, typically 150-180 short-answer/multiple choice questions lasting about 2 hours, administered remotely and electronically.
- Pass the M1 practical exam, administered remotely, lasting between 4-8 hours. The practical exam involves modeling 2 business scenarios using Studio, and then submitting the resulting Vocabulary, Rule Set, and Test files to Corticon for assessment.

Benefits & Recognition

Achieving this level of certification entitles or qualifies you to:

- Receive a formal certificate of completion.
- Use the Corticon Certified Professional Decision Modeler title and logo on business materials (subject to policies in the **Corticon Certified Candidate Agreement**).
- Be included in the Corticon Certified Register, published on the Support Site.

- Subcontract to the Corticon Professional Services team for customer implementations (available to Corticon business partners only, other terms and conditions apply).

Time & Cost

- A motivated and determined candidate will be able to complete this level of certification in approximately 1-2 weeks of active study and use of Corticon Studio.
- The certification examination fee is US\$250.

CERTIFICATION STANDARD

Studio UI & General Knowledge

- | | | |
|--|--|--|
| [] - parts and purposes of Studio | [] - purpose and usage of association role names | [] - Rulesheet Simple view vs. Advanced view |
| [] - Studio file types & their icons | [] - understanding cardinality | [] - definition of a rule |
| [] - types and purposes of Studio user roles | [] - understanding cardinality icons and text representations | [] - purpose of the Rule Statement |
| [] - purposes of icons in Studio toolbar | [] - purpose and usage of association directionality | [] - how to use Rule Statements |
| [] - ways to navigate among open Studio files | [] - understanding bidirectionality of associations and what that means to data | [] - purpose of the Rule Statement ID number |
| [] - purpose of the Project window | [] - understanding how one-direction associations change Vocabulary tree appearance | [] - which expressions may have linked Rule Statements |
| [] - which Studio files can be open at the same time | [] - modeling multi-valued data structures | [] - counting rules in a Rule Set |
| [] - active window indication | [] - using a UML Class diagram as guidance in Vocabulary creation | [] - rule-Rule Statement linkage color indication |
| [] - file naming rules and conventions | [] - using rules as guidance in Vocabulary creation | [] - syntax error indication on a Rulesheet and its tab |
| [] - context-sensitive right-click menus | [] - discovering characteristics of a Vocabulary by interviewing domain experts | [] - assigning a version number to a Rule Set |
| [] - understanding Studio file connections and linkages | [] - discovering characteristics of a Vocabulary through policy analysis | [] - basic steps of rule-building |
| [] - opening and using Studio Help | [] - how to generate a Vocabulary report | [] - what is a Values set? |
| [] - finding your Studio version and build numbers | | [] - types of rules and where they are modeled |

Studio Vocabulary

- [] - concepts of entities, attributes, and associations
- [] - creating/editing entities
- [] - creating/editing attributes
- [] - all Vocabulary node icons
- [] - internal Studio datatypes
- [] - purpose and usage of base attributes
- [] - purpose and usage of extended transient attributes
- [] - entering and using possible values
- [] - using MS Excel to import possible values
- [] - Vocabulary node-naming rules
- [] - creating/editing associations

Studio Rules, Rulesheets & Rule Sets

- [] - creating, saving, and closing a new Rule Set
- [] - difference between a Rule Set and a Rulesheet
- [] - Rulesheet tab colors, codes, and symbols
- [] - Rulesheet naming and restrictions
- [] - Rulesheet sequencing: tabs, impact on execution
- [] - names and purposes of all Rulesheet sections
- [] - concept of a boolean expression
- [] - dot notation resulting from dragging and dropping
- [] - AND construction in Condition/Action columns and Precondition rows
- [] - OR constructions in Condition/Action columns and Precondition rows
- [] - functions of rows and columns in Condition/Action rules
- [] - the meaning of "dash" in a rule column
- [] - using string literals
- [] - using date literals
- [] - using integer literals
- [] - using decimal literals

- [] - using boolean literals
 - [] - negation within rule expressions and problems with it
 - [] - concept of null vs. 0 for numbers
 - [] - concept of empty string vs. null for strings
 - [] - where not to write expressions in a Rulesheet
 - [] - rule governing rule partial-firing
 - [] - writing calculation expressions in all legal Rulesheet sections
 - [] - concept of "return" value or datatype
 - [] - casting operators
 - [] - datatype compatibility
 - [] - character precedence
 - [] - operator precedence
 - [] - posting Rule Statements, embedding dynamic data, including limitations
 - [] - number of rules in a Rulesheet
 - [] - number of sheets in a Rule Set
- Scope & Context**
- [] - understand rule scope and how it affects rule evaluation and execution
 - [] - what "root-level" entity means
 - [] - understanding a Vocabulary as perspectives of data
 - [] - how perspectives relate to actual data in a Test
 - [] - how to choose appropriate perspectives to focus on specific data
 - [] - choosing the right test data to be consistent with rule perspective
 - [] - types of errors which indicate incorrect or inconsistent scope
 - [] - using scope consistently
 - [] - cross products & Cartesian products
 - [] - purpose of roles
 - [] - ways to indicate context
 - [] - purpose and usage of aliases, when mandatory and when optional
 - [] - restrictions on alias naming
 - [] - best practices for alias naming
- Modeling Rules with Collections**
- [] - using aliases
 - [] - understand collection concepts
 - [] - using sum, size, avg collection operators
 - [] - using exists, forAll collection operators
 - [] - treating data as single instances vs. sets/collections
 - [] - using maximum filters
 - [] - effect of location on collections of conditional expressions
 - [] - effect of Scope on Preconditions
- Modeling Logically Equivalent Rules**
- [] - concept and use of rule patterns
 - [] - identifying patterns
 - [] - using boolean expressions
 - [] - using the "check box" to activate an action
 - [] - using value sets
 - [] - concept and use of "other"
 - [] - modeling simple parameterized rules
 - [] - completing a Value Set
 - [] - Condition/Action vs. Precondition & Noncondition
 - [] - boolean Condition/Action vs. value set Condition/Action
 - [] - exclusionary syntax options
 - [] - avoiding double negatives
 - [] - populating a Values Set
 - [] - range notation
 - [] - value set completeness
 - [] - sub-rules expansion, collapsing columns
 - [] - different ways to use the .post operator
 - [] - dealing with overlapping value sets
 - [] - endpoint syntax for ranges
- Studio Tests**
- [] - how to enter strings
 - [] - how to enter dates
 - [] - how to enter booleans
 - [] - how to enter decimals
 - [] - how to enter integers
 - [] - how to assign an empty string
- [] - what does an empty string look like in a test?
 - [] - what is a null value?
 - [] - how to assign/reset a null value in a test
 - [] - type color style for input Testsheet
 - [] - type color style for results Testsheet
 - [] - type color style for modified data
 - [] - naming an Input Testsheet
 - [] - naming a Results Testsheet
 - [] - how extended transients behave in Input and Results Testsheet
 - [] - creating associations
 - [] - creating a 1-* collection from a 1-1 cardinality
 - [] - inputting and navigating between input boxes in a Testsheet
 - [] - pointing a Testsheet to a Rulesheet
 - [] - sorting messages in a results TS
 - [] - generating an Input Tree - prerequisites and form of default tree
 - [] - simulating rule set flows with Tester
- Rulesheet Analysis and Validation**
- [] - why are traditional analysis methods suboptimal?
 - [] - understanding and checking for Ambiguities
 - [] - recognizing when ambiguities are definitely problematic and when not
 - [] - understanding how overrides differ from sequencing
 - [] - understanding override chaining (it doesn't happen)
 - [] - understanding multiple override selection
 - [] - options for resolving ambiguity besides overrides
 - [] - understanding role of dashes in ambiguous rules
 - [] - understanding and checking for Incompleteness
 - [] - recognizing when incompletenesses are definitely problematic and when not
 - [] - using best practices to handle incomplete rules

- [] - visualizing a table as columns, creating quickly
- [] - understand in general what the compression algorithm does
- [] - understand irreversibility of Compression tool
- [] - resolving identified problems according to business intent.
- [] - understanding concept of redundancy when it is a problem, how to detect, options to correct

- [] - know how to reference (lookup) operators

- [] - using most operators in the Vocabulary (see above for collection operators req'd)

Troubleshooting

- [] - applying troubleshooting techniques
- [] - disabling rows & columns
- [] - disabling & enabling rules
- [] - disabling & enabling Rulesheets

- [] - how to properly report a problem to Corticon Support

Rule Chaining

- [] - chaining within a single rule
- [] - understanding and controlling rule dependency
- [] - controlling forward chaining

RECOMMENDED RESOURCES

- Corticon Product Document ***Tutorial for Corticon Studio – Rule Modeling***
- Corticon Product Document ***Studio Quick Reference Guide***
- Corticon Product Document ***Rule Modeling Guide***, especially the Test Yourself questions at the end of each chapter
- Corticon Product Document ***Rule Language Guide***
- Training Course RM-01 Introduction to Corticon Studio
- Training Course RM-02 Advanced Studio Concepts
- Corticon Support Site, available to all registered customers with active Support & Maintenance contracts, and all current Corticon business partners. <http://support.corticon.com>
- Core Sample newsletters, back issues of which are available on the Corticon Support Site

Purpose

Upon achieving this level of certification, you should be able to:

- Lead a Corticon implementation as the rule modeling expert; discover, organize, formalize, model, and test rules and decisions of any complexity.
- Demonstrate “Studio fluency”, i.e. design and implement rules and decisions that model complex business problems and algorithms.
- Design and implement Rule Sets for easy maintenance, reuse, and expansion using best practices.
- Apply troubleshooting tools and techniques to diagnose and correct others’ rules and decisions.

Objectives

To achieve this level of certification, you must demonstrate:

- Mastery of the Studio user interface, rule language, menus, options, and all features.
- Mastery of available Studio documentation and other support resources.
- Significant experience using Studio to model real business rules and decisions.

Full details are listed in the [Certification Standard](#) for this level.

Prerequisites

- Be a practicing Corticon Certified Professional Decision Modeler (M1) for a minimum of six months.
- Be a Corticon Certified Professional Decision Integrator (T1).
- Submit an M2 application package consisting of:
 - 3 Studio file sets (each set containing a Vocabulary, Rule Set, and Test) which demonstrate modeling sophistication and fluency.
 - One recommendation from another Master Decision Modeler based on personal contact and experience.
 - One recommendation from a customer (internal or external), client, or other recipient/user of your decision models.
- Application packages will be reviewed and qualified candidates will be invited to the Masters examination, an in-person, 2-day event conducted at central locations worldwide.
- Some knowledge of XML and web services is required, and Training Course RD-01 Deploying Web Services is recommended as a supplement to the T1 prerequisite.

Certification Exam Requirements

As an M2 candidate, you will attend the Masters examination where you must successfully:

- Pass the M2 written exam, which typically includes 100 short-answer/multiple-choice/essay questions over a 2-3 hour period.

- Pass the M2 practical exam, which involves modeling 1-2 business scenarios in Studio over a 3 hour period.
- Pass the M2 oral board, conducted by a panel of at least 2 other Master Decision Modelers. Oral boards last 60-90 minutes.

Benefits & Recognition

Achieving this level of certification entitles or qualifies you to:

- Receive a formal certificate of completion.
- Use the Corticon Certified Master Decision Modeler title and logo on business materials (subject to policies in the **Corticon Certified Candidate Agreement**).
- Be included in the Master's list of the Corticon Certified Register, published on the Support Site.
- An announcement of your certification to the Corticon user community in an issue of Core Sample.
- Subcontract to the Corticon Professional Services team for customer implementations (available to Corticon business partners only, other terms and conditions apply).

Time & Cost

- A motivated and determined candidate will be able to complete this level of certification in one year of active study and use of Corticon Studio.
- The certification examination fee is US\$1000.

CERTIFICATION STANDARD

Discovery

- | | | |
|---|--|--|
| [] - reviewing and analyzing of business requirements and specifications to discover rules and data models | [] - using a GUI screen as guidance | [] - complex decision algorithm design |
| [] - interviewing subject matter experts to discover rules and data models | [] - using a paper form as guidance | [] - identifying sub-optimal applications |
| [] - analyzing existing policies and procedures to discover rules and data models | [] - using an Entity-Relationship (ER) diagram as guidance | [] - recommending division of labor between rules and process |
| [] - reviewing existing applications, user interfaces, or forms to discover rules and data models | [] - using an XML Schema (XSD) as guidance | [] - using Rule Set effective dating and versioning |
| [] - mining and reverse-engineering pseudo-code to discover rules and data models | [] - using a database schema as guidance | [] - multi-alias collection patterns |
| | [] - understanding how relational concepts map to Vocabulary concepts | [] - using the OR algorithm |
| | [] - basics of data model normalization | [] - understanding the compression algorithm in the Completeness Checker |
| | [] - basics of object inheritance | [] - how the compression algorithm differs from the algorithm in the Completeness Check |
| | [] - importing a Vocabulary using XMI | [] - how collapse is different from compress |

Studio Vocabulary

- | | | |
|--|---|---|
| [] - understanding internal Studio datatypes and corresponding external datatypes | [] - re-importing a Vocabulary using XMI | [] - what subsume means |
| [] - basics of external name mapping | [] - troubleshoot XMI import Vocabulary integrity problems | [] - correcting Rule Statements post-compression |

Advanced Rule Modeling

- | | | |
|---|---|---|
| [] - basics of external datatype mapping | [] - limits of the expression language | [] - sorting collections |
| | [] - complex decision troubleshooting | [] - semantic differences in special collection syntax |

- [] - using all collection and sequence operators
- [] - using new and remove operators
- [] - adding and removing elements to/from a collection
- [] - using minimum filters
- [] - understanding null vs. empty collections
- [] - using minimum filters in Precondition expressions which contain collection operators
- [] - understanding that Studio uses CcServer.jar
- [] - dependency network generation and implications to execution relative to data payload

- [] - using rule set loops
- [] - looping icons on Rulesheet tabs and their meaning
- [] - using single-rule or trivial loops
- [] - using maxloops setting to control looping
- [] - using Rulesheet-level looping

Templates and Parameters

- [] - modeling complex parameterized rules
- [] - creating rule templates to simplify maintenance
- [] - understanding logical problems that can be caused by parameters and templates

Rule Cultural

- [] - prepare job descriptions, recommend skill sets, assist in selecting rule modelers
- [] - analyze rule sources for completeness and quality
- [] - recommend best practices for change management and control
- [] - review requirements definition, review, and management process
- [] - recommend organizational adjustments to support rule-based approach

RECOMMENDED RESOURCES

- Corticon Product Document ***Studio Quick Reference Guide***
- Corticon Product Document ***Rule Modeling Guide***, especially the Test Yourself questions at the end of each chapter
- Corticon Product Document ***Rule Language Guide***
- Corticon Product Document ***Tutorial for Corticon Server – Deploying Web Services***
- Training Course RM-01 Introduction to Corticon Studio
- Training Course RM-02 Advanced Studio Concepts
- Training Course RD-01 Deploying Decision Services as Web Services
- Corticon Support Site, available to all registered customers with active Support & Maintenance contracts, and all current Corticon business partners. <http://support.corticon.com>
- Core Sample newsletters, back issues of which are available on the Corticon Support Site

Purpose

Upon achieving this level of certification, you should be able to:

- Install Corticon Server as a Java Servlet on a commonly available J2EE web server.
- Prepare Rule Sets for deployment as Decision Services.
- Deploy Rule Sets to Corticon Server.
- Integrate Decision Services as web services.
- Invoke Decision Services using SOAP request messages.
- Configure Corticon Server.
- Use Corticon Server logging to troubleshoot basic integration problems.

Objectives

To achieve this level of certification, you must demonstrate:

- Familiarity with the basic architecture of Corticon Server.
- A solid understanding of web services standards, including XML, XML Schema (XSD), WSDL, and SOAP.
- Proficiency using the Corticon Deployment Console.

Full details are listed in the [Certification Standard](#) for this level.

Prerequisites

- Training Courses RM-01 Introduction to Corticon Studio and RD-01 Integrating and Deploying Decision Services as Web Services are highly recommended but not required. T1 candidates who attend these courses will have a very good chance of passing the T1 written and practical exams.
- Experience with common J2EE web servers and SOAP containers such as Apache/Tomcat. Examination questions are not specific to any specific 3rd-party products not bundled with Corticon software.

Certification Exam Requirements

As a T1 candidate, you must successfully:

- Pass the T1 written exam, typically about 100 short-answer/multiple choice questions lasting about 2 hours, administered electronically and remotely.
- Pass the T1 practical exam, which involves integrating and deploying 2-3 Decision Services using Corticon Studio, Deployment Console, and Server. Assets created during this 2-3 hour exam are submitted to Corticon for assessment. Administered remotely.

Benefits & Recognition

Achieving this level of certification entitles or qualifies you to:

- Receive a formal certificate of completion of completion.
- Use the Corticon Certified Professional Decision Integrator title and logo on business materials (subject to policies in the **Corticon Certified Candidate Agreement**).
- Be included in the Corticon Certified Register, published on the Support Site.
- Subcontract to the Corticon Professional Services team for customer implementations (available to Corticon business partners only, other terms and conditions apply).

Time & Cost

- A motivated and determined candidate will be able to complete this level of certification in approximately 1-2 weeks of active study and use of Corticon software.
- The certification examination fee is US\$250.

CERTIFICATION STANDARD

Basic Architecture

- [] - basic Server request/response operation
- [] - what is deployed asset for a Decision Service
- [] - how wrapper classes are used in a Corticon Server installation
- [] - how to find the Server version & build number
- [] - Studio file types & their icons

Installing Corticon Server

- [] - high-level Server installation options, pros and cons
- [] - 5 core jar files needed for deployment; purpose of each
- [] - using the basic SOAP Servlet (.war) installation
- [] - technical requirements for installation
- [] - using the Windows installer
- [] - using the Shell installer
- [] - installing Server licenses
- [] - troubleshooting Server license expiration
- [] - verifying Server installed on Apache web server
- [] - using sample code to invoke admin API to verify Server responds

Preparing Rule Sets for Deployment

- [] - compiling and regenerating Rule Sets
- [] - stand-alone nature of a Rule Set
- [] - mapping external XML complex elements to Vocabulary entities
- [] - mapping external XML simple elements to Vocabulary attributes
- [] - mapping external XML references to Vocabulary associations
- [] - what a Work Document Entity is and 2 ways to set it
- [] - Importance of matching Studio & Server versions
- [] - inside the Rule Set (.ccj) file

Deploying Decision Services

- [] - launching the Deployment Console
- [] - purpose of the Deployment Console
- [] - purpose of a Deployment Descriptor File (.cdd)
- [] - structure of a .cdd file
- [] - advantages of a .cdd
- [] - how Server looks for .cdd files
- [] - purpose of the Decision Service Name
- [] - types of Rule Set paths available for use in .cdd files

- [] - deployment method and administration method
- [] - concept of Reactor and impact on deployment footprint
- [] - how Server pooling works, including expansion, contraction, and queuing
- [] - modifying a .cdd and Server auto-update response
- [] - XML messaging style options (FLAT vs. HIER vs. auto-detect) & performance implications
- [] - using sample code to invoke administrative APIs
- [] - using WSDL to invoke administrative APIs
- [] - hot redeployment of Decision Services
- [] - purpose of the Maintenance thread
- [] - activating/deactivating the Maintenance thread
- [] - verifying deployment using the runAxisTest.bat sample code

Integrating Decision Services

- [] - purpose of a service contract
- [] - contents and structure of WSDL
- [] - contents and structure of XSD
- [] - CorticonRequest & Response

- | | | |
|---|---|---|
| <ul style="list-style-type: none"> [] - WorkDocument & the WorkDocument Entity [] - using the newOrModified attribute [] - difference between Decision Service- and Vocabulary-level service contracts [] - Hot redeployment of Decision Services [] - entity unique IDs [] - messages structure in Response document <p>Invoking Decision Services</p> <ul style="list-style-type: none"> [] - generating a SOAP call using bundled code [] - creating and exporting an XML payload using Studio [] - connecting Studio to an external Server [] - invoking an externally deployed Decision Service from Studio | <ul style="list-style-type: none"> [] - using runAxisTest.bat to invoke Server [] - using Studio to test remote Decision Service <p>Decision Service Versioning & Effective Dating</p> <ul style="list-style-type: none"> [] - deploying multiple Decision Service of same name, but different versions [] - deploying multiple Decision Services of same name but different effective/expiration dates [] - how Server chooses a Decision Service to process [] - how to specify a Decision Service by version or effective date <p>Configuring Corticon Server</p> <ul style="list-style-type: none"> [] - referencing all Server properties [] - opening CcConfig.jar [] - modes/levels of logging | <ul style="list-style-type: none"> [] - setting log level [] - setting Server logging for performance measurement [] - setting Server logging for maximum performance [] - default settings for the maintenance thread [] - setting max loops [] - setting queue timeouts <p>Troubleshooting Server Problems</p> <ul style="list-style-type: none"> [] - viewing CorticonRequest and Response in the log [] - viewing rule firing [] - viewing Reactor assignment [] - viewing Reactor release |
|---|---|---|

RECOMMENDED RESOURCES

- Corticon Product Document ***Studio Quick Reference Guide***
- Corticon Product Document ***Tutorial for Corticon Server – Deploying Web Services***
- Corticon Product Document ***Server Integration & Deployment Guide***
- Training Course RD-01 Deploying Decision Services as Web Services
- Training Course RM-01 Introduction to Corticon Studio
- Training Course RM-02 Advanced Studio Concepts
- Corticon Support Site, available to all registered customers with active Support & Maintenance contracts, and all current Corticon business partners. <http://support.corticon.com>
- Core Sample newsletters, back issues of which are available on the Corticon Support Site

Purpose

Upon achieving this level of certification, you should be able to:

- Install Corticon Server as a Java Session Bean on a commercially available J2EE application server.
- Integrate Decision Services as Java services.
- Use Java business objects as data for Decision Service processing.
- Invoke Decision Services using Java APIs.
- Administer Corticon Server using Java APIs.
- Use Corticon Server logging to troubleshoot advanced Java integration problems.

Objectives

To achieve this level of certification, you must demonstrate:

- Mastery of the Server Java API set.
- Deep knowledge with Server documentation and other support resources.
- Significant experience with J2EE application servers, web servers, and Java development.

Full details are listed in the [Certification Standard](#) for this level.

Prerequisites

- Be a Corticon Certified Professional Decision Modeler (M1).
- Be a Corticon Certified Professional Decision Integrator (T1).
- Solid knowledge of Java and fundamental J2EE concepts.
- Experience with commercial J2EE application servers such as IBM WebSphere or BEA WebLogic. Examination questions are not specific to any specific 3rd-party products not bundled with Corticon software.
- Training Courses RD-02 Deploying Decision Services as Java Services and RD-03 Direct Database Access are recommended but not required. T2 candidates who attend these courses will have a very good chance of passing the T2 written and practical exams.

Certification Exam Requirements

As a T2 candidate, you must successfully:

- Pass the T2 written exam, typically about 100 short-answer/multiple choice questions lasting about 2 hours, administered electronically and remotely.
- Pass the T2 practical exam, which involves integrating and deploying a Decision Service as a Java service, using Direct Database Access to connect a Vocabulary and Decision Service to an external RDBMS, or demonstrating other advanced technical aspects of Corticon Server. Assets created during this 2-3 hour exam are submitted to Corticon for assessment. Administered remotely.

Benefits & Recognition

Achieving this level of certification entitles or qualifies you to:

- Receive a formal certificate of completion.
- Use the Corticon Certified Master Decision Integrator title and logo on business materials (subject to policies in the **Corticon Certified Candidate Agreement**).
- Be included in the Master's list of the Corticon Certified Register, published on the Support Site.
- Be announced to the Corticon user community in an issue of Core Sample.
- Subcontract to the Corticon Professional Services team for customer implementations (available to Corticon business partners only, other terms and conditions apply).

Time & Cost

- A motivated and determined candidate will be able to complete this level of certification in approximately 3 months of active study and use of Corticon software in all of its deployment modes.
- The certification examination fee is US\$500.

CERTIFICATION STANDARD

Installing Corticon Server

- [] - installing as in-process Java classes
- [] - installing as a Session Bean (using .ear file) in a J2EE application server EJB container
- [] - installing using a custom wrapper (application of APIs)
- [] - using the Admin Java API set to maintain Corticon Server
- [] - troubleshooting XML import Vocabulary integrity problems
- [] - using inheritance and interface support
- [] - extending the Vocabulary using extended operators

Preparing Rule Sets for Deployment

- [] - importing Java business object metadata from a package
- [] - mapping a Vocabulary to Java Business Object metadata
- [] - mapping external Java datatypes in the Vocabulary
- [] - installing extended operators in Corticon Server
- [] - inside the Rule Set (.ccj) file

Deploying Decision Services

- [] - deploying Rule Sets via Java APIs
- [] - updating Decision Service deployment parameters via Java APIs
- [] - requirements for decision reusability

Invoking Decision Services

- [] - invoking Server using Java APIs
- [] - using an inputStream as data in an invocation
- [] - using a map or collection of Java business objects as data in an invocation

Troubleshooting

- [] - using Server log to trace and troubleshoot Java object integration problems

Optimizing Server for Performance

- [] - setting Reactor pool sizes based on available hardware
- [] - predicting Server memory footprint for given deployments

Configuring Direct Database Access

- [] - configuring DDA in Studio to support modeling and testing
- [] - configuring DDA in Server to support production

- [] - using a RDBMS driver in design and runtime

- [] - RDBMS identity concepts

- [] - creating and updating a RDBMS schema from the Vocabulary

- [] - capturing Rule Messages in an external RDBMS

- [] - configuring Server for Batch mode

- [] - using Batch mode in deployment

- [] - importing and mapping external database metadata to a Vocabulary

- [] - importing database metadata and establishing possible values named sets

- [] - dealing with DDA restrictions

Using Extended Persistent Attributes

- [] - dynamically extending a RDBMS schema

- [] - dynamically extending a Java object model

- [] - importing extended persistent attributes from a RDBMS

- [] - using generic getter and setter methods to retrieve values of extended persistent attributes

- [] - using mapping rules to set values of extended persistent attributes

RECOMMENDED RESOURCES

- Corticon Product Document ***Studio Quick Reference Guide***
- Corticon Product Document ***Tutorial for Corticon Server – Deploying Web Services***
- Corticon Product Document ***Tutorial for Direct Database Access***
- Corticon Product Document ***Server Integration & Deployment Guide***
- Corticon Sample Code: Notes on Dynamic Schemas
- Training Course RM-01 Introduction to Corticon Studio
- Training Course RM-02 Advanced Studio Concepts
- Training Course RD-02 Deploying Decision Services as Java Services
- Training Course RD-03 Direct Database Access
- Corticon Support Site, available to all registered customers with active Support & Maintenance contracts, and all current Corticon business partners. <http://support.corticon.com>
- Core Sample newsletters, back issues of which are available on the Corticon Support Site

Purpose

Upon achieving this level of certification, you should be able to:

- Provide quality Level 1¹ (“First Line”) Support for end-users of Corticon Studio and Server.
- Accurately determine when to involve Level 2 Support personnel.
- Communicate and provide to Level 2 Support personnel the necessary background and troubleshooting information performed to date.

Objectives

To achieve this level of certification, you will need:

- Solid understanding of basic Studio and Server installation problems.
- Basic troubleshooting skills, including Corticon’s methodology.
- Basic technical knowledge of Corticon’s licensing model.
- Familiarity with available documentation and other support resources.

Full details are listed in the [Certification Standard](#) for this level.

Prerequisites

- Be a Corticon Certified Professional Decision Modeler (M1).
- Be a Corticon Certified Professional Decision Integrator (T1).
- Training Course RM-01 Introduction to Corticon Studio is recommended but not required.
- Training Course RM-02 Advanced Studio Concepts is recommended but not required.
- Training Course RD-01 Deploying Decision Services as Web Services is recommended but not required.

Certification Exam Requirements

As an H1 candidate, you must successfully:

- Pass the H1 written exam, typically about 50-75 short-answer/multiple choice questions lasting about 2 hours, administered electronically and remotely.
- Pass the H1 practical exam, which involves troubleshooting basic problems commonly encountered in Corticon Studio and Server implementations, and recommending corrective courses of action. Assets created during this 2-3 hour exam are submitted to Corticon for assessment. Administered remotely.

¹ definitions and descriptions of Corticon’s 3 levels of support are detailed in ***Levels of Support***, available separately.

Benefits & Recognition

Achieving this level of certification entitles or qualifies you to:

- Receive a formal certificate of completion.
- Provide Level 1 Corticon Support for your own employer or customers.
- Be included in the Corticon Certified Register, published on the Support Site

Time & Cost

- A motivated and determined candidate will be able to complete this level of certification in approximately 4-6 weeks of active study and use of Corticon software.
- The certification examination fee is US\$250.

CERTIFICATION STANDARD

Basic Installation

- | | | |
|--|--|---|
| [] - technical requirements to support Studio and Server | [] - detecting expired licenses | [] - collecting necessary files and information for further troubleshooting |
| [] - common problems with Studio and Server installers | [] - identifying Studio and Server version and build numbers | |
| [] - understand difference between different Studio user roes | [] - recognizing basic syntactical problems with rules | Available Resources |
| [] - installing licenses | [] - solving common problems with Studio and Server Tutorials (not DDA) | [] - knowledge of available product documentation and manuals, and be able to reference |
| [] - common locale problems | [] - re-associating orphaned Rule Sets and Tests | [] - familiar with resources available on Corticon Support Site and assist with registration |

Basic Troubleshooting

RECOMMENDED RESOURCES

- Corticon Product Document **Studio Quick Reference Guide**
- Corticon Product Document **Rule Modeling Guide**
- Corticon Product Document **Rule Language Guide**
- Corticon Product Document **Studio Installation Guide**
- Corticon Product Document **Tutorial for Corticon Server – Deploying Web Services**
- Corticon Product Document **Server Integration & Deployment Guide**, Appendix F
- Training Course RM-01 Introduction to Corticon Studio
- Training Course RM-02 Advanced Studio Concepts
- Training Course RD-01 Deploying Decision Services as Web Services

Purpose

Upon achieving this level of certification, you should be able to:

- Provide quality Level 2² (“Second Line”) Support for end-users of Corticon Studio and Server.
- Accurately determine when to involve Level 3 Support personnel (Corticon).
- Communicate and provide to Level 3 Support personnel the necessary background information and troubleshooting performed to date.
- Provide rapid, high-quality work-arounds to complex rule modeling problems.

Objectives

To achieve this level of certification, you will need to demonstrate:

- Mastery of Studio rule modeling, testing and troubleshooting techniques.
- Mastery of Server troubleshooting techniques, problem isolation, and log analysis.
- Mastery of available documentation and other support resources.

Full details are listed in the [Certification Standard](#) for this level.

Prerequisites

- Be a practicing Corticon Certified Professional Support Technician (H1) for a minimum of six months.
- Be a Corticon Certified Master Decision Modeler (M2).
- Be a Corticon Certified Master Decision Integrator (T2).
- All Corticon product Training Courses are recommended but not required.

Certification Exam Requirements

As an H2 candidate, you will attend a Masters examination, an in-person, 2-day event conducted periodically at central locations worldwide, where you must successfully:

- Pass the H2 written exam, typically about 25-50 short-answer/multiple choice questions lasting about 2-3 hours.
- Pass the H2 practical exam, which involves troubleshooting advanced and complex problems encountered in Corticon Studio and Server implementations, and resolving or recommending courses of action. The practical exam lasts between 2-3 hours.
- Pass the H2 oral board, conducted by at least 2 other Master Support Technicians. Oral boards last between 60-90 minutes.

Benefits & Recognition

Achieving this level of certification entitles or qualifies you to:

² Detailed definitions and descriptions of Corticon’s 3 levels of support are contained in **Levels of Support**, available separately.

- Receive a formal certificate of completion.
- Use the Corticon Certified Master Support Technician title and logo on business materials (subject to policies in the ***Corticon Certified Candidate Agreement***).
- Provide Corticon Level 2 Support for your own employees or customers (Corticon business partners only).
- Be included in the Masters list of the Corticon Certified Register, published on the Support Site .
- Be announced to the Corticon user community in an issue of Core Sample.

Time & Cost

- A motivated and determined candidate will be able to complete this level of certification in approximately 1 year of active study and use of Corticon software.
- The certification examination fee is US\$1000.

CERTIFICATION STANDARD

Advanced Installation

- [] - recognize and correct Studio memory problems
- [] - installing multiple versions of Studio simultaneously
- [] - Changing default Apache port for Server

Advanced Troubleshooting

- [] - using appropriate Server logging modes
- [] - saving, regenerating, and compiling Rule Sets
- [] - recognizing and correcting scope problems in rules

- [] - recognizing and correcting looping problems in rules
- [] - recognizing and correcting inappropriate rule language use
- [] - recognizing and correcting all syntactical errors in a rule
- [] - recognizing and correcting all problems in rules caused by null
- [] - recognizing and correcting collection and alias problems in rules
- [] - correcting Vocabulary integrity problems
- [] - recognizing and explaining OR algorithm operation in rules

- [] - identifying performance bottlenecks in rules
- [] - resolving common Direct Database Access problems
- [] - correcting Vocabulary-Java Class mapping problems
- [] - correcting Vocabulary-XML Document mapping problems

Server Log Analysis

- [] - understand all SOAP deployment log entries
- [] - understand all Java deployment log entries

RECOMMENDED RESOURCES

- All Corticon Product Documents
- All product Training Courses

Purpose

Upon achieving this Masters-level certification, you should be able to deliver, to all suitable audiences, Rule Modeling Training Courses

- RM-01 Introduction to Corticon Studio
- RM-02 Advanced Studio Concepts

Objectives

To achieve this level of certification, you must demonstrate:

- Mastery of Corticon Studio and applicable decision modeling concepts.
- Effective teaching, presentation, and communication skills.

Full details are listed in the [Certification Standard](#) for this level

Prerequisites

- Be a Corticon Certified Master Decision Modeler (M2)
- Software instruction or other teaching experience is recommended but not required

Certification Exam Requirements

As an I2-M candidate, you must successfully:

- Take each RM course once as a student.
- Team-teach each RM course twice with a Corticon Instructor.
- Solo-teach each RM course once while observed by a Corticon Instructor.

Benefits & Recognition

Achieving this level of certification entitles or qualifies you to:

- Receive a formal certificate of completion (Master-level).
- Use the Corticon Certified Decision Modeling Instructor title and logo on business materials (subject to policies in the ***Corticon Certified Candidate Agreement***).
- License Corticon-produced training materials for use in your own courses (license fees apply).
- Be included on the Instructor's list of the Corticon Certified Register, published on the Support Site.
- Be announced to the Corticon user community in an issue of Core Sample.
- Subcontract to the Corticon Professional Services team for customer and partner training (available to Corticon business partners only, other terms and conditions apply).

Time & Cost

- A motivated and determined candidate will be able to complete this level of certification in approximately 6 months of active study, use, and teaching of Corticon software.
- Student fees are US\$500 per day and include course materials. If candidate's company is unable to arrange training courses for its own users or employees, then other options may be made available by Corticon at its discretion.
- Team-teaching fees are US\$2000 per day and include significant feedback, mentoring, and assistance from the Corticon Instructor. If candidate's company is unable to arrange these training courses for its own users or employees, then opportunities may be made available by Corticon at its discretion.
- Observation fees (for the solo-taught examination) are US\$2000 per day. If candidate's company is unable to arrange these training courses for its own users or employees, then opportunities may be made available by Corticon at its discretion.

CERTIFICATION STANDARD

Practical Instruction

- | | | |
|--|--|--|
| <ul style="list-style-type: none"> [] - take RM-01 once as a student [] - take RM-02 once as a student [] - team-teach RM-01 twice with a Corticon Instructor following M1 certification | <ul style="list-style-type: none"> [] - team-teach RM-02 twice with a Corticon Instructor following M1 certification [] - solo-teach RM-02 once under observation of Corticon Instructor following M2 certification (counts as I2-M examination) | <ul style="list-style-type: none"> [] - solo-teach RM-01 once under observation of Corticon Instructor following M2 certification (counts as I2-M examination) |
|--|--|--|

RECOMMENDED RESOURCES

- Corticon Product Document ***Tutorial for Corticon Studio – Rule Modeling***
- Corticon Product Document ***Studio Quick Reference Guide***
- Corticon Product Document ***Rule Modeling Guide***
- Corticon Product Document ***Rule Language Guide***
- Training Course RM-01 Introduction to Corticon Studio
- Training Course RM-02 Advanced Studio Concepts
- Corticon Support Site, available to all registered customers with active Support & Maintenance contracts, and all current Corticon business partners. <http://support.corticon.com>
- Core Sample newsletters, back issues of which are available on the Corticon Support Site

Purpose

Upon achieving this Masters-level certification, you should be able to deliver, to all suitable audiences, Rule Modeling Training Courses:

- RD-01 Deploying Decision Services as Web Services
- RD-02 Deploying Decision Services as Java Services
- RD-03 Direct Database Access

Objectives

To achieve this level of certification, you will need to demonstrate:

- Mastery of Corticon Server, its APIs, Deployment Console and all available integration methods.
- Effective teaching, presentation, and communication skills.

Full details are listed in the [Certification Standard](#) for this level.

Prerequisites

- Be a Corticon Certified Master Decision Integrator (T2).
- Software instruction or other teaching experience is recommended but not required.

Certification Exam Requirements

As an I2-T candidate, you must successfully:

- Take each RD course once as a student.
- Team-teach each RD course once with a Corticon Instructor.
- Solo-teach each RD course once while observed by a Corticon Instructor.

Benefits & Recognition

Achieving this level of certification entitles or qualifies you to:

- Receive a formal certificate of completion (Master-level).
- Use the Corticon Certified Decision Integration title and logo on business materials (subject to policies in the ***Corticon Certified Candidate Agreement***).
- License Corticon-produced training materials for use in your own courses (license fees apply).
- Be included on the Instructor's list of the Corticon Certified Register, published on the Support Site.
- Be announced to the Corticon user community in an issue of Core Sample.
- Subcontract to the Corticon Professional Services team for customer and partner training (available to Corticon business partners only, other terms and conditions apply).

Time & Cost

- A motivated and determined candidate will be able to complete this level of certification in approximately 4-6 months of active study, use, and teaching of Corticon software.
- Team-teaching fees are US\$2000 per day and include significant feedback, mentoring, and assistance from the Corticon Instructor. If candidate's company is unable to arrange these training courses for its own users or employees, then opportunities may be made available by Corticon at its discretion.
- Observation fees (for the solo-taught examination) are US\$2000 per day. If candidate's company is unable to arrange these training courses for its own users or employees, then opportunities may be made available by Corticon at its discretion.

CERTIFICATION STANDARD

Practical Instruction

- | | | |
|---|---|--|
| <ul style="list-style-type: none"> [] - take RD-01 once as a student [] - take RD-02 once as a student [] - take RD-03 once as a student [] - team-teach RD-01 once with a Corticon Instructor following T1 certification | <ul style="list-style-type: none"> [] - team-teach RD-02 once with a Corticon Instructor following T2 certification [] - team-teach RD-03 once with a Corticon Instructor following T2 certification [] - solo-teach RD-01 once under observation of Corticon Instructor (counts as I2-T examination) | <ul style="list-style-type: none"> [] - solo-teach RD-01 once under observation of Corticon Instructor (counts as I2-T examination) [] - solo-teach RD-03 once under observation of Corticon Instructor (counts as I2-T examination) |
|---|---|--|

RECOMMENDED RESOURCES

- Corticon Product Document **Studio Quick Reference Guide**
- Corticon Product Document **Tutorial for Corticon Server – Deploying Web Services**
- Corticon Product Document **Tutorial for Direct Database Access**
- Corticon Product Document **Server Integration & Deployment Guide**
- Training Course RD-02 Deploying Decision Services as Java Services
- Training Course RD-03 Direct Database Access
- Corticon Support Site, available to all registered customers with active Support & Maintenance contracts, and all current Corticon business partners. <http://support.corticon.com>
- Core Sample newsletters, back issues of which are available on the Corticon Support Site

CERTIFICATION PREREQUISITE SUMMARY TABLE

This certification is a prerequisite:		M1	M2	T1	T2	H1	H2	I2-M	I2-T
	M1		X		X	X	X	X	X
	M2						X	X	
	T1		X		X	X	X	X	X
	T2						X		X
	H1						X		
	H2								
	I2-M								
	I2-T								