

WEB SERVICES SKILLS CERTIFICATION FRAMEWORK

LEVEL 2

**NATIONAL INFOCOMM COMPETENCY CENTRE
& XMLONE USER GROUP
WEB SERVICES PROFESSIONAL CERTIFICATION
CANDIDATE HANDBOOK**

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CONTENTS

1	INTRODUCTION.....	3
2	DEVELOPMENT AND MAINTENANCE OF WEB SERVICES CERTIFICATION	4
2.1	Development Methodology.....	4
2.2	Evaluation.....	4
2.3	Maintenance of the Certification.....	4
3	WEB SERVICES CERTIFICATION ORGANISATION STRUCTURE... 	5
3.1	Certification Board of Governors.....	5
3.2	Certification Board of Assessors/Reviewers	5
3.3	Certification Secretariat	6
3.4	About XMLOne User Group.....	6
3.5	Re-certification	7
3.6	Use of Certification and/or Logos.....	7
4	CERTIFICATION PROCESS	8
4.1	Stage 1 - Certified Web Services Professional Examination.....	8
4.2	Stage 2 - Portfolio Submission.....	8
4.3	Candidate Log Book.....	8
4.4	Candidate Portfolio.....	9
4.5	Evaluation of Portfolio	9
4.6	Panel Review.....	9
4.7	Exemption.....	10
4.8	Appeal Process.....	10
5	ASSESSMENT ELEMENTS	11
Domain 1	Assess Candidate's Knowledge of Web Services Technologies and Web Services Standards	11
Domain 2	Assess Candidate's Ability to Analyze and Design Web Services Solutions...	11
Domain 3	Assess Candidate's Ability to Develop and Implement Web Services Solutions	11
Domain 4	Assess Candidate's Ability to Handle Interoperability for Web Services Solutions.....	12
Domain 5	Assess Candidate's Ability to handle Security Issues across the Layers of the Web Services Solutions	12

1 INTRODUCTION

The Certified Web Services Professional (CWSP) Certification is developed to provide a benchmark for the competency of Web Services professionals. This certification, developed in collaboration with the Infocomm industry, the academia as well as Infocomm Development Authority of Singapore (IDA), will help to develop capabilities of the Infocomm professionals in Web Services applications.

The National Infocomm Competency Centre (NICC) as the Certification Body for the Web Services Certification shall be responsible for the policies, procedures and administration of the certification. It shall also ensure that the certification is administered consistently and impartially through XMLOne User Group (XMLOne UG).

NICC shall draw up the policies and procedures relating to the award, maintenance, renewal and revision of the scope of the certification. It shall also define the evaluation criteria as well as the appeal process.

2 DEVELOPMENT AND MAINTENANCE OF WEB SERVICES CERTIFICATION

2.1 Development Methodology

The CWSP Certification is developed in collaboration with the Infocomm industry of Singapore. Members from the industry are represented at both the Web Services Certification Steering Committee as well as the Web Services Certification Development Team. The industry validates the certification through a series of feedback sessions.

The CWSP Certification was developed with inputs from the industry, the academia as well as reputable members from the public sector.

2.2 Evaluation

The evaluation is based on the requirements of the certification spelt out in the published Body of Knowledge (BOK). The evaluation shall be conducted in an objective and systematic manner based on the information gathered and the documentary evidence presented. Upon qualification of the certification, the candidate will be informed and presented with an evidence of the certification. The evidence (letter, certificate, card, etc.) shall include the following information:

- Name of certified person
- Name of the Certification
- Name of Certification Body
- Effective date of the Certification

2.3 Maintenance of the Certification

The Certification shall be reviewed according to the Review Policy approved by the Certification Board of Governors. The Review Policy shall include the frequency for review, the scope of review and the relevant parties for the review.

The Board of Governors shall also review the certification outside the approved schedule if it deems fit to do so.

3 WEB SERVICES CERTIFICATION ORGANISATION STRUCTURE

For the management and administration of the Web Services Certification Scheme, NICC shall set up 3 bodies:

- Certification Board of Governors
- Certification Board of Assessors/Reviewers
- Certification Secretariat

3.1 Certification Board of Governors

The Certification Board of Governors is responsible for the policies and governance of the certification scheme. It shall be responsible for the integrity and impartiality of the certification. It shall appoint the Board of Assessors/Reviewers and the Appeal Panel.

The Board of Governors shall ensure

- The impartiality and independence of the certification process
- The integrity and competence of the certification
- The confidentiality of the information
- The security of the examination

3.2 Certification Board of Assessors/Reviewers

The Board of Assessors/Reviewers is appointed by the Board of Governors for the purpose of assessing candidates for the award of certificates. The Board of Assessors/Reviewers is required to assess according to the Evaluation Criteria approved by the Board of Governors.

The Board of Assessors/Reviewers shall

- Have appropriate competence in the certification field
- Be familiar with the certification scheme and processes
- Have a thorough knowledge of the examination scope, methods and documents
- Be free from all interest so that they can make impartial and non-discriminatory assessments
- Be subject to the Terms and Conditions governing the appointment
- Subscribe to the Code of Ethics

3.3 Certification Secretariat

The Certification Secretariat is set up to administer the daily operations of the certification scheme according to the approved policies. The Secretariat shall be responsible for activities relating to the certification process and includes:

- Application and Registration
- Validation of Submissions
- Assignment to Assessors
- Collation of Information
- Maintenance of Records
- Liaison with Relevant Bodies

XMLOne UG is appointed as the Certification Secretariat for the above process.

3.4 About XMLOne User Group

XMLone.org is a non-profit organisation supported by multinational corporations and local technology companies, government board, developers and professionals from the business community. It is a registered society in Singapore.

Being the first XML user group in the Asia Pacific region, it helps to facilitate the exchange of information, news, organizes technical training, seminars and Special Interest Groups (SIGs) for interested members and non-members. The User Group encourages members to adopt XML and Web Services as the engine of growth in e-business.

XMLOne UG is also the proud organiser of XMLAsia, an XML-centric conference and exhibition. XMLAsia 2004 Conference in its fourth year running advocated the theme on 'Web Services, the Engine of Growth for e-Business'. The Conference aimed to highlight how Web Services could be a catalyst to increase company revenue by reaching out to avid net-customers in the Internet. The event was jointly organised with RosettaNet as part of E-Business Connections 2004 and endorsed by the Infocomm Development Authority of Singapore (IDA).

3.5 Re-certification

The Certification shall be valid for the period stated on the certification document. Re-certification will be required upon the expiry of the valid date. The Board of Governors shall decide on the re-certification requirements from time-to-time.

Comment [Ich1]: Depends on the decision on the expiry date (2.2)

3.6 Use of Certification and/or Logos

The use of the Certification and Logos shall be governed by the policy approved by the Board of Governors.

Candidate is permitted to display the following title Member of the Certified Web Services Professional (CWSP) on the name card of the member upon fully satisfying stages 1 and 2.

Associate Member or CWSP (Associate) may be used by member who has NOT fully passed or completed stage 2 of the certification examination.

4 CERTIFICATION PROCESS

To be awarded with the CWSP Level 2 Certified Web Services Professional, a candidate must achieve a minimum pass grade for all two stages:

Stage 1	Certified Web Services Professional Examination
Stage 2	Portfolio Submission

Candidate must achieve minimum pass grade for each stage before proceeding on to the next stage.

4.1 Stage 1 - Certified Web Services Professional Examination

The Examination comprises of a fifty-question Multiple Choice Question (MCQ) paper. The Examination may be delivered electronically or it may be a written test. The duration of the Examination is one-and-half hours.

Criterion to advance to Stage 2: A minimal pass of 70%

Two examinations are scheduled each year: April and November

Validity period of Examination: one year from the date of examination

4.2 Stage 2 - Portfolio Submission

The Portfolio Submission is required to assess the candidate's competency in all the domains published in the Certified Web Services Professional Certification BOK. The Portfolio Submission comprises of two segments:

- Candidate Log Book
- Candidate Portfolio

The candidate is required to submit the Portfolio within the validity of the Examination result. Otherwise, a new examination with new validity period will be required.

Two portfolio submissions are scheduled each year: January and July

4.3 Candidate Log Book

The Candidate Log Book sets out the requirements for the Web Services Professional Certification. The Certificate is awarded based on demonstration of competency in the domains identified in the Certified Web Services Professional Certification BOK.

Each domain is further broken down into sub-domains known as elements for assessment. The Candidate Log Book is made up of separate pages for each element of assessment. Each page lists the performance criteria that need to be met when the candidate is assessed.

4.4 Candidate Portfolio

The candidate shall assemble a portfolio of evidence as support for the Candidate Log Book records of competency demonstrated through task(s) undertaken. The Candidate Portfolio shall hold copies of documents for example, Requirement Study, Risk Analysis, etc. that can demonstrate the Candidate's competency in the elements assessed. The assessors will examine the Candidate Portfolio in tandem with the Candidate Log Book as an assessment of the candidate's competency.

4.5 Evaluation of Portfolio

The candidate will be evaluated against the elements identified in the Candidate Log Book. The criteria for evaluation shall be spelt out for the Assessors and the Assessors are required to comply with the Evaluation Guidelines.

There will be two Assessors assigned for each candidate's submission. A candidate is considered to have passed Stage 2 if both Assessors pass the Candidate Portfolio submission with a minimum of 75%

The candidate is deemed to have failed to qualify for the certification if the candidate is unable to attain the minimum pass rate from both Assessors for Stage 2.

Where the Candidate managed to meet the minimum pass rate for Stage 2 with only one of the two assigned Assessors, the assigned Assessors may, depending on the marks awarded, recommend one of the following actions:

- 1 Fail
- 2 An additional assessment by another Assessor
- 3 Provisional Pass with issues to be addressed at the Panel Review

4.6 Panel Review

A Panel of Reviewers appointed by the Board of Governors shall convene twice a year to interview candidates with Provisional Passes. The review shall

Comment [Ich2]: Review only
borderline cases.

offer the Panel an opportunity to evaluate the candidates' competency through interviews. The interview provides an opportunity for the candidate to clarify and explain any outstanding issues arising from the Portfolio Submission.

The Panel of Reviewers will recommend whether the certification will be awarded to the candidate based the performance during the interview and in consideration of the portfolio submitted.

4.7 Exemption

The Board of Governors shall approve the Exemption Policy for the different Stages of the Certification according to the BOK.

4.8 Appeal Process

Candidates shall be able to appeal on the decision on the award of the Certification only for Stage 2 in the Level 2 certification process. The candidate shall submit the appeal to the Chairman of the Board of Governors. The Chairman shall appoint a separate Appeals Panel comprising of a minimum of THREE Assessors to look into the appeal submitted.

The Appeals Panel shall deliberate on the appeal based on the documents submitted and may request additional information from the Appellant or an additional interview with the Appellant if deem necessary. The Appeals Panel shall recommend to the Board of Governors one of the following actions:

- 1 To allow the appeal
- 2 To disallow the appeal
- 3 To re-grade the Appellant's work

In all cases, an administrative fee will be levied on the appellant.

5 ASSESSMENT ELEMENTS

All the elements listed here are drawn from the published Certified Web Services Specialist Certification BOK. All the elements listed here are mandatory.

Domain 1 Assess Candidate's Knowledge of Web Services Technologies and Web Services Standards

Elements

- D101 Demonstrate knowledge of Web Services Technologies currently available
- D102 Demonstrate ability to judge suitability of various Web Services Technologies
- D103 Demonstrate knowledge of Web Services Standards and Web Services Standards Bodies
- D104 Demonstrate ability to apply relevant Web Services Standards

Domain 2 Assess Candidate's Ability to Analyze and Design Web Services Solutions

Elements

- D201 Demonstrate the ability to employ a design methodology
- D202 Demonstrate the ability to use a Services Oriented Architecture
- D203 Demonstrate the ability to Identify Requirements
- D204 Demonstrate the ability to Analyze Requirements
- D205 Demonstrate the ability to architect a Web Services Solution satisfying the identified requirements
- D206 Demonstrate the ability to identify and anticipate problems relating to the Web Services Solution
- D207 Demonstrate the ability to solve problems identified or anticipated in the proposed Web Services Solution
- D208 Demonstrate the ability to create a roadmap and identify milestones of the Web Services Project

Domain 3 Assess Candidate's Ability to Develop and Implement Web Services Solutions

Elements

- D301 Demonstrate the ability to craft a strategy in Web Services Implementation
- D302 Demonstrate the ability to troubleshoot, analyze and anticipate problems during development and implementation of Web

- Services solution
- D303 Demonstrate the ability to handle and resolve issues relating to platforms and IDE tools
- D304 Demonstrate the ability to handle and resolve issues relating to connection with legacy systems or enterprise systems

Domain 4 Assess Candidate's Ability to Handle Interoperability for Web Services Solutions

Elements

- D401 Demonstrate knowledge of interoperability issues between Web Services Applications created using Java, .NET or other platforms
- D402 Demonstrate the ability to identify and resolve interoperability issues in the creation, assembly, deployment and invocation of Web Services applications
- D403 Demonstrate the Ability to achieve interoperability of Web Services Applications using technologies or solutions currently available

Domain 5 Assess Candidate's Ability to handle Security Issues across the Layers of the Web Services Solutions

Elements

- D501 Demonstrate good working knowledge of
- Network Security
 - System Security
 - Application Security
 - Security issues relating to Web Services Solutions
- D502 Demonstrate good working knowledge of the technologies and standards relating to security in the creation of Web Services solution
- D503 Demonstrate the ability to determine if the security requirements are enforced in a multi-interoperating and exposed Web Services solution
- D504 Demonstrate the ability to offer alternative means to achieve security using technologies and solutions currently available

APPENDIX

BODY OF KNOWLEDGE

FOR ALL LEVELS