Training Catalog Batch Data: CSV Format User Guide

National Initiative for Cybersecurity Careers and Studies (NICCS)

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Homeland Security

Training Catalog Batch Data: CSV Format User Guide

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NICCS Portal

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VERSION HISTORY

Version Number	Date	Revised By	Description
1.0	April 9, 2014	Ricardo A. Reyes	Original NICCS Standard CSV Batch Upload Format User Guide
1.1	February 5, 2016	Amy L. Thornhill	Updated NICCS Standard CSV Batch Upload Form User Guide to reflect latest requirements.
1.2	July 7, 2016	Amy L. Thornhill	Updated to reflect the new Drupal Feeds Import Process.
1.3	April 7, 2017	Amy L. Thornhill	Added National CAE Designated Institution (tcccae). Removed location address fields.

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1   INTRODUCTION

The DHS NICCS Program administers a Training Catalog system on the National Initiative for Cybersecurity Careers and Studies (NICCS) Portal. The catalog courses and provider data are comprised of external records that are owned and managed by DHS NICCS Program partners, collaborators, and stakeholders. For that reason, the NICCS program has standardized a data schema for the collection of the Training Catalog data, including two acceptable data formats for multiple course record submission. This user guide will provide instructions for creating a Comma Separated Value (CSV) format.

1.1   Objectives

Training Providers (TPs) will submit course data in CSV format. The NICCS Portal will provide a web-based administration user interface (UI) for the Training Catalog Administrator to upload the CSV file. This document will serve as the standard operating procedures (SOPs) for creating a CSV file. Its general purpose is to provide TPs with guidelines to create the output of data from their respective data sources and databases into a CSV format.

2   CSV SPECIFICATIONS

A CSV file must follow a specific format and structure. The following sections describe how the CSV file should be created, including the required elements and attributes along with the format of allowable values.

2.1   MS Excel Expectations

This documentation expects for the reader (user) to be familiar with Microsoft (MS) Excel spreadsheets. The instructions will be documented based on the MS Excel capabilities and features to save a document in CSV format.

Basic MS Excel steps for drafting and saving CSV file:

1. Open MS Excel.
2. Create New Workbook (File -> New Workbook).
3. Label the first row's columns with the corresponding data schema fields (see Figure 2.2) below.
4. Enter each course record on each row of the CSV file.
5. Save the file as CSV format (File -> Save As -> Format -> Comma Separated Value (.csv)).

File name should include niccs + courses + provider_name + current date.
Example: "niccs_courses_provider_name_mmddyyyy.csv"

Note: CSV formatted files do not capture font-format styles such as bold, font size, or color, so when saving a file as CSV format with MS Excel, all of those styles will be lost. This is expected behavior for CVS files.

2.2   CSV Rows and Columns

The CSV file's first row should have the following columns (starting from A1-V1).

A. tccid
B. name
C. provider
D. tcccatnbr
E. tcclocalnbr
F. tcccae
G. tcccourl
H. description
I. tccprereq
J. tccproflvl
K. tcctrainpur
L. tccaudience
M. tccobjective
N. tccdelmethod
O. tccspecarea
P. tcccourseloc
Q. softdelete

Copy and paste each of the column labels to the first row of the MS Excel Workbook. Once completed, the first row structure should match Figure 2-1 below.
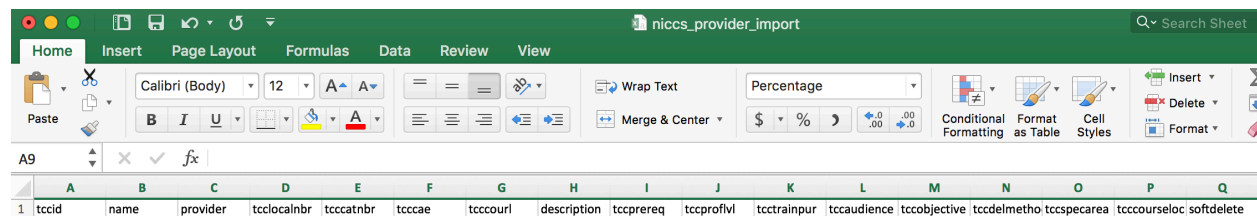
Figure 2-1. Sample CSV format column labels for NICCS Courses.

Enter each piece of course information starting from cell A2 (Column 1, Row 2). Each row will consist of each new record to be uploaded or updated on the NICCS Portal Training Catalog system.

Figure 2-2 depicts an example of eight (8) courses that were entered in the CSV file. Each course record populated in its respective row, starting from row 2.
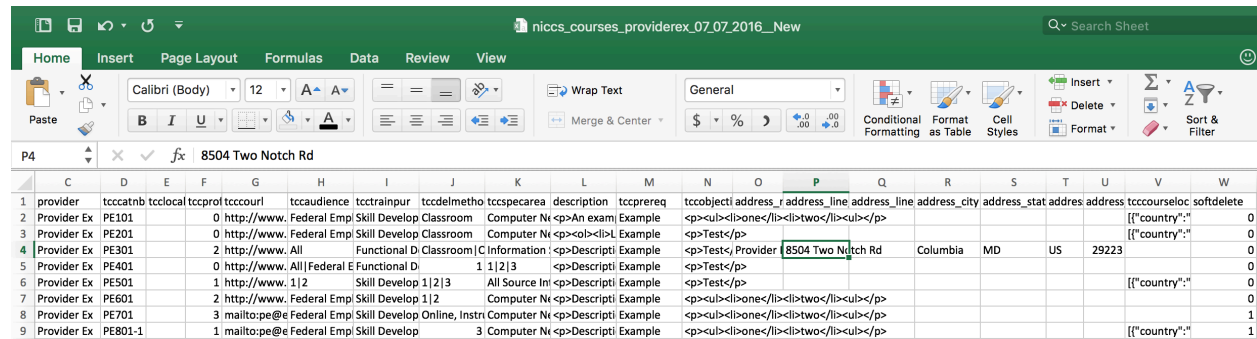
Figure 2-2. Full CSV format example with labels for NICCS Courses.

Notice that columns **tccaudience**, **tccdelmethod**, and **tccspecarea** can have multiple entries/options. For the NICCS Portal system to parse through the CSV data and understand the

multiple entries for these two columns, a **pipe-delimiter character ("|")** must be used to separate the values. See Figure 2-3 below for an example.


Figure 2-3. Mapping CSV Data field with multiple values/options for NICCS Courses.

Section 2.3 below describes the data attributes and elements with descriptions for acceptable values for each field.

2.3   Required Attributes and Elements

Table 2-1. NICCS Course Standard Value Data-Dictionary for CVS Batch Import

Column Name	Data Type/Size	Required	Description
tccid	VARCHAR(50)	NO	The NICCS provided course id of the record.
name	VARCHAR(255)	YES	The title of the training catalog asset
tcccatnbr	VARCHAR (255)	NO	The Catalog Number of the training catalog asset.
tcclocalnbr	VARCHAR(255)	NO	The Provider-specified Course ID
tcccae	INT(1)	NO	A field to track if the provider is a National CAE (Centers of Academic Excellence) Designated Institution. Enter 1 for yes, 0 for No.
tcccourl	VARCHAR(2048)	YES	The course URL of the training catalog asset
description	LONGTEXT(LARGE)	YES	Training catalog asset description
tccprereq	LONGTEXT(LARGE)	YES	Training catalog asset prerequisites
tccproflvl	INT(1)	YES	Training catalog asset overall proficiency level
tcctrainpur	VARCHAR(70)	YES	Training catalog asset training purposes
tccaudience	VARCHAR(255)	YES	Training catalog asset audiences
tccobjective	LONGTEXT(LARGE)	YES	Training catalog asset course objective
tccdelmethod	VARCHAR(255)	YES	The course delivery method of the training catalog asset
tccspecarea	VARCHAR(2500)	YES	The specialty area of the training catalog asset
tcccourseloc	json (2500)	NO	The NICCS provided course location id of the training

Column Name	Data Type/Size	Required	Description
			catalog asset. The course location is ONLY Required when the course has a tccdelmethod of Classroom or 3.
softdelete	INT(1)	NO	A field to track if the course should be unpublished (soft deleted) from the catalog.

The attributes and descriptions of these fields are based on the NICCS Framework 1.0 standardization. For additional descriptions of these field values, please consult with NICCS SO and the Framework 1.0 documentation.

2.4   Field Values Reference Tables

Table 2-1 above identifies the required fields and data types that are accepted. Most of the fields are self-explanatory for the NICCS Training Catalog course record; however, six (6) of the list items are based on NICCS prepopulated list options that the Training Provider has to follow.

Here are the acceptable field value options for the **tccproflvl**, **tcctrainpur, tccaudience, tccspecarea, tccdelmethod**, and **tcccourseloc**.

2.4.1   Course Proficiency Level (tccproflvl)

Table 2-2 below identifies the Course Proficiency Level options that are accepted. **Note**: Only one (1) option is allowed.

*Table 2-2. Course Proficiency Level (**tccproflvl**)*

Proficiency Level ID	Proficiency Level Name	Proficiency Level Description
0	No Proficiency	No Proficiency
1	Basic	Basic
2	Intermediate	Intermediate
3	Advanced	Advanced
4	Expert	Expert

Example:

Single option value: 2

2.4.2   Course Training Purpose (tcctrainpur)

Table 2-3 below identifies the Course Training Purpose options that are accepted. **Note**: Multiple options are allowed.

*Table 2-3. Course Training Purpose (**tcctrainpur**)*

Training Purpose ID	Training Purpose Name	Training Purpose Description
Functional Development	Functional Development	Functional Development
Skill	Skill Development	Skill Development

Development		
Management Development	Management Development	Management Development

Examples:

- Single option: Functional Development
- Multiple options (separated by |): Functional Development|Management Development

2.4.3   Course Audience (tccaudience)

Table 2-4 below identifies the Course Audience options that are accepted. For the Course Audience field, the audience ids or audience names can be used as values. **Note**: Multiple options are allowed.

*Table 2-4. Course Audience (**tccaudience)***

Audience ID	Audience Name	Audience Description
1	All	All
2	General Public	General Public
3	Federal Employee	Federal Employee
4	Academia	Academia
5	Contractor	Contractor

Examples:

- Single option value: 2
  Single option name: General Public

- Multiple option values (separated by |): 1|2|5
  Multiple option names (separated by|): All|General Public|Contractror

2.4.4   Framework Specialty Area (tccspecarea)

Table 2-5 below identifies the Framework Specialty Area options that are accepted. For the Framework Specialty Area field, the specialty area ids or specialty area names can be used as values. **Note**: Multiple options (limit of 5) are allowed.

*Table 2-5. Framework Specialty Area (**tccspecarea)***

Specialty Area ID	Specialty Area Name	Specialty Area Description Text
23	All Source Intelligence	Analyzes threat information from multiple sources, disciplines, and agencies across the Intelligence Community. Synthesizes and places intelligence information in context; draws insights about the possible implications.
20	Collection Operations	Executes collection using appropriate strategies and within the priorities established through the collection management process.
14	Computer Network Defense Analysis	Uses defensive measures and information collected from a variety of sources to identify, analyze, and report events that occur or might occur within the network in order to protect information, information systems, and networks from threats.

Specialty Area ID	Specialty Area Name	Specialty Area Description Text
15	Computer Network Defense Infrastructure Support	Tests, implements, deploys, maintains, reviews and administers the infrastructure hardware and software that are required to effectively manage the computer network defense service provider network and resources. Monitors network to actively remediate unauthorized activities.
8	Customer Service and Technical Support	Addresses problems, installs, configures, troubleshoots, and provides maintenance and training in response to customer requirements or inquiries (e.g., tiered-level customer support).
21	Cyber Operations	Performs activities to gather evidence on criminal or foreign intelligence entities in order to mitigate possible or real-time threats, protect against espionage or insider threats, foreign sabotage, international terrorist activities, or to support other intelligence activities.
22	Cyber Operations Planning	Performs in-depth joint targeting and cyber planning process. Gathers information and develops detailed Operational Plans and Orders supporting requirements. Conducts strategic and operational-level planning across the full range of operations for integrated information and cyberspace operations.
9	Data Administration	Develops and administers databases and/or data management systems that allow for the storage, query, and utilization of data.
18	Digital Forensics	Collects, processes, preserves, analyzes, and presents computer-related evidence in support of network vulnerability mitigation, and/or criminal, fraud, counterintelligence or law enforcement investigations.
27	Education and Training	Conducts training of personnel within pertinent subject domain. Develop, plan, coordinate, deliver and/or evaluate training courses, methods, and techniques as appropriate.
24	Exploitation Analysis	Analyzes collected information to identify vulnerabilities and potential for exploitation.
16	Incident Response	Responds to crisis or urgent situations within the pertinent domain to mitigate immediate and potential threats. Uses mitigation, preparedness, and response and recovery approaches, as needed, to maximize survival of life, preservation of property, and information security. Investigates and analyzes all relevant response activities.
1	Information Assurance Compliance	Oversees, evaluates, and supports the documentation, validation, and accreditation processes necessary to assure that new IT systems meet the organization's information assurance and security requirements. Ensures appropriate treatment of risk, compliance, and assurance from internal and external perspectives.
28	Information Systems Security Operations (Information Systems Security Officer)	Oversees the information assurance program of an information system in or outside the network environment; may include procurement duties (e.g., ISSO).
19	Investigation	Applies tactics, techniques, and procedures for a full range of investigative tools and processes to include but not limited to interview and interrogation techniques, surveillance, counter surveillance, and surveillance detection, and appropriately balances the benefits of prosecution versus intelligence gathering.
10	Knowledge Management	Manages and administers processes and tools that enable the organization to identify, document, and access intellectual capital and information content.
29	Legal Advice and Advocacy	Provides legally sound advice and recommendations to leadership and staff on a variety of relevant topics within the pertinent subject domain. Advocates legal and policy changes, and makes a case on behalf of client via a wide range of written and oral work products, including legal briefs and proceedings.
11	Network Services	Installs, configures, tests, operates, maintains, and manages

Specialty Area ID	Specialty Area Name	Specialty Area Description Text
		networks and their firewalls, including hardware (e.g., hubs, bridges, switches, multiplexers, routers, cables, proxy servers, and protective distributor systems) and software that permit the sharing and transmission of all spectrum transmissions of information to support the security of information and information systems.
30	Security Program Management (Chief Information Security Officer)	Manages information security implications within the organization, specific program, or other area of responsibility, to include strategic, personnel, infrastructure, policy enforcement, emergency planning, security awareness, and other resources (e.g., CISO).
2	Software Assurance and Security Engineering	Develops and writes/codes new (or modifies existing) computer applications, software, or specialized utility programs following software assurance best practices.
31	Strategic Planning and Policy Development	Applies knowledge of priorities to define an entity.
12	System Administration	Installs, configures, troubleshoots, and maintains server configurations (hardware and software) to ensure their confidentiality, integrity, and availability. Also manages accounts, firewalls, and patches. Responsible for access control, passwords, and account creation and administration.
3	Systems Development	Works on the development phases of the systems development lifecycle.
4	Systems Requirements Planning	Consults with customers to gather and evaluate functional requirements and translates these requirements into technical solutions. Provides guidance to customers about applicability of information systems to meet business needs.
13	Systems Security Analysis	Conducts the integration/testing, operations, and maintenance of systems security.
5	Systems Security Architecture	Develops system concepts and works on the capabilities phases of the systems development lifecycle; translates technology and environmental conditions (e.g., law and regulation) into system and security designs and processes.
25	Targets	Applies current knowledge of one or more regions, countries, non-state entities, and/or technologies.
6	Technology Research and Development	Conducts technology assessment and integration processes; provides and supports a prototype capability and/or evaluates its utility.
7	Test and Evaluation	Develops and conducts tests of systems to evaluate compliance with specifications and requirements by applying principles and methods for cost-effective planning, evaluating, verifying, and validating of technical, functional, and performance characteristics (including interoperability) of systems or elements of systems incorporating IT.
26	Threat Analysis	Identifies and assesses the capabilities and activities of cyber criminals or foreign intelligence entities; produces findings to help initialize or support law enforcement and counterintelligence investigations or activities.
17	Vulnerability Assessment and Management	Vulnerability Assessment and Management - Conducts assessments of threats and vulnerabilities, determines deviations from acceptable configurations, enterprise or local policy, assesses the level of risk, and develops and/or recommends appropriate mitigation countermeasures in operational and non-operational situations.

Examples:

- Single option value: 17
  Single option name: Vulnerability Assessment and Management

- Multiple option values (separated by |): 1|2
  Multiple option names (separated by |): Information Assurance Compliance|Software Assurance and Security Engineering

2.4.5 Course Delivery Method (tccdelmethod)

Table 2-6 below identifies the Course Delivery Method options that are accepted. For the Course Delivery Method field, the delivery method ids or delivery method names can be used as values. **Note**: Multiple options are allowed.

*Table 2-6. Course Delivery Method (**tccdelmethod**)*

Delivery Method ID	Delivery Method Name	Delivery Method Description
1	Online, Instructor-Led	Online, Instructor-Led
2	Online, Self-Paced	Online, Self-Paced
3	Classroom	Classroom

Examples:

- Single option value: 1
  Single option name: Online, Instructor-Led

- Multiple option values (separated by |): 1|2
  Multiple option names (separated by |): Online, Instructor-Led|Online, Self-Paced

2.4.6 Course Locations (tcccourseloc)

2.4.6.1 Courses with a Single Location

Courses with a single location must be provided using the field (tcccourseloc) using a single JSON string as shown in the example. For more information, see Section 2.4.6.3 How to build the JSON string

Example:

[{"country":"US","administrative_area":"MD","locality":"Bethesda","postal_code":"20814","thoroughfare":"8120 Woodmont Avenue","premise":"Suite 205","name_line":"Provider Name"}]

2.4.6.2 Courses with a Multiple Locations

Courses with multiple locations must be provided using field (tcccourseloc) using a multiple JSON string as shown in the example. For more information, see Section 2.4.6.3 How to build the JSON string

Example:

[{"**country**":"US","administrative_area":"VA","locality":"Roanoke","postal_code":"24019","thoroughfare":"123 Apple Tree Lane","premise":"Suite 123","name_line":"Provider Name"},{"**country**":"US","administrative_area":"VA","locality":"Cloverdale","postal_code":"24033","thoroughfare":"123 Elm Street","name_line":"Provider

Name"},{"**country**":"US","administrative_area":"VA","locality":"Woodbridge","postal_
code":"22193","thoroughfare":"49 Pickle Lane","premise":"Ste 2","name_line":"Provider
Name"}]

2.4.6.3   How to build the JSON String

Locations should be formatted as a single json.

- a. country – Country
- b. administrative_area – State
- c. locality – City
- d. postal_code – Zip Code
- e. thoroughfare – Address Line 1
- f. premise – Address Line 2
- g. name_line – Location name

'Pretty print' example:

```
[
  {
    "country": "US",
    "administrative_area": "CA",
    "locality": "Los Angeles",
    "postal_code": "91111",
    "thoroughfare": "1234 Main St",
    "premise": "Suite 30",
    "name_line": "Location Label 1"
  },
  {
    "country": "US",
    "administrative_area": "DC",
    "locality": "Washington Metro",
    "postal_code": "22027",
    "thoroughfare": "5555 1st St",
    "premise": "",
    "name_line": "Location Headquarters"
  }
]
```

2.4.7   Unpublish a Course from Public View (softdelete)

The softdelete value is a flag to change the status of the course and remove it from the public view. The number 0 represents to keep the course status unchanged. The number 1, will remove that course from the public facing site.

Note: tccid (column A) should be used to indicate which course to alter. If no tccid is provided, a new course will be created and will pushed to the public.

2.5   Example CSV Output

Example CSV Format File with eight (8) Courses total Including FOUR (4) NEW Course records, two (2) Existing Course records needing updates, and Two (2) existing courses needing to be unpublished/soft deleted from training catalog

tccid,name,provider,tcccatnbr,tcclocalnbr,tccproflvl,tcccourl,tccaudience,tcctrainpur,tccdelmethod,tccspecarea,description,tccprereq,tccobjective,address_name,address_line_1,address_line_2,address_city,address_state,address_country,address_zip,tcccourseloc,softdelete

,Course 101,Provider Ex,PE101,,0,http://www.google.com,Federal Employee,Skill Development,Classroom,Computer Network Defense Infrastructure Support,<p>An example description</p>,Example ,<p>
one
two
</p>,,,,,,,,"[{""country"":""US"",""administrative_area"": ""VA"",""locality"":""Roanoke"",""postal_code"":""24019"",""thoroughfare"":""123 Apple Tree Lane"",""premise"":""Suite 123"",""name_line"":""TEST""},{""country"":""US"",""administrative_area"":""VA"",""locality"":""Cloverdale"",""postal_code"":""24033"",""thoroughfare"":""123 Elm Street"",""name_line"":""Location 3""},{""country"":""US"",""administrative_area"":""VA"",""locality"":""Woodbridge"",""postal _code"":""22193"",""thoroughfare"":""49 Pickle Lane"",""premise"":""Ste 2"",""name_line"":""Location 4""}]",0

,Course 201,Provider Ex,PE201,,0,http://www.google.com,Federal Employee,Skill Development,Classroom,Computer Network Defense Infrastructure Support,<p>
List 1
List 2
Another Test</p>,Example ,<p>Test</p>,,,,,,,,"[{""country"":""US"",""administrative_area"":""VA"",""locality"":""Roanok e"",""postal_code"":""24019"",""thoroughfare"":""123 Apple Tree Lane"",""premise"":""Suite 123"",""name_line"":""TEST""}]",0

,Course 301,Provider Ex,PE301,,2,http://www.google.com,All,Functional Development,"Classroom|Online, Instructor-Led",Information Systems Security Operations (Information Systems Security Officer),<p>Description</p>,Example ,<p>Test</p>,Provider Ex,8504 Two Notch Rd,,Columbia,MD,US,29223,,0

,Course 401,Provider Ex,PE401,,0,http://www.google.com,All|Federal Employee,Functional Development|Skill Development,1,1|2|3,<p>Description</p>,Example ,<p>Test</p>,,,,,,,,0

1245,Course 501,Provider Ex,PE501,,1,http://www.google.com,1|2,Skill Development,1|2|3,All Source Intelligence|Computer Network Defense Infrastructure Support,<p>Description</p>,Example ,<p>Test</p>,,,,,,,,"[{""country"":""US"",""administrative_area"":""SC"",""locality"":""Columbi a"",""postal_code"":""29223"",""thoroughfare"":""8502 Two Notch Rd"",""name_line"":""Provider EX""}]",0

1246,Course 601,Provider Ex,PE601,,2,http://www.google.com,Federal Employee,Skill Development,1|2,Computer Network Defense Infrastructure Support,<p>Description</p>,Example ,<p> one two </p>,,,,,,,,0

1247,Course 701,Provider Ex,PE701,,3,mailto:pe@example.com,Federal Employee,Skill Development,"Online, Instructor-Led",Computer Network Defense Infrastructure Support,<p>Description</p>,Example ,<p>
one
two
</p>,,,,,,,,1

1248,Course 801,Provider Ex,PE801-1,,1,mailto:pe@example.com,Federal Employee,Skill Development,3,Computer Network Defense Infrastructure

Support,<p>Description</p>,Example
,<p>
one
two
</p>,,,,,,,,,"[{""country"":""US"",""administrative_area"":
""SC"",""locality"":""Columbia"",""postal_code"":""29223"",""thoroughfare"":""8502 Two
Notch Rd"",""name_line"":""Provider EX""}]",1

APPENDIX A.   NICCS CSV TEMPLATE AND SAMPLE COURSE

For more information, please see the files niccs_course_template_07April2017.csv and niccs_courses_07April2017.csv included in the provider package.