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Data Loader Batch Import Utility 2.2

Addendum to VistA Data Loader 2.2 User Guide

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1 Introduction

1.1 About this document

This document explains the configuration and use of the Data Loader Batch Utility Tool 2.2. This document is to be used as an addendum to VistA Data Loader 2.2 User Guide.

This document is intended for trainers, administrators and other staff that are using an instance of VistA for teaching, training, or testing purposes. This document presumes familiarity with:

- Windows-based operating systems.
- Concepts and general terminology related to electronic medical records (EMRs) in general and the VistA (Veterans Health Information Systems and Technology Architecture) system in particular.
- The VistA CPRS (Computerized Patient Record System) package.
- VistA PATIENT (#2) and NEW PERSON (#200) files and their associated packages (PIMS, ADT, Kernel Security, etc.)

This document is licensed under the same terms as the VistA Data Loader software.

1.2 Additional information

Additional detailed information about specific aspects of the VistA Data Loader is covered in the following files:

| Name | Description |
|--------------------------------------|---|
| Declarations_API_and_RPC.txt | Summary of comment text from VistA Data Loader M routines. |
| vista_data_loader_user_guide 2.2.pdf | User Guide explains how to set up and use the VistA Data Loader 2.2 |

3 Data Loader Batch Import Utility Overview

The Data Loader Batch Import Utility 2.2 runs in conjunction with Vista Data Loader 2.2, and is a Graphic User Interface (GUI) utility tool used to easily create sets of new user accounts and new patient records (batches). The functionality associated with creating new sets of user accounts will be referred to as “Batch User” functions. The functionality associated with creating new sets of patient records will be referred to as “Batch Patient” functions.

WARNING: The Data Loader Batch Import Utility is intended for use with training, demonstration, and test instances of VistA only. It is not tested nor intended for any use in a clinical or production environment.

Note: The Batch Import Utility tool batch imports user and patient records into VistA. It cannot change or delete existing data, users or patient records in VistA. Use caution when batch creating users or patient records, and back up your VistA instance as appropriate.

4 Installation and Configuration

Please refer to VistA Data Loader 2.2 User Guide for instructions on installation and configuration of Vista Data Loader and Batch Import Utility.

5 Uninstallation

Please refer to VistA Data Loader 2.2 User Guide for instructions on uninstallation of Vista Data Loader and Batch Import Utility.

6 Overview of Batch User Utility

The User Creation Utility is a GUI tool which allows for the creation of multiple users with the same user settings. You can select or create a model user and the tool will auto-copy ALL privileges (keys, options, etc.) from source user to each new batch created user.

6.1 MUMPS

| Line Tag | Routine | Description |
|----------------------|-------------------|-----------------------------|
| USER | ISIIMP22 | USER Import API |
| COPYUSR | ISIIMP23 | COPY/OVERWRITE USER API |
| VALIDATE | ISIIMPUD | User import validation |
| RPC: ISI IMPORT USER | USRCREAT^ISIIMPR1 | Creates User (#200) entries |

6.2 GUI

The Data Loader Batch Import Utility is a tool available inside the data loader application.

7 Overview of Batch Patient Utility

The Patient Creation Utility is a GUI tool which allows for the batch creation of multiple new patient registrations (records).

7.1 MUMPS

| Line Tag | Routine | Description |
|-----------|------------|------------------------------------|
| IMPORTPT | ISIIMP03 | Patient Import API |
| (COPYPNT) | (ISIIMP23) | (Still in development) |
| PNTIMPRT | ISIIMPR1 | Entry point for patient import RPC |
| VALIDATE | ISIIMPU1 | Patient array validation utility |

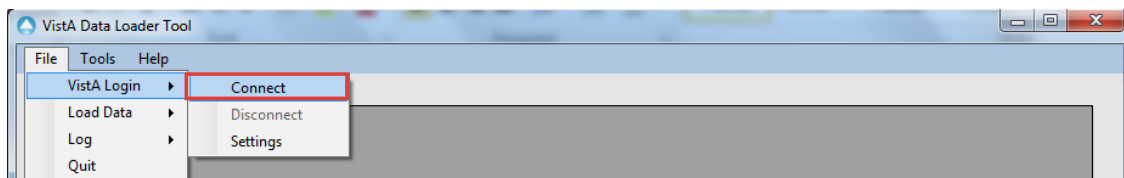
7.2 GUI

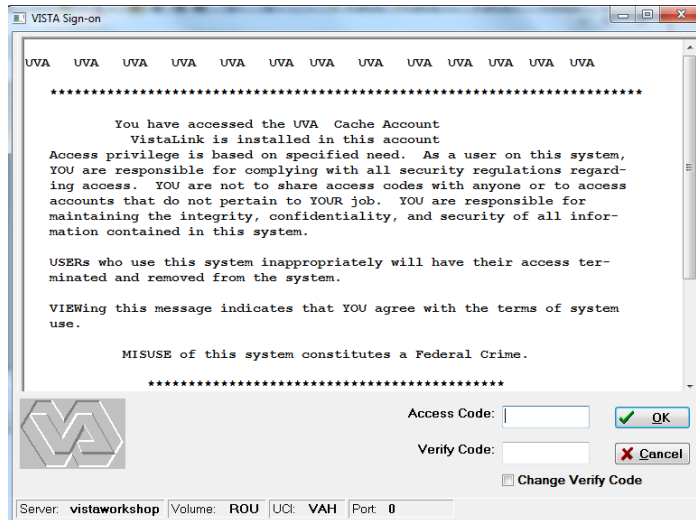
The Data Loader Batch Import Utility is a tool available inside the data loader application.

8 Using Batch Import Utility

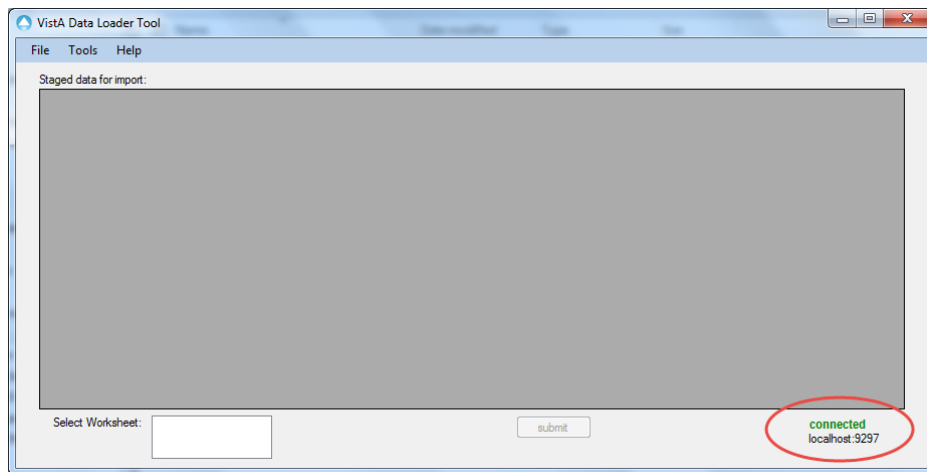
Batch Import Utility runs in conjunction with the Data Loader, you must first launch the Data Loader and log into VistA before using Batch Import Utility. Please refer to Data Loader User Guide 2.2 for instructions on set up, configuration and launch of Data Loader.

1. Once Data Loader is launched log into VistA. File | VistA Login | Connect. This will display the standard Access/Verify window.

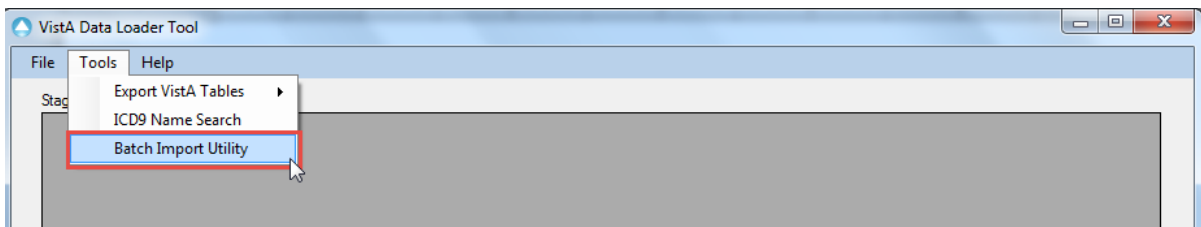




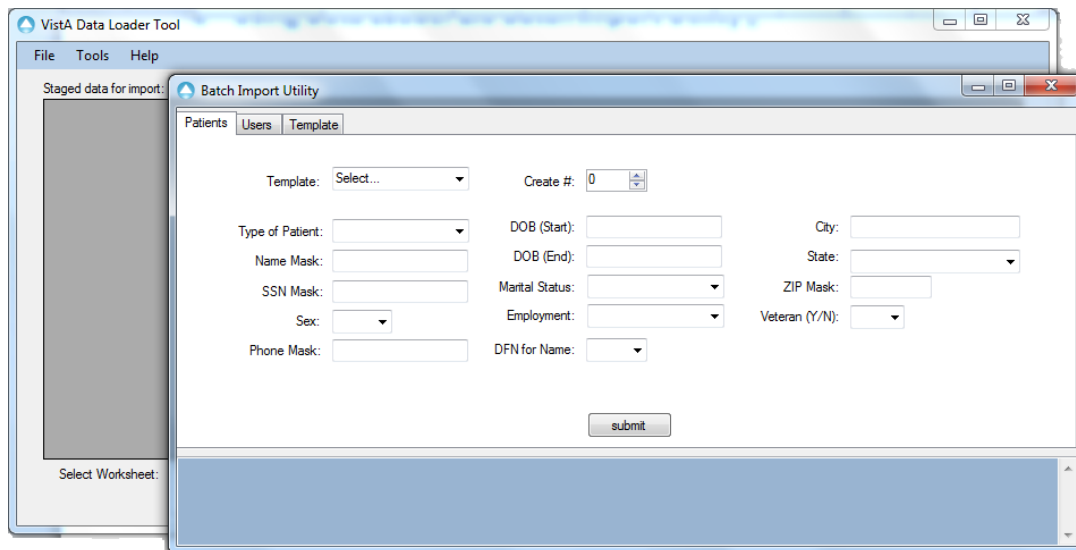
2. After entering valid credentials the client will display a green “connected” message in right side of the window



3. To launch Batch Import Utility, Tools | Batch Import Utility.



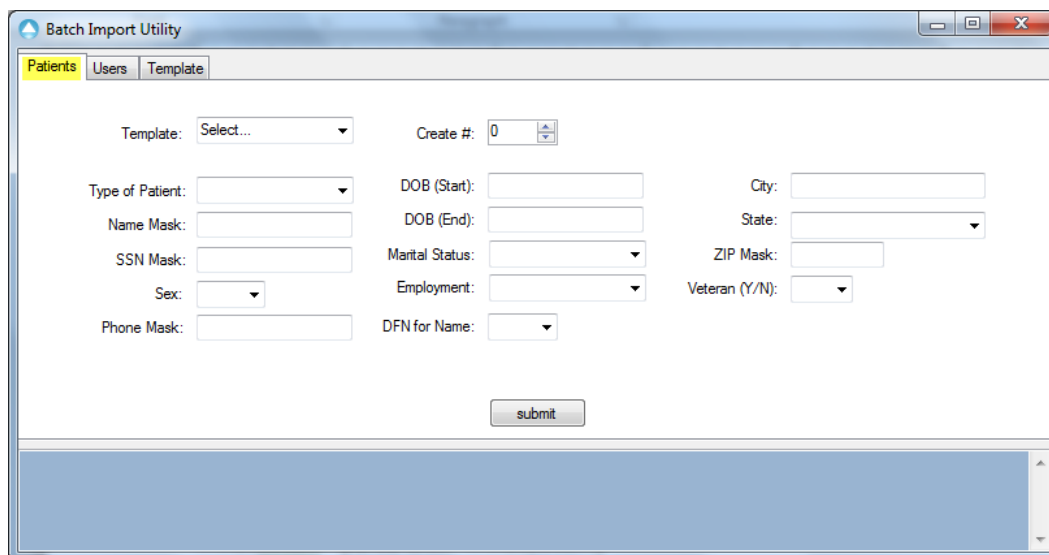
4. The Batch Import Utility will open in a new window. The application will open on the Patient screen.



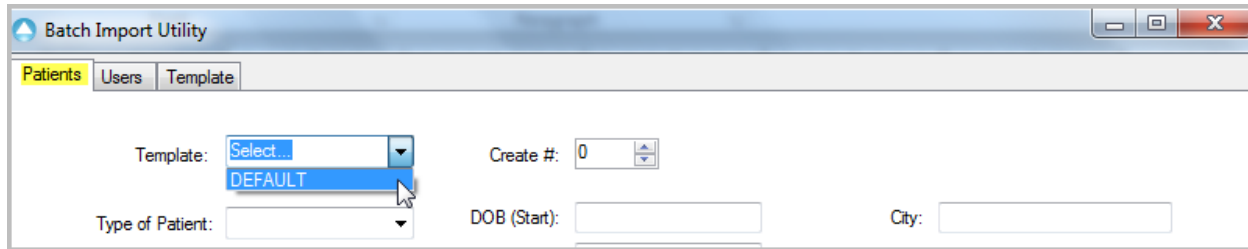
8.1 Using Batch Patient Utility

The Batch Patient Utility allows for the batch creation of multiple new patient registrations (records).

1. To launch Batch Patient Utility, click on "Patient" tab on menu bar



2. Select DEFAULT template to populate fields with required default values.



The Default Template generates required values for creating batch Patient (#2) records in Vista; these values can be overwritten or modified as needed.

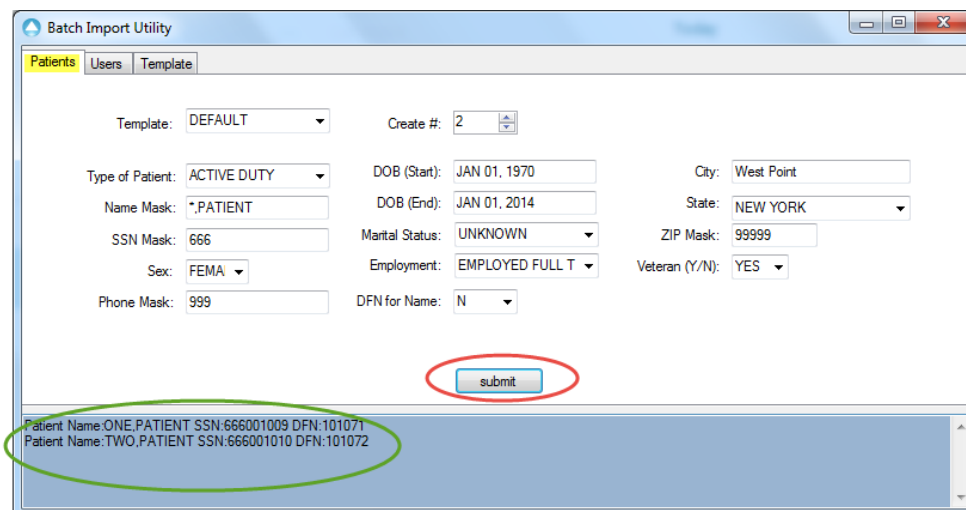
Note: When creating new Patients the application always applies 'DEFAULT' template values unless those values are overwritten with additional information.

3. Create #: Click on arrow buttons or type number into field to set number of patient records you wish to create.



4. If you are satisfied with the set default values click "Submit" button at bottom of screen.

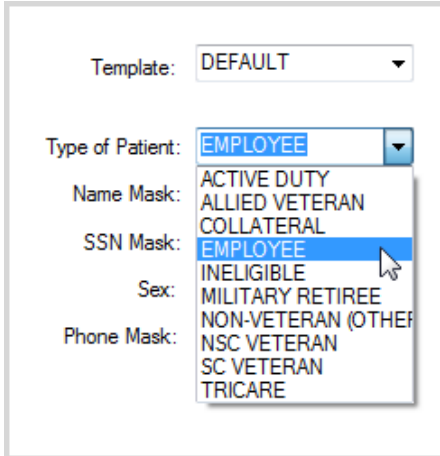
Any errors will appear in blue section at bottom of the screen. If you successfully created new patients the application will list the patients in the bottom blue portion of the screen.



8.1.1 Modifying Batch Patient Values

The following instructions are to modify the values in the Batch Patient Screen. To change default template values see section 8.4 “Using Template and Save Utility”.

1. Type of Patient, Sex, Marital Status, Employment, DFN for Name, State, and Veteran (Y/N) are constrained by VistA values and must be populated from drop down menu options. For “Description of Fields Values” go to section 8.5



The screenshot shows a web form with several dropdown menus. The 'Template' dropdown is set to 'DEFAULT'. The 'Type of Patient' dropdown is open, showing a list of options: 'EMPLOYEE' (highlighted in blue), 'ACTIVE DUTY', 'ALLIED VETERAN', 'COLLATERAL', 'INELIGIBLE', 'MILITARY RETIREE', 'NON-VETERAN (OTHER)', 'NSC VETERAN', 'SC VETERAN', and 'TRICARE'. A mouse cursor is pointing at the 'EMPLOYEE' option. Other fields like 'Name Mask', 'SSN Mask', 'Sex', and 'Phone Mask' are visible but not selected.

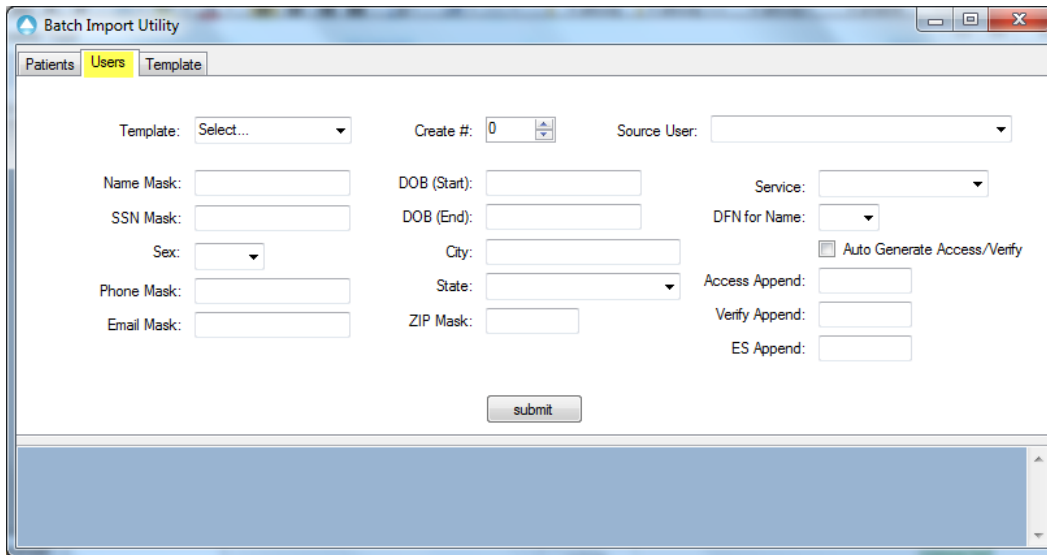
2. Name Mask is a Text Mask. See section 8.6 for details on Mask Fields.
3. SNN Mask, Phone Mask and Zip Mask are numeric Mask fields. See section 8.6 for details on Mask Fields.
4. DOB (Start) and DOB (End) requires VistA friendly external date formats. See Data Loader 2.2 User Guide section 4.24 for date formatting.
5. City is a free text field
6. Access Append, for detailed description see section 8..5
7. Verify Append, for detailed description see section 8..5
8. ES Append, for detailed description see section 8.5
9. Once you are satisfied with all the set values click on “Submit” button at bottom of screen. Any error will appear in blue section at bottom of the screen.

Note: Please read section 9.2, “Recommended Naming Conventions for Batching Users and Patients” before creating patient batches.

8.2 Using Batch User Utility

The Batch User Utility allows for the batch creation of VistA users.

1. Select "Users" tab to see User Screen.

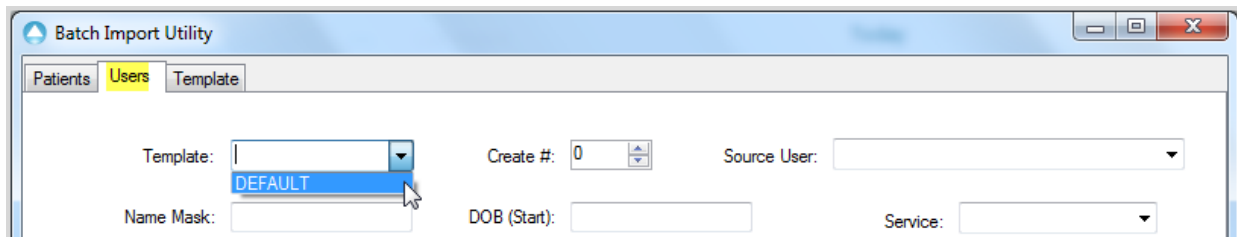


The screenshot shows the 'Batch Import Utility' window with the 'Users' tab selected. The interface includes several input fields and a 'submit' button. The fields are organized as follows:

- Template: Select... (dropdown)
- Create #: 0 (spin box)
- Source User: (dropdown)
- Name Mask: (text box)
- DOB (Start): (text box)
- Service: (dropdown)
- SSN Mask: (text box)
- DOB (End): (text box)
- DFN for Name: (dropdown)
- Sex: (dropdown)
- City: (text box)
- Auto Generate Access/Verify: (checkbox)
- Phone Mask: (text box)
- State: (dropdown)
- Access Append: (text box)
- Email Mask: (text box)
- ZIP Mask: (text box)
- Verify Append: (text box)
- ES Append: (text box)

A 'submit' button is located at the bottom center of the form area.

2. Select DEFAULT template to populate fields with required default values.



This screenshot shows the 'Batch Import Utility' window with the 'Template' dropdown menu open. The 'DEFAULT' option is highlighted, indicating it has been selected. The other fields in the form are visible but not the focus of this specific step.

The Default Template generates required values for creating batch User records in VistA, these values can be overwritten or modified as needed.

Note: When creating new Users the application always applies 'DEFAULT' template values unless those values are overwritten with additional information.

3. Create #: Click on arrow buttons or type number into field to set number of user records you wish to create.



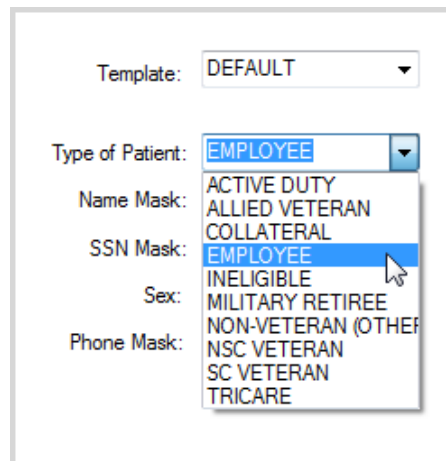
4. Once you are satisfied with the set default values click "Submit" button at bottom of screen.

Any errors will appear in blue section at bottom of the screen. If you successfully created new users the application will list the users in the bottom blue portion of the screen.

8.2.1 Modifying Batch User Values

The following instructions are to modify the values in the Batch User Screen. To change default template values see section 8.4 "Using Template and Save Utility".

1. To modify the value field, click in the field you wish to change
2. Sex, State, Service, DFN for Name are constrained by VistA values and must be populated from drop down menu options. For more description on value fields go to section 8.5



3. Source User is a drop down menu. See section 8.2.3 for further details.
4. Name Mask and Email Mask are Text Mask. See section 8.6 for details on Mask Fields.

Note: Please see section 9.1 "Using Mask function to Auto-Generate Unique User Last Names" for more details.

5. SNN Mask, Phone Mask and Zip Mask are numeric Mask fields. See section 8.6 for details on Mask Fields.
6. DOB (Start) and DOB (End) requires Vista friendly external date formats. See Data Loader 2.2 User Guide section 4.24 for date formatting.
7. City is a free text field
8. Access Append, for detailed description see section 8.5
9. Verify Append, for detailed description see section 8.5
10. ES Append, for detailed description see section 8.5
11. Auto Generate Access/Verify. Please see section 8.2.2 for details and cautions before using this feature.
12. Once you are satisfied with all the set values click on “Submit” button at bottom of screen.

Any errors will appear in blue section at bottom of the screen. If you successfully created new users the application will list the new users in the bottom blue portion of the screen

The screenshot shows the 'Batch Import Utility' window with the 'Users' tab selected. The form contains the following fields and values:

- Template: DEFAULT
- Create #: 3
- Source User: (empty)
- Name Mask: *.ZZUSERTEST
- DOB (Start): JAN 01, 1929
- Service: MEDICAL ADMINISTRF
- SSN Mask: 666
- DOB (End): MAY 24, 2012
- DFN for Name: N
- Sex: FEMA I
- City: West Point
- Auto Generate Access/Verify:
- Phone Mask: 999
- State: NEW YORK
- Access Append: 1
- Email Mask: HOSPITAL.NET
- ZIP Mask: 99999
- Verify Append: 1
- ES Append: 11

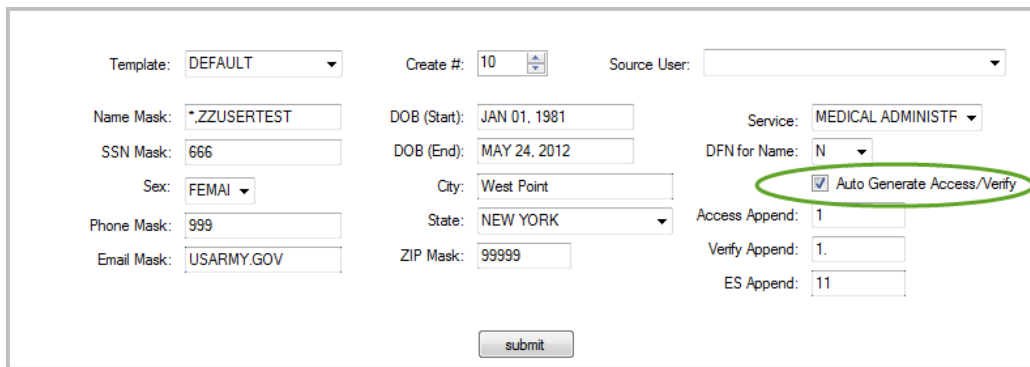
A 'submit' button is located at the bottom center of the form. Below the form, a blue section displays the following text:

```
User Name:ONE.ZZUSERTEST SSN:666000019 DFN:1000000347
User Name:TWO.ZZUSERTEST SSN:666000020 DFN:1000000348
User Name:THREE.ZZUSERTEST SSN:666000021 DFN:1000000349
```

Note: Please read section 9.2, “Recommended Naming Conventions for Batching Users and Patients” before creating patient batches.

8.2.2 Auto Generate Access/Verify

The "Auto Generate Access/Verify" checkbox tells the Dataloader to automatically generate access/verify codes for each user created during a batch session. This can be very helpful if there is a need to create a large batch of users. If the check box is "checked", when a batch is submitted the Dataloader generated access/verify codes using each new user account's last name appended with the values supplied in 'Access Append' and 'Verify Append'. For example, if the Dataloader creates a user named, "ZZONE,USER", with the 'Auto Generate Access/Verify' checkbox selected, an Access Append value of "1", and a Verify Append value of "1." -- the Dataloader will create an access code of ZZONE1 and verify code of ZZONE1. for that user.



The screenshot shows a web form for creating a user. The form includes several input fields and a submit button. The 'Auto Generate Access/Verify' checkbox is checked and circled in green. The form fields are as follows:

| | | | | | |
|-------------|-------------|--------------|--------------|---|-------------------|
| Template: | DEFAULT | Create #: | 10 | Source User: | |
| Name Mask: | *ZZUSERTEST | DOB (Start): | JAN 01, 1981 | Service: | MEDICAL ADMINISTF |
| SSN Mask: | 666 | DOB (End): | MAY 24, 2012 | DFN for Name: | N |
| Sex: | FEMAI | City: | West Point | <input checked="" type="checkbox"/> Auto Generate Access/Verify | |
| Phone Mask: | 999 | State: | NEW YORK | Access Append: | 1 |
| Email Mask: | USARMY.GOV | ZIP Mask: | 99999 | Verify Append: | 1. |
| | | | | ES Append: | 11 |

submit

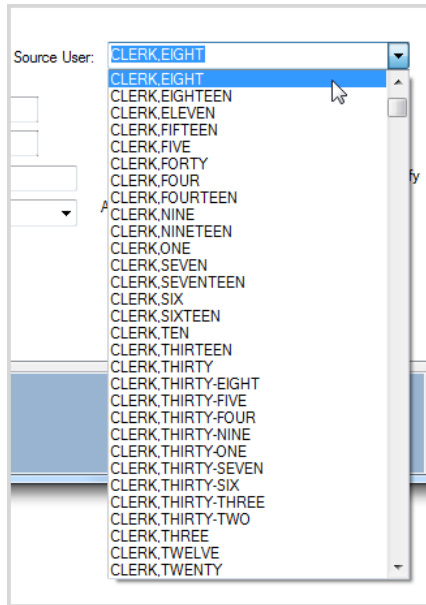
Caution: The Auto Generate Access/Verify functionality should be used with some caution. One issue to be aware of is this makes it very easy to create duplicate User Names and duplicate access/verify code sets. This is illegal in Vista and will cause obvious problems. It is recommended that dataloader users/faculty create new/backup copies of their primary Vista database when batch creating new user accounts.

8.2.3 Create batch of users based on source user

Setting up a new user account (#200 -- NEW PERSON) can involve a good deal of effort, including adding the appropriate security keys, menu options, etc. Selecting a 'Source User' during batch user creation effectively 'clones' a target user's account to all the newly created accounts.

To create multiple of new users based on a current user's settings and privileges

1. Source User | scroll down and select desired user from drop down options. You can type in the first few letters to narrow display options.



8.2.4 Order of operations when submitting a USER batch import session:

This order of operations reflects what the system does after the user has clicked submit.

1. Dataloader client validates some of the submitted values.
2. Dataloader client submits data to VistA database over an xwb broker RPC call.
3. Vista database lays down DEFAULT template values, and next overwrites them with any submitted modified values.
4. VistA database next creates a basic/stub user entry
5. If auto-generate access/verify was selected access/verify codes are created by appending supplied values to the end of the newly created user's last name. Example: if a user was created with a last name of ONEUSER, auto-generate access/verify was selected, and the Access append value was "1" then a user access code of "ONEUSER1" is created. Likewise if an append verify value of "1." was submitted, a verify code of "ONEUSER1." is created.
6. Finally, if a "Source User" was selected, VistA will overwrite the newly created User values with the values of the selected source user. Access & Verify codes will NOT be overwritten.

8.3 Overview of Template and Save Utility

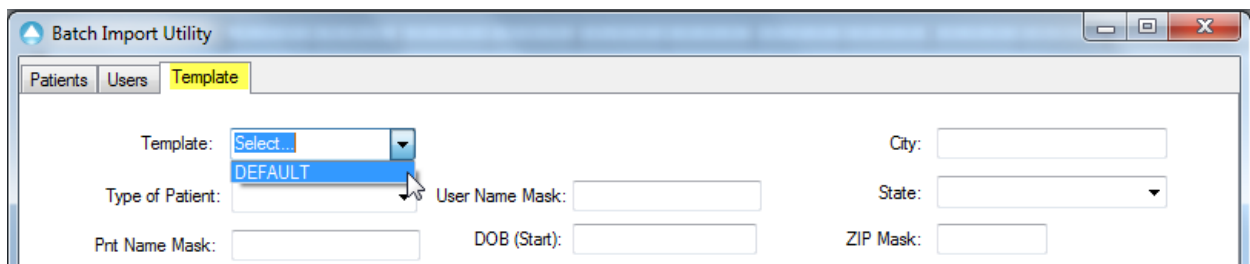
The Template Screen allows user to view current default template values and generate a new default Template for creating batch Patient (#2) and User (#200) records in VistA.

The Default Template is set with “default” required values for creating batch Patient and User records. These values can be modified as needed and then saved for later use.

Note: At this time the application is unable to create additional templates.

8.4 Using Template and Save Utility

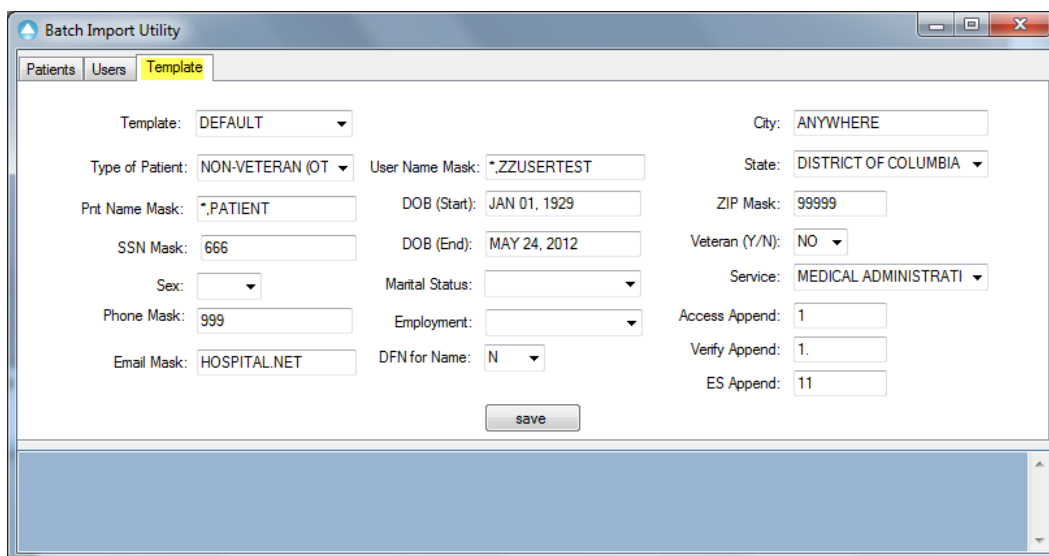
1. To view Default Template Values, select Template , then select DEFAULT template



The screenshot shows the 'Batch Import Utility' window with the 'Template' tab selected. The 'Template' dropdown menu is open, showing 'DEFAULT' as the selected option. Other fields include 'Type of Patient', 'User Name Mask', 'City', 'State', 'Pnt Name Mask', 'DOB (Start)', and 'ZIP Mask'.

2. DEFAULT Template screen will automatically populate data required to create Patient (#2) and User (#200) records in VistA.

Note: When creating new Patients or Users the application always applies 'DEFAULT' template values unless those values are overwritten with additional information.



The screenshot shows the 'Batch Import Utility' window with the 'Template' tab selected. The 'Template' dropdown menu is set to 'DEFAULT'. Other fields are populated with default values: 'Type of Patient' is 'NON-VETERAN (OT)', 'User Name Mask' is '*.ZZUSERTEST', 'City' is 'ANYWHERE', 'State' is 'DISTRICT OF COLUMBIA', 'Pnt Name Mask' is '*.PATIENT', 'DOB (Start)' is 'JAN 01, 1929', 'ZIP Mask' is '99999', 'SSN Mask' is '666', 'DOB (End)' is 'MAY 24, 2012', 'Veteran (Y/N)' is 'NO', 'Sex' is a dropdown menu, 'Marital Status' is a dropdown menu, 'Service' is 'MEDICAL ADMINISTRATI', 'Phone Mask' is '999', 'Employment' is a dropdown menu, 'Access Append' is '1', 'Email Mask' is 'HOSPITAL.NET', 'DFN for Name' is 'N', 'Verify Append' is '1', and 'ES Append' is '11'. A 'save' button is visible at the bottom.

8.4.1 Modify DEFAULT template data values

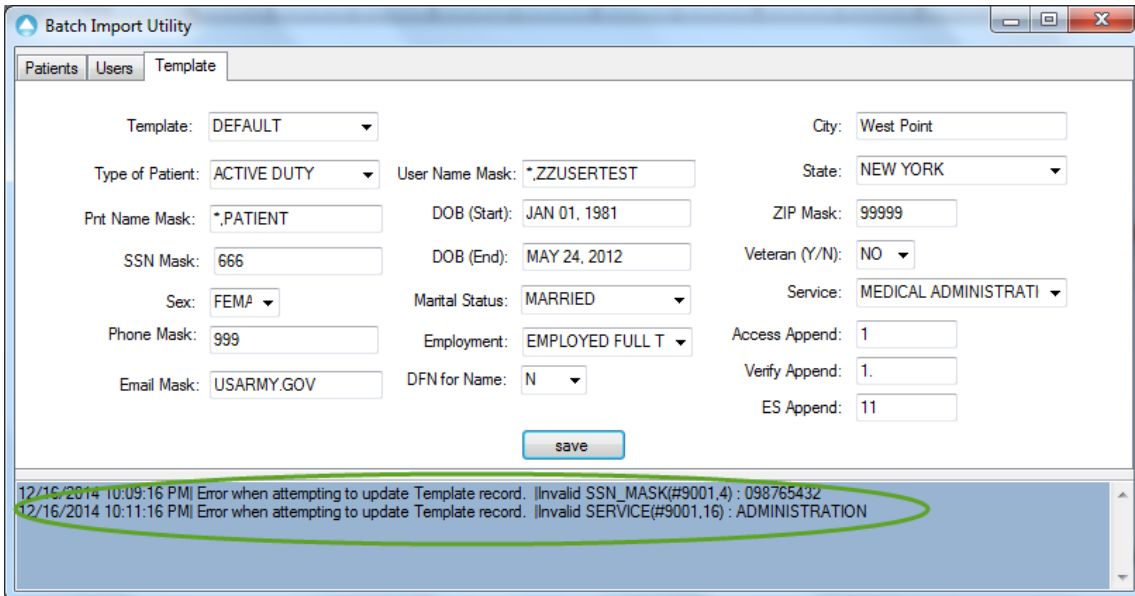
You can modify the default template value and save these changes for later use.

1. Fields: Type of Patient, Sex, Marital Status, Employment, DFN for Name, State, Veteran (Y/N), and Service are constrained by VistA values and must be populated from drop down menu options.

The screenshot shows the 'Batch Import Utility' window with the 'Template' tab selected. The 'Type of Patient' dropdown menu is open, displaying a list of options. The 'EMPLOYEE' option is currently selected and highlighted. Other fields in the form include 'Template' set to 'DEFAULT', 'City' set to 'ANYWHERE', 'User Name Mask' set to '*.ZZUSERTEST', 'State' set to 'FEDERATED STATES OF', 'Pnt Name Mask', 'SSN Mask', 'Sex', 'Phone Mask', 'Email Mask', 'DOB (Start)' set to 'JAN 01, 1929', 'DOB (End)' set to 'MAY 24, 2012', 'ZIP Mask' set to '99999', 'Veteran (Y/N)' set to 'NO', 'Service' set to 'MEDICAL MEDIA PRODUI', 'Marital Status', 'Employment', 'DFN for Name' set to 'N', 'Access Append' set to '1', 'Verify Append' set to '1', and 'ES Append' set to '11'. A 'save' button is located at the bottom center of the form.

2. Text Mask Fields: Pnt (Patient) Name Mask, Email Mask, and User Name Mask. See section 8.6.1 for more details
3. Numeric Mask Fields: SSN Mask, Phone Mask, and Zip Mask. See section 8.6.2 for more details
4. DOB (Start) DOB (End) requires VistA friendly external date formats. See Data Loader 2.2 User Guide section 4.24 for date formatting.
5. Access Append. See section 8.5 for more details.
6. Verify Append. See section 8.5 for more details.
7. ES Append. See section 8.5 for more details.
8. Once you have set all Template fields as desired, click the “Save” button at bottom of screen.

Note: Any errors will be displayed at the bottom blue area of screen.



8.5 Description of Field Values

| Value Fields | Type | Description |
|--------------------|----------------|---|
| Type of Patient | Drop down menu | Constrained VistA values |
| Pnt (Patient) Mask | Text mask | Text-type mask uses a "*" [asterix] characters. See section 8.4.3 for more details |
| SSN Mask | Numeric mask | The numeric (only) value supplied is the leading numeric value used when generating user or patient. See section 8.4.3 for more details |
| Sex | Drop down menu | Constrained VistA values |
| Phone Mask | Numeric mask | The numeric (only) value supplied is the leading numeric value used when generating user or patient. See section 8.4.3 for more details |
| Email Mask | Text mask | Text-type mask uses a "*" [asterix] characters. See section 8.4.3 for more details |
| User Mask | Text mask | Text-type mask uses a "*" [asterix] characters. See section 8.4.3 for more details |
| DOB (Start) | Date format | Requires VistA friendly external date formats |
| DOB (End) | | Requires VistA friendly external date formats |

| Value Fields | Type | Description |
|----------------|----------------|---|
| Marital Status | Drop down menu | Constrained VistA values |
| Employment | Drop down menu | Constrained VistA values |
| DFN Name | Drop down menu | Constrained VistA values |
| City | Free text | |
| State | Drop down menu | Constrained VistA values |
| Zip Mask | Numeric mask | The numeric (only) value supplied is the leading numeric value used when generating user or patient. See section 8.4.3 for more details |
| Veteran (Y/N) | Drop down menu | Constrained VistA values |
| Service | Drop down menu | Constrained VistA values |
| Access Append | | The character string to append to the user last name to create an Access Code. Must contain at least one numeric character (Example 1). |
| Verify Append | | The character string to append to the user last name to create a Verify Code. Must contain at least one numeric and one punctuation character (Example 1.). |
| ES Append | | This value is used to create an 'Electronic Signature' code for the newly created user. Like the other 'append' values, the value provided (should contain at least one numeric character) is appended to the last name of the newly created user. For example, if a "ES Append" value of 3 is supplied then a new created user of ONE,USER will have an Electronic Signature code of "ONE3". |

8.6 Mask Fields

There are two types of Masks Fields -- Text and Numeric.

8.6.1 Text Masks

There are three Text masks, User Name Mask, Pnt (Patient) Name mask, and Email Mask. The correct format for a text-type mask uses a "*" [asterix] character to designate where you would like to insert the generated incremented value (ONE, TWO, THREE). If DFN for Name is set to 'Y' the record IEN is used as the value inserted at the asterix.

8.6.2 Numeric Masks

There are three numeric-type masks, ZIP mask, PH mask, and SSN mask. The numeric (only) value supplied is the leading numeric value used when generating new Zip codes, phone numbers, and SSNs. For example, for a (9 digit) SSN if mask value of 999 is provided then the system will generate a SSN value always beginning with 999. For example 999123456, 999654321, etc.

9 Use Case/Teaching Scenario

Exporting patient data from model scenarios & cloning patient data across multiple demo patients

9.1 Using Mask function to Auto-Generate Unique User Last Names

You can create a batch of users, using the name 'mask' function to auto-gen unique last names. For instance, using a user name mask of *NURSINGSTUDENT,* to batch create 3 students will make:

| Name | Access Code | Verify Code | Electronic Signature |
|-------------------------|----------------------|-----------------------|-----------------------|
| ONENURSINGSTUDENT,ONE | ONENURSINGSTUDENT1 | ONENURSINGSTUDENT1. | ONENURSINGSTUDENT11 |
| TWONURSINGSTUDENT,ONE | TWONURSINGSTUDENT1 | TWONURSINGSTUDENT1. | TWONURSINGSTUDENT11 |
| THREENURSINGSTUDENT,ONE | THREENURSINGSTUDENT1 | THREENURSINGSTUDENT1. | THREENURSINGSTUDENT11 |

You can prep index cards each with a unique User (w/Access Code, Verify Code, Electronic Signature) and assigned Patient and hand them out to each student (or place them at each workstation). For classes operating concurrently, you can segment users/patients using the masking scheme.

Also, you can take the time to load up a select users/patients with the privileges/medical history for specific teaching scenarios in your 'gold' database. Then you can spin-out a copy of your database for each semester (or whatever) and then use the batch replication to build out the accounts/patients necessary for each class.

9.2 Recommended Naming Conventions for Batching Users and Patients

It is recommended that you use the following naming conventions to pair students and patients. For example, for a class of 3 students you can create 3 new users and 3 new patients, like:

ONE,USER - paired with ONE,PATIENT

TWO,USER - paired with TWO,PATIENT

THREE,USER - paired with THREE,USER

NOTE: You cannot restrict user access to a patient.

The name 'mask' allows you to derive unique user/patient name schemes for different classes. For instance, you can set a user name mask of *STUDENT,* which will create a series of users ONESTUDENT,ONE, etc. Likewise, with patients: *PATIENT,* will create ONEPATIENT,ONE, etc.