Serv-U® File Server Database Integration

Table of Contents

Introduction

Serv-U (http://www.Serv-U.com/) is a file server that allows end users to transfer files via FTP, FTPS, SFTP, web browsers, and mobile devices. Serv-U runs on either Windows or Linux and supports both IPv4 and IPv6 networks. In addition, it runs natively on both 32-bit and 64-bit versions of Windows and Linux, taking advantage of performance benefits inherent in 64-bit computing.

To authenticate end users Serv-U can use its own user database or an external collection of user and group information. The two types of external collections supported today are Windows Active Directory (on Windows-deployed servers only) and relational databases accessible via ODBC. This paper discusses the latter case: how to use a relational database accessible via ODBC to provide Serv-U with user and group information.

Serv-U MFT Server supports integration with external database engines like Microsoft SQL Server, MySQL, Postgre SQL, Oracle, and more. Serv-U requires only an ODBC connection name, username, and password to an empty database to integrate with any supported database engine. Windows provides ODBC functionality via the "Data Sources" menu in the Control Panel, where Linux provides this functionality via the "unixODBC" package, found in standard Linux repositories. Storing users in an ODBC database can provide much faster response times when user counts grow above several thousand, and also makes the user list accessible to back-end user provisioning systems.

This manual describes how to authenticate end users with relational databases. Two common scenarios are covered:

⅄   Serv-U builds a new database for its own use

⅄   Serv-U connects to an existing database shared with other applications or services

Integrating With A New Database

To set up Serv-U to populate an empty database:

1.   Create a new empty database on the relational database of your choice (Refer to your Microsoft SQL Server, SQL Database, MySQL, or Postgres manual or consult with your local DBA if you need help doing this)

2.   Create an ODBC connection to your database (see "Creating an ODBC Connection")

3.   Navigate to the "Domain Details | Database" menu in Serv-U

4.   Ensure that the "Automatically create required tables" and "Automatically create required columns" options are both enabled

5.   Enter the Data Source Name (DSN) (see "Creating an ODBC Connection"), and the user name and password used to access the database

6.   Click on "Save"

7.   Test the ODBC connection by creating a new user account in the "Users | Database Users" menu (or "Global Users | Database Users"), and see if the user is correctly displayed in the list. Errors can be reviewed in the "Domain Activity | Log" menu

Serv-U will proceed with the setup and create all the necessary tables and columns to begin database user storage immediately.

Additional Domains

Serv-U supports the setup of multiple Domains, which are collections of Users and Groups bound by common settings, such as a common Fully Qualified Domain Name or client company. When Serv-U is set up this way, each Domain in Serv-U should be configured with its own database.

Global Users and Groups

Global Users and Groups, which are special Users and Groups that can access any Serv-U Domain, can also be stored in a database. Like additional Domains in Serv-U, the Global Users and Groups should also be configured on their own database.

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Integrating With An Existing Database

Serv-U can be tied into an existing database that contains users and groups shared and/or managed by another application. Since Serv-U's default setting is to generate all the standard tables and columns when the Save button is clicked, custom deployments must be carried out with more planning. To initially connect Serv-U to the database:

1.   Create an ODBC connection to your existing database (see "Creating an ODBC Connection")

2.   Navigate to the "Domain Details | Database" menu in Serv-U

3.   Disable the "Automatically create required tables" and "Automatically create required columns" options in Serv-U to prevent unnecessary table creation

4.   Enter the Data Source Name (DSN) (see "Creating an ODBC Connection") that was created earlier, the username, and the password to access the database

5.   Click on Save

The actual work to integrate Serv-U with the database begins at this point. Via the "User Table Mappings" and "Group Table Mappings" menus, Serv-U must be configured with the correct table names with which to integrate with, and which field names to use for its various database attributes. For a comprehensive list of all attributes and standard labels used by Serv-U, see the accompanying documentation in Excel spreadsheet format.

Additional Domains

Serv-U supports the setup of multiple Domains, which are collections of Users and Groups bound by common settings, such as a common Fully Qualified Domain Name or client company. When Serv-U is set up this way, each Domain in Serv-U should be configured with its own database.

Global Users and Groups

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Custom Database Mapping

For an example of how custom mapping can be accomplished, see the example image of the User Info Table in Serv-U. This table contains the users and user settings in a Serv-U Domain. For the purpose of integrating with an existing database, we have renamed the "Login ID" attribute to "AcmeUserID", which is the field in our MySQL database that contains Login IDs.
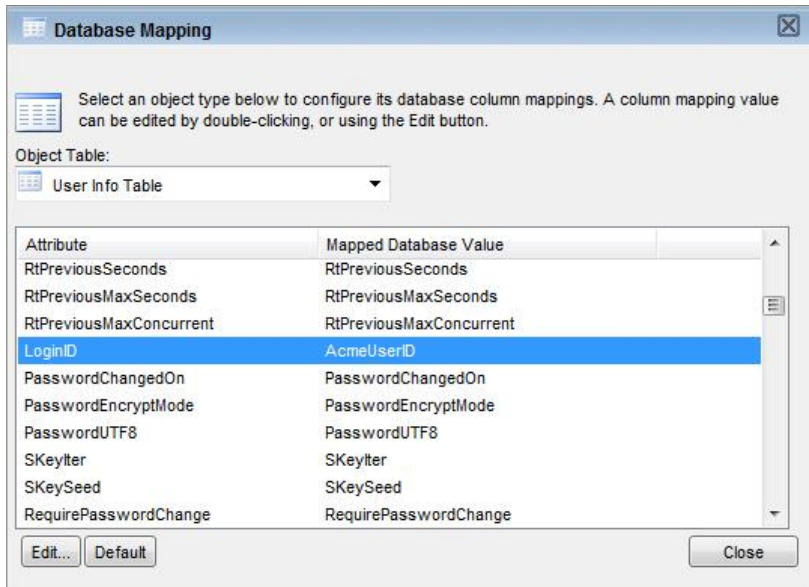
Similarly, in the MySQL Workbench, we can see the field AcmeUserID shown, which can be used by existing account management systems for user account provisioning.

Creating an ODBC Connection

Serv-U uses ODBC connections on both Windows and Linux to provide connections to your relational database. Below are directions on creating ODBC connections on both Windows and Linux systems. Specific directions for creating and managing new databases for specific database engines are not covered in this document – for directions specific to your database engine, refer to your database documentation or consult with your local database administrator (DBA).

Creating A New Windows ODBC Connection

To allow Serv-U on Windows to access a database, an ODBC connection must first be established in Windows. To establish this connection, follow the steps below:

1. Open the "Control Panel | Administrative Tools | Data Sources (ODBC)" menu.
2. If Serv-U is running as a service, open the System DSN tab - if Serv-U is going to run as an application (this is uncommon), open the User DSN tab.
3. Click on "Add", select the data source to be used (most common are "SQL Server" for Microsoft SQL Server 2000, "SQL Native Client" for Microsoft SQL Server 2005 and SQL Server 2008, and "MySQL ODBC 3.51 Driver" for MySQL), then click on "Next".
4. Specify the username and password for the database server, as well as the specific database that will be in use (these steps will vary based on database and ODBC driver).

Testing New Windows DSN

To test the new Windows DSN and ensure that it is able to connect to the database, open the ODBC connection properties in the "Data Sources" menu. The ability to test will depend on the ODBC driver for your database, but most database ODBC drivers, like those used by Microsoft SQL Server, MySQL, and Oracle, support a "Test" button that allows Windows to check if the connection is functional.

Creating A New Linux ODBC Connection

To allow Serv-U on Linux to access a database, the empty database on the database server must first be created, as with Windows. Then, an ODBC connection can be established in Linux. This requires that the following packages first be installed on the Linux server:

mysql-connector-odbc
posgressql-odbc
unixODBC

There are two kinds of Data Source Names (DSNs) - User DSNs, which are available in the user context only, and System DSNs, which are available for the whole system and for all users. Precedence is IMPORTANT - if you have identically named DSNs in the User and System levels, the User DSN takes precedence. User DSNs are created in ~/.odbc.ini. System DSNs are created in /etc/odbc.ini. Remember that you must be logged in as root to make changes to /etc/odbc.ini. Since Serv-U will typically be running as a service, creating a System DSN is recommended. To create your new DSN, use the formats below for MySQL and Postgres:

```
[MySQL-test]
Description = MySQL test database
Trace = Off
TraceFile = stderr
Driver = MySQL
SERVER = YOURIPADDRESS
USER = USERNAME
PASSWORD = PASSWORD
PORT = 3306
DATABASE = YOURDATABASE

[PostgreSQL-test]
Description = Test to Postgres
Driver = PostgreSQL
Trace = Yes
TraceFile = sql.log
Database = YOURDATABASE
Servername = YOURIPADDRESS
UserName = USERNAME
Password = PASSWORD
Port = 5432
Protocol = 6.4
ReadOnly = No
RowVersioning = No
ShowSystemTables = No
ShowOidColumn = No
FakeOidIndex = No
ConnSettings =
```

The names in brackets should be adjusted to your needed DSN name string.

Testing New Linux DSN

Testing the new DSN can be performed using the "isql" application, using the syntax below.

[rhinosoft@rhinodev ~]$ isql %DSN% -c -v

Be sure to replace %DSN% with the name of your DSN. This will allow you to confirm whether your DSN is operating. Remember that if you have identically named DSNs in the Root and User levels, the User level DSN takes precedence.

Basic Database Schema

Serv-U supports a wide range of statistics-gathering and feature-related fields that are not necessary for basic file transfer functionality. At a very basic level, Serv-U relies on the following fields to be present to support authentication and file access:

Users Table

Table Name – The name of the table containing users. "SUUsers" by default.
LoginID - String value containing the username of the account.
PasswordChangedOn - Integer value calculated using time_t, showing the last date the password was change
PasswordEncrypted - If the password is encrypted using the methods described in the following section, "Generating Encrypted Passwords", this value must be 1. If the password is stored plaintext, enter 0.
HomeDir - Enter the full path to the user's home directory
LockInHomeDir - If the user must be locked into their home directory, enter 1. If not, enter 0

UserDirAccess Table

Table Name – The name of the table containing groups. "UserDirAccess" by default.
LoginID – String value containing the username of the account.
SortIndex - The order in which the rule will be processed for the user specified in "LoginID".
Dir - The directory of the Dir Access rule, stored in true format (C:\ftproot\user, \\servername\files\folder, or /usr/ftproot, no escape characters needed).
Access - The privileges granted, calculated using the directions in the following section, "Generating Directory Access Values".
MaxSize - If applicable, the maximum size the directory may reach before no more uploads are allowed.

For a comprehensive list of all tables and fields that Serv-U supports as well as default see the "Schema Reference" section.

Data Concurrency

Information about user accounts is loaded into memory when a user logs into Serv-U. If a change to a user account is written manually to the database, it can cause this information to be overwritten. Manually coded mechanisms must be able to wait for a user to log off before writing changes to ensure they are saved properly.

Generating Special Values

Generating Encrypted Passwords

By default, Serv-U passwords in the database are stored in an encrypted format so that if the database is compromised, the passwords on the server cannot be stolen. Serv-U uses a one-way MD5 hash, with salt, to ensure the safety of the password. Encrypted passwords can be disabled if necessary in the "Domain Limits & Settings | Limits | Password" menu, in the "Password Encrypt Mode" option. However, using encrypted passwords is recommended for maximum security.

To generate a Serv-U compatible encrypted password for insertion into an ODBC user database, two random characters (the 'salt' - in the range a..z, A..Z) are added to the beginning of the clear-text password. This is then hashed using MD5 and the resulting hash is hex-encoded. The result of this is written as plain-text starting with the 2 salt characters followed by the hex-encoded hash.

The algorithm works as below:

Action	Result
Password is established	TestPassword
2 salt characters are added to increase complexity	cbTestPassword
Result is hashed using MD5 and displayed in hexadecimal	8EA58F0751BAA5AF391253F7DADD3D46
2 salt characters added to beginning of previous hash	cb8EA58F0751BAA5AF391253F7DADD3D46

When verifying a user's password, Serv-U will do the same. It parses the salt from the user's stored password (i.e., "cb" in this case), prepends it the password the user sent to it by the client, MD5 hashes it, and compares the result with the stored hash. If the values are equal, then the entered password is correct.

Generating Directory Access Rules

When creating users directly in a database it is necessary to tell Serv-U programatically what permissions the user will be granted. The permissions must be specified via the method outlined below:

To calculate the value of a DirAccess entry, the appropriate values (represented in hexadecimal below) must be added and converted to decimal, then used in the DirAccess column of the CSV file. Each value represents a specific bit which can be turned on or off by adding or removing that value. For example, to grant Read/Write/List access, you add:

1
+2

+100
=103

This value must then be converted to hex, which can be done by opening the Windows Calculator (Start | All Programs | Accessories | Calculator), changing it to Scientific Mode (View | Scientific Mode), selecting Hex, typing in the value, then selecting "Dec" for an automatic conversion. For example, hexadecimal 103 and decimal 259 are the same value. 259 is the value that should be entered in the DirAccess column for the appropriate user. The values of all permissions are listed below.

File Permissions

Read=0x00000001
Write=0x00000002
Append=0x00000004
Delete=0x00000008
Rename=0x00000010
Execute=0x00000020

Directory Permissions

List=0x00000100
Create=0x00000200
Remove=0x00000400
Rename=0x00000800

Subdirectory Permissions

Inherit=0x00001000

Example Code

To aid in the deployment of database integration, we have provided sample code for the special values used in the Serv-U Database: encrypted passwords, and directory access calculations. The example are provided in PHP, VB.NET, and C#.NET

Generating Encrypted Passwords

PHP

```
// MD5 of specified string plus two leading salt characters
// Used in Serv-U's "MD5" hashes
// Provided to the public domain by Rhino Software, Inc. (http://www.RhinoSoft.com)
//
// INPUT:  $strPwdOrig (a string containing a plaintext password)
// OUTPUT: $strDBValue (a string containing the value to insert or check in the database)
//
// This is the password to "one way encrypt"
$strPwdOrig = "TestPassword";  // MAKE THIS VALUE DYNAMIC IN PRODUCTION
echo "|Original Password:".$strPwdOrig."|";  // REMOVE THIS LINE IN PRODUCTION
//
// This is the set of characters used in the two-character salt (note hardcoded length)
$strSaltChars = "0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz";
// Generate and display the salt
$strSalt = substr($strSaltChars, rand(1, 62), 1);
$strSalt = substr($strSaltChars, rand(1, 62), 1).$strSalt;
$strSalt = "cb";  // UNCOMMENT THIS TO TEST EXAMPLE IN SERV-U MANUAL
echo "|Salt:".$strSalt."|";  // REMOVE THIS LINE IN PRODUCTION
//
$strPwdHash = md5($strSalt.$strPwdOrig);
echo "|Encrypted Password:".$strPwdHash."|"; // REMOVE THIS LINE IN PRODUCTION
//
$strDBValue = $strSalt.$strPwdHash;
echo "|Value in Database:".$strDBValue."|"; // REMOVE THIS LINE IN PRODUCTION
```

VB.NET

```
' MD5 of specified string plus two leading salt characters
' Used in Serv-U's "MD5" hashes
' Provided to the public domain by Rhino Software, Inc. (http://www.RhinoSoft.com)
'
' INPUT:  $strPwdOrig (a string containing a plaintext password)
' OUTPUT: $strDBValue (a string containing the value to insert or check in the database)
'
' This is the password to "one way encrypt"
Dim strPwdOrig as String = "TestPassword"  ' MAKE THIS VALUE DYNAMIC IN PRODUCTION
Response.Write("|Original Password:" + strPwdOrig + "|")  ' REMOVE THIS LINE IN PRODUCTION
'
```

```
' This is the set of characters used in the two-character salt (note hardcoded length)
Dim strSaltChars as String =
"0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz"
' Generate and display the salt
Dim rand As New Random()
Dim strSalt as String = ""
strSalt = strSaltChars.Substring(rand.Next(62), 1) + strSaltChars.Substring(rand.Next(62), 1)
strSalt = "cb"  ' UNCOMMENT THIS TO TEST EXAMPLE IN SERV-U MANUAL
Response.Write("|Salt:"+strSalt + "|")  ' REMOVE THIS LINE IN PRODUCTION
'
Dim x As New System.Security.Cryptography.MD5CryptoServiceProvider()
Dim bs() As byte = System.Text.Encoding.UTF8.GetBytes(strSalt + strPwdOrig)
bs = x.ComputeHash(bs)
Dim sbTemp As System.Text.StringBuilder = new System.Text.StringBuilder()
Dim i = -1
Dim strPwdHash as String = ""
For i = 0 To bs.Length - 1
  strPwdHash &= bs(i).ToString("x").PadLeft(2, "0")
Next i
Response.Write("|Encrypted Password:"+strPwdHash + "|") ' REMOVE THIS LINE IN PRODUCTION
'
Dim strDBValue as String = strSalt + strPwdHash
Response.Write("|Value in Database:"+strDBValue + "|") ' REMOVE THIS LINE IN PRODUCTION
'
End Sub
```

C#.NET

```
// MD5 of specified string plus two leading salt characters
// Used in Serv-U's "MD5" hashes
// Provided to the public domain by Rhino Software, Inc. (http://www.RhinoSoft.com)
//
// INPUT:  $strPwdOrig (a string containing a plaintext password)
// OUTPUT: $strDBValue (a string containing the value to insert or check in the database)
//
// This is the password to "one way encrypt"
String strPwdOrig = "TestPassword";  // MAKE THIS VALUE DYNAMIC IN PRODUCTION
Console.WriteLine("Original Password:" + strPwdOrig);  // REMOVE THIS LINE IN PRODUCTION
//
// This is the set of characters used in the two-character salt (note hardcoded length)
String strSaltChars =
"0123456789ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz";
// Generate and display the salt
Random rand = new Random();
String strSalt = "";
strSalt = strSaltChars.Substring(rand.Next(62), 1) + strSaltChars.Substring(rand.Next(62), 1);
strSalt = "cb";  // UNCOMMENT THIS TO TEST EXAMPLE IN SERV-U MANUAL
Console.WriteLine("Salt:"+strSalt);  // REMOVE THIS LINE IN PRODUCTION
//
```

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```
System.Security.Cryptography.MD5CryptoServiceProvider x = new
System.Security.Cryptography.MD5CryptoServiceProvider();
byte[] bs = System.Text.Encoding.UTF8.GetBytes(strSalt + strPwdOrig);
bs = x.ComputeHash(bs);
System.Text.StringBuilder sbTemp = new System.Text.StringBuilder();
foreach (byte bTemp in bs)
{
    sbTemp.Append(bTemp.ToString("x2").ToLower());
}
String strPwdHash = sbTemp.ToString();
Console.WriteLine("Encrypted Password:"+strPwdHash); // REMOVE THIS LINE IN PRODUCTION
//
String strDBValue = strSalt + strPwdHash;
Console.WriteLine("Value in Database:"+strDBValue); // REMOVE THIS LINE IN PRODUCTION
```

Generating Directory Access Rules

PHP

```php
// List of all Serv-U file and directory permissions values
$intServUFileRead        = 1;
$intServUFileWrite       = 2;
$intServUFileAppend      = 4;
$intServUFileDelete      = 8;
$intServUFileRename       = 16;
$intServUFileExecute     = 32;
$intServUFolderList      = 256;
$intServUFolderCreate    = 512;
$intServUFolderRemove     = 1024;
$intServUFolderRename     = 2048;
$intServUSubfolderInherit = 4096;
// To use these, sum them and apply
$intTestReadWriteList = $intServUFileRead + $intServUFileWrite + $intServUFolderList;
echo "Serv-U Permission Value is ".$intTestReadWriteList;
```

VB.NET

```vb
' List of all Serv-U file and directory permissions values
Dim intServUFileRead as Integer        = 1
Dim intServUFileWrite as Integer       = 2
Dim intServUFileAppend as Integer      = 4
Dim intServUFileDelete as Integer      = 8
Dim intServUFileRename as Integer       = 16
Dim intServUFileExecute as Integer     = 32
Dim intServUFolderList as Integer      = 256
Dim intServUFolderCreate as Integer    = 512
Dim intServUFolderRemove as Integer     = 1024
Dim intServUFolderRename as Integer     = 2048
Dim intServUSubfolderInherit as Integer = 4096
' To use these, sum them and apply
```

Dim intTestReadWriteList as Integer = intServUFileRead + intServUFileWrite + intServUFolderList
Response.Write("Serv-U Permission Value is "+intTestReadWriteList.ToString())

C#.NET

```
// List of all Serv-U file and directory permissions values
int intServUFileRead      = 1;
int intServUFileWrite     = 2;
int intServUFileAppend    = 4;
int intServUFileDelete    = 8;
int intServUFileRename     = 16;
int intServUFileExecute    = 32;
int intServUFolderList     = 256;
int intServUFolderCreate   = 512;
int intServUFolderRemove   = 1024;
int intServUFolderRename   = 2048;
int intServUSubfolderInherit = 4096;
// To use these, sum them and apply
int intTestReadWriteList = intServUFileRead + intServUFileWrite + intServUFolderList;
Console.WriteLine("Serv-U Permission Value is "+intTestReadWriteList);
```

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Schema Reference

Programmers and integrators can use this schema to manage Serv-U users and groups, including their related folder permissions, virtual folders, IP access, events, and other attributes.

Schema Diagram

The two core tables are "SUUsers" and "SUGroups". The two are tied together in an "N:N" relationship via the "UserGroupName" table. (I.e., each group may have multiple users as members and each user may below to multiple groups.) "LoginID" is the primary key of SUUsers and "GroupName" is the primary key of SUGroups" – values in these fields should be unique.
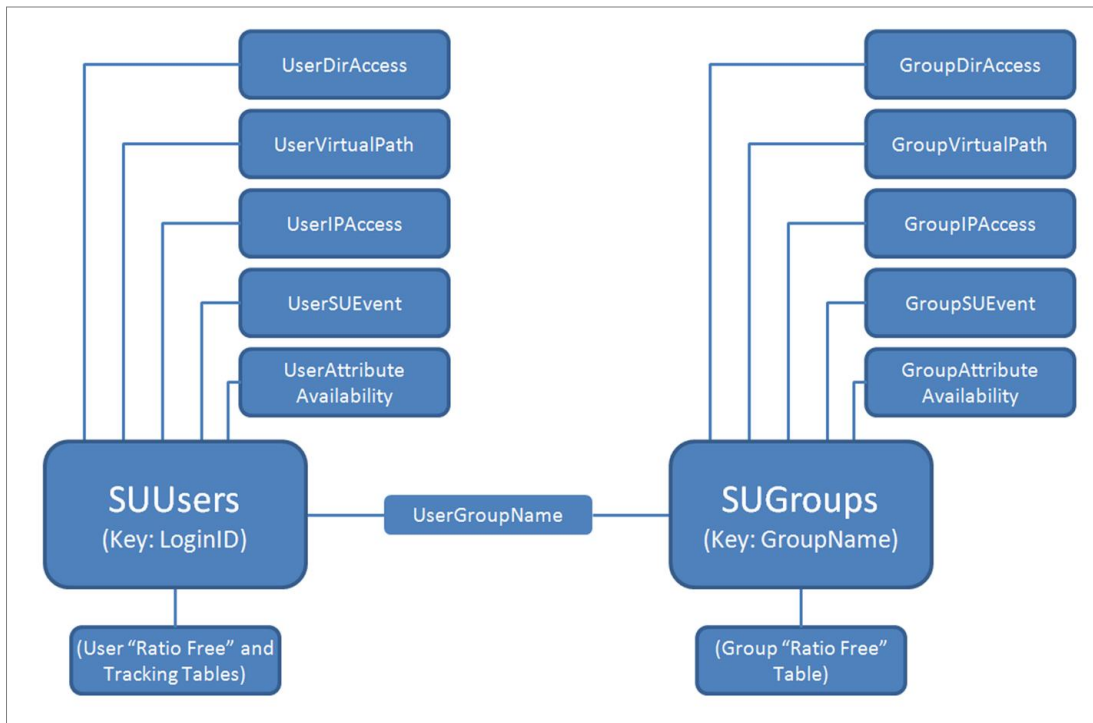
SUUsers - User Information Table

Every user has a single SUUser record.

Field Name	Data Type	Default	Use
TableName	VARCHAR(32)	SUUsers	Name of the table containing Serv-U user accounts.
FileTransferStats_BytesUploaded	VARCHAR(32)	NULL	Number of bytes uploaded by user, for use with Ratios & Quotas.
FileTransferStats_BytesDownloaded	VARCHAR(32)	NULL	Number of bytes downloaded by user, for use with Ratios & Quotas.
FileTransferStats_FilesUploaded	VARCHAR(32)	NULL	Number of files uploaded by user, for use with Ratios & Quotas.
FileTransferStats_FilesDownloaded	VARCHAR(32)	NULL	Number of files downloaded by user, for use with Ratios & Quotas.
StatisticsStartTime	VARCHAR(32)	NULL	Start time of statistical tracking of user, expressed as a time_t value.
LastLoginTime	VARCHAR(32)	NULL	Last time the user logged in to Serv-U.

LastLogoutTime	VARCHAR(32)	NULL	Last time the user logged out of Serv-U.
Logins	VARCHAR(32)	NULL	Total number of times account was used to log in.
Logouts	VARCHAR(32)	NULL	Total number of times account was used to log out.
MostConcurrentLogins	VARCHAR(32)	NULL	Maximum number of concurrent sessions recorded for account.
TotalLoginDurationSecs	VARCHAR(32)	NULL	Total number of seconds account has been logged in.
LongestLoginDurationSecs	VARCHAR(32)	NULL	Total number of seconds of longest session for account.
ShortestLoginDurationSecs	VARCHAR(32)	NULL	Total number of seconds of shortest session for account.
RtServerStartTime	VARCHAR(32)	NULL	Internal Serv-U statistics tracking.
RtFilesUploadRateTotal	VARCHAR(32)	NULL	Internal Serv-U statistics tracking.
RtFilesDownloadRateTotal	VARCHAR(32)	NULL	Internal Serv-U statistics tracking.
RtDailyCount	VARCHAR(255)	NULL	Internal Serv-U statistics tracking.
RtPreviousCount	VARCHAR(32)	NULL	Internal Serv-U statistics tracking.
RtPreviousSeconds	VARCHAR(32)	NULL	Internal Serv-U statistics tracking.
RtPreviousMaxSeconds	VARCHAR(32)	NULL	Internal Serv-U statistics tracking.
RtPreviousMaxConcurrent	VARCHAR(32)	NULL	Internal Serv-U statistics tracking.
LoginID	VARCHAR(255)	Acct Username	Username of account.
PasswordChangedOn	VARCHAR(32)	time_t()	Date of last password change for account, expressed as time_t value.
PasswordEncryptMode	VARCHAR(32)	1	Password encryption level. 0 for unencrypted, 1 for one-way encryption, 2 for two-way encryption.
PasswordUTF8	VARCHAR(32)	NULL	Whether password is UTF-8 encoded or not. 0 for not encoded, 1 or NULL for encoded
SKeyIter	VARCHAR(32)	NULL	Internal Serv-U SKEY iterator.
SKeySeed	VARCHAR(255)	NULL	Internal Serv-U SKEY seed.
RequirePasswordChange	VARCHAR(2)	NULL	Whether password change is required at next login. 0 or NULL for not required, 1 for required.
PasswordStaleEventFired	VARCHAR(2)	NULL	Whether event for stale password has been fired. 0 or NULL for not fired, 1 for fired.
PreDisableEventFired	VARCHAR(2)	NULL	Whether account pre-disable event has been fired. 0 or NULL for not fired, 1 for fired.
PreDeleteEventFired	VARCHAR(2)	NULL	Whether account pre-delete event has been fired. 0 or NULL for not fired, 1 for fired.
Organization	VARCHAR(255)	NULL	Set to the Organization, or "Collection", the user belongs to, for GUI sorting.

Password	VARCHAR(255)	Acct Password	By default, encrypt passwords per KB1177
FullName	VARCHAR(255)	NULL	Set to the full name of the user owning the account.
Description	VARCHAR(255)	NULL	Set to description of the user account.
EmailAddress	VARCHAR(255)	NULL	Set to the contact email address for account.
Type	VARCHAR(32)	NULL	Whether user is set to automatically disable or delete at a future date. 0 for permanent account, 1 for automatically disable, 2 for automatically delete account in the future.
ExpiresOn	VARCHAR(32)	NULL	Time for the user account to expire, expressed as time_t value.
DisabledEventFired	VARCHAR(2)	NULL	Whether user-disabled event has been fired. 0 or NULL for not fired, 1 for fired.
QuotaBytes	VARCHAR(32)	NULL	Number of bytes used by account when quotas in place.
AdminType	VARCHAR(32)	NULL	Administrative privileges for user, if applicable. 0 for no privilege, 1 for Domain Administrator, 2 for Server Administrator, 3 for Read-Only Domain Administrator, 4 for Read-Only System Administrator, 5 for Group Administrator, 6 for Read-Only Group Administrator.
AllowHTTPIPAddressChange	VARCHAR(2)	NULL	Whether to allow changes of IP address during HTTP sessions. Required for mobile access. 0 for disabled, 1 or NULL for enabled.
AllowHTTPMediaPlayback	VARCHAR(2)	NULL	Whether to allow media playback on HTTP sessions. 0 for disabled, 1 or NULL for enabled.
AllowRenameOverwrite	VARCHAR(2)	NULL	Whether to allow user to delete files during rename operations where the target file name exists. 0 to disable rename overwrite, 1 or NULL to enable overwrite.
AllowWebClientPro	VARCHAR(2)	NULL	Whether to allow Web Client Pro for Silver/Gold Edition users. 0 for disabled, 1 or NULL for enabled.
AlwaysAllowLogin	VARCHAR(2)	NULL	Whether to allow user to log in regardless of security and IP Access requirements. 0 or NULL for disabled, 1 for enabled.
BlockAntiTimeout	VARCHAR(2)	NULL	Whether to block anti-timeout operations like NOOP during sessions, to prevent sessions from being marked as idle. 0 or NULL for allow anti-timeout, 1 for do not allow anti-timeout.

CheckDirSizePeriodically	VARCHAR(2)	NULL	Whether to check directory sizes during upload for possible directory size violations. 0 or NULL for disabled, 1 for enabled.
ConvertURLChars	VARCHAR(2)	NULL	Whether to convert URL-encoded characters like %23 into their ASCII equivalents during transfers. 0 to not encode, 1 or NULL to encode.
DeletePartiallyUploaded	VARCHAR(2)	NULL	Whether to delete files only partially uploaded by user. 0 or NULL for do not delete, 1 for delete.
DirMessage	VARCHAR(255)	NULL	
EmailAddressSet	VARCHAR(2)	NULL	Email address for user account.
EnablePasswordRecovery	VARCHAR(2)	NULL	Whether account is allowed to recover password. 0 or NULL for disabled, 1 for enabled.
Enabled	VARCHAR(2)	1	Whether account is enabled for login access. 0 for disabled, 1 for enabled.
FTP	VARCHAR(2)	NULL	Whether to enable FTP/FTPS for user. 0 for disabled, 1 or NULL for enabled.
FileGroup	VARCHAR(255)	NULL	Linux group owner for uploaded files, applies to Linux only.
FileOwner	VARCHAR(255)	NULL	Linux user owner for uploaded files, applies to Linux only.
HTTP	VARCHAR(2)	NULL	Whether to enable HTTP/HTTPS for login access. 0 for disabled, 1 or NULL for enabled.
HideCompressedState	VARCHAR(2)	NULL	Whether to hide the "Compressed" fact from file listings. 0 or NULL to show compression fact, 1 to hide compression fact.
HideEncryptedState	VARCHAR(2)	NULL	Whether to hide the "Encrypted" fact from file listings. 0 or NULL to show encryption fact, 1 to hide encryption fact.
HideHidden	VARCHAR(2)	NULL	Whether to hide "Hidden" files and folders from Directory Listings. 0 or NULL to show hidden files/folders, 1 to hide hidden files/folders.
HidePasswordInLog	VARCHAR(2)	NULL	Whether to obfuscate passwords in Serv-U logs. 0 to show passwords in cleartest, 1 or NULL to hide passwords.
HomeDir	VARCHAR(255)	NULL	Home directory for the user account, as either a Windows local volume path or a UNC path. May require escape characters depending on database engine.

IdleTimeSeconds	VARCHAR(32)	NULL	How many seconds a session may perform no actions before it is considered idle. Interacts with BlockAntiTimeout limit to determine whether clients may keep sessions alive.
IncludeRespCodesInMsgFiles	VARCHAR(2)	NULL	Whether to include response codes in every line of multi-line message responses in FTP. 0 or NULL to not include, 1 to include.
InterpretLFasEOL	VARCHAR(2)	NULL	Whether to interpret LF (Line Feed) as an End Of Line (EOL) character in text files. Useful for interaction with some mainframe systems. 0 or NULL to not interpret LF as EOL, 1 to interpret LF as EOL.
LockInHomeDir	VARCHAR(2)	1	Whether to lock a user in their Home Directory, hiding full drive paths from user. 0 for show full path, 1 or NULL to lock user in Home Directory.
LowerCaseFileNames	VARCHAR(2)	NULL	Whether to force all listings to lower case, required by some mainframe clients. 0 or NULL for use true case, 1 to force lower-case listings.
MaintainHTTPUploadTimes	VARCHAR(2)	NULL	Whether to set modification-time of files uploaded by HTTP to the modification-time of the source file. 0 to abandon original time, 1 or NULL to maintain times.
MaxSessionDownloadRate	VARCHAR(32)	NULL	Maximum download speed for sessions initiated by user account.
MaxSessionUploadRate	VARCHAR(32)	NULL	Maximum upload speed for sessions initiated by user account.
MaxSessionsIPPerUser	VARCHAR(32)	NULL	Maximum sessions from a single IP address utilizing the account.
MaxSessionsPerUser	VARCHAR(32)	NULL	Maximum sessions per user account, total.
MaxUploadFileSize	VARCHAR(32)	NULL	Maximum size of an individual file upload, in bytes.
MaxUserDownloadRate	VARCHAR(32)	NULL	Maximum download speed for user, total.
MaxUserUploadRate	VARCHAR(32)	NULL	Maximum upload speed for user, total.
MinPasswordLen	VARCHAR(32)	NULL	Minimum password length permitted for user account.
NaturalSort	VARCHAR(2)	NULL	Whether to use natural sorting for directory listings. 0 for using standard computational listings, 1 or NULL for natural listings.
PasswordChange	VARCHAR(2)	NULL	Whether to allow user to change password. 0 or NULL for not permitted, 1 for permitted.

PasswordChangedOn	VARCHAR(32)	NULL	Date of last password change for account, expressed as time_t value.
PasswordExpiresDays	VARCHAR(32)	NULL	How many days a password may be saved before expiring.
PasswordRecoveryEmailMessage	VARCHAR(255)	NULL	Contents of email to be sent to users who recover passwords online.
PasswordRecoveryEmailSubject	VARCHAR(255)	NULL	Subject of email to be sent to users who recover passwords online.
PasswordStaleDays	VARCHAR(32)	NULL	How many days a password may be saved before being considered stale and due for change.
PasswordType	VARCHAR(32)	NULL	
PreDeleteDays	VARCHAR(32)	NULL	How many days before triggering account pre-delete event.
PreDisableDays	VARCHAR(32)	NULL	How many days before triggering account pre-disable event.
Quota	VARCHAR(32)	NULL	Total disk quota space allotted to user, in bytes.
RequireComplexPassword	VARCHAR(2)	NULL	Whether to require secure passwords, using upper-lower case and at least one digit. 0 or NULL to not require, 1 to require.
RequireEmailAddressSet	VARCHAR(2)	NULL	Whether to require an email address for a user account. 0 or NULL for not required, or 1 for required.
RequireReverseDNSName	VARCHAR(2)	NULL	
RequireSecure	VARCHAR(2)	NULL	Whether to require secure connection from user before login. Forces incoming connections to be routed through FTPS, SFTP, or HTTPS or Serv-U will drop connection before
ResetGroupStatsAfterRestart	VARCHAR(2)	NULL	Currently unused.
ResetUserStatsAfterRestart	VARCHAR(2)	NULL	Whether to reset User statistics when Serv-U is restarted. 0 or NULL for do not restart, 1 for restart.
RootIsDrives	VARCHAR(2)	NULL	Allows users who have access to whole system "/" to list out drives. 0 or NULL to restrict, 1 to allow.
SFTPMaxVersion	VARCHAR(32)	NULL	Maximum version of SFTP enabled for user account. Valid values 4,5,6.
SMTPAccountName	VARCHAR(255)	NULL	Currently unused.
SMTPFromAddress	VARCHAR(255)	NULL	Currently unused.
SMTPFromName	VARCHAR(255)	NULL	Currently unused.
SMTPPassword	VARCHAR(255)	NULL	Currently unused.
SMTPRequiresLogin	VARCHAR(2)	NULL	Currently unused.
SMTPSSL	VARCHAR(2)	NULL	Currently unused.

SMTPServer	VARCHAR(255)	NULL	Currently unused.
SMTPServerPort	VARCHAR(32)	NULL	Currently unused.
SMTPUseSSLCertificate	VARCHAR(2)	NULL	Currently unused.
SSH	VARCHAR(2)	NULL	Whether to enable SFTP for user. 0 for disabled, 1 or NULL for enabled.
SSHAuthType	VARCHAR(32)	NULL	Authentication type to be used to for SSH/SFTP connections. 0 for both public key and password, 1 for public key or password, 2 for public key only, 3 for password only.
SSHPublicKeyFilePath	VARCHAR(255)	NULL	Path to the public key file to be used for the user account in SSH authentication.
ServerDomainDirAccessFirst	VARCHAR(2)	NULL	Whether to apply Server/Domain Directory Access rules before user/group level rules, used when global rules are used to ban file attachments or file types. 0 or NULL for apply user-level rules first, 1 for apply Domain/Server rules first.
SessTimeoutSeconds	VARCHAR(32)	NULL	Number of seconds before individual session is considered idle.
SignOnMessage	VARCHAR(255)	NULL	Text message to be displayed upon user login.
SignOnMessageFilePath	VARCHAR(255)	NULL	Path to text file to be displayed for user login.
SupportLink	VARCHAR(255)	NULL	Currently unused.
TimeoutBlockIPSeconds	VARCHAR(32)	NULL	Specify number of seconds to lock user out after session timeout.
TreatWindowsShortCutsAsTarget	VARCHAR(2)	NULL	When enabled, treats Windows shortcuts as their targets in listings. 0 for disabled, 1 for enabled.
WebClientStartupMode	VARCHAR(32)	NULL	What client to start for HTTP/HTTPS sessions. 0 to prompt the user, 1 for Web Client, 2 for FTP Voyager JV.
WindowsShortCutsAsLinks	VARCHAR(2)	NULL	When enabled, treats Windows shortcuts as links. 0 or NULL for disabled, 1 for enabled.

UserGroupName - User Groups Table

Each entry in this "N:N" table maps a single user to a single group (using the group name), and visa versa.

Field Name	Data Type	Default	Use
TableName	VARCHAR(32)	UserGroupName	The name of the table containing membership information for Serv-U Groups.
LoginID	VARCHAR(32)		The name of the LoginID (user account) to which the group membership applies.

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| SortIndex | VARCHAR(32) | NULL | The order of the group membership int he list for the user account. |
| GroupName | VARCHAR(32) | NULL | The name of the group to which membership is specified. |

UserDirAccess – User Directory Access Table

These entries map permissions to directories using a path name.

Field Name	Data Type	Default	Use
TableName	VARCHAR(32)	UserDirAccess	The name of the table containing membership information for Serv-U Groups.
LoginID	INT(11)	NULL	The name of the account to whom the rule applies.
SortIndex	VARCHAR(32)	NULL	The order of the rule in the user account's list of Directory Access rules.
Dir	VARCHAR(255)	NULL	The path or filepath to which the rule applies.
Access	VARCHAR(32)	NULL	The permissions to the directory, in HEX XOR format, see KB1776.
MaxSize	VARCHAR(32)	NULL	The maximum directory size for the directory (optional).
NTUser	VARCHAR(255)	NULL	Windows only - for setting a user account for permissions to a specific directory.
NTPassword	VARCHAR(255)	NULL	Windows only - for setting a user password for permissions to a specific directory.
NTDomain	VARCHAR(255)	NULL	Windows only - for setting a domain for permissions to a specific directory.

UserVirtualPath - User Virtual Path Table

These entries each define a single virtual path for a single user.

Field Name	Data Type	Default	Use
TableName	VARCHAR(32)	UserVirtualPath	Name of the table containing Virtual Paths for users.
LoginID	VARCHAR(255)	NULL	The name of the account to whom the Virtual Path applies.
PhysicalPath	VARCHAR(255)	NULL	The physical path to be mapped.
VirtualPath	VARCHAR(255)	NULL	The virtual path (typically in %HOME%\folder format).
IncludeInMaxSize	VARCHAR(2)	NULL	Whether to include the Virtual Path in "Maximum directory size" calculations. 0 or NULL to disable, 1 to enable.

UserIPAccess - User IP Access Table

These entries each define an IP access rules for a single user.

Field Name	Data Type	Default	Use
TableName	VARCHAR(32)	UserIPAccess	Name of the table containing IP Access rules for users.
LoginID	VARCHAR(255)	NULL	The name of the account to whom the IP Access rule applies.
SortIndex	INT(11)	NULL	The order of the IP Access rule for the user account.
IP	VARCHAR(255)	NULL	The IP Address or range to be permitted or denied. IPv4, IPv6, wildcards, and CIDR blocks permitted.
Allow	VARCHAR(2)	0	Whether to allow or deny the IP address or range. 0

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			for deny, 1 for allow.
Description	VARCHAR(255)	NULL	Text description of the rule.

UserSUEvent - User Event Table
These entries each define an event for a single user.

Field Name	Data Type	Default	Use
TableName	VARCHAR(32)	UserSUEvent	Name of the table containing Events for users.
LoginID	VARCHAR(255)	NULL	The name of the account to whom the Event applies.
Enabled	VARCHAR(2)	NULL	Whether the Event is enabled. 1 for enabled, 0 for disabled.
EventID	VARCHAR(32)	NULL	The internal Serv-U ID of the event.
EventName	VARCHAR(255)	NULL	The name of the event.
Description	VARCHAR(255)	NULL	The description of the event.
Action	VARCHAR(32)	NULL	The type of action to be taken. NULL for email, 1 for balloon tip, 2 for execute command.
Data1	VARCHAR(255)	NULL	For emails, the subject of the email. For balloon tips, the subject of the balloon tip.
Data2	VARCHAR(255)	NULL	For emails, the body of the email. For balloon tips, the text in the balloon tip.
EmailToAddress	VARCHAR(255)	NULL	For emails, the recipients of the email.
EmailToAddressBCC	VARCHAR(255)	NULL	For emails, the BCC recipients of the email.
ExeFilePath	VARCHAR(255)	NULL	For execute command events, the path to the EXE or binary file to execute.
ExecWaitSecs	VARCHAR(32)	NULL	For execute command events, the number of seconds to wait after event trigger to run command.

User Ratio Configuration and Tracking Tables
These tables all control or store an element of Serv-U's upload/download transfer ratios.

UserUlDlRatioFreeFile - User Ratio-Free Files Table

Field Name	Data Type	Default	Use
TableName	VARCHAR(32)	UserUlDlRatioFreeFile	Name of the table containing Ratio-free files for users.
LoginID	VARCHAR(255)	NULL	The name of the account to whom the ratio-free file mask applies.
Mask	VARCHAR(255)	NULL	The path or filename of the file or filetype against which upload and download ratios will not be applied.

UserFilesUlDlRatio - Per User File Ratio Table

Field Name	Data Type	Default	Use
TableName	VARCHAR(32)	UserFilesUlDlRatio	Name of the table containing Ratio file credits for users, which apply across sessions.
LoginID	VARCHAR(255)	NULL	The name of the account to whom the Ratio credit applies.
UploadValue	VARCHAR(32)	NULL	The amount of file credit applied for file uploads, relative to the number of files uploaded.

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			The amount of file credit deducted for file downloads, relative to the number of files downloaded.
DownloadValue	VARCHAR(32)	NULL	
Credit	VARCHAR(32)	NULL	The total amount of transfer credit available to the user account, in files, regardless of file size.

UserBytesUlDlRatio - Per User Byte Ratio Table

Field Name	Data Type	Default	Use
TableName	VARCHAR(32)	UserBytesUlDlRatio	Name of the table containing Ratio byte credits for users, which apply across sessions.
LoginID	VARCHAR(255)	NULL	The name of the account to whom the Ratio credit applies.
UploadValue	VARCHAR(32)	NULL	The amount of file credit applied for file uploads, relative to the number of bytes uploaded.
DownloadValue	VARCHAR(32)	NULL	The amount of file credit deducted for file downloads, relative to the number of bytes downloaded.
Credit	VARCHAR(32)	NULL	The total amount of transfer credit available to the user account, in bytes, regardless of the number of files.

UserSessionFilesUlDlRatio - Per Session Files Ratio Table

Field Name	Data Type	Default	Use
TableName	VARCHAR(32)	UserSessionFilesUlDlRatio	Name of the table containing Ratio file credits for users, which do not apply across sessions.
LoginID	VARCHAR(255)	NULL	The name of the account to whom the Ratio credit applies.
UploadValue	VARCHAR(32)	NULL	The amount of file credit applied for file uploads, relative to the number of files uploaded.
DownloadValue	VARCHAR(32)	NULL	The amount of file credit deducted for file downloads, relative to the number of files downloaded.
Credit	VARCHAR(32)	NULL	The total amount of transfer credit available to the user account, in files, regardless of file size.

UserSessionBytesUlDlRatio - Per Session Bytes Ratio Table

Field Name	Data Type	Default	Use
TableName	VARCHAR(32)	UserSessionBytesUlDlRatio	Name of the table containing Ratio byte credits for users, which do not apply across sessions.
LoginID	VARCHAR(255)	NULL	The name of the account to whom the Ratio credit applies.
UploadValue	VARCHAR(32)	NULL	The amount of file credit applied for file uploads, relative to the number of bytes uploaded.
DownloadValue	VARCHAR(32)	NULL	The amount of file credit deducted for file downloads, relative to the number

			of bytes downloaded.
Credit	VARCHAR(32)	NULL	The total amount of transfer credit available to the user account, in bytes, regardless of the number of files.

UserAttributeAvailability - User Attribute Table

This table is used to hold other user-specific attributes.

Field Name	Data Type	Default	Use
TableName	VARCHAR(32)	UserAttributeAvailability	The name of the table containing User-level attribute availability.
LoginID	VARCHAR(255)	NULL	The name of the account to whom the attribute availability limit applies.
Attribute	VARCHAR(32)	NULL	The attribute ID of the the attribute that will be limited. The attribute ID is equal to the text name of the attribute in Serv-U.
LimitToTimeOfDay	VARCHAR(32)	NULL	Whether to restrict the limit to certain hours of the day. 0 or NULL for do not limit, 1 to limit.
StartTime	VARCHAR(32)	NULL	Start time of the day to begin restrictions, in milliseconds from the start of the day.
EndTime	VARCHAR(32)	NULL	End time of day to end restrictions, in seconds from start of the day.
Sunday	VARCHAR(32)	1	1 to enable limit on this day of week, 0 to disable limit on this day of week.
Monday	VARCHAR(32)	1	1 to enable limit on this day of week, 0 to disable limit on this day of week.
Tuesday	VARCHAR(32)	1	1 to enable limit on this day of week, 0 to disable limit on this day of week.
Wednesday	VARCHAR(32)	1	1 to enable limit on this day of week, 0 to disable limit on this day of week.
Thursday	VARCHAR(32)	1	1 to enable limit on this day of week, 0 to disable limit on this day of week.
Friday	VARCHAR(32)	1	1 to enable limit on this day of week, 0 to disable limit on this day of week.
Saturday	VARCHAR(32)	1	1 to enable limit on this day of week, 0 to disable limit on this day of week.

SUGroups – Group Info Table

This is the central groups table – one main entry for each group.

Field Name	Data Type	Default	Use
TableName	VARCHAR(32)	SUGroups	Name of the table containing Serv-U groups.
FileTransferStats_BytesUploaded	VARCHAR(32)	NULL	Number of bytes uploaded by group, for use with Ratios & Quotas.
FileTransferStats_BytesDownloaded	VARCHAR(32)	NULL	Number of bytes downloaded by group, for use with Ratios & Quotas.

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FileTransferStats_FilesUploaded	VARCHAR(32)	NULL	Number of files uploaded by group, for use with Ratios & Quotas.
FileTransferStats_FilesDownloaded	VARCHAR(32)	NULL	Number of files downloaded by group, for use with Ratios & Quotas.
StatisticsStartTime	VARCHAR(32)	NULL	Start time of statistical tracking of group, expressed as a time_t value.
LastLoginTime	VARCHAR(32)	NULL	Last time a user in the group logged in to Serv-U.
LastLogoutTime	VARCHAR(32)	NULL	Last time a user in the group logged out of Serv-U.
Logins	VARCHAR(32)	NULL	Total number of times members in the group logged in.
Logouts	VARCHAR(32)	NULL	Total number of times members in the group logged out.
MostConcurrentLogins	VARCHAR(32)	NULL	Maximum number of concurrent sessions recorded for the group.
TotalLoginDurationSecs	VARCHAR(32)	NULL	Total number of seconds users in the group have been logged in.
LongestLoginDurationSecs	VARCHAR(32)	NULL	Total number of seconds of longest session for a user within the group.
ShortestLoginDurationSecs	VARCHAR(32)	NULL	Total number of seconds of shortest session for a user within the group.
RtServerStartTime	VARCHAR(32)	NULL	Internal Serv-U statistics tracking.
RtFilesUploadRateTotal	VARCHAR(32)	NULL	Internal Serv-U statistics tracking.
RtFilesDownloadRateTotal	VARCHAR(32)	NULL	Internal Serv-U statistics tracking.
RtDailyCount	VARCHAR(255)	NULL	Internal Serv-U statistics tracking.
RtPreviousCount	VARCHAR(32)	NULL	Internal Serv-U statistics tracking.
RtPreviousSeconds	VARCHAR(32)	NULL	Internal Serv-U statistics tracking.
RtPreviousMaxSeconds	VARCHAR(32)	NULL	Internal Serv-U statistics tracking.
RtPreviousMaxConcurrent	VARCHAR(32)	NULL	Internal Serv-U statistics tracking.
GroupName	VARCHAR(255)	Group Name	Name of the group.
Description	VARCHAR(255)	NULL	Description of the group.
ApplyDirAccessRulesAboveUser	VARCHAR(2)	NULL	Whether to apply Group-level rules before User-level Directory Access rules. 0 or NULL to apply User-level first, 1 to apply Group-level first.
AdminType	VARCHAR(32)	NULL	Administrative privileges for user, if applicable. 0 for no privilege, 1 for Domain Administrator, 2 for Server Administrator, 3 for Read-Only Domain Administrator, 4 for Read-Only System Administrator, 5 for Group Administrator, 6 for Read-Only Group Administrator.
PasswordChangedOn	VARCHAR(32)	time_t()	Date of last password change for account, expressed as time_t value.

PasswordEncryptMode	VARCHAR(32)	1	Password encryption level. 0 for unencrypted, 1 for one-way encryption, 2 for two-way encryption.
PasswordUTF8	VARCHAR(32)	NULL	Whether password is UTF-8 encoded or not. 0 for not encoded, 1 or NULL for encoded
SKeyIter	VARCHAR(32)	NULL	Internal Serv-U SKEY iterator.
SKeySeed	VARCHAR(255)	NULL	Internal Serv-U SKEY seed.
RequirePasswordChange	VARCHAR(2)	NULL	Whether password change is required at next login. 0 or NULL for not required, 1 for required.
PasswordStaleEventFired	VARCHAR(2)	NULL	Whether event for stale password has been fired. 0 or NULL for not fired, 1 for fired.
PreDisableEventFired	VARCHAR(2)	NULL	Whether account pre-disable event has been fired. 0 or NULL for not fired, 1 for fired.
PreDeleteEventFired	VARCHAR(2)	NULL	Whether account pre-delete event has been fired. 0 or NULL for not fired, 1 for fired.
Organization	VARCHAR(255)	NULL	Set to the Organization, or "Collection", the user belongs to, for GUI sorting.
Password	VARCHAR(255)	Acct Password	By default, encrypt passwords per KB1177
FullName	VARCHAR(255)	NULL	Set to the full name of the user owning the account.
Description	VARCHAR(255)	NULL	Set to description of the user account.
EmailAddress	VARCHAR(255)	NULL	Set to the contact email address for account.
Type	VARCHAR(32)	NULL	Whether user is set to automatically disable or delete at a future date. 0 for permanent account, 1 for automatically disable, 2 for automatically delete account in the future.
ExpiresOn	VARCHAR(32)	NULL	Time for the user account to expire, expressed as time_t value.
DisabledEventFired	VARCHAR(2)	NULL	Whether user-disabled event has been fired. 0 or NULL for not fired, 1 for fired.
QuotaBytes	VARCHAR(32)	NULL	Number of bytes used by account when quotas in place.
AllowHTTPIPAddressChange	VARCHAR(2)	NULL	Whether to allow changes of IP address during HTTP sessions. Required for mobile access. 0 for disabled, 1 or NULL for enabled.
AllowHTTPMediaPlayback	VARCHAR(2)	NULL	Whether to allow media playback on HTTP sessions. 0 for disabled, 1 or NULL for enabled.

AllowRenameOverwrite	VARCHAR(2)	NULL	Whether to allow user to delete files during rename operations where the target file name exists. 0 to disable rename overwrite, 1 or NULL to enable overwrite.
AllowWebClientPro	VARCHAR(2)	NULL	Whether to allow Web Client Pro for Silver/Gold Edition users. 0 for disabled, 1 or NULL for enabled.
AlwaysAllowLogin	VARCHAR(2)	NULL	Whether to allow user to log in regardless of security and IP Access requirements. 0 or NULL for disabled, 1 for enabled.
BlockAntiTimeout	VARCHAR(2)	NULL	Whether to block anti-timeout operations like NOOP during sessions, to prevent sessions from being marked as idle. 0 or NULL for allow anti-timeout, 1 for do not allow anti-timeout.
CheckDirSizePeriodically	VARCHAR(2)	NULL	Whether to check directory sizes during upload for possible directory size violations. 0 or NULL for disabled, 1 for enabled.
ConvertURLChars	VARCHAR(2)	NULL	Whether to convert URL-encoded characters like %23 into their ASCII equivalents during transfers. 0 to not encode, 1 or NULL to encode.
DeletePartiallyUploaded	VARCHAR(2)	NULL	Whether to delete files only partially uploaded by user. 0 or NULL for do not delete, 1 for delete.
DirMessage	VARCHAR(255)	NULL	
EmailAddressSet	VARCHAR(2)	NULL	Email address for user account.
EnablePasswordRecovery	VARCHAR(2)	NULL	Whether account is allowed to recover password. 0 or NULL for disabled, 1 for enabled.
Enabled	VARCHAR(2)	1	Whether account is enabled for login access. 0 for disabled, 1 for enabled.
FTP	VARCHAR(2)	NULL	Whether to enable FTP/FTPS for user. 0 for disabled, 1 or NULL for enabled.
FileGroup	VARCHAR(255)	NULL	Linux group owner for uploaded files, applies to Linux only.
FileOwner	VARCHAR(255)	NULL	Linux user owner for uploaded files, applies to Linux only.
HTTP	VARCHAR(2)	NULL	Whether to enable HTTP/HTTPS for login access. 0 for disabled, 1 or NULL for enabled.
HideCompressedState	VARCHAR(2)	NULL	Whether to hide the "Compressed" fact from file listings. 0 or NULL to show compression fact, 1 to hide compression fact.

HideEncryptedState	VARCHAR(2)	NULL	Whether to hide the "Encrypted" fact from file listings. 0 or NULL to show encryption fact, 1 to hide encryption fact.
HideHidden	VARCHAR(2)	NULL	Whether to hide "Hidden" files and folders from Directory Listings. 0 or NULL to show hidden files/folders, 1 to hide hidden files/folders.
HidePasswordInLog	VARCHAR(2)	NULL	Whether to obfuscate passwords in Serv-U logs. 0 to show passwords in cleartest, 1 or NULL to hide passwords.
HomeDir	VARCHAR(255)	NULL	Home directory for the user account, as either a Windows local volume path or a UNC path. May require escape characters depending on database engine.
IdleTimeSeconds	VARCHAR(32)	NULL	How many seconds a session may perform no actions before it is considered idle. Interacts with BlockAntiTimeout limit to determine whether clients may keep sessions alive.
IncludeRespCodesInMsgFiles	VARCHAR(2)	NULL	Whether to include response codes in every line of multi-line message responses in FTP. 0 or NULL to not include, 1 to include.
InterpretLFasEOL	VARCHAR(2)	NULL	Whether to interpret LF (Line Feed) as an End Of Line (EOL) character in text files. Useful for interaction with some mainframe systems. 0 or NULL to not interpret LF as EOL, 1 to interpret LF as EOL.
LockInHomeDir	VARCHAR(2)	1	Whether to lock a user in their Home Directory, hiding full drive paths from user. 0 for show full path, 1 or NULL to lock user in Home Directory.
LowerCaseFileNames	VARCHAR(2)	NULL	Whether to force all listings to lower case, required by some mainframe clients. 0 or NULL for use true case, 1 to force lower-case listings.
MaintainHTTPUploadTimes	VARCHAR(2)	NULL	Whether to set modification-time of files uploaded by HTTP to the modification-time of the source file. 0 to abandon original time, 1 or NULL to maintain times.
MaxGroupDownloadRate	VARCHAR(32)	NULL	Maximum download rate for all members of group.
MaxGroupSessions	VARCHAR(32)	NULL	Maximum sessions for all members of group.
MaxGroupSessionsIP	VARCHAR(32)	NULL	Maximum sessions per IP address for all members of group.

MaxGroupUploadRate	VARCHAR(32)	NULL	Maximum upload rate for all members of group.
MaxSessionDownloadRate	VARCHAR(32)	NULL	Maximum download speed for sessions initiated by user account.
MaxSessionUploadRate	VARCHAR(32)	NULL	Maximum upload speed for sessions initiated by user account.
MaxSessionsIPPerUser	VARCHAR(32)	NULL	Maximum sessions from a single IP address utilizing the account.
MaxSessionsPerUser	VARCHAR(32)	NULL	Maximum sessions per user account, total.
MaxUploadFileSize	VARCHAR(32)	NULL	Maximum size of an individual file upload, in bytes.
MaxUserDownloadRate	VARCHAR(32)	NULL	Maximum download speed for user, total.
MaxUserUploadRate	VARCHAR(32)	NULL	Maximum upload speed for user, total.
MinPasswordLen	VARCHAR(32)	NULL	Minimum password length permitted for user account.
MaxSessionDownloadRate	VARCHAR(32)	NULL	Maximum download speed for sessions initiated by user account.
MaxSessionUploadRate	VARCHAR(32)	NULL	Maximum upload speed for sessions initiated by user account.
MaxSessionsIPPerUser	VARCHAR(32)	NULL	Maximum sessions from a single IP address utilizing the account.
MaxSessionsPerUser	VARCHAR(32)	NULL	Maximum sessions per user account, total.
MaxUploadFileSize	VARCHAR(32)	NULL	Maximum size of an individual file upload, in bytes.
MaxUserDownloadRate	VARCHAR(32)	NULL	Maximum download speed for user, total.
MaxUserUploadRate	VARCHAR(32)	NULL	Maximum upload speed for user, total.
MinPasswordLen	VARCHAR(32)	NULL	Minimum password length permitted for user account.
NaturalSort	VARCHAR(2)	NULL	Whether to use natural sorting for directory listings. 0 for using standard computational listings, 1 or NULL for natural listings.
PasswordChange	VARCHAR(2)	NULL	Whether to allow user to change password. 0 or NULL for not permitted, 1 for permitted.
PasswordChangedOn	VARCHAR(32)	NULL	Date of last password change for account, expressed as time_t value.
PasswordExpiresDays	VARCHAR(32)	NULL	How many days a password may be saved before expiring.
PasswordRecoveryEmailMessage	VARCHAR(255)	NULL	Contents of email to be sent to users who recover passwords online.
PasswordRecoveryEmailSubject	VARCHAR(255)	NULL	Subject of email to be sent to users who recover passwords online.
PasswordStaleDays	VARCHAR(32)	NULL	How many days a password may be saved before being considered

			stale and due for change.
PasswordType	VARCHAR(32)	NULL	
PreDeleteDays	VARCHAR(32)	NULL	How many days before triggering account pre-delete event.
PreDisableDays	VARCHAR(32)	NULL	How many days before triggering account pre-disable event.
Quota	VARCHAR(32)	NULL	Total disk quota space allotted to user, in bytes.
RequireComplexPassword	VARCHAR(2)	NULL	Whether to require secure passwords, using upper-lower case and at least one digit. 0 or NULL to not require, 1 to require.
RequireEmailAddressSet	VARCHAR(2)	NULL	Whether to require an email address for a user account. 0 or NULL for not required, or 1 for required.
RequireReverseDNSName	VARCHAR(2)	NULL	
RequireSecure	VARCHAR(2)	NULL	Whether to require secure connection from user before login. Forces incoming connections to be routed through FTPS, SFTP, or HTTPS or Serv-U will drop connection before
ResetGroupStatsAfterRestart	VARCHAR(2)	NULL	Currently unused.
ResetUserStatsAfterRestart	VARCHAR(2)	NULL	Whether to reset User statistics when Serv-U is restarted. 0 or NULL for do not restart, 1 for restart.
RootIsDrives	VARCHAR(2)	NULL	Allows users who have access to whole system "/" to list out drives. 0 or NULL to restrict, 1 to allow.
SFTPMaxVersion	VARCHAR(32)	NULL	Maximum version of SFTP enabled for user account. Valid values 4,5,6.
SMTPAccountName	VARCHAR(255)	NULL	Currently unused.
SMTPFromAddress	VARCHAR(255)	NULL	Currently unused.
SMTPFromName	VARCHAR(255)	NULL	Currently unused.
SMTPPassword	VARCHAR(255)	NULL	Currently unused.
SMTPRequiresLogin	VARCHAR(2)	NULL	Currently unused.
SMTPSSL	VARCHAR(2)	NULL	Currently unused.
SMTPServer	VARCHAR(255)	NULL	Currently unused.
SMTPServerPort	VARCHAR(32)	NULL	Currently unused.
SMTPUseSSLCertificate	VARCHAR(2)	NULL	Currently unused.
SSH	VARCHAR(2)	NULL	Whether to enable SFTP for user. 0 for disabled, 1 or NULL for enabled.
SSHAuthType	VARCHAR(32)	NULL	Authentication type to be used to for SSH/SFTP connections. 0 for both public key and password, 1 for public key or password, 2 for public key only, 3 for password only.

SSHPublicKeyFilePath	VARCHAR(255)	NULL	Path to the public key file to be used for the user account in SSH authentication.
ServerDomainDirAccessFirst	VARCHAR(2)	NULL	Whether to apply Server/Domain Directory Access rules before user/group level rules, used when global rules are used to ban file attachments or file types. 0 or NULL for apply user-level rules first, 1 for apply Domain/Server rules first.
SessTimeoutSeconds	VARCHAR(32)	NULL	Number of seconds before individual session is considered idle.
SignOnMessage	VARCHAR(255)	NULL	Text message to be displayed upon user login.
SignOnMessageFilePath	VARCHAR(255)	NULL	Path to text file to be displayed for user login.
SupportLink	VARCHAR(255)	NULL	Currently unused.
TimeoutBlockIPSeconds	VARCHAR(32)	NULL	Specify number of seconds to lock user out after session timeout.
TreatWindowsShortCutsAsTarget	VARCHAR(2)	NULL	When enabled, treats Windows shortcuts as their targets in listings. 0 for disabled, 1 for enabled.
WebClientStartupMode	VARCHAR(32)	NULL	What client to start for HTTP/HTTPS sessions. 0 to prompt the user, 1 for Web Client, 2 for FTP Voyager JV.
WindowsShortCutsAsLinks	VARCHAR(2)	NULL	When enabled, treats Windows shortcuts as links. 0 or NULL for disabled, 1 for enabled.

GroupDirAccess - Group Directory Access Table

These entries map permissions to directories using a path name.

Field Name	Data Type	Default	Use
TableName	VARCHAR(32)	GroupDirAccess	The name of the table containing Directory Access information for Serv-U Groups.
GroupName	INT(11)	NULL	The name of the group to whom the rule applies.
SortIndex	VARCHAR(32)	NULL	The order of the rule in the group's list of Directory Access rules.
Dir	VARCHAR(255)	NULL	The path or filepath to which the rule applies.
Access	VARCHAR(32)	NULL	The permissions to the directory, in HEX XOR format, see KB1776.
MaxSize	VARCHAR(32)	NULL	The maximum directory size for the directory (optional).
NTUser	VARCHAR(255)	NULL	Windows only - for setting a user account for permissions to a specific directory.
NTPassword	VARCHAR(255)	NULL	Windows only - for setting a user password for permissions to a specific directory.
NTDomain	VARCHAR(255)	NULL	Windows only - for setting a domain for permissions to a specific directory.

GroupVirtualPath - Group Virtual Path Table

These entries each define a single virtual path for a single group.

Field Name	Data Type	Default	Use
TableName	VARCHAR(32)	GroupVirtualPath	Name of the table containing Virtual Paths for groups.
LoginID	VARCHAR(255)	NULL	The name of the group to which the Virtual Path applies.
PhysicalPath	VARCHAR(255)	NULL	The physical path to be mapped.
VirtualPath	VARCHAR(255)	NULL	The virtual path (typically in %HOME%\folder format).
IncludeInMaxSize	VARCHAR(2)	NULL	Whether to include the Virtual Path in "Maximum directory size" calculations. 0 or NULL to disable, 1 to enable.

GroupIPAccess - Group IP Access Table

These entries each define an IP access rules for a single user.

Field Name	Data Type	Default	Use
TableName	VARCHAR(32)	GroupIPAccess	Name of the table containing IP Access rules for groups.
LoginID	VARCHAR(255)	NULL	The name of the account to whom the IP Access rule applies.
SortIndex	INT(11)	NULL	The order of the IP Access rule for the group account.
IP	VARCHAR(255)	NULL	The IP Address or range to be permitted or denied. IPv4, IPv6, wildcards, and CIDR blocks permitted.
Allow	VARCHAR(2)	0	Whether to allow or deny the IP address or range. 0 for deny, 1 for allow.
Description	VARCHAR(255)	NULL	Text description of the rule.

GroupSUEvent - Group Events Table

These entries each define an event for a single group.

Field Name	Data Type	Default	Use
TableName	VARCHAR(32)	GroupSUEvent	Name of the table containing events for groups.
GroupName	VARCHAR(255)	NULL	The name of the group to which the rule applies.
Enabled	VARCHAR(2)	NULL	Whether the Event is enabled. 1 for enabled, 0 for disabled.
EventID	VARCHAR(32)	NULL	The internal Serv-U ID of the event.
EventName	VARCHAR(255)	NULL	The name of the event.
Description	VARCHAR(255)	NULL	The description of the event.
Action	VARCHAR(32)	NULL	The type of action to be taken. NULL for email, 1 for balloon tip, 2 for execute command.
Data1	VARCHAR(255)	NULL	For emails, the subject of the email. For balloon tips, the subject of the balloon tip.
Data2	VARCHAR(255)	NULL	For emails, the body of the email. For balloon tips, the text in the balloon tip.

EmailToAddress	VARCHAR(255)	NULL	For emails, the recipients of the email.
EmailToAddressBCC	VARCHAR(255)	NULL	For emails, the BCC recipients of the email.
ExeFilePath	VARCHAR(255)	NULL	For execute command events, the path to the EXE or binary file to execute.
ExecWaitSecs	VARCHAR(32)	NULL	For execute command events, the number of seconds to wait after event trigger to run command.

Group Ratio Configuration Tables

These tables permit inheritable ratio settings for Serv-U's upload/download transfer ratios.   Note that ratio statistics are NOT tracked at the group level – this only every happens at the user level.

GroupUIDIRatioFreeFile

Field Name	Data Type	Default	Use
TableName	VARCHAR(32)	GroupUIDIRatioFreeFile	Name of the table containing Ratio-free files for groups.
LoginID	VARCHAR(255)	NULL	The name of the group to which the ratio-free file mask applies.
Mask	VARCHAR(255)	NULL	The path or filename of the file or filetype against which upload and download ratios will not be applied.

GroupAttributeAvailability - Group Attribute Table

This table is used to hold other group-specific attributes.

Field Name	Data Type	Default	Use
TableName	VARCHAR(32)	GroupAttributeAvailability	The name of the table containing Group-level attribute availability.
LoginID	VARCHAR(255)	NULL	The name of the group to which the attribute availability limit applies.
Attribute	VARCHAR(32)	NULL	The attribute ID of the the attribute that will be limited. The attribute ID is equal to the text name of the attribute in Serv-U.
LimitToTimeOfDay	VARCHAR(32)	NULL	Whether to restrict the limit to certain hours of the day. 0 or NULL for do not limit, 1 to limit.
StartTime	VARCHAR(32)	NULL	Start time of the day to begin restrictions, in milliseconds from the start of the day.
EndTime	VARCHAR(32)	NULL	End time of day to end restrictions, inmilli seconds from start of the day.
Sunday	VARCHAR(32)	1	1 to enable limit on this day of week, 0 to disable limit on this day of week.
Monday	VARCHAR(32)	1	1 to enable limit on this day of week, 0 to disable limit on this day of week.
Tuesday	VARCHAR(32)	1	1 to enable limit on this day of week, 0 to disable limit on this day of week.
Wednesday	VARCHAR(32)	1	1 to enable limit on this day of week, 0 to disable limit on this day of week.
Thursday	VARCHAR(32)	1	1 to enable limit on this day of week, 0

			to disable limit on this day of week.
Friday	VARCHAR(32)	1	1 to enable limit on this day of week, 0 to disable limit on this day of week.
Saturday	VARCHAR(32)	1	1 to enable limit on this day of week, 0 to disable limit on this day of week.

Notices

This document is provided for use with the setup and maintenance of the Serv-U File Server. This manual is provided "AS IS" and without warranties as to the accuracy of the information or any other warranties whether expressed or implied. Because of the various hardware and software environments into which Serv-U ® may be put, NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS OFFERED.

Good data processing practice dictates that any new program should be thoroughly tested by the user with non-critical data before relying on it. The user must assume the entire risk of using the program. ANY LIABILITY OF THE SELLER WILL BE LIMITED EXCLUSIVELY TO PRODUCT REPLACEMENT OR, AT THE SELLER'S DISCRETION, A REFUND OF PURCHASE PRICE.

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