

# RDSv3 to RDS 2.XX Format Text Files

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The NSRL has received many inquiries about the further publication of RDS 2.XX format text files. The NSRL will no longer be publishing the RDS data set in this format. However, by following these instructions, an RDS 2.XX format set of text files, and UDF image, can be created using the RDSv3 minimal database publications.

The instructions in this document are intended for a Unix based command line application.

## Initial Steps

For Windows users, the following steps will only be able to be run by using a Linux subsystem. The first initial steps will walk through installing an Ubuntu subsystem for Windows.

First, open Windows PowerShell, or command prompt and run the following command:

```
wsl --install
```

Reboot your Windows machine after running the above command.

Once rebooted, open the Microsoft Store and search for Linux. Download and install whichever Linux installation you wish to choose. Note: for this documentation, Ubuntu was the installed Linux subsystem.

Once installed, you can find your installed Linux subsystem via the list of programs found when clicking the Windows button, or by using the windows search bar. Once found, open your Linux subsystem terminal program.

In the Linux subsystem terminal, you will need to change directories to your Windows user home directory. Your Windows home directory will be found at `/mnt/c/Users/<your_windows_username>/`. The following command (using your Windows username), will get you to your Windows home directory.

```
cd /mnt/c/Users/<your_windows_username>/
```

From your Windows home directory, you can use the `cd` command to navigate to the directory in which you store your RDS database files.

The next step will be downloading a full minimal database publication from the NSRL RDS downloads web page, found here: <https://www.nist.gov/itl/ssd/software-quality-group/national-software-reference-library-nsrl/nsrl-download/current-rds>

The database should be updated with the latest delta set publications, for the database set downloaded, also found on the NSRL RDS downloads web page.

Once the database is up to date with the latest published data, create a backup of the database. These instructions will use the backup of the database, called `backup.db` in this document, in order to create the RDS 2.XX format text files.

```
cp <minimal database>.db backup.db
```

## NSRFile.txt

```
sqlite3 backup.db
DROP TABLE IF EXISTS EXPORT;
CREATE TABLE EXPORT AS SELECT sha1, md5, crc32, file_name, file_size, package_id FROM FILE;
UPDATE EXPORT SET file_name = REPLACE(file_name, '"', '');
.mode csv
.headers off
.output output.txt
SELECT '"' || sha1 || '"', '"' || md5 || '"', '"' || crc32 || '"', '"' || file_name || '"', file_size,
package_id, '"' || 0 || '"', '"' || '"' FROM EXPORT ORDER BY sha1;
.q
sed -i 's/"/"/g' output.txt
```

Create a header file with a single line containing the following, called NSRFile-header.txt:

```
"SHA-1","MD5","CRC32","FileName","FileSize","ProductCode","OpSystemCode","SpecialCode"
```

```
cat output.txt >> NSRFile-header.txt
sed -e "s/\\r//g" NSRFile-header.txt > NSRFile.txt
rm output.txt NSRFile-header.txt
```

This should give a complete and correct NSRFile.txt

## NSRLMfg.txt

```
sqlite3 backup.db
DROP TABLE IF EXISTS EXPORT;
CREATE TABLE EXPORT AS SELECT manufacturer_id, name FROM MFG;
UPDATE EXPORT SET name = REPLACE(name, '"', '');
.mode csv
.headers off
.output output.txt
SELECT manufacturer_id, '"' || name || '"' FROM EXPORT ORDER BY manufacturer_id;
.q
sed -i 's/"/"/g' output.txt
```

Create a header file with a single line containing the following, called NSRLMfg-header.txt:

```
"MfgCode","MfgName"
```

```
cat output.txt >> NSRLMfg-header.txt
sed -e "s/\r//g" NSRLMfg-header.txt > NSRLMfg.txt
rm output.txt NSRLMfg-header.txt
```

This should give a complete and correct NSRLMfg.txt

## NSRLOS.txt

```
sqlite3 backup.db
DROP TABLE IF EXISTS EXPORT;
CREATE TABLE EXPORT AS SELECT operating_system_id, name, version, manufacturer_id FROM OS;
UPDATE EXPORT SET name = REPLACE(name, '"', ''), version = REPLACE(version, '"', '');
.mode csv
.headers off
.output output.txt
SELECT operating_system_id, '"' || name || '"', '"' || version || '"', manufacturer_id FROM EXPORT ORDER BY
operating_system_id;
.q
sed -i 's/"/"/g' output.txt
```

Create a header file with a single line containing the following, called NSRLOS-header.txt:

```
"OpSystemCode","OpSystemName","OpSystemVersion","MfgCode"
```

```
cat output.txt >> NSRLOS-header.txt
sed -e "s/\\r//g" NSRLOS-header.txt > NSRLOS.txt
rm output.txt NSRLOS-header.txt
```

This should give a complete and correct NSRLOS.txt'

## NSRLProd.txt

```
sqlite3 backup.db
DROP TABLE IF EXISTS EXPORT;
CREATE TABLE EXPORT AS SELECT package_id, name, version, operating_system_id, manufacturer_id, language,
application_type FROM PKG;
UPDATE EXPORT SET name = REPLACE(name, '"', ''), version = REPLACE(version, '"', '');
.mode csv
.headers off
.output output.txt
SELECT package_id, '"' || name || '"', '"' || version || '"', operating_system_id, manufacturer_id, '"' ||
language || '"', '"' || application_type || '"' FROM EXPORT ORDER BY package_id;
.q
sed -i 's/"/"/g' output.txt
```

Create a header file with a single line containing the following, called NSRLProd-header.txt:

```
"ProductCode","ProductName","ProductVersion","OpSystemCode","MfgCode","Language","ApplicationType"
```

```
cat output.txt >> NSRLProd-header.txt
sed -e "s/\\r//g" NSRLProd-header.txt > NSRLProd.txt
rm output.txt NSRLProd-header.txt
```

This should give a complete and correct NSRLProd.txt

## Creating an RDS 2.XX Format UDF Image

If you need the files in the RDS 2.XX ISO format (a UDF image) for ingest, the following steps will complete the ISO creation.

```
mkdir RDS_2.<rds 3 version>  
cp NSRL*.txt RDS_2.<rds 3 version>  
cd RDS_2.<rds 3 version>
```

A readme file and a signatures file is required in an RDS 2.XX format publication, so they must be manually added. NSRLFile.txt must also be zipped, and have a NSRLFile.txt.hash file created.

Create a read\_me.txt file, including the following text:  
This version of the RDS was created manually using an RDSv3 publication.  
This is not an official publication of the National Software Reference Library.

Zip NSRLFile.txt and create the NSRLFile.txt.hash file:  
zip -9 --junk-paths NSRLFile.txt.zip NSRLFile.txt  
rm NSRLFile.txt

Create a file, NSRLFile.txt.hash, and add the output of the following two commands to the file:  
openssl sha1 NSRLFile.txt  
openssl md5 NSRLFile.txt

Create a signatures.txt file, using the following command:  
openssl sha1 \* > signatures.txt

Finally, create the UDF image ISO file.  
genisoimage -udf -allow-limited-size -input-charset=utf-8 -V RDS\_2.<rds 3 version> -o "<full path to current directory>/RDS\_<rds 3 version>.iso" <full path to>/RDS\_<rds 3 version>

For further questions, please contact the NSRL team at [nsrl@nist.gov](mailto:nsrl@nist.gov) .