Design and create a production-ready .NET application

OC .NET Path 6

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github.com/codeslayerjay/OCP6StoneWareDb_v3

Initial Setup

The following steps will help you create and seed the initial database. The database name is OCP6TheStoneWareDB_V3

1. Open up the solution file OCP6TheStoneWareDB_V3 in MS Sql Server Management Studio.
2. In the solution explorer select and open “CreateDatabase.sql” script file.
3. Press F5 to execute script and create database.

   *This will create database, create stored procedures, views, functions, and seed database with test data.

```
--============================================
-- Initial Setup for:
-- Create Database, Stored Procedures, Seed Dumby
-- Data, Roles, Views
--============================================

USE [master]
GO

DROP DATABASE [OCP6StoneWareDB_V3]

/****** Object:  Database [OCP6StoneWareDB_V3]    Script Date: 9/9/2019 7:28:05 PM ******/
CREATE DATABASE [OCP6StoneWareDB_V3]
GO
ALTER DATABASE [OCP6StoneWareDB_V3] SET COMPATIBILITY_LEVEL = 130
GO
IF (1 = FULLTEXTSERVICEPROPERTY('IsFullTextInstalled'))
begin
EXEC [OCP6StoneWareDB_V3].[dbo].[sp_fulltext_database] @action = 'enable'
end
GO
ALTER DATABASE [OCP6StoneWareDB_V3] SET ANSI_NULL_DEFAULT OFF
GO
ALTER DATABASE [OCP6StoneWareDB_V3] SET ANSI_NULLS OFF
GO
ALTER DATABASE [OCP6StoneWareDB_V3] SET ANSI_PADDING OFF
GO
ALTER DATABASE [OCP6StoneWareDB_V3] SET ANSI_WARNINGS OFF
GO
ALTER DATABASE [OCP6StoneWareDB_V3] SET ARITHABORT OFF
GO
ALTER DATABASE [OCP6StoneWareDB_V3] SET AUTO_CLOSE ON
GO
ALTER DATABASE [OCP6StoneWareDB_V3] SET AUTO_SHRINK OFF
```

Result Set Structure

In the solution there is a common view that is used to join the database tables and columns together. This is the result set “view” that will be used on ALL included stored procedures. The view is named “VWIssues_GetAll”.

Example use:
SELECT * FROM vwIssues_GetAll

Result Set View Columns:

Column	**Description / Table**
issue_id	Id for Issues table
product_id	Id for product_details table
product	Displays the product name
status	Displays the status of issue
version	Displays version number for product
operating_system	Displays the OS for product
problem_description	The issue problem description
resolution_description	The resolution of problem description
created_at	The date issue was created
date_resolved	The date issue was resolved

VWIssues_GetAll (Cont.)

SQL Script:

```
CREATE VIEW VWIssues_GetAll
AS
SELECT
        _i.id as issue_id,
        _pd.id AS product_id,
        _pd.name AS product,
        _is.status,
        _v.version,
        _os.name AS operating_system,
        _i.problem_description,
        _ir.resolution_description,
        _i.created_at,
        _ir.date_resolved
    FROM [Issues] _i
        JOIN [Issue_Status] _is ON _is.id = _i.status_id
        JOIN [Products] _p ON _p.id = _i.product_id
        JOIN [Product_Detail] _pd ON _pd.id = _p.product_detail_id
        JOIN [Operating_Systems] _os ON _os.id = _p.os_id
        JOIN [Versions] _v ON _v.id = _p.version_id
        LEFT JOIN [Issue_Resolution] _ir ON _ir.issue_id = _i.id
```

Result Set Example:

Results | Messages

	issue_id	product_id	product	status	version	operating_system	problem_description	resolution_description
1	1	1	Day Trader Wannabe	Resolved	1.0	Linux	User tried to sign in with their gmail account and k...	The user was using the wrong email addre
2	2	1	Day Trader Wannabe	Resolved	1.0	Linux	User says product is buying two of every purchase...	User was on a 3G network and expected
3	3	1	Day Trader Wannabe	Outstanding	1.1	MacOS	User says the stock price keeps changing randomly.	NULL
4	4	1	Day Trader Wannabe	Outstanding	1.2	Linux	User says the stock price keeps changing randomly.	NULL
5	5	1	Day Trader Wannabe	Outstanding	1.3	MacOS	The app keeps crashing for the user while they try ...	NULL
6	6	1	Day Trader Wannabe	Outstanding	1.2	Windows Mobile	The app keeps crashing when trying to cancel an ...	NULL
7	7	1	Day Trader Wannabe	Resolved	1.0	Linux	The user is having difficulty updating the application.	Asked user to delete the older version and
8	8	1	Day Trader Wannabe	Resolved	1.0	Linux	USers are having difficulty updating the application.	Advised user to delete the older version a
9	9	1	Day Trader Wannabe	Resolved	1.3	Windows	User says the application is running slow.	The user had 10 other applications opend

Stored Procedures

Most of the stored procedures perform different queries based on the arguments passed in. Refer to the individual section for stored procedure for details on how to execute and see different result examples.

The stored procedures included in the solution will produce results for the following queries:

- Get all outstanding issues (all products)
- Get all outstanding issues for a product (all versions)
- Get all outstanding issues for a product (single version)
- Get all outstanding issues within date range for a product (all versions)
- Get all outstanding issues within date range for a product (single version)
- Get all outstanding issues containing list of keywords (all products)
- Get all outstanding issues for a product containing list of keywords (all versions)
- Get all outstanding issues for a product containing list of keywords (single version)
- Get all outstanding issues within date range for a product containing list of keywords (all versions)
- Get all outstanding issues within date range for a product containing list of keywords (single version)
- Get all resolved issues (all products)
- Get all resolved issues for a product (all versions)
- Get all resolved issues for a product (single version)
- Get all resolved issues within date range for a product (all versions)
- Get all resolved issues within date range for a product (single version)
- Get all resolved issues containing list of keywords (all products)
- Get all resolved issues for a product containing list of keywords (all versions)
- Get all resolved issues for a product containing list of keywords (single version)
- Get all resolved issues within date range for a product containing list of keywords (all versions)
- Get all resolved issues within date range for a product containing list of keywords (single version)

Get All Outstanding/Resolved Issues (All products)

Name: spIssues_GetAll
Params:

@status nvarchar(20) **not required*

- The status to search by: "Resolved", "Outstanding"

Description:
Gets all issues for all products and versions based on the status argument passed in. Retrieves all "Outstanding" issues by default if no argument is passed.

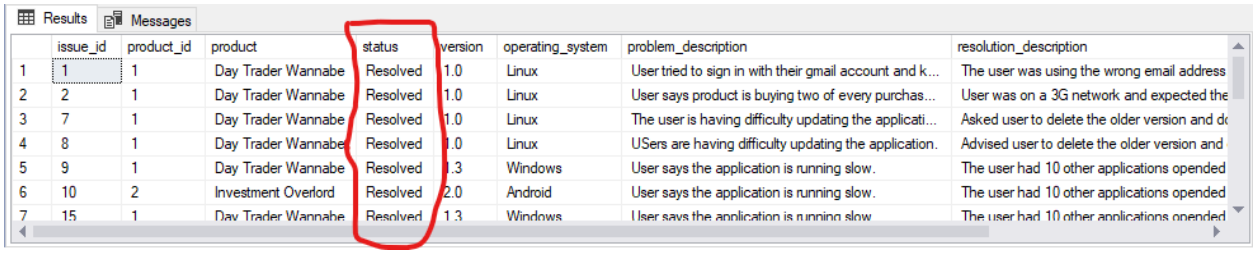
Stored Procedure:

```
spIssues_GetAll(@status nvarchar(20) = 'Outstanding')
```

Execution Example:

```
EXEC spIssues_GetAll @status = 'Resolved'
```

Example Result Set:



Results | Messages

	issue_id	product_id	product	status	version	operating_system	problem_description	resolution_description
1	1	1	Day Trader Wannabe	Resolved	1.0	Linux	User tried to sign in with their gmail account and k...	The user was using the wrong email address
2	2	1	Day Trader Wannabe	Resolved	1.0	Linux	User says product is buying two of every purchas...	User was on a 3G network and expected the
3	7	1	Day Trader Wannabe	Resolved	1.0	Linux	The user is having difficulty updating the applicati...	Asked user to delete the older version and d
4	8	1	Day Trader Wannabe	Resolved	1.0	Linux	USers are having difficulty updating the application.	Advised user to delete the older version and
5	9	1	Day Trader Wannabe	Resolved	1.3	Windows	User says the application is running slow.	The user had 10 other applications opended
6	10	2	Investment Overlord	Resolved	2.0	Android	User says the application is running slow.	The user had 10 other applications opended
7	15	1	Day Trader Wannabe	Resolved	1.3	Windows	User says the application is running slow.	The user had 10 other applications opended

Get All Outstanding/Resolved Issues For Product (All Versions)

Name: spIssues_GetByStatusForProduct
Params:

@status nvarchar(20) **not required*

- The status to search by: "Resolved", "Outstanding"

*@product_name nvarchar(50) *required*

- The product name to search by: "Day Trader Wannabe", "Workout Planner"

Description:
Gets all issues for a product based on the status and product name. Retrieves all versions for the product and will return "Outstanding" issues by default if no @status argument is passed in.

Stored Procedure:

```
CREATE OR ALTER PROCEDURE spIssues_GetByStatusForProduct(
        @product_name nvarchar(50),
        @status nvarchar(20) = null)
```

Execution Example:

```
EXEC spIssues_GetByStatusForProduct
    @product_name = 'Day Trader Wannabe',
    @status = 'Resolved'
```

Example Result Set:

Results | Messages

	issue_id	product_id	product	status	version	operating_system	problem_description	resolution_description
1	1	1	Day Trader Wannabe	Resolved	1.0	Linux	User tried to sign in with their gmail account and ...	The user was using the wrong email address.
2	2	1	Day Trader Wannabe	Resolved	1.0	Linux	User says product is buying two of every purcha...	User was on a 3G network and expected the p
3	7	1	Day Trader Wannabe	Resolved	1.0	Linux	The user is having difficulty updating the applica...	Asked user to delete the older version and dov
4	8	1	Day Trader Wannabe	Resolved	1.0	Linux	USers are having difficulty updating the applicati...	Advised user to delete the older version and d
5	9	1	Day Trader Wannabe	Resolved	1.3	Windows	User says the application is running slow.	The user had 10 other applications opended a
6	15	1	Day Trader Wannabe	Resolved	1.3	Windows	User says the application is running slow.	The user had 10 other applications opended a

Get All Outstanding/Resolved Issues For A Product (Single Version)

Name: spIssues_GetByStatus_ForProductAndVersions
Params:

@status nvarchar(20) **not required*

- The status to search by: "Resolved", "Outstanding"

*@product_name nvarchar(50) *required*

- The product name to search by: "Day Trader Wannabe", "Workout Planner"

*@version numeric(2,1) *required*

- The version number to search by: (1.1, 1.0, 2.2, etc)

Description:
Gets all issues for a product based on the product name, version, and status arguments passed in.

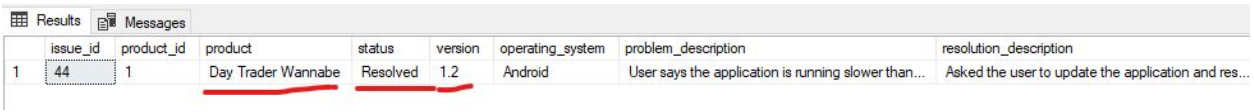
Stored Procedure:

```
CREATE OR ALTER PROCEDURE spIssues_GetByStatus_ForProductAndVersion(
        @product_name nvarchar(50),
        @version numeric(2,1),
        @status nvarchar(20) = 'Outstanding')
```

Execution Example:

```
EXEC spIssues_GetByStatus_ForProductAndVersion
    @product_name = 'Day Trader Wannabe',
    @version = 1.2,
    @status = 'Resolved'
```

Example Result Set:



Results | Messages

	issue_id	product_id	product	status	version	operating_system	problem_description	resolution_description
1	44	1	Day Trader Wannabe	Resolved	1.2	Android	User says the application is running slower than...	Asked the user to update the application and res...

Get all outstanding/resolved issues within date range for a product (all versions)

Name: spIssues_GetByDateForProduct
Params:

@status nvarchar(20) **not required*
- *The status to search by: "Resolved", "Outstanding"*

*@product_name nvarchar(50) *required*
- *The product name to search by: "Day Trader Wannabe", "Workout Planner"*

*@start_date date *not required*
- *The start search date*
- *Defaults: 2010-01-01*

*@end_date date *not required*
- *The end search date*
- *Defaults: Current Date*

Description:
Gets all issues for a product based on the product name and status arguments between the dates specified or default values. The date ranges searches the "created_at" column on the issues table.

Stored Procedure:

```
CREATE OR ALTER PROCEDURE spIssues_GetByDateForProduct(
        @product_name nvarchar(50),
        @status nvarchar(20) = 'Outstanding',
        @start_date date = '2010-01-01',
        @end_date date = null)
```

Execution Example:

```
EXEC spIssues_GetByDateForProduct
    @product_name = 'Day Trader Wannabe',
    @start_date = '2019-01-01',
    @end_date = '2019-01-31'
```

Example Result Set:

Results | Messages

	issue_id	product_id	product	status	version	operating_system	problem_description	resolution_description	created_at
1	20	1	Day Trader Wannabe	Outstanding	1.1	Linux	User says they have found a few spelling errors ...	NULL	2019-01-29

Get all outstanding/resolved issues within date range for a product (single version)

Name: spIssues_GetByDate_ForProductAndVersion
Params:

@status nvarchar(20) **not required*
- *The status to search by: "Resolved", "Outstanding"*

*@product_name nvarchar(50) *required*
- *The product name to search by: "Day Trader Wannabe", "Workout Planner"*

*@version numeric(2,1) *required*
- *The version number to search by: (1.0, 1.1, 2.0, etc)*

*@start_date date *not required*
- *The start search date*
- *Defaults: 2010-01-01*

*@end_date date *not required*
- *The end search date*
- *Defaults: Current Date*

Description:
Gets all issues for a product based on the product name, version and status arguments between the dates specified or default values. The date ranges searches the "created_at" column on the issues table.

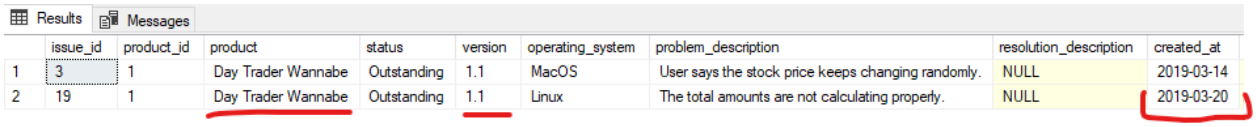
Stored Procedure:

```
CREATE OR ALTER PROCEDURE spIssues_GetByDate_ForProductAndVersion(
        @product_name nvarchar(50),
        @status nvarchar(20) = 'Outstanding',
        @start_date date = '2010-01-01',
        @end_date date = null,
        @version numeric(2,1))
```

Execution Example:

```
EXEC spIssues_GetByDate_ForProductAndVersion
    @product_name = 'Day Trader Wannabe',
    @start_date = '2019-02-20',
    @version = 1.1
```

Example Result Set:



Results | Messages

	issue_id	product_id	product	status	version	operating_system	problem_description	resolution_description	created_at
1	3	1	Day Trader Wannabe	Outstanding	1.1	MacOS	User says the stock price keeps changing randomly.	NULL	2019-03-14
2	19	1	Day Trader Wannabe	Outstanding	1.1	Linux	The total amounts are not calculating properly.	NULL	2019-03-20

Get All Outstanding/Resolved Issues Containing List Of Keywords (All products)

Name: spIssues_GetAllByStatus_Keywords
Params:

@status nvarchar(20) **not required*

- The status to search by: "Resolved", "Outstanding"

*@keywords nvarchar(MAX) *required*

-A comma delimited list of keywords to search by:
"User, Application, Test, Update, A sample phrase"

Description:
Gets all issues for all products and versions based on the status and any matching keywords passed in. The keywords perform a search on the following columns: problem_description from Issues Table and resolution_description from the Issue_Resolution table if any is available.

Stored Procedure:

```
CREATE OR ALTER PROCEDURE spIssues_GetAllByStatus_Keywords(
        @status nvarchar(50) = 'Outstanding',
        @keywords nvarchar(MAX))
```

Execution Example:

```
EXEC spIssues_GetAllByStatus_Keywords
    @status = 'Resolved',
    @keywords = 'User, 3G, Update'
```

Example Result Set:

Results | Messages

	d	product_id	product	status	version	operating_system	problem_description	resolution_description	created_at	date_resolved
1		2	Investment Overlord	Outstanding	2.1	Windows	The user is not able to access the calendar.	NULL	2019-03-28	NULL
2		2	Investment Overlord	Outstanding	2.1	Windows	The user cannot reset their password. Says not g...	NULL	2019-07-02	NULL

Get All Outstanding/Resolved Issues Containing List Of Keywords For A Product (All Versions)

Name: spIssues_GetAllByStatus_KeywordsForProduct
Params:

@status nvarchar(20) **not required*

- The status to search by: "Resolved", "Outstanding"

*@product_name nvarchar(50) *required*

-The product name to search by: "Day Trader Wannabe", etc.

*@keywords nvarchar(MAX) *required*

-A comma delimited list of keywords to search by:

"User, Application, Test, Update, A sample phrase"

Description:
Gets all issues for a product based on the status, any matching keywords, and product name passed in. The keywords perform a search on the following columns: problem_description from Issues Table and resolution_description from the Issue_Resolution table if any is available.

Stored Procedure:

```
CREATE OR ALTER PROCEDURE spIssues_GetAllByStatus_KeywordsForProduct(
        @product_name nvarchar(50),
        @status nvarchar(50) = 'Outstanding',
        @keywords nvarchar(MAX))
```

Execution Example:

```
EXEC spIssues_GetAllByStatus_KeywordsForProduct
    @product_name = 'Investment Overlord',
    @keywords = 'Application, User'
```

Example Result Set:

Results | Messages

	d	product_id	product	status	version	operating_system	problem_description	resolution_description	created_at	date_resolved
1		2	Investment Overlord	Outstanding	2.1	Windows	The user is not able to access the calendar.	NULL	2019-03-28	NULL
2		2	Investment Overlord	Outstanding	2.1	Windows	The user cannot reset their password. Says not g...	NULL	2019-07-02	NULL

Get All Outstanding/Resolved Issues Containing List Of Keywords For A Product (Single Version)

Name: spIssues_GetByStatusKeywordsVersion_ForProduct
Params:

@status nvarchar(20) **not required*
- The status to search by: "Resolved", "Outstanding"
*@product_name nvarchar(50) *required*
-The product name to search by: "Day Trader Wannabe", etc.
*@version numeric(2,1) *required*
-The version to search by: (1.1, 1.0, 2.2, etc)
*@keywords nvarchar(MAX) *required*
-A comma delimited list of keywords to search by:
"User, Application, Test, Update, A sample phrase"

Description:
Gets all issues for a product (single version) based on the status, any matching keywords, version, and product name passed in. The keywords perform a search on the following columns: problem_description from Issues Table and resolution_description from the Issue_Resolution table if any is available.

Stored Procedure:

```
CREATE OR ALTER PROCEDURE spIssues_GetByStatusKeywordsVersion_ForProduct(
        @product_name nvarchar(50),
        @version numeric(2,1),
        @status nvarchar(50) = 'Outstanding',
        @keywords nvarchar(MAX))
```

Execution Example:

```
EXEC spIssues_GetByStatusKeywordsVersion_ForProduct
    @product_name = 'Day Trader Wannabe',
    @version = 1.2,
    @keywords = 'User'
```

Example Result Set:

Results | Messages

	issue_id	product_id	product	status	version	operating_system	problem_description	resolution_description	created_at	date_
1	4	1	Day Trader Wannabe	Outstanding	1.2	Linux	User says the stock price keeps changing randomly.	NULL	2019-03-19	NULL
2	11	1	Day Trader Wannabe	Outstanding	1.2	Windows	The user complains that the application text is not ...	NULL	2019-08-14	NULL
3	13	1	Day Trader Wannabe	Outstanding	1.2	iOS	The user complains that the application text is not ...	NULL	2019-08-17	NULL

Get All Outstanding/Resolved Issues Containing List Of Keywords For A Product (Single Version)

Name: spIssues_GetByStatusKeywordsVersion_ForProduct
Params:

@status nvarchar(20) **not required*

- The status to search by: "Resolved", "Outstanding"

*@product_name nvarchar(50) *required*

-The product name to search by: "Day Trader Wannabe", etc.

*@version numeric(2,1) *required*

-The version to search by: (1.1, 1.0, 2.2, etc)

*@keywords nvarchar(MAX) *required*

-A comma delimited list of keywords to search by:

"User, Application, Test, Update, A sample phrase"

Description:
Gets all issues for a product (single version) based on the status, any matching keywords, version, and product name passed in. The keywords perform a search on the following columns: problem_description from Issues Table and resolution_description from the Issue_Resolution table if any is available.

Stored Procedure:

```
CREATE OR ALTER PROCEDURE spIssues_GetByStatusKeywordsVersion_ForProduct(
        @product_name nvarchar(50),
        @version numeric(2,1),
        @status nvarchar(50) = 'Outstanding',
        @keywords nvarchar(MAX))
```

Execution Example:

```
EXEC spIssues_GetByStatusKeywordsVersion_ForProduct
    @product_name = 'Day Trader Wannabe',
    @version = 1.2,
    @keywords = 'User'
```

Example Result Set:

Results | Messages

	issue_id	product_id	product	status	version	operating_system	problem_description	resolution_description	created_at	date_
1	4	1	Day Trader Wannabe	Outstanding	1.2	Linux	User says the stock price keeps changing randomly.	NULL	2019-03-19	NULL
2	11	1	Day Trader Wannabe	Outstanding	1.2	Windows	The user complains that the application text is not ...	NULL	2019-08-14	NULL
3	13	1	Day Trader Wannabe	Outstanding	1.2	iOS	The user complains that the application text is not ...	NULL	2019-08-17	NULL

Get all outstanding issues within date range for a product containing list of keywords (all versions)

Name: spIssues_GetByStatusKeywordsDate_ForProduct

Params:

@status nvarchar(20) **not required*

- The status to search by: "Resolved", "Outstanding"

*@product_name nvarchar(50) *required*

-The product name to search by: "Day Trader Wannabe", etc.

*@keywords nvarchar(MAX) *required*

-A comma delimited list of keywords to search by:

"User, Application, Test, Update, A sample phrase"

*@start_date date *not required*

- The start search date

- Defaults: 2010-01-01

*@end_date date *not required*

- The end search date

- Defaults: Current Date

Description:

Gets all issues for a product (all versions) based on the status, any matching keywords, product name between a start date and end date. The keywords perform a search on the following columns: problem_description from Issues Table and resolution_description from the Issue_Resolution table if any is available. The start date and end dates reflect the query from the created_at column on the Issues table.

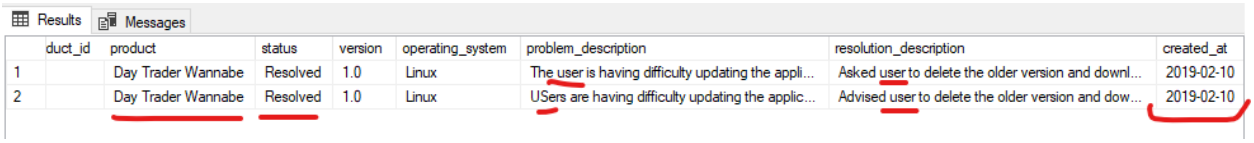
Stored Procedure:

```
CREATE OR ALTER PROCEDURE spIssues_GetByStatusKeywordsDate_ForProduct(
        @product_name nvarchar(50),
        @status nvarchar(50) = 'Outstanding',
        @keywords nvarchar(MAX),
        @start_date date = '2010-01-01',
        @end_date date = null)
```

Execution Example:

```
EXEC spIssues_GetByStatusKeywordsDate_ForProduct
    @product_name = 'Day Trader Wannabe',
    @start_date = '2019-01-01',
    @end_date = '2019-02-20',
    @keywords = 'User, 3G',
    @status = 'Resolved'
```

Example Result Set:



Results | Messages

	duct_id	product	status	version	operating_system	problem_description	resolution_description	created_at
1		Day Trader Wannabe	Resolved	1.0	Linux	The user is having difficulty updating the appli...	Asked user to delete the older version and downl...	2019-02-10
2		Day Trader Wannabe	Resolved	1.0	Linux	USers are having difficulty updating the applic...	Advised user to delete the older version and dow...	2019-02-10

Get all outstanding issues within date range for a product containing list of keywords (single version)

Name: spIssues_GetByStatusKeywordsDate_ForProductSingleVersion

Params:

@status nvarchar(20) **not required*

- The status to search by: "Resolved", "Outstanding"

*@product_name nvarchar(50) *required*

-The product name to search by: "Day Trader Wannabe", etc.

*@keywords nvarchar(MAX) *required*

-A comma delimited list of keywords to search by:

"User, Application, Test, Update, A sample phrase"

@version numeric (2,1)

-The version to search by: (1.1, 1.0, 2.2, etc)

*@start_date date *not required*

- The start search date

- Defaults: 2010-01-01

*@end_date date *not required*

- The end search date

- Defaults: Current Date

Description:
Gets all issues for a product (single versions) based on the status, any matching keywords, version, product name between a start date and end date. The keywords perform a search on the following columns: problem_description from Issues Table and resolution_description from the Issue_Resolution table if any is available. The start date and end dates reflect the query from the created_at column on the Issues table.

Stored Procedure:

```
CREATE OR ALTER PROCEDURE spIssues_GetByStatusKeywordsDate_ForProductSingleVersion(
        @product_name nvarchar(50),
        @version numeric(2,1),
        @status nvarchar(50) = 'Outstanding',
        @keywords nvarchar(MAX),
        @start_date date = '2010-01-01',
        @end_date date = null)
```

Execution Example:

```
EXEC spIssues_GetByStatusKeywordsDate_ForProductSingleVersion
    @product_name = 'Day Trader Wannabe',
    @version = 1.2,
    @status = 'Resolved',
    @start_date = '2019-04-01',
    @end_date = '2019-11-01',
    @keywords = 'Test, User'
```

Example Result Set:

Results | Messages

	uct_id	product	status	version	operating_system	problem_description	resolution_description	created_at
1		Day Trader Wannabe	Resolved	1.2	Android	User says the application is running slower than...	Asked the user to update the application and res...	2019-04-19