Thus, let $s_1|_\Delta$ & $s_2|_\Delta$ be expressed as f & g respectively.

$\Rightarrow$ D_λ can be identified with $(s_1 + \lambda s_2 = 0)$
$= (f + \lambda g = 0)$. $\lambda \in \mathbb{P}^1 = \mathbb{C} \cup \{\infty\}$. $\lrcorner\!\!\rfloor$

We have then

$$f(P_\lambda) + \lambda g(P_\lambda) = 0$$

and

$$\frac{\partial f}{\partial z_i}(P_\lambda) + \lambda \frac{\partial g}{\partial z_i} = 0, \quad i = 1 \ldots n.$$

Since P_λ is not a base point of $\{D_\lambda\}$, f and g can not both vanish at P_λ and so neither one can: thus

$$\lambda = \frac{-f(P_\lambda)}{g(P_\lambda)} \quad (\because \; f(P_\lambda) + \lambda g(P_\lambda) = 0)$$
$$\lambda \neq 0, \infty$$

and

$$\frac{\partial f}{\partial z_i}(P_\lambda) - \frac{f(P_\lambda)}{g(P_\lambda)} \frac{\partial g}{\partial z_i}(P_\lambda) = 0.$$

Then
$$\frac{\partial}{\partial z_i}\left(\frac{f}{g}\right)(P_\lambda) = \frac{\left(\frac{\partial f}{\partial z_i}\right)(P_\lambda) - \left[\frac{f(P_\lambda)}{g(P_\lambda)}\right] \cdot \left(\frac{\partial g}{\partial z_i}\right)(P_\lambda)}{g(P_\lambda)} = 0$$

Now the locus V of singular points of the divisors D_λ, being locally the image in Δ of the variety $S \subset \Delta \times \mathbb{P}^1$ cut out by the equations $\{\lambda g + f = 0,\ \partial f/\partial z_i + \lambda\, \partial g/\partial z_i = 0\}$, is an analytic subvariety of Δ.

$\ulcorner$ Define functions as follows:

$$F_0 : \Delta \times \mathbb{P}^1 \longrightarrow \mathbb{C}$$
$$((z_1, \cdots z_n), w) \longmapsto f(z_1, \ldots z_n) + w\, g(z_1, \cdots z_n)$$
$$F_i : \Delta \times \mathbb{P}^1 \longrightarrow \mathbb{C} \qquad \text{for } i = 1, 2, \cdots n.$$
$$((z_1, \cdots z_n), w) \longmapsto \partial f/\partial z_i (z_1 \ldots z_n) + w\, \partial f/\partial z_i (z_1 \cdots z_n)$$